

Michigan Tradesman.

Published Weekly.

THE TRADESMAN COMPANY, PUBLISHERS.

\$1 Per Year.

VOL. 10.

GRAND RAPIDS, NOVEMBER 2, 1892.

NO. 476

SPECIAL DRIVE IN Floor Oil Cloths & Oil Cloth Rugs

For the Stove Trade. Write us for Prices.

SMITH & SANFORD, 68 Monroe St.

MUSKEGON BRANCH UNITED STATES BAKING CO.,

Successors to

MUSKEGON CRACKER CO.,

HARRY FOX, Manager.

Crackers, Biscuits and Sweet Goods.

MUSKEGON, MICH.

SPECIAL ATTENTION PAID TO MAIL ORDERS.

BEANS

W. T. LAMOREAUX CO.,

128, 130 and 132 W. Bridge St., GRAND RAPIDS, MICH.

If you have any beans and want to sell, we want them, will give you full market price. Send them to us in any quantity up to car loads, we want 1000 bushels daily.

NO BRAND OF TEN CENT CIGARS COMPARES WITH THE G. FAUDE'S F

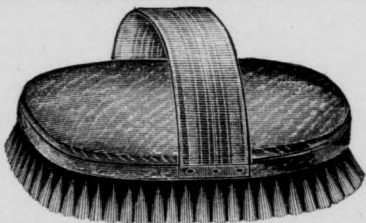
G. F. FAUDE, Sole Manufacturer, IONIA, MICH.

G. S. BROWN,

—JOBBER OF—

Foreign and Domestic Fruits and Vegetables.
Oranges, Bananas and Early Vegetables a Specialty.

Send for quotations. 24-26 No Division St.



Grand Rapids Brush Co.,
Manufacturers of

BRUSHES,

GRAND RAPIDS, MICH.

Our goods are sold by all Michigan Jobbing Houses.

WRITE FOR PRICES ON

CHEESE

H. E. MOSELEY & CO.

45 South Division St.,

GRAND RAPIDS, - MICH.

AMERICAN
Wisconsin, Ohio and Michigan make,
IMPORTED
Limburger, Swiss, Fromage de Brie,
D'Isigny, Camembert, Neufchatel and
Caprera. Also our XXXX Orchard.

VINEGAR

C. N. RAPP & CO.,

9 North Ionia St., Grand Rapids.

WHOLESALE FRUITS AND PRODUCE.

Mail Orders Receive Prompt Attention.

TELFER SPICE COMPANY,

MANUFACTURERS OF

Spices and Baking Powder, and Jobbers of
Teas, Coffees and Grocers' Sundries.

1 and 3 Pearl Street,

GRAND RAPIDS



See Quotations.



Don't Forget when ordering

NUTS, FIGS, **CANDY** DATES, ETC.

To call on or address

A. E. BROOKS & CO., Mfrs, 46 Ottawa St., Grand Rapids.

Special pains taken with fruit orders.

MOSELEY BROS.,

- WHOLESALE -

FRUITS, SEEDS, BEANS AND PRODUCE,

26, 28, 30 & 32 OTTAWA ST.,

Grand Rapids, Mich.

The Green Seal Cigar

Is the Most Desirable for Merchants to Handle because

It is Staple and will fit any Purchaser.

Retails for 10 cents, 3 for 25 cents.

Send Your Wholesaler an Order.



STANDARD OIL CO.,

GRAND RAPIDS, MICHIGAN.

DEALERS IN

Illuminating and Lubricating

-OILS-

NAPHTHA AND GASOLINES.

Office, Hawkins Block.

Works, Butterworth Ave.

BULK WORKS AT

GRAND RAPIDS,
BIG RAPIDS,
ALLEGAN,

MUSKEGON,
GRAND HAVEN,
HOWARD CITY,

MANISTEE,
PETOSKEY,

CADILLAC,
LUDINGTON.

HIGHEST PRICE PAID FOR

EMPTY CARBON & GASOLINE BARRELS.

RINDGE, KALMBACH & CO.,

12, 14, & 16 PEARL ST.

Fall Season 1892.

GIVE US A CALL AND SEE OUR COMPLETE STOCK.

FACTORY GOODS. *If you want the best wearing qualities, we make them.*

JOBGING GOODS. *We carry a full line and can show you all the novelties of the season at prices we know will be satisfactory.*

WARM GOODS. *We never had so nice a line of shoes, slippers and buskins, also felt boots and socks.*

RUBBER GOODS. *We sell the best, the Boston Rubber Shoe Co.'s. Satisfaction guaranteed.*

TRADE WINNERS

All Goods Manufactured by Us.

Quality the Best! Purity Guaranteed!

PUTNAM CANDY CO.

PERKINS & HESS

DEALERS IN

Hides, Furs, Wool & Tallow,

NOS. 122 and 124 LOUIS STREET, GRAND RAPIDS, MICHIGAN.
WE CARRY A STOCK OF CAKE TALLOW FOR MILL USE.

F. J. DETTENTHALER

JOBBER OF



OYSTERS

SALT FISH

POULTRY & GAME

Mail Orders Receive Prompt Attention.

See quotations in another column

CONSIGNMENTS OF ALL KINDS OF POULTRY AND GAME SOLICITED

Who urges you to keep

Sapolio?

The Public!

By splendid and expensive advertising the manufacturers create a demand, and only ask the trade to keep the goods in stock so as to supply the orders sent to them. Without effort on the grocer's part the goods sell themselves, bring purchasers to the store, and help sell less known goods.

Any Jobber will be Glad to Fill Your Orders.

LEMON & WHEELER COMPANY,

IMPORTERS AND

Wholesale Grocers

GRAND RAPIDS

BALL

Wholesale
Grocers.

BARNHART

PUTMAN CO.

MICHIGAN TRADESMAN.

VOL. 10.

GRAND RAPIDS, WEDNESDAY, NOVEMBER 2, 1892.

NO. 476

THE Grand Rapids FIRE INS. CO.
PROMPT, CONSERVATIVE, SAFE.
T. STEWART WHITE, Pres't.
W. FRED MCBAIN, Sec'y.

OYSTERS!

Solid Brand Cans.	
Selects.....	\$ 26
E. F.....	20
Standards.....	18
Daisy Brand.	
Selects.....	\$ 24
Favorites.....	14
Standards.....	16
Standards in bulk.....	1 10
Mince Meat--Best in Use.	
Large bbls.....	5 1/2
1/2 bbls.....	6
40 lb pails.....	6 1/2
20 lb pails.....	6 1/2
10 lb.....	6 1/2
2 lb cans, usual weight, per doz.....	\$1 50
5 lb.....	3 50
Choice Dairy Butter.....	18
Fresh Eggs.....	21
Pure Sweet Cider in bbls.....	15
" " Vinegar.....	10
Choice Lemons, 300 and 360.....	7 00
New Pickles in bbls, 1200.....	6 50
" " half bbls, 600.....	3 75
Peach preserves, 20 lb. pails.....	07
Pickled peaches, 20 lb.....	05

EDWIN FALLAS,
Prop Valley City Cold Storage,
215-217 Livingston St., Grand Rapids.

ESTABLISHED 1841.

THE MERCANTILE AGENCY
R. G. Dun & Co.

Reference Books issued quarterly. Collections attended to throughout United States and Canada

OUR NEW LINE OF

Tablets,
Fall Specialties
School Supplies
Etc.,

ARE NOW BEING SHOWN ON THE ROAD BY

MR. J. L. KYMER,
OF OUR FIRM.
MR. GEO. H. RAYNOR,
MR. WALTER B. DUDLEY,
MR. CHAS. E. WATSON,
MR. PETER LUBACH.

EATON, LYON & CO.

S. A. MORMAN,

WHOLESALE

Petoskey, Marblehead and Ohio **LIME,**

Akron, Buffalo and Louisville

CEMENTS.

Stucco and Hair, Sewer Pipe,

FIRE BRICK AND CLAY.

Write for Prices.

10 LYON ST., - GRAND RAPIDS.

BARLOW BRO'S BUILT BLANK BOOKS
WITH THE PHILA. PAT. FLAT OPENING BACK
SEND FOR PRICES GRAND RAPIDS, MICH.

40 cents Per Book of 100 Leaves

For "Barlow's Pat Manifold Tracer," used in tracing delayed freight shipments, or for "Barlow's Pat. Manifold Telegram." We have the latter in stock for both Western Union and for Postal Lines

Sent postpaid on receipt of above price, or will send samples.

BARLOW BROS.,
GRAND RAPIDS, MICH.

FRANK H. WHITE,

Manufacturer's Agent and Jobber of

Brooms, Washboards, Wooden

AND

Indurated Pails & Tubs,

Wooden Bowls, Clothespins and Rolling Pins, Step Ladders, Washing Machines, Market, Bushel and Delivery Bas ets, Building Paper, Wrapping Paper, Sacks, Twine and Stationery.

Manufacturers in lines allied to above, wishing to be represented in this market are requested to communicate with me.

125 COURT ST.,

GRAND RAPIDS, MICH.

A. J. SHELLMAN, Scientific Optician, 65 Monroe Street.



Eyes tested for spectacles free of cost with latest improved methods. Glasses in every style at moderate prices. Artificial human eyes of every color. Sign of big spectacles

The Bradstreet Mercantile Agency.

The Bradstreet Company, Props.

Executive Offices, 279, 281, 283 Broadway, N.Y.

CHARLES F. CLARK, Pres.

Offices in the principal cities of the United States, Canada, the European continent, Australia, and in London, England.

Grand Rapids Office, Room 4, Widdicomb Bldg.

HENRY ROYCE, Supt.

"The Kent."

HAVING conducted the above named hotel two months on the European plan, and come to the conclusion that we can better serve our patrons by conducting same on the American plan, we take pleasure in announcing that our rates will hereafter be \$2 per day. As the hotel is new and handsomely furnished with steam heat and electric bells, we are confident we are in a position to give the traveling public satisfactory service.

Remember the location, opposite Union Depot. Free baggage transfer from union depot.

BEACH & BOOTH, Props.

COMMERCIAL CREDIT CO

Successor to Cooper Commercial Agency and Union Credit Co.

Commercial reports and current collections receive prompt and careful attention. Your patronage respectfully solicited

Office, 65 Monroe St. Telephones 166 and 1030.
L. J. STEVENSON, C. A. CUMINGS,
C. E. BLOCK.

A GRIM JAILER.

"Better take your rifle or revolver along," said my partner, Jim Hayes, as I prepared to leave the cabin. "There's no telling what you may run on in these mountains."

"No, Jim. I'll take nothing but a light pick and shovel and some grub," I replied, passing out.

Near the door were tied our two deer-hounds, Zip and Keene, and, as I stopped to pat their heads, both begged piteously, in dog fashion, to be taken along.

"No, no, old boys, no hunting to-day," I said, soothingly. And the intelligent creatures, seeing that I did not carry a gun, soon ceased to grumble.

It was the 4th of July, 1869. We had been for some time engaged in silver-mining near Argentine Gulch, Colorado, and were living in a stout log hut, of which, in the absence of other claimants, we had taken peaceable possession. We could not think, however, of prosecuting our usual work on the Fourth; and Jim not feeling like joining me, I had decided to go off prospecting alone.

"Don't lose yourself, old man. It's a mighty easy thing to do," he called out, as I walked away; while the hounds gave me a cheerful send-off in the shape of a parting howl.

"Well, no, Jim. I'm not quite so green as all that. But, if I'm not back to-night, maybe you'll look me up," I laughingly rejoined; the point of the joke lying in the fact that I was an old mountaineer and Jim a comparative tenderfoot, though one of the best fellows in the world.

Prospecting, or, indeed, traveling on foot at all, in the heart of the Rockies, is exceedingly hard work, not only because of the physical obstacles, but also from the unsatisfying nature of the highly rarified air, of which one is obliged to inhale vast quantities in order to get oxygen enough to sustain life. Hence, after four hours of incessant toil, by which time I had got above timber line, I was glad to sit down by a little spring to rest.

So far, though making many tests, I had found no indications of a paying "lead;" but I was not going to give up hope, and, after making a hearty dinner from the bread and cold meat in my haversack, I scaled the heights to my right, determining to find my way home by another route. 'Twas easier said than done, for, on descending the ridge, I came into an utterly strange neighborhood, and shortly found myself wandering in a wild labyrinth of intricate boulder-strewn gullies and frowning precipices, from which extrication seemed hopeless, as every attempt to travel in a direct line only tended to confuse me more and more.

For two hours, spent in desperate exertion, I tried vainly to thread the mazes, and finally had to confess that I was lost. Then I thought to retrace my steps to the old trail and take a fresh start, but this, too, I found impossible. I had somehow got completely "turned round;" and, despite all reasoning to the con-

trary, could not convince myself that the sun, of which I caught occasional glimpses, was in the right place.

"Pshaw, I'll get out all right!" I said aloud, as if arguing the point with a companion; "but can I do it this afternoon? If not, Jim will have the laugh on me, and I can't stand that."

At last, twisting and turning, plunging, climbing and scrambling into, around and over ravines and rocks, I managed to get down to timberline again, but of how far I had come or of where I now was I had not the least idea. Two things, however, I did know: That the shades of evening were coming on and that my chance of reaching camp that night was hardly worth reckoning.

No glimpse of sunlight now. The deep shadows of the lofty peaks were all around me, and in another hour the gloomy solitude would be wrapped in darkness. The night, too, at that altitude, would be unpleasantly cold. I must prepare for it in time.

I had come to a little valley hedged in by great pieces of detached rock, and there were numerous gnarled roots, dry, broken limbs and other available fuel scattered around. Determining to go no further, I commenced to gather a heap of these, intending to keep up a big fire until morning. I picked up one armful of small stuff and then stepped across to attack a specially dense pile which lay close against the base of an overhanging cliff. Seizing hold of a protruding stick, I gave a strong pull and brought down the whole mass.

Then I saw that behind the rubbish was the mouth of a rough, shallow cave; and, curious to see what it contained, I very foolishly stooped down and went in.

At first I could distinguish nothing; but when my eyes became accustomed to the dim light, I saw, huddled up in one corner and quite motionless, two furry-looking objects about the size of raccoons; and, on going closer, found that they were neither more nor less than grizzly bear cubs.

So soon as the little creatures were convinced that I had seen them, they bunched up for a fight, but I picked up one, and, in spite of its furious struggles and pig-like cries, carried it out of the cave.

Holding it between my knees, with a fore paw in each hand, while the claws of its hind feet were viciously digging at my boot-tops, I was minutely examining it, when I heard a noise as of flying gravel and, looking up, saw the mother bear tearing round the corner of a rock and coming at me with open mouth and flaming eyes.

Now, there are grizzlies and grizzlies. Even this fearlessly savage beast, unless cornered or wounded, will generally try to get out of a man's way, but an old she, robbed of her young, is one of the most terrible animals in existence and would charge a regiment of soldiers without a moment's hesitation.

The enraged monster was not over

twenty yards from me, and dropping the cub, I turned and ran for dear life.

Glancing around in hope of finding some place of refuge, I could see none close at hand not equally accessible to the bear; but about sixty yards ahead stood a tall hemlock sapling, and toward this I darted at my best speed.

In those days I was very swift of foot, and with a fair chance might have made a short dash like that quickly enough to escape. But I was badly handicapped by heavy, spiked boots and a rock-encumbered course, while my pursuer, thin from long nursing, was in prime racing condition; and before I had gone half way, I found that she was fast gaining on me.

The four-footed brute cared nothing for the loose stones; but should I stumble, all would be over in a moment. Hence I was obliged to pick my steps, though my revengeful enemy came each instant nearer and nearer until less than fifteen feet intervened between us. I was apparently doomed; for although the tree was now within twenty-five yards, unless I could reach it at least three seconds ahead of the bear, she would pull me down in the act of mounting.

The hoarse, grunting roar of the eager brute had changed to a blood-curdling growl, and I fancied that I could almost feel her hot breath on my back, when a sudden remembrance of some old-time story struck me. Quick as a lightning flash I drew my belt-knife and with one stroke severed the light strap of the oil-skin satchel containing the remains of my lunch. The bag fell to the ground, and, sure enough, the bear stopped short and tore it into shreds.

Then, totally ignoring the bread and meat, she came on again with redoubled rage. But the precious three seconds had been lost and gained, and she was yet four lengths behind me when I reached the tree and scrambled up to the first branch, about twenty feet from the ground—though barely in time to save myself, for the long-bodied beast reared straight beside the trunk and came within a hair's-breadth of catching my foot as I ascended.

Most fortunately for me, adult grizzlies do not climb, nor could even a common black bear have gone up that sapling, the stem of which was only nine inches in diameter. Though safe for the present, I was by no means in a comfortable position, none of the branches being large enough to sustain my whole weight. Consequently, in order to support myself, I was obliged to cling with one arm to its body, and very firmly, too, as the baffled monster several times rose on her hind feet, shook the tree violently and tore off great strips of bark with her powerful claws.

What if she should take a notion to dig it up by the roots? She could have done so in fifteen minutes. Oh, how bitterly I now regretted not taking Jim's advice to bring my revolver along!

After a while, my jailer got tired of trying to dislodge me; but, instead of going off, she uttered a loud, peculiar cry, and the next moment the two cubs came shuffling along and joined her.

Then, while her babies refreshed themselves, the grim mother sat composedly down at the foot of the tree, evidently preparing for a regular blockade.

If I should live a thousand years, I could never forget that awful night.

After dark, the temperature fell to the freezing point, and I kept from perishing only by repeatedly climbing higher up the tree and then sliding down to my old position.

Even so I could hardly keep my blood circulating, and I was so worn out by fatigue and so deadly sleepy that I was in momentary danger of dropping into the hungry jaws below.

I had hoped that the cold would induce the bear to retire to the cave with her cubs, in which case I might take a short run and gain a larger tree; but the cunning beast seemed quite contented with her present quarters, and long after I had ceased to distinguish her brownish-gray form on the similarly colored ground I could hear her moving about and coddling her young ones.

At this time the moon was two or three days beyond the full, and it must have been past midnight when it rose high enough to clear the mountain-tops and light up my valley prison. Then the bear and I could again see each other plainly, a fact of which she took advantage to give my roosting-place another series of vigorous shakes.

If the angry beast had known enough to keep this up for five minutes at any one time, I must have lost my hold; but, luckily, she didn't, and I always renewed my grip during her quiet spells.

What was to be the end of it all? The dumb brute could maintain her fast until I should drop from exhaustion, and if she kept watch long enough, that result was certain. In this desolate place no outside help could be expected, and, barring a common butcher's knife, I was entirely unarmed.

"But, surely," I reasoned, "the old fiend will go off first thing in the morning to look for food, and then I can either make good my retreat or kindle a fire which will keep her at bay and, perhaps, by its smoke, attract some wandering prospector."

These reflections, though quite consoling to me, didn't exactly harmonize with Mrs. Bruin's views. The rising sun found her still on duty and apparently determined to have me for breakfast or go without.

Hour after hour passed away, and, as the day grew hot, I began to suffer so fearfully from thirst and the strained horror of my situation, that I at last deliberately made up my mind to descend and meet death in fair fight. No use in delaying; 'twas but prolonging my agony. And yet to so die was awful. I would hold out till nature could endure no more. No voluntary act of mine should precipitate my doom.

If the tree had been an aspen, a cottonwood or, indeed, any kind of a deciduous tree, I might have obtained some relief by chewing the leaves, but there was no nourishment in the bitter hemlock spray. It seemed only to increase my thirst, and I felt that the end was near.

Once more, with a kind of horrible fascination, I gazed down at my implacable foe, idly wondering whether she would kill me by a single blow of her great paw or rend me piecemeal to fragments.

But suddenly she stopped in her restless walk, sniffed the air for a moment with uplifted head and then, driving the cubs before her, ambled off toward her den.

What could this mean? A question quickly answered, for, intently listening,

I next instant heard the low, repressed whimpering of hounds, and as, with returning strength, I uttered a loud yell of joy, Zip and Keene, bursting into full cry and straining on their leashes, came round the corner of that same rock whence the bear had first emerged!

The dogs were closely followed by Jim Hayes, upon whose heels came three stalwart companions, and they met the grizzly face to face before she had gained the cave.

At this blessed sight the warm blood once again rushed through my benumbed limbs, and with frantic haste I slid to the ground. All was over, however, before I could reach the scene.

On seeing her assailants, the bear had charged instantly; but Jim jerked the hounds to one side, and the other hunters, coolly firing together, sent three bullets through her brain, when she dropped dead with scarcely a quiver, and the scared cubs scurried into the den.

Then men and dogs rushed tumultuously upon me, and it was hard to tell which were the more delighted by my rescue.

"Water, boys, water!" I gasped, as the jubilant fellows pulled me about.

One of them put his canteen to my swollen lips—and I shall remember that draught to my dying day.

Not a question was asked until my companions had seen me begin to eat like a famished wolf, but then Hayes quietly said:

"Well, partner, I guess you'll live through it; but you did kind of get lost, I reckon?"

"Yes, Jim, I own right up. I don't know half as much now as I thought I did yesterday morning. You came just in time to cheat the grizzly of her dinner. How did it all happen?"

"Why man alive! You're not more than two miles from camp now, but, the country being so rough, I suppose you couldn't hear the signals I fired all through the night."

"Only two miles? I thought it was a dozen," I wonderingly rejoined.

"Well, I guess we've traveled more than that to find you, and you've only got the dogs to thank that we did it; for, of all the wild, crooked tracks ever made by a mortal man, yours beat."

"When I found that you were sure enough lost, I started out at the first streak of light this morning and got the boys here to join in for the hunt. The trail being so old, we were rather dubious about the hounds keeping to it; but every now and then we came to some place where you'd chipped at the rocks, and then we knew they were right."

"The greatest bother was after you'd crossed that low range and turned back to come home, and if we hadn't been certain sure of the dogs, we'd never have followed them, for there was one place where they led us nine or ten times round and round in a circle without going ahead an inch. We wouldn't let them give tongue, 'cause we thought maybe we'd run across a stray elk, and that's the reason you and old grizzly didn't hear them sooner."

"We got here at last somehow, and it's all right now, partner; but I tell you you've had a mighty lucky escape."

"Jist erbout ez narry a one ez ever I heard on," said one of the old-timers who had come with Jim. "Howsumever, we've got the b'ar an' cubs, an, it's a purty good day's work arter all."

W. THOMSON.

GOLD MEDAL, PARIS, 1878.



W. BAKER & Co.'s
Breakfast
Cocoa

*Is Absolutely Pure
and it is Soluble.*

Unlike the
Dutch Process

*No alkalies or
other chemicals
or dyes are used
in its manufacture.*

A description of the chocolate
lant, and of the various cocoa and
chocolate preparations manufac-
tured by Walter Baker & Co., will
be sent free to any dealer or
applicant.

W. BAKER & CO., Dorchester, Mass

SCHLOSS, ADLER & CO.,

MANUFACTURERS AND JOBBERS OF

Pants, Shirts, Overalls

—AND—

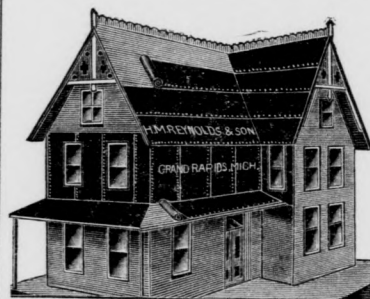
Gents' Furnishing Goods.

REMOVED TO

23-25 Larned St., East

DETROIT, MICH.

Dealers wishing to look over our line are in-
vited to address our Western Michigan repre-
sentative Ed. Pike, 272 Fourth avenue, Grand
Rapids.



ASPHALT
FIRE-PROOF ROOFING

This Roofing is guaranteed to stand in all
places where Tin and Iron has failed; is super-
ior to Shingles and much cheaper.

The best Roofing for covering over Shingles
on old roofs of houses, barns, sheds, etc.; will
not rot or pull loose, and when painted with
our

FIRE-PROOF ROOF PAINT,

Will last longer than shingles. Write the un-
derigned for prices and circulars, relative to
Roofing and for samples of Building Papers,
etc.

H. M. REYNOLDS & SON,
Practical Roofers,

Cor. Louis and Campan Sts., Grand Rapids, Mich.

SCHEME GOODS AGAIN.

Written for THE TRADESMAN.

"Oh, wad some power the giftie gie us
To see ourselves as ithers see us.
It would frae monte a blunder free us,
And foolish notions."

The above quotation, written by Robert Burns in the seventeenth century, is as worthy our attention, and will apply as strongly to people of our present day as it did to those people the day it was written, and could we but pick the mote out of our own eye, the world would be the better for it; but, alas, instead we are too much on the great I and little U order, believing that, if great I commit a wrong, our heavenly father will not record the same against us in his great book, when, if little U commit the same offense, his actions will appear almost unpardonable. We are always placing ourselves before the world as heroes or as living saints, while little U is illustrated as by the placing of a stick in a pool of water—the stick makes a hole, yet, when removed from the pool, the hole fills with water and is gone.

If my business did not bring me among experiences of the inconsistencies of human nature, I would be astonished at the ways in which men in high as well as low positions, professing to seek after the material leading to the prosperity of the country, take the most unworthy means for impairing if not destroying it. They complain that business is prostrated and that labor is unemployed, that enterprise is dead; yet the very remedies which they propose for the evil but prolong and increase it.

Nothing is more essential to business prosperity than a confidence that existing conditions will remain unchanged, and no man can have that confidence in business who is continually using underhanded speculations to obtain something for nothing. When you are forewarned you are well armed; when you know danger is ahead, you know how to guard against it; but, when your dangers are unknown or are uncertain, you should not run into them timidly because their ways appear easy, for to do so is to prove yourself unworthy the name of a man of trust. You place yourself before the public as a child who heeds not the advice of its parents, but must learn by misfortune and woe. Thus, you make yourself a detriment to mankind, for you are but a stumbling block in the way of humanity, and are the greatest enemy to yourself that humanity can produce. You are like the vine which climbs a tree and obtains its life by sucking the sap.

Thus it is that "Man's inhumanity to man makes countless thousands mourn." And man seems to be unmindful of the fact that to make others mourn is but to bring woe upon himself. The farmer who harvests his crops for market and places the small potatoes or the windfall apples in the middle of the barrel, or scatters the poor eggs among the good ones, or mixes the unwashed wool with the clean, is but hurting himself. He forgets that he is hurting the sale of his products, and what he has gained in quantity is more than balanced by the drop in market value. The farmer, when called upon to work his road tax, attempts in every conceivable way to work two days into one, unmindful of the fact that good roads are a benefit to himself and increase the value of his property.

The merchant, when engaging a new clerk, says: "George, as you do not un-

derstand the business and have it all to learn, you are worth only so much to me; but, I will teach you and, as you become familiar with the work and learn the quality of the goods I will advance your wages." George is satisfied and goes to work. He is expected to live up to his part of the contract, and, if he does otherwise he is discharged at once with a tarnish upon his fair name. The boy is seldom to blame for the offense he has committed, whatever it may be, because he is young and it is so much easier to learn wrong than good. He is not in the wrong because you were first to break your part of the contract, for, from the time he took his place behind your counter, you have not given him the instruction which you had promised him for his small compensation. How much you might have helped him, had you kept your part of the contract; how much more might you have helped yourself, had you taught him good business principles, had you instructed him to be civil and obliging to all who entered your place of business, whether a customer or not. And when you received a new invoice of goods, when he opened up the boxes for you and spread out the wares, how much more he could help you if you would have kept your part of the contract and pointed out to him the merits of each separate article, in that way making him familiar with his line, so that when presenting them to your customers, he would know how to handle them to make the sale, by showing them wherein the goods are better than the goods of Neighbor Smith, who asks 10 per cent. less. But, instead, you let Neighbor Smith score you, and run into danger when you know it is before you, and you buy a cheap class of goods to compete with Smith. This demoralizes trade.

And, again, there is the merchant who tries to obtain something for nothing, or is so dishonest as to handle scheme goods, so-called, where he puts some worthless fixture to his own use and makes his customers pay for it in worthless stuffs which he sells them. What an example for any merchant to place before an intelligent clerk to teach him to be a thief, and, as such, what can you expect from that clerk whom you promised to instruct in business principles? I pity the boy who falls into such hands. You might as well put up short-weight, or take money out of your customer's pocket as to sell him adulterated goods at the price of a pure article.

What merchant was ever satisfied with an invoice of scheme goods? Did the scheme ever have the value you expected? Do not your adulterated goods appear to "hang fire" on the shelves? And do you not feel guilty every time that you weigh out a pound to your customer and charge him the price of pure goods, when you glance at the worthless scheme which you have received with them? Does it not make you feel that you are a rogue; that you are sucking the blood of those who support you, and that you are unworthy the name of a business man? Did you ever know a merchant in the grocery business who had a large stock of scheme baking powder and spices on his shelves, who did not fail? If you trust a customer for an invoice of goods and he fails to pay you, you call him a rogue. Which is the greater rogue, if you sold him adulterated goods at the value of the pure article? Did the thought

ever come to you, good merchant who deals in scheme goods, that you have no law on your side to collect bills of unworthy customers? Such is the fact, because, if they can prove that you have been selling them impurities at the value of pure goods, you have placed the law in their hands, which not only prevents you from collecting your account but places you in a position liable for damages.

Perhaps, fellow merchants, my words appear too forcible, but allow me to say in conclusion that I do not believe you have any intention of wrong doing. I merely wish to place the matter before you in such a way that you cannot but see how unsatisfactory, as well as unprincipled, this dealing in scheme goods is.

W. M. GIBBS.

That Manistee Railroad Again.

Written for THE TRADESMAN.

The history of the Manistee & North-eastern Railroad, running from Manistee to Traverse City, has been rather out of the ordinary for railroads. Prior to 1889 the road was operated as a narrow gauge logging road for hauling logs to the Buckley & Douglas mill at Manistee. About that time the owners decided to open the road for passenger traffic. They graded and relaid the rails to standard gauge, purchased engines and cars and operated the road to Lake Ann. Buckley & Douglas platted a number of villages along the line, which have prospered remarkably, growing like magic. Last year the line was opened to its present terminal point, Traverse City. The peculiar thing about the road, and that which distinguishes it from every other road in the world, is that there has never been a dollar in bonds issued, and as each equipment was purchased, cash was paid therefor. The road is the property of Manistee capitalists, the firm of Buckley & Douglas owning nearly all the stock, which is said to pay good dividends. The route was laid out by William Douglas, the present General Superintendent, whose knowledge of the route was gained when he first tramped over the ground as a "lumber looker," years ago, before the foundation of his present fortune was laid.

The President of the road, Edward Buckley, has shown his management to be of the same high order that has already accumulated a fortune in lumber. Mr. Buckley is reported as a single man, and is certainly one whose personal attractions and business ability would make a legitimate mark for any fair maiden, as being well worth the labor of inducing to share his pleasures and sorrows.

W.

How California Fruits are Packed.

From the California Fruit Grower.

Below we note the sizes of packages containing California fruits sent to Eastern markets. Cherries are put up in boxes of 10 pounds net each, and apricots and nectarines are packed in "half-crates" containing four baskets, each holding five pounds net. Grapes are shipped in whole crates of forty pounds net, or half crates of twenty pounds each. Whole crates contain eight baskets of five pounds each. Plums, peaches and prunes are packed in boxes of about fifteen pounds each. Pears are packed in boxes holding forty pounds net. California deciduous fruits commence going to the markets in May and continue until November. Orange shipments commence in December and continue until June or July, some reaching the market as late as August.

Use the Tradesman Coupon Books.

HEROLD-BERTSCH SHOE CO.,

JOBBER OF



BOOTS AND SHOES

Agent for Wales-Goodyear Rubbers,
5 and 7 Pearl Street, GRAND RAPIDS.

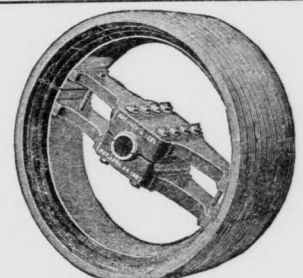
Playing Cards

WE ARE HEADQUARTERS

SEND FOR PRICE LIST.

Daniel Lynch,

19 S. Ionia St., Grand Rapids.



DODGE

Independence Wood Split Pulley.

THE LIGHTEST!
THE STRONGEST!
THE BEST!

HESTER MACHINERY CO.,

45 So. Division St., GRAND RAPIDS.

AMONG THE TRADE.

AROUND THE STATE.

Allegan—A. W. Mosher & Son have opened a meat market.

Bronson—L. M. Leet succeeds Leet & Gilson in general trade.

Bellaire—I. A. Adams succeeds Adams & Squire in general trade.

Holly—R. C. Smith has sold his grain business to Chauncey Stuart.

Shelby—J. Doucett succeeds Beckman & Doucett in the meat business.

White Cloud—Erickson Bros. have sold their grocery stock to Thos Jardine.

Elsie—J. B. Wooley succeeds Wooley & Downey in the hardware business.

Lapeer—Geo. E. Stanley has purchased the harness business of W. R. Warren.

North Branch—Ben Stafford has purchased the jewelry stock of H. W. Cable.

Middleville—W. R. Young is succeeded by A. M. Gardner in the grocery business.

Clio—B. W. Deyo succeeds Conlee & Deyo in the agricultural implement business.

Saginaw—The Turnbull Beef Co. has changed its name to the Saginaw Valley Beef Co.

Sherwood—M. A. Annis is succeeded by Mrs. Jerome Alger in the millinery business.

Holly—N. W. Downing succeeds Downing & Bro. in the fruit evaporator and produce business.

Chelsea—Hummell & Whittaker are succeeded by Chas. Whittaker in the hardware business.

Clare—J. A. Chase & Co., dealers in general trade, have dissolved, C. F. Chase continuing the business.

Almont—Colerick & Martin are succeeded by J. N. Sullivan & Co. in the dry goods and grocery business.

Vickeryville—G. C. Rounds has sold his drug stock to D. C. & H. L. Carpenter, who will continue the business.

Whitehall—Geo. F. Sibley has leased the store room formerly occupied as a postoffice and will put in a line of hardware.

Eau Claire—Frederick Rapp has opened a liquid grocery here. Kortlander & Murphy furnished the stock, David McGann booking the order.

Hudson—Wm. Bowerfind & Co. have purchased a building here and will put in a bakery business, as a branch of the Adrian establishment.

Adrian—Clark, Mason & Co., jobbers of cheese and provisions, have merged their business into a stock company under the same style. The corporation has a capital stock of \$25,000.

Boyne City—Fred Helfrich has sold his grocery stock to Mr. Atwood, of Horton's Bay, who will continue the business at the latter place. Mr. Helfrich will put in a bazaar and fancy goods stock.

MANUFACTURING MATTERS.

Owosso—The style of the Owosso Cart Co. has been changed to the Owosso Carriage Co.

Ellingston—Wm. A. Bailey succeeds H. A. Bailey & Son in the sawmill and lumber business.

Saginaw—Coroline (Mrs. H. H.) Boergert is succeeded by Fred H. Boergert in the tailoring business.

Highland Station—The Oakland Vinegar & Pickle Co. has been merged into a corporation, with a capital stock of \$50,000.

Sebewaing—Liken, Brown & Co. have

purchased of Frances Hood his stove, heading and saw mills at Merrill and Wheeler.

Coleman—J. E. Curtis & Son of Ohio, have purchased 720 acres of hardwood land in Midland county, the consideration being \$10,800. They will locate a stove mill here and cut up the timber.

Naubinway—N. Holland & Co. have not a single log in reserve on skidway, yet the mill is kept running all the time. The trees are felled and the logs cut and railed to the mill for each day's sawing; on the stump in the morning and lumber in the evening.

Saginaw—The name of the Emery Lumber Co. has been changed to the Holland & Emery Co., and the capital has been increased from \$180,000 to \$250,000. The office of the company is to be removed from Saginaw to East Tawas, to which point the Holland mill of this city is to be removed as soon as operations close this season.

Marquette—The Pinkerton & Hudson sawmill has been completed and will begin running this week. It is reached by a spur of the Milwaukee, Lake Shore & Western Railway, twelve miles long, recently completed. The mill is a double band, with shingle, lath and siding mill in connection, and as it is located in the midst of a rich pine belt which has never been touched, it undoubtedly has a long run before it.

Marquette—T. C. Shaw of this city, has purchased Kimmell & Robertson's sawmill at Crystal Lake. The purchase includes lumber, logs and general outfit. The above concern has been in a bad way for a year back, owing to lack of capital, and has lately passed into the hands of Sidney Adams as assignee. The purchaser is a building contractor. He will take hold and operate the mill himself.

Bay City—The mills of McLean & Co., Rouse & Co., Carpenter & Co. and Green & Bramer have sawed logs all this season for S. O. Fisher, and they have stock sufficient to keep them employed until the close. It is again stated on what is claimed as responsible authority, that the H. W. Sage & Co. mill is to be leased to Mr. Fisher. It is expected the mill will exhaust logs on hand in two or three weeks.

Harrison—Wilson, Stone & Wilson have begun the construction of their factory. The old mill building of W. H. & F. A. Wilson is being remodeled and arranged for the machinery of the new plant. The upper portion will contain planing machinery and an outfit for the manufacture of lath, bed slats and nail keg heading. The lower floor will contain shingle mill machinery. A fireproof boiler house is being built for the sawmill and one will also be constructed for the factory and shingle mill. This firm purchased a large quantity of pine and hardwood in Greenwood township about a year ago, connected by rail with their milling plant, and the firm have fine prospects ahead.

Gladwin—For several years Gladwin county has been the scene of very extensive lumbering operations and probably no single county in Michigan has contributed a larger quota of white pine. It is being rapidly cleared up, even though some large firms have dropped out, and it will yet furnish a large quantity of timber of hard and soft varieties. There is a large stock of hemlock and hardwoods yet available. C. Merrill & Co. have nearly 100,000,000 feet of pine to

cut. Bliss & Van Auken own a good chunk of timber, W. W. Steele is putting in this winter 5,000,000, Pitts & Cranage 4,000,000, the Eastmans 6,000,000 of hard and soft timber, Mumford & Avery several million feet, George B. Wiggins a few million, and two or three Saginaw firms have some timber yet to come out of the county. There are a number of local mills cutting and will be for some years to come.

Earnest Plea for the T. P. A.

Time was, and but a few years ago at that, when the T. P. A. as an organization in this State could not secure the services of a ward politician in an oratorical effort, but, judging from the magnitude of the demonstration at St. Louis, Oct. 1, which was T. P. A. day at the Exposition there, and the quality of the speakers on that occasion, there has evolved from the chaotic mass of indefinite objects, mismanagement and misappropriation, an organization of no mean proportions, having sufficient force of character to call forth the earnest efforts of one of America's most gifted sons, the eloquent and polished orator, Congressman Breckenridge. The occasion of the address was in honor of the Traveler's Protective Association, whose members were the guests of the city. The complimentary illumination at night is said to have cost the city \$5,000.

The President, Geo. S. McGrew, is a member of the firm of Geo. D. Barnard & Co., and is ably seconded by a board of directors many of whom are members of prominent business houses of St. Louis and elsewhere. With such a force back of such beneficent objects, the Association will readily commend itself to the traveling fraternity.

Would it not be well for our Michigan brethren of the grip to make up a strong division of the T. P. A., with headquarters in Grand Rapids, whose management will remove the stigma of the former effort and place our traveling men in touch with the best of the profession elsewhere?

Grand Rapids finds a market for her manufactured goods in all parts of our common domain. There, also, she should find fellowship with its commercial representatives.

Favors a State League of Grocers.

SAGINAW, Oct. 31.—I note by THE TRADESMAN that the Grand Rapids Retail Grocers' Association is making rapid progress these days, having evidently struck a keynote as yet undiscovered by the other grocers' organizations in the State. This leads me to think that a State league or federation of retail grocers—operating independently of the Michigan Business Men's Association—would be the means of advancing the grocery interests very materially. Such an organization would in no way conflict with the work of the M. B. M. A., but would rather supplement it, specializing the grocery feature and enabling the members of that trade to discuss and pass upon matters of interest to that trade alone.

I should be pleased to hear from other representatives of the grocery fraternity in other parts of the State.

RETAIL GROCER.

Wisner, Rowe & Co., who have endeavored to conduct a banking business at Saugatuck for several years on inadequate capital, have abandoned the field and the local partners will remove to Delhi, La., where the senior partner has been engaged in the banking business for some time.

FOR SALE, WANTED, ETC.

Advertisements will be inserted under this head for two cents a word the first insertion and one cent a word for each subsequent insertion. No advertisements taken for less than 25 cents. Advance payment.

BUSINESS CHANCES.

FOR SALE—LARGE PACKING BUSINESS and meat market with tools and fixtures, including horse and wagons, brick block 22 feet front on main street, ice house and 2½ acres of land, with slaughter house. This business and property is in Ovid, Mich. Address L. C. Townsend, Allen Bennett Block, Jackson Mich. 606

FOR SALE CHEAP—MEAT MARKET AND grocery in good town of 1,300 inhabitants Good opening. Address No. 600, care Michigan Tradesman. 600

FOR SALE OR WILL EXCHANGE FOR grocery stock—New house, barn and store building in Kalamazoo; lot 1x8; buildings are worth price asked for entire place. Address A. B. C. Kalamazoo, Mich. 589

NO. 1 CHANCE TO STEP INTO A BUSINESS of \$18,000 to \$20,000 per year; dry goods and fine shoes; will invoice \$7,000; small payment down, balance on time to suit purchaser. Lock box 1, Belding, Ionia Co., Mich. 603

FOR SALE—A GOOD CLEAN STOCK OF hardware in a booming city of 5,000, in the center of the finest farming country in the State. Stock will invoice about \$9,000. Can reduce on short notice. Reason for selling, other business. Address No. 601, care Michigan Tradesman. 604

FOR SALE—SAWMILL, YARD, DOCKS AND timber land. Entire plant. Capacity 30,000 per day. Good condition. Stock secured for coming season. Must be sold. Address No. 601, care of Michigan Tradesman. 601

FOR SALE—CLEAN NEW STOCK OF DRY goods, notions, clothing, furnishing goods, shoes, groceries, cigars, tobaccos and confectionery, located in one of the best business towns in Michigan. Doing over \$2,500 per month spot cash business. Not a dollar of credit. Stock will invoice about \$5,000. Address No. 594, care Michigan Tradesman. 594

A GOOD CHANCE FOR AN A. NO. 1 GROCERY business. Reason of selling, poor health. W. L. Mead, Ionia, Mich. 576

FOR SALE—A STOCK OF GENERAL MERCHANDISE in Ledy, Michigan. Stock will invoice \$10,000, but we will reduce to any desired amount. We court a thorough investigation, as we offer an established trade and a profitable investment. Will rent or sell the building. M. V. Gundrum & Co. 582

EXCELLENT OPPORTUNITY FOR A BUSINESS man with \$5,000 to \$10,000 ready money to embark in the wholesale business in Grand Rapids and take the management of same. House well established. Investigation solicited from persons who mean business. No others need apply. No. 596, care Michigan Tradesman. 596

FOR SALE—A FINE AND WELL ASSORTED stock of dry goods, boots, shoes, hats, caps and gents' furnishing goods, in live railroad and manufacturing town of from 500 to 600 inhabitants. Only business of the kind in the locality. Other and more important business requires the attention of the proprietor. We court a thorough investigation and will guarantee a profitable investment. Address No. 571, care Michigan Tradesman. 571

MISCELLANEOUS.

DO YOU USE COUPON BOOKS? IF SO, DO you buy of the largest manufacturers in the United States? If you do, you are customers of the Tradesman Company, Grand Rapids.

FOR SALE—GOOD DIVIDEND—PAYING stocks in banking, manufacturing and mercantile companies. E. A. Stowe, 100 Louis St., Grand Rapids. 370

FOR RENT—TWO NEW BRICK STORES, connected by archways, excellently located for business purposes. No drug or hardware store in town and both badly needed. One of best trading points in State. Terms easy. Jas. Henry, Alto, Mich. 602

FOR SALE—BEST RESIDENCE LOT IN Grand Rapids, 7x175 feet, beautifully shaded with native oaks, situated in good residence locality, only 200 feet from electric street car line. Will sell for \$2,500 cash, or part cash, payments to suit. E. A. Stowe, 100 Louis St. 354

WANTED—PRACTICAL PRINTER WHO IS familiar with job work and capable of editing a country weekly, to start a newspaper in a live town. No competition. Applicant must have at least \$500 cash or its equivalent. If you mean business, address No. 605, care Michigan Tradesman. 605

MERCHANTS: IF YOU DESIRE TO SELL or exchange your stock of merchandise, send full particulars to G. P. Nash, 361 Arcade, Cleveland, Ohio. 599

TWO RESIDENCE LOTS IN VILLAGE OF Belding to exchange for grocery stock worth \$1,000 to \$1,500. Will pay difference in cash. Address No. 470, care Michigan Tradesman. 550

MICHIGAN MINING SCHOOL.

A State School of Mining Engineering, giving practical instruction in mining and allied subjects. Has summer schools in surveying, Shop practice and Field Geology. Laboratories, shops and stamp mill well equipped. Tuition free. For catalogues apply to the Director, Houghton, Michigan.

CINSENC ROOT.

We pay the highest price for it. Address PECK BROS., Wholesale Druggists, GRAND RAPIDS

GRAND RAPIDS GOSSIP.

L. C. Prescott succeeds O. M. Dunham in the wall paper business at 28 South Division street.

A. L. Jenison has removed his grocery stock from 305 Broadway to 144 West Fulton street, the former location of C. H. Chadwick.

Wm. H. Hoops was in town last week and settled the damage suit brought against him by the receiver of the R. G. Peters Salt & Lumber, in a manner highly satisfactory to himself. When the Manistee corporation failed, it owed Tucker, Hoops & Co. \$2,700 for the use of their logging railroad. As an offset against this claim, Mr. Peters alleged several thousand dollars damages for timber burned as the result of a fire started by an employe of Tucker, Hoops & Co. Mr. Hoops contested this claim and had prepared a valid defense to the suit brought against him in such connection, but the plaintiff came to his terms and concluded to abandon the action at law and pay him \$1,000, in settlement of his claim against the defunct corporation.

Capt. H. N. Moore, President of the Grand Rapids Packing and Provision Co., is arranging for a banquet to the stockholders, office employes and traveling force of that corporation, in honor of the tenth anniversary of the company, which occurred yesterday. A decade ago the business was attended to by D. D. Cody as President, L. E. Hawkins Secretary and Treasurer and F. E. Higgins as Manager. These gentlemen subsequently stepped aside, Capt. Moore assuming the duties of President, W. P. Granger those of Secretary and Treasurer, while the late John Mohrhard held the nominal position of Manager until his death. The personnel of the office force is the same as on the day the company began business, when Frank C. Hawkins opened the books and Will P. Granger took the position of assistant book-keeper and billing clerk. Chas. S. Robinson began traveling for the company a month after it began business and is there yet. Valda Johnston subsequently traveled for the corporation a couple of years, being succeeded by John Garvey, Jr., who still holds on. Financially speaking, the history of the company has been a happy one, the stockholders having no reason to complain at the size or distance of the dividends.

Purely Personal.

Chas. Visner, for the past two years connected with the retail grocery house of James C. Shaw, has taken a similar position with Visner & Cusick.

Antoine Ekstine, general dealer at Mapleton, was in town last Friday on his way home from Chicago, where he arranged to place several cargoes of potatoes.

Arch. Cameron, General Manager of the Cameron Lumber Co., which conducts a general store at Torch Lake and sawmills at that place and Central Lake, was in town one day last week. Mr. Cameron began operations on a small scale at Torch Lake in 1866 and the extensive business now conducted by his company is a monument to his energy, honesty and foresight. Mr. Cameron will manufacture broom handles and dimension stock in connection with his new sawmill at Central Lake and confidently expects to employ 100 men in connection with this industry another season.

Gripsack Brigade.

Wm. Boughton spent most of last week with his house, H. S. Robinson & Co., at Detroit, getting out his spring line of samples.

Thos. Ferguson, formerly with the J. M. Bour Co., of Toledo, has engaged to travel for G. F. Faude, the Ionia cigar manufacturer.

W. M. Gibb, who covered the retail trade of this State several years for the now defunct house of Hatch & Jenks, of Buffalo, is now on the road for the J. M. Bour Co., of Toledo.

J. L. Immebart, formerly on the road for the Catlin Tobacco Co., but for the past year engaged in the retail grocery business at Traverse City, has engaged to travel for the Catlin Co. in Kentucky and Indiana. He will close out his stock at Traverse City as quickly as possible.

Edward Good, the versatile Kansas City traveler, told the following story at the recent T. P. A. reunion at St. Louis: "I was the victim of a very peculiar accident out in Kansas a couple of years ago. It was Christmas night, and I was going into St. Joseph from a little Kansas town. As the day had been Christmas I had filled up on egg-nog and Tom and Jerrys, so that I was pretty well fixed up when I got into the sleeper. In half an hour or so a newly married couple boarded the sleeper and took seats just in front of me. The groom was ill—stomach ache, or colic, or something of that sort. Pretty soon the porter made up the berths and we turned in. The groom took the berth in front of me, and the bride was across the aisle from him. Before I went to sleep I heard the fellow groaning, and knew that he was pretty sick. Finally those egg-nogs fixed me, and I fell into a sound sleep. During the night the groom got worse, and the bride got up and superintended the preparation of a red-hot mustard plaster. In going back to the ice-water tank she lost her bearings, and when she came back she opened the curtains of my berth and carefully placed the hot poultice on my diaphragm. Then she climbed into her berth, and congratulated herself that she had done her duty to her liege lord. I woke up in about two minutes. I thought I was in hades. 'My God! I am burning up,' I screamed, at the top of my voice. 'Oh, booze, booze,' I apostrophized, 'you have brought me to this!' Then I rolled out of my berth, dropped on my knees and began to pray in a voice loud and sonorous, but rather shaky. The passengers poked their heads out of their berths; some laughed and some screamed. The wife jumped out of her berth, threw her arms about my neck and commenced to cry: 'Poor boy, my poor boy.' The porter rushed up: 'Let him alone, missus, he's only got the jim jams.' 'But he's my husband; oh, my poor boy,' cried the woman. Just then the sick husband stuck his head through the curtains. He looked as if he had lost Charley Ross. The wife saw him and sprang to him. In a minute or two she tittered outright. She had discovered her mistake, and so had I by that time. Explanations followed and the next morning the groom borrowed a box of cigars from my samples and set 'em up all around. The young wife looked out of the window until the first lay-over station was reached, and there she and her husband left the train. I have never touched a drop of liquor since then, and when I occupy a sleeping-car berth I wear an adamantite night shirt."

The Drug Market.

Quinine is steady as quoted. Gum opium and morphia are unchanged.

Castor oil has advanced and much higher prices are looked for, on account of a short crop of beans.

Linseed oil has been marked up 2 cents by the combine.

Turpentine is higher.

Salacine is scarce and higher.

Senna leaves are very scarce and rapidly advancing.

Anise seed is scarce and higher.

Oil tanzey is very much higher, on account of short crop.

Menthol has advanced.

Powdered ipecac root is in better supply and lower.

About December 1 we shall send a thermometer to each of our customers. Being desirous of adding to their number, we will send one to any dealer who is not now a customer and will send us an order before Jan. 1, 1893, providing he mentions seeing our advertisement in this paper.

Send in your order now for



Children's Footwear, Overshoes, Lambs-wool Soles, Shoe Laces, Brushes, Dressings, Blackings, or any other Shoe Store supplies you may need.

BIRTH, KRAUSE & CO.,

12-14 LYON ST. GRAND RAPIDS.

Geo. H. Reeder & Co.,

JOBBERS OF

BOOTS & SHOES

Felt Boots and Alaska Socks.

State Agents for



158 & 160 FULTON ST., Grand Rapids.

TYPE FOR SALE.

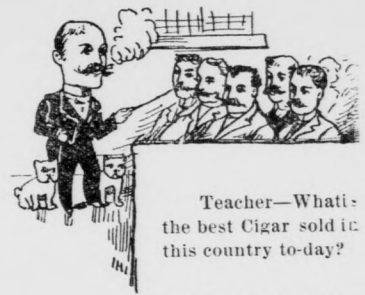
One hundred and fifty pounds of this nonpareil. Extra caps, leaders, figures and fractions included. Will sell the entire lot and one pair of cases for \$30.

Fifty pounds of this brevier, containing double allowance of caps but no small caps. Will sell font and one pair cases for ten dollars.

Eight hundred pounds of the brevier type now used on the "Tradesman." It is of Barnhart Bros. & Spindler make and has been in partial use for only four years. Will sell entire font for 18c per pound, or 50 pound fonts or upwards at 20 cents per pound. Cases, a dollar per pair.

We also have a choice assortment of second hand job and advertising type, proof sheets of which will be forwarded on application.

THE TRADESMAN CO.,
GRAND RAPIDS, MICH.



Class (in chorus)—

Ben Hur!

10c or 3 for 25c.

Made on Honor!

Sold on Merit!

ORDER FROM YOUR DEALER.

GEO. MOEBS & CO.,

Manufacturers,

DETROIT. CHICAGO.



We are extensive importers, grinders and manufacturers of specialties for the jobbing trade and put up spices in all styles of packages and deal out pure goods in every conceivable shape whole or ground.

Edwin J. Gillies & Co.,

New York.

J. P. VISNER,

AGENT.

167 No. Ionia St., Grand Rapids.

MICHIGAN

Fire & Marine Insurance Co.

Organized 1881.

DETROIT, MICHIGAN.



Frank C. Adams, Traveling Representative for Childs, Lee & Co.

Frank C. Adams was born in Erie county, New York, Oct. 8, 1853, removing to Kalamazoo with his parents five years later. He attended the public schools at that place and graduated from Olivet College, engaging in the retail shoe business at Plainwell on his own account in 1876. Two years later he sold his stock to D. P. Hopkins and traveled one year for W. H. Walker, wholesale shoe dealer at Buffalo, covering the retail trade of Western Michigan. He then engaged with Burgett & Hart, of Toledo, covering the same territory, and continuing in their employ for five years. Being a good Democrat and having the confidence and co-operation of the "powers that be," he readily secured an appointment from the Cleveland administration as mail route agent on the Kalamazoo Division of the Lake Shore Railroad, and for three years made daily trips between Grand Rapids and Elkhart. Tiring of the monotonous routine of the mail agency business, he resigned to take the position of traveling representative for Geo. W. Cady & Co., wholesale shoe dealers of Cleveland, in whose interest he has traveled in portions of Minnesota and Wisconsin for the past four years. Maintaining his residence in Grand Rapids, he has long sought a position that would enable him to spend more time at home, and this opportunity presented itself last week, when he signed with Childs, Lee & Co., shoe jobbers of Toledo, whom he will hereafter represent in this territory, succeeding F. A. Cadwell, who has represented the house in Western Michigan for several years.

Mr. Adams is a man of good ability and large capacity as a salesman and succeeds in holding the trade he establishes to a marked degree. He is persistent, energetic and aggressive, and the house with which he has identified himself is certainly to be gratulated on securing so competent a salesman and so genial a gentleman.

Mr. Adams left for Toledo last Friday to post up on his spring line and will begin calling on his trade in about a week.

In these days a man must keep posted on what is going on in his line of business or he is sure to fall behind his competitors. The man who is posted has an advantage over the one who is not in trade, in intelligence and influence. He is quicker in feeling the pulse of trade and seeing the tendency of the market and the drift of the popular fancy. He keeps abreast of the times and is never troubled with fear lest his competitor is going to get the advantage over him.

Dry Goods Price Current.

UNBLEACHED COTTONS.		BLEACHED COTTONS.	
Adriatic	7	Geo. Washington	8
Argyle	6	Glen Mills	7
Atlanta A.A.	6	Gold Medal	7 1/2
Atlantic A.	6 1/2	Green Ticket	8 1/2
" H.	6 1/2	Great Falls	6 1/2
" P.	5 1/2	Hope	7 1/2
" D.	6	Just Out	4 1/2 @ 5
" LL.	5 1/2	King Phillip	7 1/2
Amory	6 1/2	" OP.	7 1/2
Archery Bunting	4	Lonsdale Cambric	10
Beaver Dam A.A.	5 1/2	Lonsdale	@ 8 1/2
Blackstone O. 32	5	Middlesex	5
Black Crow	6	No Name	7 1/2
Black Rock	6	Oak View	6
Boot, AL.	7	Our Own	5 1/2
Capital A.	5 1/2	Pride of the West	12
Cavanat V.	5 1/2	Rosalind	7 1/2
Chapman cheese cl.	3 1/2	Sunlight	4 1/2
Clifton C.R.	5 1/2	Utica Mills	8 1/2
Comet	6 1/2	Vinyard	8 1/2
Dwight Star	6 1/2	White Horse	6
Clifton C.C.	6 1/2	" Rock	8 1/2
HALF BLEACHED COTTONS.		CANTON FLANNEL.	
Cabot	7	Unbleached	4 1/2
Farwell	8	Bleached	5 1/2
CARPET WARP.		DRESS GOODS.	
Peerless, white	17 1/2	Hamilton	9
colored	15 1/2	"	10 1/2
Integrity	18 1/2	G.G. Cashmere	20
CORSETS.		CORSET TEANS.	
Coraline	8 1/2	Armory	6 1/2
Schilling's	9 00	Androscoggin	7 1/2
Davis Waists	4 00	Biddeford	6
Grand Rapids	4 50	Brunswick	6 1/2
PRINTS.		COTTON TAPE.	
Allen turkey reds	6	No 1 White & Bk	12
" robes	6	" 2 "	12
" pink & purple	6	" 3 "	12
" buffs	6	" 4 "	12
" pink checks	6	" 5 "	12
" staples	6	" 6 "	12
" shirtings	4 1/2	" 7 "	12
American fancy	5 1/2	" 8 "	12
American indigo	6	" 9 "	12
American shirtings	4 1/2	" 10 "	12
Argentine Grays	6	" 11 "	12
Anchor Shirtings	5	" 12 "	12
Arnold	6 1/2	" 13 "	12
Arnold Merino	6	" 14 "	12
" long cloth B.	10 1/2	" 15 "	12
" C.	8 1/2	" 16 "	12
" century cloth	7	" 17 "	12
" gold seal	10 1/2	" 18 "	12
" green seal TR	10 1/2	" 19 "	12
" yellow seal	10 1/2	" 20 "	12
" serge	11 1/2	" 21 "	12
" Turkey red	10 1/2	" 22 "	12
Ballou solid black	5	" 23 "	12
" colors	5 1/2	" 24 "	12
Bengal blue, green,	5 1/2	" 25 "	12
red and orange	5 1/2	" 26 "	12
Berlin solids	5 1/2	" 27 "	12
" oil blue	6 1/2	" 28 "	12
" green	6 1/2	" 29 "	12
" Foulards	5 1/2	" 30 "	12
" red %	7	" 31 "	12
" 3-XXXX	12	" 32 "	12
Cocheo fancy	6	" 33 "	12
" madders	6	" 34 "	12
" XX twills	6 1/2	" 35 "	12
" solids	5 1/2	" 36 "	12
TICKINGS.		COTTON DRILL.	
Amoskeag A.C.A.	12 1/2	Atlanta D.	8 1/2
" D.	7 1/2	Boot	6 1/2
" Awning	11	Clifton K.	6 1/2
Farmer	8 1/2		
First Prize	11 1/2		
Lenox Mills	18		
Atlanta, D.	8 1/2		
Boot	6 1/2		
Clifton K.	6 1/2		



Best Six Cord

— FOR —

Machine or Hand Use.

FOR SALE BY ALL

Dealers in Dry Goods & Notions

Schilling Corset Co.'s



CORSETS

THE
MODEL
(Trade Mark.)
FORM.

Greatest Seller on Earth!

Dr.
Schilling's
FRENCH
SHAPE
A"



Send for Illustrated Catalogue. See price list in this journal.

SCHILLING CORSET CO.,

Detroit, Mich. and Chicago, Ill.

G. R. MAYHEW,

Grand Rapids, Mich.,
JOBBER OF



Wales Goodyear Rubbers,

Woonsocket Rubbers,
Felt Boots and Alaska Socks.

HAMMERS.			
Maydole & Co.'s.....	dis.	35	
Kip's.....	dis.	25	
Yerkes & Plumb's.....	dis.	40&10	
Mason's Solid Cast Steel.....	30c list	60	
Blacksmith's Solid Cast Steel, Hand.....	30c 40&10		
HINGES.			
Gate, Clark's, 1, 2, 3.....	dis.	60&10	
State.....	per doz. net,	2 50	
Screw Hook and Strap, to 12 in. 4½ 14 and longer.....		3½	
Screw Hook and Eye, ½.....	net	10	
" " " ¾.....	net	8½	
" " " 1.....	net	7½	
" " " 1½.....	net	7½	
Strap and T.....	dis.	50	
HANGERS.			
Barn Door Kidder Mfg. Co., Wood track.....	dis.	50&10	
Champion, anti-friction.....		60&10	
Kidder, wood track.....		40	
HOLLOW WARE.			
Pots.....		60&10	
Kettles.....		60&10	
Spiders.....		60&10	
Gray enameled.....		40&10	
HOUSE FURNISHING GOODS.			
Stamped Tin Ware.....	new list	70	
Japanized Tin Ware.....		25	
Granite Iron Ware.....	new list	33½&10	
WIRE GOODS.			
Bright.....	dis.	70&10&10	
Screw Eyes.....		70&10&10	
Hook's.....		70&10&10	
Gate Hooks and Eyes.....		70&10&10	
LEVELS.			
Stanley Rule and Level Co.'s.....	dis.	70	
ROPES.			
Sisal, ¼ inch and larger.....		9	
Manilla.....		13	
SQUARES.			
Steel and Iron.....		75	
Try and Bevels.....		60	
Mitre.....		20	
SHEET IRON.			
Nos. 10 to 14.....	Com. Smooth.	\$1 05	\$2 95
Nos. 15 to 17.....	4 05	3 05	
Nos. 18 to 21.....	4 05	3 05	
Nos. 22 to 24.....	4 05	3 15	
Nos. 25 to 26.....	4 25	3 25	
No. 27.....	4 45	3 35	
All sheets No. 18 and lighter, over 30 inches wide not less than 2-10 extra.....			
SAND PAPER.			
List acct. 19, '86.....	dis.	50	
SASH CORD.			
Silver Lake, White.....	list	50	
" Drab A.....	"	55	
" White B.....	"	50	
" Drab B.....	"	55	
" White C.....	"	35	
Discount, 10.....			
SASH WEIGHTS.			
Solid Eyes.....	per ton	\$25	
SAWS.			
" Hand.....	dis.	20	
" Silver Steel Dia. X Cuts, per foot.....		70	
" Special Steel Dia. X Cuts, per foot.....		30	
" Special Steel Dia. X Cuts, per foot.....		30	
" Champion and Electric Tooth X Cuts, per foot.....		30	
TRAPS.			
Steel, Game.....	dis.	60&10	
Oneida Community, Newhouse's.....		35	
Oneida Community, Hawley & Norton's.....		70	
Mouse, choker.....		18c per doz	
Mouse, delusion.....		\$1.50 per doz.	
WIRE.			
Bright Market.....	dis.	50	
Annealed Market.....		70-10	
Coppered Market.....		60	
Tinned Market.....		62½	
Coppered Spring Steel.....		50	
Barbed Fence, galvanized.....		2 85	
" painted.....		2 40	
HORSE NAILS.			
Au Sable.....	dis.	40&10	
Putnam.....	dis.	05	
Northwestern.....	dis.	10&10	
WRENCHES.			
Baxter's Adjustable, nickelled.....		30	
Coe's Genuine.....		50	
Coe's Patent Agricultural, wrought.....		75	
Coe's Patent, malleable.....		75&10	
MISCELLANEOUS.			
Bird Cages.....		50	
Pumps, Clstern.....		77&10	
Screws, New 1 st.....		70&10	
Casters, Bed a d Plate.....		50&10&10	
Dampers, American.....		40	
Forks, hoes, rakes and all steel goods.....		6&10	
METALS.			
Pig Large.....	per lb.	28c	
Pig Bars.....		28c	
ZINC.			
Juty: Sheet, 2½c per pound.....			
600 pound casks.....		6½	
Per pound.....		7	
SOLDER.			
¼ 2 ¼.....		16	
Extra Wiping.....		15	
The prices of the many other qualities sold in the market indicated by private brands vary according to composition.			
ANTIMONY			
Cookson.....	per pound		
Hallett's.....		13	
TIN—MELYN GRADE.			
10x14 IC, Charcoal.....		\$ 7 50	
14x20 IC, ".....		7 50	
10x14 IX, ".....		9 25	
14x20 IX, ".....		9 25	
Each additional X on this grade, \$1.75.			
TIN—ALLAWAY GRADE.			
10x14 IC, Charcoal.....		\$ 6 75	
14x20 IC, ".....		6 75	
10x14 IX, ".....		8 25	
14x20 IX, ".....		9 25	
Each additional X on this grade \$1.50.			
ROOFING PLATES			
14x20 IC, ".....		6 50	
14x20 IX, ".....		8 50	
20x28 IC, ".....		15 00	
14x20 IX, ".....		6 00	
14x20 IX, ".....		7 50	
20x28 IC, ".....		12 50	
20x28 IX, ".....		15 50	
BOILER SIZE TIN PLATE.			
14x28 IX.....		\$14 00	
14x31 IX.....		15	
14x56 IX, for No. 8 Boilers, } per pound....		10	
14x60 IX, " 9.....		10	

Michigan Tradesman

A WEEKLY JOURNAL DEVOTED TO THE
Best Interests of Business Men.

Published at
100 Louis St., Grand Rapids,
— BY THE —

TRADESMAN COMPANY.

One Dollar a Year, - Postage Prepaid.

ADVERTISING RATES ON APPLICATION.

Communications invited from practical business men.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

Subscribers may have the mailing address of their papers changed as often as desired.

Sample copies sent free to any address.

Entered at Grand Rapids post office as second-class matter.

When writing to any of our advertisers, please say that you saw their advertisement in THE MICHIGAN TRADESMAN.

E. A. STOWE, Editor.

WEDNESDAY, NOVEMBER 2, 1892.

THE GRANDEST SOCIAL PROBLEM.

There is no more beautiful and touching sentiment than that which is crystallized in the idea of the brotherhood of all mankind, although it is often found difficult to realize it as a practical fact. Nevertheless, it was not until after the discovery of America that its possibilities could be tested on a large scale.

Of the 100,000,000 population estimated to inhabit the American hemisphere to-day, a small minority comprises the people of the races that were originally found here. An enormous majority is composed of immigrants and the descendants of immigrants from all the countries of Europe and from the chief countries of Asia and Africa. Never before in the history of the whole world had there been such an assembling of the representatives of so many races and countries, and never again can there be such an exhibition of the gathering of the various races and nationalities.

In ancient times and during the period anterior to Columbus there was little friendly intercourse between peoples of different countries, and vastly less between people of different races. A stranger was commonly considered an enemy and hospitality was uncommon, whereas it is now the rule. There was a limited communication between countries for the purposes of commerce, but beyond this it was not tolerated. Nations invaded each other for the sake of conquest, but there was no such thing as peaceable emigration from one country to another.

When Julius Caesar proposed to commence his memorable invasion of Gaul, a country immediately adjoining Italy, so little was known of what is now France that Caesar, in order to gain some information of the country and the people he proposed to attack, sent for all the peddlers and commercial travelers in Rome, so that he might interrogate those who had journeyed beyond the Alps. Even religious missionaries who went to preach in strange countries were often laughed at because they were themselves strangers, and only commercial travelers were tolerated from considerations of utilitarian profit.

Thus it will be seen that the entire the-

ory of the brotherhood of the human race had no great opportunity for being tested and no field for such trial on an extensive scale until the discovery of a new hemisphere which was for the most part to be peopled by the representatives of all the races and countries of the old. The sentiment embraced in the idea is most humane and admirable, and if experiment in the New World has not proven that all the races of men can live together in perfect love and harmony, it demonstrates that all can have a fair opportunity for their best development, and that each will be able to work out its destiny in accordance with its ability to survive the forces and conditions of competition. This is the grandest social problem ever presented for solution to the human races, and America has been made the scene of its accomplishment.

THE CONTAMINATION OF RIVERS.

The necessity for pure water for all purposes of domestic use has been specially brought to popular attention by the threatened invasion of cholera. It is held by the best authorities that the germs of this terrible disease are most commonly introduced in drinking water, but, doubtless, they may also be communicated by washing the person in contaminated water. Much the same doctrine is held concerning typhoid fever. Obviously, then, the necessity of a supply of pure water for all domestic uses is of the highest importance.

In this connection comes up the polluting of rivers and streams with the sewage and filth of cities. Where a town is situated near a running stream, it is the rule to pour all the refuse into its waters, and nobody objects. The towns and cities on the same water course, but lower down, consume the contaminated waters which come down from above without a murmur, only taking care that they, in turn, shall send down their garbage to those below. It is the sort of satisfaction which is got in accepting a kick from some one behind, and kicking in return the person next in front. So somebody is kicked, it makes no difference who it is. After drinking the sewage from the city above, revenge is to be got by sending more filth to be consumed by the city next below.

The polluting of rivers is coming to be a serious matter. It is, without doubt, the cause of many epidemics of deadly disease, and, as the populations of the towns along the rivers are constantly on the increase, the contamination of the waters is growing in a rapidly increasing ratio. The danger of polluting rivers is well understood in Europe and most of the large cities there are manufacturing their sewage into fertilizers instead of dumping it into the rivers. In the United States river contamination is the rule, and is likely to be for a long time to come.

THE TIDE OF IMMIGRATION.

One of the most important questions which has claimed public attention of late years has been that of immigration. The statistics have shown that the inflow of foreigners of all nationalities has been steadily on the increase, and it has been very plainly demonstrated that the addition yearly of these vast numbers of people to our population has not been without some hurtful influence.

It has been shown, for instance, that there has been a very liberal sprinkling

of the criminal and other undesirable classes among the immigrants, and there have also appeared elements which have amalgamated but poorly with the general mass of the population, people to whom free institutions are utterly incomprehensible.

A growing appreciation of these facts has drawn an increasing share of public attention to the immigration problem, and nearly every session of Congress of recent years has considered the matter in one form or another. The regulations governing the admission of immigrants into the country have been modified and revised for the purpose of mitigating the evils attached to our immigration system, but it is apparent to every one that the changes in the laws, while they have modified in some degree the evils attached to unrestricted immigration, have not removed the evil, for the trouble still exists and must sooner or later be dealt with more firmly than has yet been the case.

Immigration for the last month and for the three months ending with September was less than that for the corresponding periods of last year. This decline in volume can be traced without doubt to the precautions taken against the introduction of cholera, which greatly checked emigration from certain European ports. For the nine months ending with September, however, the total this year was in excess of that for the corresponding period of last year. The bulk of the emigration continues to be from continental Europe. There was a falling off in the emigration from the United Kingdom as compared with last year, but increases from Germany, Austro-Hungary, Sweden and Norway, the Netherlands and Switzerland. The emigration from Poland was almost equal to that of last year, and there were declines in the number coming from Italy and Russia.

These figures show that there has not only been no falling off in the tide of immigration, but that the immigrants continue to come from the same sections of continental Europe, which have for a number of years past been flooding us with the surplus of their populations. In the past these continental countries have not hesitated to send us the least desirable elements of their people and it is not to be expected that there has been a change in their policy.

We have no faith in the ultimate success of a man who depends upon cutting prices to sell his goods. In nine cases in ten he will go under in time. Such a man can not safely be given credit. Neither can credit be given safely to a man who drinks to excess. In these days of keen competition a man wants a clear head and a steady nerve, and these are not gained by excessive drinking. Another bad failing which makes credit timid is extravagant living. The man who spends money freely and is known to be an extravagant liver will usually bear watching carefully. Another safe rule to follow is not to trust any man too much. Opinions vary as to how much credit a man is entitled to, but it is safe to say that no man ought to be trusted for more than a quarter, or a third at most, of his visible assets.

Through an error in the types last week we gave H. Leonard & Sons credit for receiving thirty-four cars of china from Sonneberg and three cars of china from Limoges, France. We intended to say "cases," instead of "carloads."

The Grocery Market.

Sugar—Hard grades are weak and will probably go down before the end of the week, as slight concessions are offered to move stocks. Soft grades are strong and very low grades are a little higher, the refiners being considerably oversold.

Fruits—Citron is fairly active and values rule firm. Currants in barrels are in better request and those in cases command full prices. Dates are firm. California Prunes are more plentiful and easier. French scarce and firm. Valencia raisins are in good demand and the market is fairly firm. Sundried apples are scarce and evaporated decidedly weaker.

Coffee—Brazilian grades have advanced $\frac{1}{4}$ c and the manufacturers of package goods have advanced their quotations $\frac{1}{2}$ c.

Spices—All grades of pepper, China cassia and Zanzibar cloves are easier and a trifle lower. Calcutta ginger is a little higher.

Yeast—On account of a fire in the factory of E. W. Gillett, Magic yeast will be at a premium for ten days or two weeks, until shipments can be resumed.

Lemons—No change. The time is drawing near for the arrival of the big crop. When that time comes—two to four weeks hence—better stock and lower prices may be looked for.

Oranges—Floridas are higher than a year ago, as the crop is 1,500,000 boxes below that of last season. The price will probably go to \$3.50 @ \$3.75 by the middle of the month. The quality will improve as the season advances.

Bananas—Little doing.

Nuts—There is a firm feeling all along the line and every indication of high prices on almonds. Peanuts are strong and prices are slowly but surely advancing in Virginia.

The Hardware Market.

General Trade—With the close of the month there seems to be no let up in the volume of business. All branches of trade keep up wonderfully and reports from towns tributary to Grand Rapids indicate the same condition.

Wire Nails—Still very active, owing to the continued pleasant weather, but no change to note in price. All manufacturers are talking advance, and assert that if the present price remains on steel billets, wire nails must go up. A snow storm, or any severe change in the weather that puts a stop to building, will curtail the demand, and then it will be hard to get any advance.

Steel Nails—But few are used in this section, but in other parts of the country the demand is great enough to keep what few mills are now making them pretty busy. \$1.85 rates for cut nails is the present base.

Barbed Wire—For this time of the year very active. No change in price.

Window Glass—Very scarce and in great demand. Factories are advancing prices and do not promise to fill orders inside of four weeks.

Rope—A rather sharp advance has taken place in sisal rope of $\frac{1}{2}$ c a pound. The high price of sisal hemp is the cause. Jobbers have not yet made any change in their prices.

Ammunition—The demand for powder, shot and loaded shells keeps up, with no prospect of any further change for the present.

HEROES OF THE NEXT GENERATION.

There has been no feature of the numerous and varied demonstrations in honor of the Columbian anniversary which was more interesting than that afforded by the participation, in every community of this broad land, of the school children.

The fresh intelligence of children is ready and eager to grasp every new fact of information that is presented in an agreeable and attractive form. Their youthful and plastic minds are peculiarly susceptible to impressions of every sort, and when these are full of instruction and wisdom, teaching lessons of noble aspiration and heroic constancy and courage, the importance of the impression made cannot be overstated.

The children of to-day are to be the men and women of a few years hence. There will be no need for another Columbus, because there are no new hemispheres to be discovered. The possible lands around the poles can never become the homes of great free nations, nor the seats of imperial power. Whatever may be discovered there will be of use only as extending our scientific knowledge. Therefore, another Columbus will be an impossibility. But this is no reason that no inspiration is to be gained from contemplating the life and works of the great navigator. The need of the world, of the human race for heroic courage, for devoted constancy and faith, for untiring patience and perseverance, and, indeed, for every high quality and noble attribute of human nature, is as great as ever it was.

No man can be grand, heroic, noble and devoted who has not had some germ of those high qualities implanted in him in early youth. Such a seed of greatness may lie dormant for a long time, until, indeed, the circumstances favorable to its growth and development shall have appeared; but if the seed has been planted, when the occasion shall come, it will germinate and mature, and before anybody has had time to prophesy concerning him, the hero will stand forth. It is the emergency that proves great men, but no man has ever been great unless some breath of inspiration had found its way into his soul and some germ of aspiration had been implanted in his nature.

It is good, then, for our youth, for all youth to be brought to contemplate the character and deeds of the men who have conferred the grandest gifts of enlightenment, of social order, of liberty, of virtue and religion, on the generations that come after them. From time to time we are told of boys who are led into evil ways by being attracted to the deeds of vicious and lawless men. It was not the wickedness but the supposed courage and daring of noted criminals that first wrought upon the imagination and the impressionable natures of such unfortunate lads. How different might have been their lives if they had been attracted to the deeds of the real heroes, the truly great and grand men, whose careers illustrated the noblest phases of honor, of fidelity to high trusts, of devotion to duty; the men who have been foremost in patriotism, in statesmanship, in education, in scientific discovery, in charity, and in all the great works that have tended to advance human nature and to make human beings better and happier.

With this view we must congratulate the children of the United States that in

this eventful year A. D. 1892, they were enabled so generally and so numerous to take part in the greatest memorial ceremonies of the century. More than this, we predict that from the inspiration so breathed into many a youthful heart and mind the foundations have been laid for the making of not a few heroic and grand characters in the next generation.

BEET SUGAR IN THIS COUNTRY.

The best authority on beet sugar statistics has just issued an estimate of the beet sugar yield for the present year, his figures making the total production of Europe 3,400,000 tons, as compared with a yield last year of 3,500,000 tons. This shows that the total beet sugar crop promises to be short of last year, and the fact that the yield for several years past has not varied to any great extent would seem to indicate that the beet industry in Europe has been about developed to its full limit, and will not probably exceed the maximum figures already established.

It is probable that the next ten years or so will witness a decrease in the acreage devoted to beet roots in Europe by the restoration to grain crops of some of the land diverted to beets of recent years, under expectations of better results than have been actually attained.

These considerations have afforded the statistical publication issued by Willett & Gray, of New York, and accepted as an authority upon all matters appertaining to sugar, an opportunity to point out that "the time is fully ripe for the promotion of the beet sugar culture in the United States on such a broad basis that it will meet with entire success." "In years gone by," adds the Statistical, "we have been only playing with this industry, but the thorough and extensive experiments of the Department of Agriculture, and the final success attending the six beet root sugar factories of the United States in their operations this year, have ended the experimental stage, and decided the question of its practicability. It only remains for capital to enter the field with labor and take the immense profits waiting to be reaped. This is an opportunity for capital and labor to unite forces in a grand national agricultural industry, the great benefits of which to our country cannot be overestimated. Such an industry will receive the protection and support of whichever party may be in power, for it will soon attain proportions of national importance which cannot be ignored."

The success of the beet sugar factories already established proves beyond question that the cultivation of beets in this country is no longer an experiment. It has been shown that excellent beets can be grown, and the factories already in operation have been able to make a good profit out of the sugar they have turned out.

There is, therefore, every reason why the beet industry should be introduced in all the Western States where experiments have already proven that they can be successfully grown. Cane sugar is necessarily limited to a narrow belt along the Gulf coast, but sugar beets can be grown in a majority of the States, hence the best sugar industry is susceptible of a degree of development which can never be attained by the domestic cane industry.

Use Tradesman or Superior Coupons.

NOVEL EFFECTS.

NEWEST PATTERNS.

HEAVENRICH BROS.,

MAKERS & SELLERS OF

Tasty Tailor-Made Clothing,

138-140 Jefferson Ave., - - DETROIT.

DO YOU HANDLE

Buffalo

Soap?

IF NOT, WHY NOT?

It is the Best Laundry Soap on Earth.



I. M. CLARK GROCERY Co.

SOLE AGENTS.

HENRY S. ROBINSON.

CHAS. E. SMITH.

RICHARD G. ELLIOTT.

H. S. ROBINSON AND COMPANY.

Manufacturers and Wholesale Dealers in

Boots, Shoes and Rubbers,

99, 101, 103, 105 Jefferson Ave.,

DETROIT, MICH.

State Agents for the Candee Rubber Co.

MISTAKES AS TEACHERS.

Written for THE TRADESMAN.

Very few men get through the world without some kind of schooling; it may be rough and harsh from the attrition of conflicting forces; it may be irregular and fitful as one is made the sport of circumstances; it may be the reverse of elevating in its nature and tendency, or it may be thorough and disciplinary, well adapted to start the pupil on the road of true progress. However gained, if it incites to high achievements and enduring results, and strengthens the energies to better carry on the pursuits of later years, it becomes a valuable part of one's capital, well worth all it may cost. But one fact is evident as years bring us abreast of new enterprises and responsibilities, and that is that this schooling is necessary, even to the end of the most active business life.

When that peculiar mental process that we call education is ended and practical life begins, the education still goes on, but often under more stern and unrelenting teachers than those whom we were wont to consider tyrants in early youth. Our mistakes take the place of both text-books and teachers, following up what they have left incomplete; and, as in school life, one lesson, well learned, helps to elucidate the difficulties of the one following, so each mistake made in manhood, if carefully analyzed and comprehended, will make the path ahead clearer and less prolific of grave errors. On the other hand, he who is heedless and takes no warning from the first mistake will assuredly be overtaken by greater ones that might easily have been avoided.

Mercantile life, especially, offers a field for the exercise of a wise discernment, for there is always a chance to make or lose, according as one's judgment may determine at the time. To buy well for a year without making mistakes to be regretted is the exception rather than the rule with most dealers; to sell to the best advantage is equally difficult, and blunders are inevitable in either department of any business. He who most promptly perceives them and shapes his course so as to avoid others is the one whose business will thrive beyond that of competitors.

If one starts in business for himself without any previous experience, the lessons he will have to learn from mistakes will be as various as human nature can make them. If he gets into smooth sailing without dipping bows under many times, his skipper may well be named Good Luck. In the history of trade there are few who do not pay a good-sized fool tax before the first five years are gone, and some keep up the unwise expenditure even to the end.

As a great deal of purchasing nowadays is done through traveling men, the amateur dealer is at some disadvantage. If he feels his inexperience and relies wholly on the judgment of the salesman, he will "put his foot in it" to a large extent, at least once in a while, for salesmen like to improve a soft snap and a free buyer is their opportunity. If, on the other hand, he "knows it all" and undertakes to do his own buying on what little judgment he happens to have on hand, he will be sure to pay the penalty of his presumption. Most traveling men, however, if treated fairly, will be safe advisers to the beginner so far as quality, assortment and price are con-

cerned. The dealer will have to learn by experience alone the needs of his locality. No salesman acting for a permanent business house will overstock even a willing buyer if his judgment is asked, for he knows that to do so is not profitable for himself or the firm. In a few special lines only do agents seek to crowd their goods on the dealer in excess of reason. As they expect their first sale to be the last to each customer, they try to make it as large as the victim will bear. These, and others of like predatory habits, are the guerrillas of commerce. They approach the country dealer in one of his optimistic moods, when business is prosperous and everything looks *couleur de rose*. While his guardian angel is temporarily absent, these bushwhackers in the most plausible manner blend their goods or projects into his roseate visions, until he unconsciously swaps a certain amount of money for experience, and does not awake until common sense has rung the alarm bell to call his wits together. The next thing on the programme is a kicking solo. Luckily, the sum in each case extracted from his exchequer is not generally a large one; but the affair lowers his self-conceit and leaves a scar to mark the process.

Not unfrequently, the keenest business man in the liveliest marts of trade meets and succumbs to attacks of this kind, as no one can keep his faculties always stretched to the proper tension for every emergency. These lapses may well be recorded and carefully filed away in the archives of memory, to be used as future exigences may require. A frequent review may lead to the prevention of larger mistakes and regrets of equal magnitude.

The mistakes a merchant makes in buying to his own disadvantage affect only himself. They should teach, better than theory, lessons of prudence that can be learned in no other way. The mistakes he makes in selling are quite as important to be considered, as some of these affect both credit and purse, and some are far reaching in their results on community in general. The first may include carelessness in giving credit, and this is where the most expensive mistakes are made. With a desire to do the largest amount of business possible, the dealer is lead to extend credit to customers whose promises are worthless, or so uncertain of fulfillment as to leave no profit on the goods, even if accounts are at last fully collected.

Another mistake is letting good accounts run too long before calling for a settlement. Among the farming population it is common for many who have money in bank to ask accommodations of the dealer for an indefinite time, as though all their resources were to come from future harvests. It is a mistake to allow so much capital to lie unproductive in the hands of men who buy at cash prices and are able to pay down for all purchases, for so long as this concession is made, it will be expected as a part of business custom, although it is an unjust discrimination of which other customers may justly complain.

Credit is a necessity of trade, but it should be used only under the pressure of necessity, or for convenience to avoid minor evils, and then sparingly, for short periods. The rich may use it for their convenience, often to the advantage of both buyer and seller; to the poor man it should be the last resort, to be ap-

THE P & B BRAND OYSTERS

Will again this year, as in the past, be the very best procurable and packed daily from the sweetest and best stock. Regular season opens Sept. 15. Start in with us and do the Oyster business of your town.

THE PUTNAM CANDY CO.



See that this Label appears on every package, as it is a guarantee of the genuine article.



FERMENTUM THE ONLY RELIABLE COMPRESSED YEAST

Sold in this market for the past Fifteen Years.

Far Superior to any other.

Correspondence or Sample Order Solicited.

Endorsed Wherever Used.

JOHN SMYTH Agent, Grand Rapids, Mich.

Telephone 566.

106 Kent St.



See that this Label appears on every package, as it is a guarantee of the genuine article.



POTATOES.

We have made the handling of Potatoes a "specialty" for many years and have a large trade. Can take care of all that can be shipped us. We give the best service—sixteen years experience—first-class salesmen.

Ship your stock to us and get full Chicago market value.

Reference—Bank of Commerce, Chicago.

WM. H. THOMPSON & CO.,

Commission Merchants,

166 So. Water St., Chicago.

BANANAS!

If you want large bunches of the best quality, send your order to

THE PUTNAM CANDY CO.

pealed to only when all other relief fails, and then in the spirit of one who pawns the family Bible. It is a mistake in either merchant or customer to make credit the rule and pay down the exception. If used in supplying common household needs, it is a leakage in the purse of both parties, because it wastes an increment that, in the aggregate, is large and might better be equally shared. The majority do not notice this waste; those who are wise have clearer perceptions and profit by the mistakes of others.

Again, mistakes are often made by business men in the heat of competition when quality is sacrificed to cheapness. It is difficult to regain a prosperous trade when demoralized by such methods. Cutting prices below a living profit never pays in the long run, for it tempts producers to deterioration in products that the public health demands shall be chemically pure, and it tempts manufacturers to furnish articles of general use that are inferior in quality, whereby the public are losers in spite of lower prices. On the part of the distributor this is a mistake that he cannot wholly avoid, and so its teachings may be partially ineffectual; but the influence of each dealer should be exerted against a practice that is ruinous to the best interests of trade.

The mistakes one makes that are under his personal control furnish lessons that are the easiest learned; if well studied, they strengthen the judgment and enlarge the vision in the direction of future effort. Those we share with others, and for which we are not wholly responsible, should be regarded as equally worthy of attention, so that some organized effort possibly may be put forth to lessen their number and injurious results. As a large part of the mistakes made in this day and age are mutually caused and shared by numbers who singly feel little responsibility in the matter, the labor of discovery and correction falls on those superior minds whose judgment is clearest and whose influence is the most powerful. These are the pioneers and benefactors of civilization, both in governmental and in commercial economies, and our gratitude to them should equal, at least, the measure of their successful endeavors in our behalf.

S. P. WHITMARSH.

An Honest Customer.

A man who had an infirmity as well as an appetite for fish was anxious to keep up his character for honesty. While making a bill with his merchant and when the latter's back was turned, the "honest" buyer slipped a codfish under his coat. But the garment was too short.

"Now," said the customer, anxious to improve all the opportunities to call attention to his virtues, "Mr. Merchant, I have traded with you a great deal and have paid you honestly, haven't I?"

"Oh, yes," answered the merchant.

"Well," said the customer, "I believe that honesty is the best policy."

"That's so," replied the merchant, and the customer turned to go. "Hold on, friend!" cried the merchant. "Speaking of honesty, I have a bit of advice: When you come to trade again, you had better wear a longer coat or steal a shorter fish!"

In visiting Detroit a few hours should be devoted to the Detroit Museum of Art. Even a hurried look through the rooms impresses one with the rapidity of its growth, especially in the pictorial department. To do justice to the Frederick Stearns collection of Japanese and oriental art, embracing some fifteen thousand objects, would require more than a few hours.

Use Tradesman Coupon Books.

FLUCTUATIONS IN INTEREST RATES.

The notable financial event of the week has been the raising by the Bank of England of its rates of discount to 3 per cent. per annum from the 2 per cent. at which it had stood during the previous six months. Four weeks ago I called attention to the extraordinary ease of money then prevailing in London, and to the fact that the rate of discount in the open market there was barely 1 per cent. per annum, while call money was to be had so cheaply that the hire of £10,000, or \$50,000, over night amounted to only about sixty cents. Since that time the London open market rates have risen to over 2 per cent. per annum for bills, and to 1 per cent. for call money. The Bank of England, always keeping a little above the market, has, accordingly, fixed its rate at the figure mentioned.

In New York the rates of interest have likewise recently increased and to a much greater extent than they have in London. All through the summer, time money could be borrowed at 3 per cent., while call money was abundant at 2 per cent. and less, and conservative trust companies declined to receive deposits on call from new customers at any rate whatever. The little commercial paper in the market was discounted at 3 and 4 per cent. Now, call money commands easily 4 per cent., with occasional spurts which send it above 6 per cent.; time money is 6 per cent. and mercantile paper is not discounted at less than 5 per cent.

This increase in the rates of interest for money, both here and in London, is a usual occurrence at this season of the year. The hire of money, like rents and wages, varies according to supply and demand. It goes up when either the demand becomes greater or the supply smaller, and goes down when the demand lessens or the supply is increased. In this country the annual harvesting of the crops requires a large quantity of currency, which is drawn from the stock of New York, while in Great Britain a similar, although not precisely identical cause, produces a similar drain upon the reserves of London. The loanable funds of the banks and money lenders in both cities being depleted, while the demand for them continues undiminished, the competition for their use compels borrowers to pay higher rates.

This is an illustration of an elementary principle in finance to which I should not call attention except for the purpose of pointing out that our present experience differs somewhat from that of previous years, and deserves special notice. The autumn stringency, which usually begins to show itself with us early in August, was a month late this year, and its effect has been much less severe than on any former occasion. In London, too, the rise in the Bank rate of discount, just made, was expected some weeks ago, and its postponement has excited considerable remark. Special forces have evidently been at work, causing a perturbation of the regular course of events.

With us the principal perturbing force has unquestionably been the unusual increase of the supply of currency resulting from the disbursements of the United States Treasury for the redemption of maturing bonds and other purposes, as well as from the monthly issues of coin notes under the act of July, 1890. The cash balance of \$160,274,394 which the Treasury held Aug. 31, 1891, had been

75 Cents on the Dollar.

Michael Kolb & Son, wholesale clothiers, Rochester, N. Y., have instructed me to close out balance fall stock, with few exceptions, at above named reductions. I always argued that instead of giving one or two big houses benefit of these bargains, same should be thrown into whole market.

I shall be at Sweet's Hotel, Grand Rapids, for the last time this season on Friday, November 12. Thanking trade for many mail orders sent in to the house from all parts of the country for Prince Albert coats and vests, it bespeaks their excellence. They receive prompt attention. Any of the trade desiring to see me before above date, kindly drop me a line at my permanent address

Box 346, Marshall Mich.

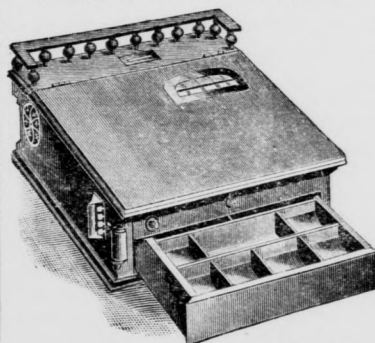
And I will soon be with you, and if I haven't got what you want, thank you for sending for me.



WILLIAM CONNOR,
Representative of Michael Kolb & Son,
Wholesale Clothiers, Rochester, N. Y.

The Standard Cash Register

(Patented in United States and Canada.)



Is a practical Machine, Appreciated by Practical Business Men.

It is handsomely furnished Combination Desk, Money Drawer and Cashier with Combination Lock and Registering Attachment. It records both cash and credit sales. It records disbursements. It itemizes money paid in on account. It enables you to trace transactions in dispute. It will keep different lines of goods separate. It shows the transactions of each clerk. It makes a careless man careful. It keeps an honest man honest and a thief will not stay where it is. It will save in convenience, time and money, enough to pay for itself many times over. Each machine, boxed separately and warranted for two years.

For full particulars address

THE STANDARD AGENCY,

Sole Agents for Michigan, AUGUSTA, WIS.

It Pays Dealers to sell FOSFON because there are but two sizes, Five Ounces at 10 cents, Sixteen at 25 cents and it pleases better than Baking Powders. See Grocery Price Current.

THE BREAD RAISER FOSFON

SUPPLANTS BAKING POWDER

Fosfon Chemical Co., Detroit, Michigan.

SOLD BY ALL RELIABLE CROCCERS.

BARCUS BROS.,

MANUFACTURERS OF CIRCULAR



Equalled by few and excelled by none. All our saws are made of the best steel by the most skillful workmen, and all saws warranted. Burnt saws made good as new for one-fourth the list price of new saws. All kinds of

SAW REPAIRING

Done as cheap as can be done consistent with good work. Lumber saws fitted up ready for use without extra charge. No charge for boxing or drayage. Write for prices and discounts.

MUSKEGON,

MICHIGAN.

reduced by Sept. 30 last to \$131,895,918, making an increase of the money in the hands of the people of \$28,378,476, while the monthly output of notes under the act of July, 1890, had resulted for the thirteen months in a further increase of \$61,253,500, making a total of \$89,631,976. And, against this might be offset an excess of our exports over imports of gold, amounting to \$15,073,551, were it not that this excess merely represents the product of our mines and did not, therefore, come out of the amount in circulation. In round numbers, therefore, the increase of our circulating medium from Sept. 1, 1891, to Oct. 1 of this year has been \$90,000,000, which is about what the official statement of the Treasury Department makes it.

Concurrently with this enlarged supply of currency there has been no marked enlarged demand, so that the usual requirements of the agricultural sections failed this season to exert their natural influence either so promptly or so powerfully as they would have done under ordinary circumstances. Still, the \$155,000,000 and more of gold and legal tenders which the New York banks held on Aug. 6 fell to less than \$140,000,000 by the end of that month, and on Saturday to \$117,500,000, showing an absorption by the public of \$37,500,000, which, unless the supply had been augmented from the sources I have mentioned, must inevitably have produced a serious effect upon the money market.

In Great Britain, the unusual ease of money has been caused not so much by an increase of supply as by a decrease of demand. Under the influence of the alarm created by the Baring failure, the London banks have, indeed, lately been strengthening their gold reserves, and the supply of the metal let loose by our Treasury disbursements and by our expanded paper currency has come in very opportunely for their wants. Still, the amount they have taken has been comparatively small. The Bank of England, which acts as banker for the other banks of London, held at the latest advices £26,890,010 in specie, against £23,660,383 a year ago, showing an increase of only £3,229,627, which is about all that London has gained. If the English demand for loans had been as large as usual, this increase of gold would not have sufficed to make the rates of discount so phenomenally low in London as they have been, but, as I pointed out four weeks ago business is very dull in Great Britain and hence money can be borrowed there very cheaply.

It is often said, and I think it is generally believed, that the Bank of England, whenever there is a likelihood of its losing gold, raises its rate of discount in order to prevent the loss, and lowers the rate again when the danger is averted. This is very much like saying that we make fires in our dwellings when the thermometer falls in order to keep it from falling, and let them go out when the thermometer rises to the point at which we desire to see it. An outflow of gold from any one country to another indicates that it can be more profitably used in the country to which it goes than in that which supplies it. The tendency of the movement is, therefore, to raise the rate of interest in the country losing the metal and to lower it in that which gains it. Hence, a sagacious banker, seeing gold go away from the field of his operations, infers that he will be able to

get higher rates of interest for his money as a result of the diminished stock at the disposal of borrowers, and, *vice versa*, he prepares to accept lower rates when, by importations from other countries, the stock competing with his own increases. There is, I acknowledge, an element of imagination in the business, and the Governors of the Bank of England are sagacious enough to consider the possible alarm of the public at an outflow of gold, but their main purpose in putting the rate of discount up and down in conformity with the movements of the metal is to make all the profit they can for the bank, consistent with safety. They fix their rates of discount to conform to the decreased supply of gold, not for the purpose of increasing the supply, but for that of increasing their revenue. When the supply increases they stop increasing the rates of discount, just as we let our fires go down when the thermometer tells us we shall be too warm if we keep them up, and they reverse their action when the supply diminishes, just as we put on fuel when the thermometer warns us that our houses are growing cold.

The long-continued dullness of business in Great Britain has also helped to keep down the rates of interest here by stopping the drain upon our gold supply, which at one time threatened seriously to impair our ability to maintain gold payments. If to the demands for the metal which have been made by the Bank of France, the Bank of Germany, and, more recently, by the Bank of Austria-Hungary, there had been added any considerable demand by the Bank of England, our exports of gold, which began last spring, must have continued until now, and made large inroads upon our gold reserves. British money lenders have, however, wisely preferred to leave their funds here, at even our low rates of interest, rather than bring them home in gold, and lend them out at the lower rates which have prevailed in their own country. How much longer we shall profit by this immunity is a question. The latest statistics show a continued decline in the commerce of Great Britain, and its official internal revenue returns also exhibit a falling off in the property and income tax, indicative of decreased

business profits. The wheat harvest, too, is turning out even worse than was at first expected, so that a larger amount of our wheat will have to be taken to supply British needs. These influences may delay the withdrawal of British capital from our market, and, with the return flow of currency which will soon set in from the agricultural districts to this center, give us low rates of interest for some time to come.

Some overzealous Americans are disposed to take offense at this interdependence of the foreign and the home money markets, and to desire the adoption by this country of what they call a non-exportable currency, which will not, like gold, be liable to be taken from us to supply foreign demands. They forget that such a currency would be non-importable as well as non-exportable, and that if it would not go abroad to supply other countries, neither would their money come hither, on occasion to supply us. We had, in 1873, an experience of this non-exportable money, which ought to be a lesson to us forever. Our currency at that time was exclusively depreciated paper, which was not wanted elsewhere, and which, consequently, was not to be found elsewhere. The rate of interest went up to as much as 1 and 2 per cent. a day, and the Stock Exchange had to close from the absolute impossibility of carrying on

business. Had we been then on a gold basis, as we are now, gold would have come hither by steamer loads and the panic would have been over as soon as the first shipments began to arrive. The rates of interest would have risen abroad and fallen here, until they stood so nearly at a level as not to invite further transfers. As it was, we had to grind along with our limited stock of greenbacks, until, after incalculable losses and hardships and enormous sacrifices by debtors, we finally pulled through. We have had no such a cataclysm since that one, and if we stick to the gold standard we never shall have one so destructive again; because our money will be the world's money, and all the money of the world will be at our command.

MATTHEW MARSHALL.

FOURTH NATIONAL BANK

Grand Rapids, Mich.

D. A. BLODGETT, President.
GEO. W. GAY, Vice-President.
Wm. H. ANDERSON, Cashier.

CAPITAL, - - - \$300,000.

Transacts a general banking business.

Make a specialty of collections. Accounts of country merchants solicited.

BUCKWHEAT FLOUR.

We make an absolutely pure and unadulterated article, and it has the

GENUINE OLD-FASHIONED FLAVOR.

Our customers of previous years know whereof we speak and from others we solicit a trial order. Present price \$5 per bbl. in paper $\frac{1}{8}$ and 1-16 sacks.

THE WALSH-DEROO MILLING CO.,

Correspondence Solicited.

HOLLAND, MICH.



TO HIS OWN INTEREST

who conducts a retail business without the use of Coupon Books, as the Coupon System enables the dealer to avoid all the losses and annoyances incident to the pass book and other antiquated charging systems.

If you are not now using this system, and care to investigate same, send for samples and price list. or send us sample order.

THE TRADESMAN COMPANY,

100 Louis St, Grand Rapids, Mich.

SOME USES OF BACTERIA. *

Every farmer, of course, appreciates the value of keeping stock, and you all know that you cannot run a farm without your cows, your horses, your sheep, your hens, and your pigs. You do not appreciate, however, that it is just as necessary to keep a stock of bacteria on hand, on your farm, to carry on your farming operations. The farmer has learned to-day that he must keep a good breed of cows and a good breed of stock in general, but farmers generally do not appreciate that it is equally necessary to keep a good breed of bacteria. You cannot make butter or cheese without cows; you cannot make butter or cheese satisfactorily without bacteria. You cannot cultivate your fields without your horses to help you, but all the cultivation that you might give your fields would be useless were it not that these little creatures of which I shall speak this morning come in after you get through and complete the process which you have begun.

Now, probably many of you have never particularly thought that your farm is stocked with bacteria, but they are there. They are in your brooks, in your springs, in your wells, in your rivers; they are in your dairy, in your milk, in your butter, in your cheese, in your barn. They are in the air, they are in the soil, and your manure heap is a paradise for them.

Bacteria are in rather bad odor in the minds of most people, and we are all inclined to look with horror upon them. We have a sort of shrinking when any one speaks to us of the number of bacteria in the milk which we drink. The reason for this, however, is simply an historical one. When bacteria were first discovered it was early noticed that they had a causal relation to disease, and scientists went to work from the very first to investigate diseases in relation of bacteria. The result was that after a few years a great deal of information had accumulated showing that bacteria caused diseases. The so-called "epidemics" are usually the result of bacteria, and with minds intent upon this side of the question scientists did not pay much attention to the good that bacteria might do in the world. It was more interesting to study disease. People are very much interested when you begin to tell them why it is that they have smallpox, why it is that they have yellow fever; the other side of the matter, however, is not so interesting.

But the fact is that the bacteria story has only been half told, and thus far it is the smaller half that has been told, if there is such a thing as the smaller half. It is true that bacteria are occasionally injurious to us, but it is equally true that they are of direct benefit to us. Hitherto we have looked upon bacteria as belonging to the medical profession; we think the doctors ought to know about them because they produce disease, but ordinary people do not need to bother themselves with these things. But I think, before I get through with my talk this morning, you will see that bacteria have a very much closer relation to you as farmers than they do to the doctors. It is the farmer to-day who ought to understand bacteriology. It is well enough for the medical man to understand the subject also, but bacteriology has already become a medical subject, while the agriculturist has generally neglected it.

I propose in my talk this morning to point out to you a few of the benefits which you as farmers derive from the agency of these microscopic organisms. I shall divide the subject into four heads. First, *miscellaneous*: At the very outset I am going to say a word or two in regard to yeasts. Now, yeasts are not bacteria, but they are microscopic plants closely related to bacteria, and their agency in nature is very similar to that of bacteria in some respects; so I shall say a word or two in regard to them.

What is the function of yeasts? Yeasts are plants which have the power of growing in sugar solutions, and while growing there they break the sugar to pieces and produce from it two compounds; one of them is alcohol, and the other one is the gas which we commonly call carbonic acid. We make use of yeasts for various

purposes along two directions. We may use them either for the purpose of getting the alcohol or for the purpose of getting the carbonic acid. For instance, you want to bake a loaf of bread; you take your dough, you plant yeast in it and set it in a warm place; now, there is always a little sugar in the dough, and the yeast begins to grow, breaking the sugar to pieces, as I have just stated, and producing from it alcohol and carbonic acid. The carbonic acid is a gas, and as the yeast grows and the carbonic acid makes its appearance in the bread, little bubbles are seen in the dough, until presently it becomes filled with these little bubbles of carbonic acid gas which render it lighter. Of course, as the gas accumulates the dough swells, or, as we say, it "rises." Then you bake it, and when you take it out of the oven and cut it open you find that the bread is full of little holes. Those little holes are the remains of the bubbles of carbonic acid gas which the yeast produced, and the object of growing the yeast was simply to make those holes in the bread. The bread is light, and the object of the introduction of the yeast is thus accomplished. You cannot bake a loaf of bread, then, without the agency of microscopic organisms.

In the baking of bread we have an instance of the use of carbonic acid alone. In the manufacture of wine the object of the vintner is to get the other product of yeasts, namely, the alcohol. He grows yeasts in his grape juice, usually depending upon those from the air. Again there is carbonic acid and alcohol produced, and the carbonic acid in this case passes off into the air during the fermentation, while the alcohol remains behind; when the fermentation has continued long enough a considerable amount of alcohol remains in the grape juice, and thus produces the wine. Similarly in the manufacture of alcohol or of any of the other alcoholic liquors, such as rum or whisky, the same process is made use of; that is, the little yeasts are planted in some sort of sugar solution, it may be molasses, it may be barley; they grow there; there they produce carbonic acid and alcohol; the carbonic acid is allowed to go off into the air, and the alcohol remains behind. Then by the processes of distillation the alcohol is separated from the fermenting mass. The carbonic acid is all given off into the air in these cases.

In the manufacture of beer the attempt is made to get both products of the yeast growth. In the making of beer the yeast is cultivated in the same way in the malt; alcohol and carbonic acid both are produced. After some fermentation the beer is put into bottles. A certain amount of fermentation takes place after the bottling. The carbonic acid thus produced is dissolved in the liquid and soon accumulates so as to produce considerable pressure. When the bottle is opened it is this gas which causes the froth at the top of the beer. It is the alcohol which produces the intoxicating quality in the beer, but it is the carbonic acid chiefly which gives the beer its sharp, pungent taste. The alcohol aids, of course, to a certain extent, but the carbonic acid is the chief factor in the taste of beer. It may be a little question whether it is proper to use yeasts in this way, to produce rum, whisky, alcohol and beer, with the untold miseries which they involve; nevertheless, yeasts are at the foundation of the gigantic industries connected with distilling and brewing operations.

The farmer makes use of them in the manufacture of cider. Yeast from the atmosphere is planed in his apple juice; it attacks the sugar that it finds there, breaks the sugar to pieces, and produces carbonic acid and alcohol as before. The carbonic acid accumulates during the first day or two, and gives the sharp, pungent taste that is noticeable in sweet cider. Later on the alcohol accumulates in larger quantities, and that gives the taste to hard, sour cider. After the cider has fermented for several days the carbonic acid is of second importance; the alcohol accumulates until you get the strong, sharp, intoxicating hard cider. So much, then, for the uses to which we put yeasts.

Now, leaving yeasts, turn for a moment to the consideration of a few miscellaneous phenomena connected with bacteria. I may take as a starting point this very product that I mentioned last, namely, hard cider. Your yeasts produce alcohol in your cider. You let your cider stand in a barrel for several months, and little by little a change takes place in it; little by little the oxygen is taken out of the air and handed over to the alcohol, and when the alcohol gets hold of the oxygen it is no longer alcohol; it becomes acetic acid, and your cider is changed into vinegar. Now, it has been determined that it is through the agency of bacteria that the alcohol succeeds in getting hold of the oxygen. Bacteria grow on the surface of hard cider, forming a sort of scum, producing, indeed, what we call "mother of vinegar." The bacteria growing on the surface in some way take oxygen out of the air, pass it down into the fluid, give it to the alcohol, and when the alcohol gets hold of it, it becomes acetic acid, and you get vinegar where you originally had cider. The manufacture of vinegar, then, is a process dependent upon the growth of bacteria.

The manufacture of lactic acid is a process somewhat of the same character. Lactic acid is not a commercial article of very great importance, but still there are some factories in this country that manufacture it and put it upon the market to be sold for certain purposes. In the making of lactic acid the manufacturer makes constant use of bacteria. By the cultivation of bacteria in milk the milk sugar is changed into lactic acid, which the manufacturer separates from the milk and puts upon the market. So you see that the manufacturer of lactic acid is wholly dependent upon bacteria; he could never produce it without their aid.

Perhaps, under this head of "Miscellaneous," I may just refer to a matter which is of considerable practical importance, and that is the matter of ensilage. We do not know very much about the theory in regard to the management of a silo at the present time, but we do know that the whole process of procuring proper and sweet ensilage is a process of properly managing bacteria growth. If you manage the bacteria growth correctly your ensilage will remain sweet and will become a food which is very desirable for your cattle; but if you do not manage the bacteria growth correctly your ensilage will decay, it will become sour, undergo fermentations, and you will suffer from it. It is, then, to bacteria that the farmer owes his new process of obtaining food through a silo.

I will pass now to the consideration of the second topic, and that is, the relation of bacteria to dairy matters. I have already once or twice before in your meetings brought up this question of the relation of bacteria to the dairy. At the meeting a year ago some of you may remember that we considered the subject of the fermentations of milk, when we saw that all of these fermentations, most of which are very undesirable, are connected with the growth of micro-organisms. Now, so far as milk is concerned, bacteria are pretty much of a nuisance. The milkman does not want them; they produce the souring of his milk; they make his milk bitter or slimy; sometimes they make it blue, and they produce all sorts of abnormal fermentations which a milkman does not want. But I am not to consider that side of the question this morning, and I will pass the subject of milk and turn for a moment to a consideration of the relation of bacteria to butter-making and cheese-making.

Every butter-maker is acquainted with the fact that in the normal process of making butter, the cream is collected from the milk and then is allowed to ripen. It is put in some sort of vessel and allowed to stand in a warm place for a day or so, and during that time immense changes are taking place in it. At the end of the time the cream has become slightly soured, it has acquired a rather peculiar, pleasant, indescribable odor, and it has reached the proper condition for churning. During that time, our microscope tells us that bacteria have been multiplying with absolutely

inconceivable rapidity. They multiply so that they increase during a day, perhaps, five to six thousand-fold. Each bacterium with which you start when you begin to ripen your cream, produces at least six thousand by the end of twenty-four hours, and usually they will produce a much larger number than that. So that bacteria are growing in this ripening cream with absolutely incredible rapidity. Now, you butter-makers know that you gain some advantage from ripening the cream, or at least you think you do. You think your butter churns a little easier and that you get a little more butter from a given quantity of cream if you ripen it, and, above all (and this, perhaps, may be regarded as the chief value of ripening), the butter acquires that peculiar, delicate, pleasant aroma which is essential to a first-class quality of butter, that peculiar aroma which is not acquired if you do not properly ripen your cream before churning it.

Now, the explanation of the production of that aroma is simply this: These bacteria are agents of decomposition. Bacteria, as they grow in any solution, tend to decompose it or pull it to pieces. If they grow in an egg, they decompose the egg and cause it to putrefy and decay, and when they begin to grow in your cream they begin the same process of decomposition. If you should let your cream ripen for a week or two, you would very readily see that the process of decomposition had taken place, and your cream would become very offensive. The moment you begin to ripen your cream, the bacteria begin to decompose it. Now, as the result of decomposition, a great many chemical products are produced, and they have all sorts of smells and tastes. If you should let decomposition go far enough, you would get the bad odor of decay, but you do not get that odor when decomposition begins. The first of the decomposition products are rather pleasant in odor, and pleasant in taste, and if you churn your cream at that stage of decomposition, your butter is flavored with the early decomposition products. This flavor is the aroma of good butter; this is what fancy butter-makers sell in the market and get a high price for. They get a high price, then, for the decomposition products of bacteria, for a proper tasting butter brings a higher price than that which does not have this aroma, and the aroma is the gift of bacteria. You may ask, what becomes of the bacteria? It really makes little difference what becomes of them. Some go into the buttermilk, some go off in the water used in washing, some go into the butter and the salt kills them. It is no matter where they go. After the butter is churned they are no longer of any importance to you or any one else; their career, so far as the dairy is concerned, is ended.

If the butter-maker owes something to bacteria, the cheese-maker owes everything to them. The butter-maker cannot get the proper aroma without the agency of bacteria, but the cheese-maker cannot get anything. Of course, you all know that fresh cheese is very inane and tasteless. Nobody likes fresh cheese. It has a sort of curdy taste and is quite unpalatable. You know, however, that after cheese is made, it is set aside for a number of weeks to ripen. It may ripen several weeks, or, perhaps, months. Sometimes in the case of the best cheese, it may be ripened a year or more. Now, during that ripening process, exactly the same changes are taking place that I have mentioned in cream. The bacteria are growing, are attacking the casein, and pulling it to pieces. They produce many changes in it, and cause an accumulation of all sorts of materials which have peculiar tastes, and little by little the cheese is ripened. After a while the cheese begins to have a pleasant taste and then a strong taste, and if you leave it long enough, you get a very strong cheese. The longer you ripen a cheese, the stronger its taste becomes. An old cheese is always a strong cheese, a fresh cheese is always a mild cheese. The shorter the time you cultivate bacteria in it, of course, the slighter will be the changes which they produce; the longer

[CONTINUED ON PAGE 18.]

* An address by Dr. H. W. Conn, Wesleyan University, Middletown, Conn.

Drugs & Medicines.

State Board of Pharmacy.

One Year—Jacob Jesson, Muskegon.
Two Years—James Vernor, Detroit.
Three Years—Ottmar Eberbach, Ann Arbor.
Four Years—George Gundrum, Ionia.
Five Years—C. A. Hughes, Cheboygan.
President—Jacob Jesson, Muskegon.
Secretary—Jas. Vernor, Detroit.
Treasurer—Geo. Gundrum, Ionia.

Michigan State Pharmaceutical Ass'n.

President—Stanley E. Parkhill, Owosso.
Vice-Presidents—L. H. L. Dodd, Buchanan; F. W. R. Perry, Detroit; W. H. Hicks, Morley.
Treasurer—Wm. H. Dupont, Detroit.
Secretary—C. W. Parsons, Detroit.
Executive Committee—H. G. Coleman, Kalamazoo; Jacob Jesson, Muskegon; F. J. Wurzburg and John E. Peck, Grand Rapids; Arthur Bassett, Detroit.
Local Secretary—James Vernor.
Next place of meeting—Some resort on St. Clair River; time to be designated by Executive Committee.

Grand Rapids Pharmaceutical Society.

President, W. R. Jewett, Secretary, Frank H. Escott, Regular Meetings—First Wednesday evening of March, June, September and December.

Grand Rapids Drug Clerks' Association.

President, F. D. Klipp; Secretary, W. C. Smith.

Muskegon Drug Clerks' Association.

President, N. Miller; Secretary, A. T. Wheeler.

PILULÆ CATHARTICÆ COMPOSITÆ.

When I started in business, a good many years ago, I had quite a time to find a reliable cathartic pill that could be dispensed on physicians' prescriptions or be sold over the counter. My experience up to that time had been that a few druggists made their cathartic pills, others bought them ready made and coated, still others had the habit of recommending some one of the many patent pills on the market.

My first trial was to make compound cathartic pills according to the Pharmacopœia, with all the ingredients purchased from the wholesale dealer. As to activity, this pill did not give the satisfaction which could have been expected; besides, it was not coated. Other formulas were tried with indifferent success. One of these formulas furnished pills containing one-fourth drop of croton oil in each pill. They might appropriately be called "Never Failing Double-Action Lightning Express Pills." Some customers were very well pleased with these pills, but they would not answer for general use. I could not convince myself that it was proper to recommend patent pills. I then bought compound cathartic pills, sugar and gelatin coated, in smaller and larger lots in bottles and in bulk. I received the impression that, the larger the lot I bought, the less active they became. Customers would say: "I have taken a whole boxful of those cathartic pills of yours with very little action." One doesn't like to hear that kind of talk frequently.

The desideratum was, to have a safe and active pill, but how to get it was the problem. I went at the solution in a most radical manner. Knowing that the pills made from the ingredients as purchased in the market, or those ready made pills that one can purchase in small lots or in bulk, were not active enough when taken in ordinary doses, I concluded that, most likely, they must have been made from inferior ingredients. Acting on this conclusion, I decided to make two very important ingredients of compound cathartic pills myself: Compound extract of colocynth and extract of jalap, now the abstract. I didn't conclude to make mild chloride of mercury or gamboge, but tested them thoroughly and used none except the best quality.

Compound extract of colocynth is made from extract of colocynth, cardamom, resin of scammony and soap. Extract of colocynth required the most work. The best virgin scammony was obtained and I powdered it myself, I found that dif-

ferent lots of colocynth apples varied a good deal in percentage of extract, although the wholesale price was the same. The difference may amount to more than fifty per cent. Much might be said on extract of colocynth, but I fear it would make this paper too long.

Another ingredient of compound cathartic pills which I concluded to make was extract of, later abstract of, jalap. Abstract and extract of jalap can be made in about the same length of time I believe the abstract is the more active of the two preparations; at least, it is certainly more uniform in composition. No difficulty is encountered in making the abstract. After the jalap powder has been exhausted by alcohol, the remaining alcohol is displaced with water. To facilitate the displacement the aqueous layer is frequently stirred. In this manner the alcohol can be displaced almost to the last drop. In making extract and abstract of jalap, one obtains a very good idea of the quality of powdered jalap as sold by the wholesaler. I have obtained very poor powders at times, but also, now and then, very good lots. It is such a risky way of buying, that I have adopted the plan of buying powdered drugs from a responsible grinding firm only. Experimentally I buy powders in bulk from wholesale firms and test them to see what quality is handled. For instance, I bought some jalap powder in bulk from a wholesale firm last winter which compared favorably with the best I had purchased from a grinding firm at the same time. Much more might be said on the subject, but it would lengthen this paper unduly.

This makes two important ingredients of compound cathartic pills, viz: compound extract of colocynth and abstract of jalap. It is not difficult to obtain an unexceptional mild chloride of mercury or gamboge. These ingredients, thus prepared and selected, ought to make an efficient and reliable compound cathartic pill. I have made them in this manner for many years and find them as uniformly efficient and reliable now as when I first started to make them.

At first I made compound cathartic pills plain, but to bring them up to the full requirements of the modern pill taking customer, it was found necessary to coat them. Between sugar and gelatin coating, gelatin coating was chosen, because it was found the most practical method and also because this method furnishes the most soluble pills.

In coating the first lot of compound cathartic pills with gelatin, a serious difficulty was encountered which, for a time, seemed insuperable. The difficulty is called "beading." There are a number of substances and compounds which will bead when made into pills and coated with gelatin. The modus operandi is like this: When pills are dipped in gelatin, the warm fluid gelatin during its brief fluidity acts as a solvent on the outer surface of pills. In drying, the gelatin coating naturally contracts and forces a minute portion of the softened pill in the form of a bead through the coating of gelatin where it is weakest, or if the pills have been detached from the needles, the mass is forced through the hole made by the needle. If the pills have been placed in a bottle on the shelf they will after a while be found hanging together in a lump. You must remember these pills were made according to the old Pharma-

copœia, with extract of jalap, and it is this extract which causes the beading. The difficulty was remedied by adding five grains of calcined magnesia to each mass of 250 pills. With abstract of jalap and ordinary careful manipulation no beading need occur. G. H. CHAS. KLIE.

The Art of Business Management.

Ralph W. Bullard in Business.

Men of exceptional executive ability succeed in business management, without any special system, and without much of the organization which characterizes modern business. But men of exceptional ability are rare, and to find one out of employment when a vacancy is to be filled is rarer still. There are far more positions of responsibility than men of exceptional executive skill and experience looking for employment. Capitalists and investors who are looking for men to manage their various enterprises are obliged very often to put up with executives of only moderate ability, and of comparatively small experience, simply because they can find no better. Business development is proceeding more rapidly than the supply of managing men, and capital is being constantly risked in enterprises under inadequate and incompetent management, because for the time, at least, nothing better, poor though they be, offers by way of investment. Capital is sometimes aggressive, notwithstanding the rumors that it is timid and only ventures where everything is proven to be safe and sound, and capital would do far more than it is doing at present in various directions if only a little better management could be secured than at present offers.

If managing men of a high order of ability are so scarce, and if financial and commercial and manufacturing and transportation growth demand so many more men of this class than the natural supply affords, the question arises, what can be done to increase the resources of business men in this regard? What is it possible to do to help and to sustain those who by reason of this shortage have had burdens thrust upon them which they are unqualified to sustain? How can business be promoted and developed, even, while executive men are less in number than is supposed to be necessary? And last but not least, for in this form the question comprehends and includes all that have preceded, how can executive men of tried judgment and experience be enabled to do more than they are at present doing—that is, manage and oversee still more men, more departments, and more separate enterprises than at present—without increasing their physical and mental burdens?

The essence of management is to make the other man—the helper, the force of workmen or clerical employees, as the case may be, do the work that is to be done, and do it in the proper manner. He is no manager who does all the work himself; and yet some credit is due the man who can wind himself up and keep going, for the world is full of men who are only able to do what is laid out for them by some one else. Nor is he a good manager who only allows those things to be done by others which he is unable to compass himself, who only permits the overflow or surplus to get to some one else, for if only the overflow is to be done by others, then the latter can have no supervision or direction, for the whole time and powers of the manager (?) are absorbed in his own efforts. The measure of good management is the number of men that can be kept advantageously at work, or the amount of work or results that can be got from a given force of men, whatever may be the capacity in which they are working. What is demanded of the manager is the ability to see what is needed to be done in advance of the moment that the labor is to be applied, so as to lay out the work for the individuals who are to execute it; in other words, have it ready for them when they are ready for it. There is also required an intuitive knowledge or perception of the ability of the men in his charge for performing the different tasks, so that the work may be so apportioned that each will get that part for which he has the most talent; and finally, there is needed the ability to know at all

stages of progress what there is remaining to do, and the time and labor involved in its completion, so that the force may be adjusted to meet requirements and secure the greatest economies.

On the other hand we find men willing and faithful, but able only to do that which is put before them from day to day. They are the men who need the directing hand of the manager. Looking further, and getting beyond the privates, we find many who are qualified to be lieutenants or assistants, but not captains or leaders. Of them it is to be said that in a little higher capacity they can do whatever is brought to their attention item by item. Pursuing our investigations still further, we find hundreds of men of more than average executive ability quite able to serve as assistant managers, but who would soon have the machine running slower and slower and still slower, from the inability to perceive what is next to be done, if accident forced them into the first place.

All these men need help—need the help of a manager. Is there any other means by which these men can be helped where they are deficient? Is there anything which can make the loss of his immediate official superior to be less felt by the assistant manager? Is there any method available for making the lack of orders from the captain less a loss to the lieutenant or rendering the absence of the directing hand and managing brain less to be perceived by the thousands who are able and willing to work when work is laid out for them? I think there is. I think that modern business is answering this question on every side, and the oft-repeated answer is "System." I believe that system properly arranged and adjusted can do a very large part of what is at present called management; that it can do a very considerable proportion of that now allotted to the geniuses among business managers, that it can make men of mediocre ability and attainments fair directing heads of departments, and that it can indefinitely multiply the force and influence of the executive men at present in responsible positions. Many managing men are already employing system in the way I have in mind, possibly some of them are taking to themselves a part of the credit due to system; but in general, system is not understood in the sense of being a part of business management.

It would be only a waste of time to talk about the advantages and uses of system in the abstract. Everybody praises system, and every man, every office and every establishment has a system. System is everywhere recognized as the proper thing to have, and so fashionable has system become that some concerns actually break down by reason of the burden of system they have attempted to carry. I shall try, therefore, to consider system only in those phrases and applications which assist management, or in part take the place of management, or bring to the eye of the managing man those facts which are necessary to enable him to plan and direct the operations in his charge.

The first thing that a new managing man, in any line of business, requires, is to know what is wanted to be done, how much progress has been made to date on whatever is in hand, and who are engaged upon it, with particulars of what each one is doing. The things that he requires to know day by day after he has been initiated in the mysteries of his position are composed under the same heads, and the report that he finally makes for the assistance of his successor includes the same items. System steps up and says: "I will answer all these questions without a word being spoken, not only now, but for the future and all times. Further, I will always remain at the manager's elbow and prompt him from time to time on what is to be done next. I will anticipate wants and give him ample time to meet them. I will preserve a record of what has been done, so that comparisons of future work can be made with items of a similar nature already finished. I will never be tired, nor out of patience, nor miss a day, nor strike for higher wages. I will admit of pruning and grafting and rearranging until I exactly fit the place and then I will go on serving faithfully and unobtrusively to the end."

Wholesale Price Current.

Advanced—Castor oil, linseed oil, turpentine, salacine
Declined—Ipecac root.

ACIDUM.		TINCTURES.	
Aceticum	80 10	Aconitum Napellis R	60
Benzoleum German.	65 75	Aloes	50
Boric	30 30	" and myrrh.	60
Carbolicum	25 30	Arnica	50
Citricum	50 52	Asafoetida	0
Hydrochloric	30 5	Atropa Belladonna.	60
Nitricum	10 12	Benzoin	60
Oxalicum	10 12	" Co.	50
Phosphoricum dil.	20 20	Sanguinaria	50
Salicylicum	1 30 70	Barosma	50
Sulphuricum	1 40 60	Cantharides	75
Tannic	1 40 60	Capicum	50
Tartaricum	33 35	Cassia	50
AMMONIA.		POTASSIUM.	
Aqua, 10 deg.	3 4 5	R Carb.	15 18
" 20 deg.	5 7	Bichromate	13 14
Carbonas	13 14	Bromide	33 35
Chloridum	13 14	Carb.	13 15
ANILINE.		Chlorate (po 23)	2 22
Black	2 00 2 25	Cyanide	5 55
Brown	80 100	Iodide	2 00 2 30
Red	45 50	Potassa, Bitart. pure	27 30
Yellow	2 50 2 00	Potassa, Bitart. com.	2 15
BACCÆ.		Potass Nitras, opt.	8 10
Cubæ (po 60)	50 60	Potass Nitras	7 9
Juniper	80 10	Prussiate	28 30
Xanthoxylum	25 30	Sulphate po.	15 18
BALSAMUM.		RADIX.	
Copaiba	45 50	Aconitum	20 25
Peru	40 50	Althæa	2 25
Terabin, Canada	35 40	Anchusa	13 15
Tolutan	35 50	Arum, po.	2 25
CORTEX.		Calamus	20 40
Abies, Canadian	18	Gentiana (po 12)	8 10
Cassia	11	Glycyrrhiza (pv 15)	16 18
Cinchona Flava	18	Hydrastis Canadian.	2 30
Euonymus atropurp.	30	" (po 35)	15 20
Myrica Cerifera, po.	12	Hellebore, Ala, po.	15 20
Prunus Virgin.	10	Inula, po.	15 20
Quillaja, grd.	12	Ipecac, po.	2 50 2 60
Sassafras	12	Iris plox (po 35 38)	35 40
Ulmus Po (Ground 15)	15	Jalap, pr.	50 55
EXTRACTUM.		Maranta, ss.	2 35
Glycyrrhiza Glabra.	24 25	Podophyllum, po.	15 18
" po.	33 35	Rhei.	75 100
Haematox, 15 lb. box	11 12	" cut	75 100
" 1a.	13 15	" pv	75 100
" 1/2a.	14 15	Spigelia	35 38
" 1/4a.	14 15	Sanguinaria (po 25)	2 30
FERRUM.		Serpentaria	30 32
Carbonate Precip.	2 15	Senega	65 70
Citrate and Quinia	2 30	Similia, Officialis, H	2 40
Citrate Soluble	2 30	" M	2 25
Ferrocyanidum Sol.	2 15	Scilla, (po 35)	10 12
Solut Chloride	2 15	Symplocarpus, Feti-	2 35
Sulphate, com'l.	2 7	der, po.	2 35
FLORA.		Valeriana, Eng. (po 30)	2 35
Arnica	18 20	" German.	15 20
Anthemis	3 35	Zingiber a.	13 15
Marricaria	4 45	Zingiber j.	18 22
FOLIA.		SEMIN.	
Barosma	30 40	Antium, (po 30)	2 15
Cassia Acutifol, Tin-	25 28	Aplum (graveleons)	12 15
ively	25 28	Bird, is	4 6
" Alx.	35 50	Carul, (po 18)	8 12
Salvia officinalis, 1/2s	13 15	Cardamon	1 00 1 25
and 1/4s.	13 15	Coriandrum	10 12
Ura Ursi	8 10	Cannabis Sativa	3 4 24
GUMMI.		Cydoum	75 100
Acacia, 1st picked	2 75	Chenopodium	10 12
" 2d	2 50	Dipteris odorate	3 00 3 25
" 3d	2 40	Foeniculum	2 15
" sifted sorts.	2 40	Foenugreek, po.	6 8
" po	6 40	Lini	4 4 4 4
Aloe, Barb. (po 60)	50 60	Lini, grd. (bbl 3 4)	4 4 4 4
" Cape, (po 30)	2 12	Lotella	35 40
" Socotri, (po 60)	2 30	Pharlaris Canarian.	6 6 6 4
Catechu, 1s, 1/2s, 1/4s,	2 15	Sinapis Albu.	10 12 12
16)	2 10	" Nigra	11 12
Ammoniac	55 60	SPIRITUS.	
Asafoetida, (po 35)	3 40 35	Frumentum, W. D. Co.	2 00 2 50
Benzoinum	3 40 35	" D. F. R.	1 75 2 00
Camphore	54 57	Juniperis Co. O. T.	1 75 1 75
Euphorbium po	35 40	Seacharum N. E.	1 75 2 50
Gamboge	70 75	Spt. Vini Galli.	1 75 2 50
Gualiacum, (po 30)	2 25	Vini Oporto	1 25 2 00
Kino, (po 50)	2 45	Vini Alba	1 25 2 00
Mastic	2 40	SPONGES.	
Myrrh, (po 45)	2 40	Florida sheeps' wool	2 25 2 50
Opil, (po 2 60)	1 7 4 8	Nassau sheeps' wool	2 00
Shellac	2 40 35	Velvet extra sheeps'	1 10
" bleached	3 40 35	wool carriage	85
Tragacanth	30 35	Extra yellow sheeps'	85
HERBA—In ounce packages.		Grass sheeps' wool car-	75
Abosinthum	25	riage	65
Eupatorium	25	Hard for slate use.	75
Lobelia	25	Yellow Reef, for slate	1 40
Majorum	25	use	
Mentha Piperita	25	SYRUPS.	
" Vir	25	Accacia	50
Rue	30	Zingiber	50
Tanacetum, V	22	Ipecac	50
Thymus, V	25	Ferri Iod.	50
MAGNESIA.		Aurant Cortes	50
Calcied. Pat.	55 60	Rhei Arom.	50
Carbonate, Pat.	20 22	Similia Officialis.	50
Carbonate, K. & M.	20 22	Senega	50
Carbonate, Jennings.	35 36	Scilla	50
OLEUM.		" Co.	50
Abosinthum	3 50 4 00	Tolutan	50
Amygdalæ, Dulc.	45 50	Prunus virg	50
Amygdalæ, Amarae.	8 00 8 25	VARNISHES.	
Anisi	1 80 1 85	No. 1 Turp Coach	1 10 1 20
Aurant Cortex	2 75 2 80	Extra Turp.	1 00 1 10
Bergamli	3 20 3 30	Coach Body	2 75 3 00
Caliputi	60 65	No. 1 Turp Furn	1 00 1 10
Caryophylli	75 80	Extra Turk Damar	1 50 1 60
Cedar	35 40	Japan	70 75
Chenopodi	35 40	Turp. Dryer, No. 1	
Cinamonli	1 10 1 15		
Citronella	2 45		
Conium Mac.	35 40		
Copaiba	90 100		

Morphia, S. P. & W	1 60 1 85	Seidlitz Mixture	20	Lindseed, boiled	49	52
S. N. Y. Q. &	1 50 1 75	Sinaps.	18	Neat's Foot, winter	50	60
C. Co	2 40	" opt.	30	strained	50	60
Moschus Canton	65 70	Snuff, Maccaboy, De	35	Spirits Turpentine	37	40
Myristica, No. 1	20 22	Voes	35	PAINTS.		bbl. lb.
Nux Vomica, (po 30)	20 22	Snuff, Scotch, De. Voes	35	Red Venetian	1 1/2	2 3/4
Os. Sepa	20 22	Soda Boras, (po 11)	100 11	Ochre, yellow Mars.	1 1/2	2 3/4
Pepsin Saag, H. & P. D.	20 22	Soda et Potass Tart.	2 30	" Ber.	1 1/2	2 3/4
Co	20 22	Soda Carb.	1 1/2 2	Putty, commercial	2 1/2	2 3/4
Picis Liq, N. C., 1/2 gal	20 22	Soda, Bi-Carb.	5	" strictly pure	2 1/2	2 3/4
doz	20 22	Soda, Ash	3 1/2 4	Vermillion Prime Amer-	13 1/2	16
Picis Liq., quarts	20 22	Soda, Sulphas.	2	ican	13 1/2	16
" pints	20 22	Spts. Ether Co	50 55	Vermillion, English	65 70	
Pil Hydrarg. (po 80)	20 22	" Myrcia Dom.	2 25	Green, Peninsular	70 75	
Piper Nigra, (po 25)	20 22	" Myrcia Imp.	3 00	Lead, red	7 7 1/4	
Piper Alba, (po 25)	20 22	" Vini Rect. bbl.	2 25 2 35	" white	7 7 1/4	
Pix Burgun	14 15	Less 50 gal., cash ten days.	1 40 1 45	Whiting, white Span	2 70	
Plumbi Acet. et opil.	10 10 20	Strychnia Crystal	2 40 2 45	Whiting, Gliders	2 70	
Pulvis Ipecac et opil.	10 10 20	Sulphur, Subl.	2 40 3 4	White, Paris American	1 0	
Pyrethrum, boxes H	20 22	" Roll	2 40 3	Whiting, Paris Eng.	1 40	
& P. D. Co., doz.	20 22	Tamarinds	2 40 3	Pioneer Prepared Paint	20 24	
Pyrethrum, pv	30 35	Terbenth Venice	2 40 3	Swiss Villa Prepared	1 00 1 20	
Quassia	20 22	Theobromae	40 45	Paints	1 00 1 20	
Quinia, S. P. & W	20 22	Vanilla	9 00 16 00	VARNISHES.		
" S. German	22 30	Zinci Sulph.	7 8	No. 1 Turp Coach	1 10 1 20	
Rubia Tincturum	12 14			Extra Turp.	1 00 1 10	
Saccharum Lactis pv.	23 25			Coach Body	2 75 3 00	
Salicin	1 75 1 81			No. 1 Turp Furn	1 00 1 10	
Sanguis Draconis	40 50			Extra Turk Damar	1 50 1 60	
Sapo, W	12 14			Japan	70 75	
" M.	10 12			Turp. Dryer, No. 1	70 75	
" G.	15					

HAZELTINE & PERKINS DRUG CO.

Importers and Jobbers of

DRUGS

CHEMICALS AND

PATENT MEDICINES

DEALERS IN

Paints, Oils and Varnishes.

Sole Agents for the Celebrated

SWISS VILLA PREPARED PAINTS.

Full Line of Staple Druggists' Sundries.

We are Sole Proprietors of

Weatherly's Michigan Catarrh Remedy.

We Have in Stock and Offer a Full Line of

WHISKIES, BRANDIES, GINS, WINES, RUMS.

We sell Liquors for medicinal purposes only.
We give our personal attention to mail orders and guarantee satisfaction.
All orders shipped and invoiced the same day we receive them. Send a trial order.

HAZELTINE & PERKINS DRUG CO.,

GRAND RAPIDS, MICH.

The prices quoted in this list are for the trade only, in such quantities as are usually purchased by retail dealers. They are prepared just before going to press and are an accurate index of the local market. It is impossible to give quotations suitable for all conditions of purchase, and those below are given as representing average prices for average conditions of purchase. Cash buyers or those of strong credit usually buy closer than those who have poor credit. Subscribers are earnestly requested to point out any errors or omissions, as it is our aim to make this feature of the greatest possible use to dealers.

AXLE GREASE.		Sardines.		CHOCOLATE.		"Superior."		Prunes.		LICORICE.	
Aurora, doz gross	53	American 1/4s	4 1/2 @ 5	Baker's.	32	1, per hundred	2 50	Bosnia, @	30	Pure	30
Castor Oil, doz	75	Importe 1/4s	6 1/2 @ 7	German Sweet.	32	2, " "	3 00	California, 100-120	25	Calabria	25
Diamond, 50	50	Mus 1/4s	15 @ 16	Premium	35	3, " "	3 50	" 90x100 25 lb. bxs.	12	Sicily	12
Frazier's, 90	60	Boneless	7 @ 8	Pure.	38	5, " "	4 00	" 80x90		LYE.	
Mica, 75	80	Trout	30	Breakfast Cocoa	40	10, " "	5 00	" 70x80	1 25	Condensed, 2 doz.	1 25
Paragon, 55	6 00	Brook 3 lb	2 50	CHEESE.		20, " "	6 00	" 60x70	2 25	4 doz.	2 25
BAKING POWDER.		Fruits.		Amboy 12 @ 12 1/2				ENVELOPES.		MATCHES.	
Acme.		Apples.		Acme.	12	"Universal."		XX rag, white		No. 9 sulphur.	1 25
1/2 lb. cans, 3 doz.	45	3 lb. standard	3 60	Riverside.	12	1, per hundred	3 00	No. 2, 6 1/2	1 60	Anchor parlor.	1 70
1/2 lb. " 2 "	85	York State gallons	2 75	Gold Medal	11	2, " "	3 50	No. 1, 6 "	1 65	No. 2 home	1 10
1 lb. " 1 "	1 00	Hamburg	2 00	Skim	9	3, " "	4 00	No. 2, 6 "	1 50	Export parlor.	4 00
Bulk	1 60	Apricots.	2 00	Edam	1 00	5, " "	5 00	XX wood, white.	1 35	MINCE MEAT.	
Artic.		Live oak	2 00	Leiden	23	10, " "	6 00	No. 1, 6 1/2	1 35		
1/2 lb. cans.	60	Lusk's	2 00	Limburger	20	20, " "	7 00	No. 2, 6 1/2	1 25	3 or 6 doz. in case per doz.	95
1/2 lb. " "	1 20	Overland	1 90	Pineapple	25	Above prices on coupon books		Manilla, white.	1 00	MEASURES.	
1 lb. " "	9 60	Blackberries.	35	Roquefort	25	are subject to the following		6 1/2	95	1 gallon	81 75
Fosfon.		Cherries.	1 20	Sap Sago	22	quantity discounts:		Coin.	1 00	Half gallon	1 40
5 oz. cans, 4 doz. in case.	80	Pitted Hamburg	1 75	Schwelzer, Imported	24	25% or over	5 per cent.	Mill No. 4	1 00	Quart	70
10 " " " "	2 00	White	1 80	domestic	24	50% or over	10 "	FARINACEOUS GOODS.		Pint	40
Dr. Price's.		Damsons, Egg Plums and Green Gages.	1 20	CATSUP.		100% or over	20 "	Farina.	3 1/2	Half pint	40
		Erie	1 20	Blue Label Brand	2 75	COUPON PASS BOOKS.		100 lb. kegs.	3 1/2	Wooden, for vinegar, per doz.	7 00
per doz		California.	1 70	Half pint, 25 bottles	4 50	[Can be made to represent any denomination from \$10 down.]		Barrels	3 00	1 gallon	7 00
Dime cans.	90	Gooseberries.	1 20	Quart 1 doz bottles	3 50	20 books.	\$ 1 00	Grits	3 50	Quart	70
4-oz.	1 33	Common	1 20	COCOA SHELLS.		50 "	2 00	Lima Beans.	4	Pint	45
6-oz.	1 00	Peaches.	1 30	35 lb. bags.	23	100 "	3 00	Dried.	4	Half pint	40
8-oz.	1 27	Pie	1 30	Less quantity	23 1/2	250 "	6 25	Maccaroni and Vermicelli.	55	Wooden, for vinegar, per doz.	7 00
12-oz.	1 75	Maxwell	2 00	Pound packages.	6 1/2 @ 6 7/8	500 "	10 00	Domestic, 12 lb. box.	55	1 gallon	7 00
16-oz.	4 75	Shepard's	1 85	COFFEE.		1000 "	17 50	Imported.	10 1/2 @ 11 1/2	Half gallon	4 75
1 1/2 lb.	11 40	California's	2 10	Green.		CREDIT CHECKS.		Oatmeal.		Quart	3 75
4 lb.	18 25	Monitor	1 85	Rio.		500, any one denom'n.	83 00	Barrels 200	25 45	Pint	2 25
5 lb.	21 60	Oxford		Fair.	16	1000, " "	5 00	Half barrels 100	25 45	MOLASSES.	
10 lb.	41 80	Pears.	1 30	Good.	17	2000, " "	8 00	Peas.		Sugar house.	14
BATH BRICK.		Pineapples.	1 30	Prime	18	CRACKERS.		Green, bu.	1 70	Cuba Baking.	16
2 dozen in case.	90	Common	1 30	Golden	20	Butter.		Split per lb	2 1/2	Porto Rico.	20
English	90	Johnson's sliced	2 50	Peaberry	20	Seymour XXX.	6	Barrels 180	25 45	Fancy	30
Bristol	80	Quinces.	1 10	Fair.	16	Seymour XXX, cartoon	6 1/2	Half bbls 90	25 45	New Orleans.	18
Domestic	70	Raspberries.	1 30	Good.	17	Family XXX.	6	Sago.		Good	20
BLUING.		Common	1 10	Prime	18	Salted XXX.	6 1/2	German	4 1/2	Extra good.	25
Artic, 4 oz ovals	4 00	Red	1 30	Peaberry	20	Kenosha	7 1/2	East India.	5	Choice	30
" 8 oz	7 00	Black Hamburg	1 50	Mexican and Guatemala.		Boston.	8	Cracked.	5	Fancy	40
" pints, round	10 50	Erie black	1 25	Fair.	16	Butter biscuit	6 1/2	Wheat.		One-half barrels, 3c extra	
" No. 2, sifting box	2 75	Lawrence	1 25	Good.	17	Soda, XXX.	6	FISH--Salt.		PICKLES.	
" No. 3.	4 00	Hamburg	1 30	Prime	18	Soda, City	6 1/2	Bloaters.		Medium.	
" No. 5.	8 00	Terrapin	1 25	Milled	20	Soda, Duchess	8 1/2	Yarmouth.		Barrels, 1,200 count	\$6 50 @ 7 00
" 1 oz ball	4 50	Whortleberries.	1 10	Java.	25	Crystal Wafer.	10	Cod.		Half bbls, 600 count	3 75 @ 4 00
BROOMS.		Common	1 10	Interior	25	Long Island Wafers	11	Pollock		Small.	
No. 2 Hurl.	1 75	F & W.	1 15	Private Growth	27	S. Oyster XXX.	6	Whole, Grand Bank.	@ 6 1/2	Barrels, 2,400 count.	7 50
No. 1	2 00	Blueberries.	1 10	Mandehling	28	City Oyster, XXX.	6	Boneless, bricks	@ 7 1/2	Half bbls, 1,200 count	4 25
No. 2 Carpet	2 25	Meats.		Arabian	26	Farina Oyster.	6	Boneless, strips.	@ 7 1/4	Cob, No. 3.	1 25
No. 1	2 25	Corned beef, Libby's.	1 90	Roasted.		CREAM TARTAR.		Smoked	12	POTASH.	
Parlor Gem	2 75	Roast beef, Armour's.	1 75	To ascertain cost of roasted		Strictly pure	30	Herring.		48 cans in case.	
Common Whisk	90	Potted ham, 1/2 lb.	1 30	coffee, add 1/4c. per lb. for roast-		Telfer's Absolute.	35	Gibbed, 1/2 bbl.	3 25	Carolina head.	6
Fancy	1 15	" 1 lb.	80	ing and 15c. per cent. for shrink-		Grocers'	20 @ 25	Holland, bbl	9 00	" No. 1.	5
Warehouse	3 25	" tongue, 1/2 lb.	85	age.		DRIED FRUITS.		Round Shore, 1/2 bbl	2 60	" No. 2.	@ 4 1/2
BRUSHES.		" chicken, 1/2 lb.	95	Package.		Domestic.		Scaled	16	Broken	3 1/2
Stove, No. 1	1 25	Vegetables.		McLaughlin's XXXX	22 30	Apples.		Mackerel.		RICE.	
" 10	1 50	Beans.		Bunola	21 80	Sundried, sliced in bbls.	5 1/2	No. 1, 90 lbs	5 75	Domestic.	
" 15	1 75	" French style	1 25	Lion, 60 or 100 lb. case	22 30	" quartered	6	No. 1, 40 lbs	5 25	Carolina head.	6
Rice Root Scrub, 2 row	1 25	" Lima	1 40	Valley City 1/4 gross	75	Evaporated, 50 lb. boxes	@ 8 1/2	No. 1, 10 lbs	5 25	" No. 1.	5
Rice Root Scrub, 3 row	85	" soaked	80	Felix	15	California 10 lb. bags	16 1/2	Family, 90 lbs	5 25	" No. 2.	@ 4 1/2
Palmetto, goose	1 50	Lewis Boston Baked.	1 35	Hummel's, foil, gross	1 50	Evaporated in boxes		" 10 lbs	65	Broken	3 1/2
BUCKWHEAT.		Bay State Baked.	1 35	tin	2 50	In boxes	4 1/2	Sardines.	45	SPICES.	
		World's Fair Baked.	1 35	CHICORY.		70 lb. bags		Russian, kegs		Whole Sifted.	
100 lb. cases, 2 & 5 lb. pkgs \$5 00		Picnic Baked	1 00	Bulk	5	25 lb. boxes		No. 1, 1/4 bbls, 100lbs.	6 50	Allspice.	8
CANDLES.		Corn.		Red	7	CLOTHES LINES.		No. 1, 1/2 bbls, 100lbs.	7 50	Cassia, China in mats	7
Hotel, 40 lb. boxes	10	Hamburg	1 30	COTTON.		Peaches.		No. 1, kits, 10 lbs.	90	" Batavia in bund	15
Star 40	9	Livingston Eden	1 30	Cotton, 40 ft. per doz.	1 25	Cal. evap.	19	No. 1, 1/2 bbls, 100lbs.	7 50	" Saigon in rolls.	35
Paraffine	11	Purity	1 30	" 50 ft. "	1 40	" Peas.	14	No. 1, 1/4 bbls, 100lbs.	7 50	Cloves, Amboy.	22
Wicking	24	Morning Glory	1 50	" 60 ft. "	1 60	California in bags.		No. 1, 1/2 bbls, 100lbs.	7 50	" Zanzibar.	10
CANNED GOODS.		Soaked	1 15	" 70 ft. "	1 75	Pitted Cherries		Family, 1/2 bbls, 100 lbs.	3 00	Mace Batavia.	80
Fish.		Hamburg marrofat	1 35	" 80 ft. "	1 90	Barrels.	20	" kits 10 lbs.	40	Nutmegs, fancy	75
Ciains.		" Champion Eng.	1 50	Jute	80	50 lb. boxes	20	FLAVORING EXTRACTS.		" No. 1.	70
Little Neck, 1 lb.	1 12	Hamburg petit pois	1 75	" 72 ft. "	1 00	25 " "	22	Jennings' D C.		Pepper, Singapore, black	90
" 2 lb.	1 90	Soaked	65	CONDENSED MILK.		Prunelles.		Lemon, Vanilla		" white	15
" Clam powder.	1 90	Harris standard	75	4 doz. in case.		Raspberries.	10 1/2	2 oz folding box.	75	Pure Ground in Bulk.	
Standard, 3 lb.	2 00	Van Camp's Marrofat	1 10	Eagle.	7 40	In barrels.	21 1/2	3 oz "	1 25	Allspice.	12
Cove Oysters.	2 00	" Early June	1 30	Crown.	6 25	50 lb. boxes	22	4 oz "	1 50	Cassia, Batavia	18
Standard, 1 lb.	90	Archer's Early Blossom	1 35	Genuine Swiss.	8 00	25 lb.	23	6 oz "	2 00	" and Saigon	22
" 2 lb.	1 70	French	1 90	American Swiss.	7 00	Foreign.		8 oz "	3 00	Cloves, Amboy.	22
Lobsters.		Mushrooms.	15 @ 20	COUPON BOOKS.		Currants.		Sage		Ginger, African.	11
Star, 1 lb.	2 40	Pumpkin.				Patras, in barrels	@ 4 1/2	Hope	15	" Zanzibar.	18
" 2 lb.	3 30	Erie	90			" in 1/4 bbls	@ 5	Madras, 5 lb. boxes	55	Cochin.	17
Picnic, 1 lb.	2 00	Squash.	1 30	"Tradesman."		" in less quantity	@ 5 1/2	S. F., 2, 3 and 5 lb. boxes.	50	Jamaica.	18
" 2 lb.	2 90	Succotash.		1, per hundred	2 00	Peel.		Jelly.		Mace Batavia.	85
Standard, 1 lb.	1 05	Hamburg	1 40	2, " "	2 50	Citron, Leghorn, 25 lb. boxes	30	Austin's Rifle, kegs		Mustard, Eng. and Trieste.	16
" 2 lb.	1 90	Soaked	80	3, " "	3 00	Lemon	25	" Crack Shot, kegs		" Celery	10
Mustard, 2 lb.	2 25	Honey Dew.	1 60	5, " "	3 50	Orange	25	" 1/2 kegs			
Tomato Sauce, 2 lb.	2 25	Erie	1 35	10, " "	4 00	Raisins--Domestic.		" Club Sporting			
Soused, 2 lb.	2 25	Tomatoes.		20, " "	5 00	London layers, 2 crown	1 65	Herbs.			
Salmor.		Hancock	1 05	COUPON BOOKS.		" 3 "	1 85	INDIGO.			
Columbia River, Bat.	1 85	Excelsior	1 10	1, per hundred	2 00	" fancy	2 00	Madras, 5 lb. boxes	55		
Alaska, 1 lb.	1 75	Eclipse	1 10	2, " "	2 50	Loose Muscatels, boxes	1 60	S. F., 2, 3 and 5 lb. boxes.	50		
" 2 lb.	1 90	Hamburg	1 30	3, " "	3 00	Ondura, 29 lb. boxes.	@ 8				
		Gallon	2 60	5, " "	3 50	Sultana, 30 "	@ 11				
				10, " "	4 00	Valencia, 30 "	7 1/2 @ 8				
				20, " "	5 00						

Nutmegs, No. 2	60
Pepper, Singapore, black	16
" " white	24
" Cayenne	18
Sage	14
"Absolute" in Packages.	
Allspice	84 1 55
Cinnamon	84 1 55
Cloves	84 1 55
Ginger, Jam	84 1 55
" Af	84 1 55
Mustard	84 1 55
Pepper	84 1 55
Sage	84

SAL SODA.	
Kegs	1 1/4
Granulated, boxes	1 1/4

SEEDS.	
Anise	12 1/2
Canary, Smyrna	8
Caraway	8
Cardamon, Malabar	90
Hemp, Russian	4 1/2
Mixed Bird	4 1/2
Mustard, white	6
Poppy	9
Rape	6
Cattle bone	30

STARCH.	
Corn	6
20-lb boxes	5 1/2
40-lb "	5 1/2
Gloss.	
3-lb "	5 1/2
6-lb "	5 1/2
40 and 50 lb. boxes	4 1/2
Barrels	5 1/2

SNUFF.	
Scotch, in bladders	37
Maccaboy, in jars	35
French Rappee, in jars	43

SODA.	
Boxes	5 1/2
Kegs, English	4 1/2

SALT.	
100 3-lb. sacks	2 25
60 5-lb. "	2 00
28 10-lb. sacks	1 85
20 14-lb. "	2 25
24 3-lb. cases	1 50
56 lb. dairy in linen bags	32
28 lb. " drill	18

Warsaw.	
56 lb. dairy in drill bags	32
28 lb. " "	18
Ashton.	
56 lb. dairy in linen sacks	75
Higgins.	
56 lb. dairy in linen sacks	75
Solar Rock.	
56 lb. sacks	27
Common Fine.	
Saginaw	80
Manistee	85

SALEERATUS	
Packed 60 lbs. in box	3 00
Church's	33 30
DeLand's	3 15
Dwight's	3 30
Taylor's	3 00

SOAP.	
Laundry.	
Allen B. Wrisley's Brands.	
Old Country, 80 1-lb.	3 30
Good Cheer, 60 1-lb.	3 30
White Borax, 100 3/4-lb.	3 60

Proctor & Gamble.	
Concord	2 80
Ivory, 10 oz.	6 75
" 6 oz.	4 00
Lenox	3 65
Mottled German	3 15
Town Talk	3 00

Jas. S. Kirk & Co.'s Brands.	
American Family, wrp d.	33 30
" plain	3 24
" 5c size	4 25
N. K. Fairbanks & Co.'s Brands.	
Santa Claus	4 00
Brown, 60 bars.	2 10
" 80 bars	3 25
Lautz Bros. & Co.'s Brands.	
Acme	3 65
Cotton Oil	5 75
Daisy	3 10
Marseilles	3 10
Master	4 00

Securing	
Sapallo, kitchen, 3 doz.	2 50
hand, 3 doz.	2 50

SUGAR.	
Cut Leaf	5 1/2
Cubes	5 1/2
Powdered XXX	5 1/2
Standard	5 1/2
Granulated, medium, 5.06	5 1/2
fine, 5.06	5 1/2
Confectioners' A	4.94
Soft A	4 1/2
White Extra C	4 1/2
Extra C	4 1/2
Golden	4 1/2
Yellow	4 1/2
Less than bbls. 1/2c advance	

SYRUPS.	
Corn.	
Barrels	23
Half bbls.	25
Pure Cane.	
Good	19
Good	25
Choice	30

SWEET GOODS.	
Ginger Snaps	8
Sugar Creams	8
Frosted Creams	9
Graham Crackers	8 1/4
Oatmeal Crackers	8 1/4

VINEGAR.	
40 gr.	7 2/8
50 gr.	8 2/8
\$1 for barrel.	

WET MUSTARD.	
Bulk, per gal	30
Beer mug, 2 doz in case	1 75

YEAST.	
Magic, per box	1 00
Warner's "	1 00
Yeast Foam, per box	1 00

TEAS.	
JAPAN—Regular.	
Fair	217
Good	230
Choice	24
Choicest	32
Dust	10

SUN CURED.	
Fair	217
Good	230
Choice	24
Choicest	32
Dust	10

BASKET FIRED.	
Fair	18
Choice	25
Choicest	35
Extra choice, wireleaf	40

GUNPOWDER.	
Common to fair	25
Extra fine to finest	50
Choicest fancy	75
oolong.	
Common to fair	23

IMPERIAL.	
Common to fair	23
Superior to fine	30
YOUNG HYSON.	
Common to fair	18
Superior to fine	30

ENGLISH BREAKFAST.	
Fair	18
Choice	24
Best	40

TOBACCO.	
Fine Cut.	
Pails unless otherwise noted	
Hiawatha	62
Sweet Cuba	36
McGinty	27
" 1/2 bbls.	25
Dandy Jim	20
Torpedo	24
" in drums	23
Yum Yum	23
1892	23
" drums	22

Plug.	
Sorg's Brands.	
Spearhead	39
Joker	26
Nobby Twist	40
Oh My	29
Scotten's Brands.	
Kylo	24
Hiawatha	38
Valley City	34

Finner's Brands.	
Old Honesty	40
John Tar	32
Private Brands.	
L. & W.	26

Smoking.	
Boss	14
Colonel's Choice	14

Warpath	
Banner	15
Kila Dried	18
Nigger Head	23
Honey Dew	24
Gold Block	28
Peerless	24
Rob Roy	24
Uncle Sam	28
Tom and Jerry	25
Brier Pipe	28
Yum Yum	32
Red Clover	32
Navy	32
Handmade	40
Frog	33

FISH and OYSTERS.	
F. J. Dettenthaler quotes as follows.	

FRESH FISH	
Whitefish	8 2/2
Trout	8 2/2
Hallbut	8 2/2
Ciscoes or Herring	5 2/6
Bluefish	11
Fresh lobster, per lb.	20
Soft crabs, per doz.	1 00
Shrimp, per gal.	1 25
Cod	10
No. 1 Pickerel	8
Pike	7
Smoked White	7

OYSTERS—Cans.	
Fairhaven Counts	235
F. J. D. Selects	230
Selects	225
Anchor	222
Standards	219
SHELL GOODS.	
Oysters, per 100	1 25
Clams	75

HIDES PELTS and FURS.	
Perkins & Hess pay as follows:	

HIDES.	
Green	2 1/2
Part Cured	2 1/2
Full	2 1/2
Dry	5 2/5
Kips, green	2 1/2
cured	2 1/2
Calfskins, green	4 2/5
cured	4 2/5
Deaconskins	10 2/3
No. 2 hides 1/2 off.	

PELTS	
Shearlings	10 2/25
Lambs	25 2/90
WOOL.	
Washed	20 2/23
Unwashed	10 2/20

MISCELLANEOUS.	
Tallow	3 1/2
Grease butter	1 1/2
Switches	1 1/2
Ginseng	2 00

FURS.	
Outside prices for No. 1 only.	
Badger	50 1/2
Bear	15 00
Beaver	3 00
Cat, wild	40 2/5
Cat, house	10 2/5
Fisher	4 00
Fox, red	1 00
Fox, cross	3 00
Fox, grey	50 2/10
Lynx	2 00
Martin, dark	1 00
pale & yellow	50 1/2
Mink, dark	40 2/10
Muskrat	3 00
Opomuss	15 2/30
Otter, dark	5 00
Raccoon	25 2/70
Skunk	1 00
Wolf	1 00
Beaver castors, lb.	2 00

DEER-SKINS—per pound.	
Thin and green	10
Long gray, dry	20
Gray, dry	25
Red and Blue, dry	35

GRAINS and FEEDSTUFFS.	
WHEAT.	
No. 1 White (58 lb. test)	64
No. 1 Red (60 lb. test)	64

MEAL.	
Bolted	1 40
Granulated	1 60
FLOUR.	
Straight, in sacks	4 00
" " sacks	4 30
Patent " sacks	5 00
Graham " sacks	5 20
Rye	2 20
Buckwheat, Rising Sun	4 75
Walsh-DeRoo	5 00

MILLSTUFFS.	
Car lots	Less
Bran	\$14 00
Screenings	15 00
Middlings	16 00
Mixed Feed	18 00
Coarse meal	18 00

CORN.	
Car lots	45
Less than car lots	47
OATS.	
Car lots	38
Less than car lots	40
NEW OATS, 1c less.	
HAY.	
No. 1 Timothy, car lots	10 50
No. 1 " ton lots	12 00

OILS.	
The Standard Oil Co. quotes as follows, in barrels, f. o. b. Grand Rapids:	

Eocene	
Water White, old test.	8 1/2
W. W. Headlight, 150°	7
Water White	2 1/2
Naphtha	2 1/2
Stove Gasoline	2 1/2
Cylinder	2 1/2
Engine	13
Black, 25 to 30 deg	2 1/2

FRESH MEATS.	
Swift & Company quote as follows:	

Beef, carcass	
" hind quarters	4 2/5
" fore "	3 2/5
" loins, No. 3	8 2/5
" ribs	7 2/5
" rounds	4 1/2
Bologna	4 1/2
Pork loins	10 1/2
Sausage, blood or head	2 1/2
" liver	2 1/2
" Frankfort	2 1/2
Mutton	7 2/8
Veal	7 2/8

POULTRY.	
Local dealers pay as follows:	
DRESSED.	
Fowl	8 2/9
Turkeys	12 1/2
Ducks	12 1/2
LIVE.	
Chickens	7 2/8
Fowls	7 2/8
Turkeys	11 1/2
Spring Duck	10 1/2

PRODUCE MARKET.

Apples—The local crop proves to be very much larger than buyers had reason to expect, albeit the yield is only about one-quarter as large as a year ago. Baldwins appear to have borne the more plentifully, although there are some Spys and a few Greenings. Dealers are now paying \$2 per bbl. for the fruit alone and selling the packed fruit at \$2.50 to \$2.60 per bbl.

Beans—Choice country picked command \$1.60 to \$1.75 per bu.

Butter—Strong and firm. Dealers pay 18 to 20c for choice dairy and hold at 20 to 22c.

Cabbages—The crop turns out to be large after all, despite the predictions of a short crop earlier in the season. Dealers quote \$3.00 to \$4.00 per 100, according to size and quality.

Cauliflower—\$1.25 per doz. heads.

Celery—Choice home grown commands 20 to 25c per dozen bunches.

Cranberries—The market is weaker and a little lower. Cape Cods are held at \$7.50 per bbl. and Jerseys at \$2.50 per bu. crate.

Eggs—Dealers pay 20c for strictly fresh stock, holding at 22c. The cold storage men are happy over the prospect of 25c a doz. for their holdings.

Grapes—A little higher. Concord now command 20c per basket and Niagara and Delaware bring 25c.

Honey—Dealers pay 14 to 15c and hold at 15 to 16c. The crop is generally thought to be short.

Onions—Red and Yellow Danvers are in good demand. Dealers pay 60 to 70c and hold at 70 to 85c per bu.

Potatoes—Handlers are paying 55c per bu. here and 50 at the principal buying points north of the city. The market is firm, but the accumulation of stocks in buyers' hands in consequence of the scarcity of cars is likely to affect the price and cause a downward tendency, unless the difficulty is shortly remedied.

Quinces—\$2 per bu.

Sweet Potatoes—All varieties are scarce. Jersey readily command \$3 per bbl.

Turnips—30c per bu.

The Grand Rapids Packing and Provision Co. quotes as follows:

PORK IN BARRELS.

Mess, new	13 50
Short cut	15 00
Extra clear pig, short cut	16 00
Extra clear, heavy	16 00
Clear, fat back	16 00
Boston clear, short cut	16 00
Clear back, short cut	16 00
Standard clear, short cut, best	15 00

SAUSAGE—Fresh and Smoked.

Pork Sausage	8 1/2
Ham Sausage	9
Tongue Sausage	9
Frankfort Sausage	7 1/2
Meat Sausage	5

SOME USES OF BACTERIA.

[CONTINUED FROM PAGE 13.]

you cultivate the bacteria, the stronger becomes the cheese.

Now, in the ripening of cheese, we find the cheese manufacturer's greatest difficulty. Every cheese manufacturer knows that, under conditions which seem to be exactly alike, he may get good cheese and he may get bad cheese. His cheese may become tainted, it may become spotted with little red spots or some other abnormal conditions may appear which he cannot account for. It would be the greatest boon possible to the cheese-maker if we could, in some way, enable him to correct his abnormal ripening processes, and be able always positively to insure the proper sort of ripening. Now, this is plainly a matter which is connected with the planting of the proper kind of bacteria in a cheese and planting them under proper conditions. Different kinds of cheese are on our markets. We have the Edam cheese, we have the pineapple cheese, we have the Neufchatel cheese, we have the Limburger cheese, and many other kinds. Of course, we all know that these different cheese have very different flavors. Now, in the production of these different kinds of cheese, there are different methods used. For instance, in the manufacture of Edam cheese, the cheese-maker puts a little slimy milk into the milk that he is going to make into his cheese. That slimy milk contains a certain species of bacteria, and that peculiar species connected with that slimy milk produces the peculiar flavor which we get in the Edam cheese. Sometimes cheese is allowed to ripen soft for a few days before it is pressed, and when thus ripened, different kinds of bacteria grow in it, and grow in it most rapidly and produce different odors. Experiments have just been begun along this direction which show that it is possible artificially to ripen cheese abnormally. You can take certain species of bacteria and grow them in cheese, and you get a very atrociously tasting cheese, and you can take others and get a very good cheese. Now, in the use of yeasts, we have learned to plant yeast in our bread; we have learned to plant yeasts in our material that we want to ferment, if we are going to make alcohol, or if we are going to make beer. The brewer has learned that he must use an artificially prepared yeast. He has learned that if he simply allows the malt to ferment naturally through the agency of atmosphere yeasts, he does not know what he will get. It will ferment, undoubtedly, but it will be likely to ferment in an abnormal manner. He, therefore, plants a pure culture of the proper yeasts. But we have not yet learned to plant bacteria in the same way. The cheese-maker has not yet learned to cultivate bacteria as the brewer has learned to cultivate his yeasts. Some day, I think we may say in the not far distant future, after our Experiment Stations have had time to work upon this matter a little longer, the cheese-maker is going to be told of some way in which he can cultivate bacteria as the brewer does his yeast, and then he will know what kinds of bacteria will produce a badly-ripened cheese, and what kinds will produce an exceedingly good cheese. The time is coming; it has not come yet, but when it does come, we can see that there will be a tremendous development of the cheese industry in this country.

We know there are four or five hundred species of bacteria in the world. They all produce different sorts of decomposition, they all produce different odors and different flavors, and when our scientific stations have taught our cheese-makers to cultivate their bacteria and plant particular kinds of bacteria in the milk of which they are going to make cheese, perhaps we are going to have four or five hundred different kinds of cheese. For aught we can see, it may be that the various species of bacteria will produce different flavored cheese, and perhaps fifty years from now, perhaps in less time, a man may go to the store and order a particular kind of cheese that was made by a peculiar kind of bacteria, and another one made by another kind. We cannot tell what possible develop-

ment there may be of the cheese industry in the future, and whereas now the cheese-maker must depend very largely upon accident for the particular kind of flavor he is going to get in his product, then he will be able to tell absolutely what he must use in order to be able to produce the flavor that he wants. The result will be a great development of the cheese industry, if such time ever comes.

There will be another advantage in this development when it comes. We all know that once in a while cheese becomes poisonous. Everyone has read in the newspapers accounts of people who have been poisoned by eating cheese. Under certain conditions, cheese is very distinctly poisonous, and has produced very many cases of sickness and many cases of death. Now, our chemists have studied this poisonous cheese. They have found that it is poisonous because of the production of a peculiar chemical substance in it which they have called "tyrotoxin." They have found, further, that the tyrotoxin is a poison produced by a certain species of bacteria. Once in a while that poisonous kind of bacteria gets into milk. The cheese manufacturer is entirely innocent; he cannot help it, because he has no means of knowing anything about it. But occasionally they get in and his cheese is ripened then under the agency of these injurious bacteria. The result is that his cheese becomes poisonous, and while he is perfectly innocent of any intentional wrong, the evil is done. Now, when our cheese-makers have learned to apply to the manufacture of cheese the processes which our brewers have learned in the manufacture of beer, these troubles can be prevented. Twenty years ago, a Frenchman, Pasteur, undertook to make an investigation of the diseases of beer, and he found that they could be prevented by the use of a few simple remedies which prevented the growth of the wrong kinds of yeasts, or the wrong kinds of bacteria in them. His methods were soon applied to the whole brewery industry in France, and also to the manufacture of wine, and the result has been that those diseases which used to be so common and so troublesome to the vintners and the brewers have practically disappeared. So, then, when we in the future learn to apply similar methods in the manufacture of cheese, we may hope for the disappearance of all diseases of cheese, including the red specks in cheese, tainted cheese of all sorts, and also the disease which makes cheese poisonous, as just mentioned.

You see, then, that to the dairy interests bacteria are of distinct value. They give the aroma to your butter, and they give the whole flavor to your cheese, or at least, the chief flavor. Without them your butter would not command so good a price in the market; without them your cheese would not command any price.

I may now pass to the third branch of my subject and speak of the use of bacteria as scavengers in the world. A tree in the forest falls to the ground and it lies unmolested. It is at first hard, solid, and impervious to all of the normal agencies. No insects can touch it; they cannot bite the hard wood to any extent. It lies there month after month. Little by little it begins to soften. First the bark begins to get soft and finally falls off. By-and-by the wood gets quite soft, so that you can easily cut it, and perhaps run a pointed stick into it. Then insects can get hold of it, and they begin to eat it; they bore tunnels and begin to crawl through it. The tree grows softer and softer, and finally, as you all know from observation many times, the trunk of this tree becomes softened into a mass of brown powder which sinks down into the soil and disappears. What has become of that tree? A bird dies and falls onto the ground, and unless some animal comes along to eat the bird, you will notice that the tissues of the bird very soon begin to undergo changes; they begin to soften; gases rise from them; the flesh of the bird undergoes the process which we call putrefaction, and that putrefaction results in the gradual decomposition of the tissues. Little by little part of the material passes off into the air as gas, and the rest of it sinks down into the soil,

and the bird disappears. What has produced all of these changes? Did it ever occur to you to ask what the condition of the surface of the earth would be at the present time if it were not for these processes which we call the processes of decay? Suppose there were no agencies which caused the gradual softening and destruction of trees and the dead bodies of animals. Long since the vegetable and animal life of this world would have disappeared, and we should have had the surface of the earth covered with the accumulations of the growth of forests in past ages that would have tumbled upon each other until there would be such an accumulation of dead trees and dead leaves and dead vegetation of all kinds on the surface of the earth, that plants would not be able to grow. The dead bodies of all the animals that have lived in the past would have been piled up until the whole surface of the world would have been so covered by the dead bodies of animals and plants that life would have become impossible. These scavengers, these bacteria, are absolutely necessary to us. It is through the agency of certain bacterial organisms that the tree is softened so that insects can get at it. It is through the agency of bacteria that the tissues of the bird are decomposed and gases produced which pass off into the air. It is these bacteria which cause all the changes in the bodies of animals and vegetables, decomposing them until they gradually sink down into the soil and disappear. So it is through their agency, and this alone, that the surface of the earth is kept in a condition which renders it possible for life to continue to exist. Of course, you have all had experience of the value of bacteria as scavengers in removing bad odors. We speak of scavengers as of value in removing decaying material, but it is the bacteria which produces the decay, and it is through their agency that all of these dead bodies are broken to pieces and brought into a condition in which they can be either incorporated into the soil, or passed off into the air.

Perhaps I may here also say a word in regard to the agency of bacteria as scavengers in the human body. We look upon bacteria in our bodies as causes of disease rather than things which are of any value, and yet a healthy person always has bacteria in large quantities in his mouth, in his stomach, and in his intestines. The bacteria are always migrating in the body to places of abnormal growths, and there is considerable reason for thinking that to a certain extent these bacteria act as scavengers in the human body. Some of them unquestionably act as producers of disease, but, to a certain extent, it seems that these bacteria are of value in assisting in the decomposition of tissues that should be decomposed, and there is reason for thinking that they assist in the digestion of food. There is no question that bacteria may assist in the process of digestion, and it is doubtless a fact that the bacteria which we take into our alimentary canal are not wholly injurious. They may be possibly beneficial to us either in the line of scavengers in removing material which ought not to remain in our bodies, or in assisting digestion. This point, however, is not yet demonstrated, and I merely allude to it as a possibility.

This may lead us to the fourth topic of my lecture, which I may call the Agency of Bacteria in Plant Life.

Did it ever occur to you to ask why nature is perpetual? You know animals and plants have continued to live on the surface of the earth for hundreds and hundreds of centuries. The vegetation that has been growing on the surface of the earth has been constantly taking food out of the air and taking food out of the soil, and animals have been constantly feeding upon the plants. But the process seems to be a never-ending one. It would seem that the material for plant food and animal food would sometime be used up; and yet nature is perpetual. Now, the reason that nature is perpetual is because animals and plants are enabled, by certain processes of nature, to use the same material over and over again. They can use material for food, and eventually that same material

gets in a condition in which they can use it for food once more. Let me take a single illustration, one that you are probably all familiar with. Plants, as the result of their life, use up carbonic acid of the air, and, in return, send off into the air an equivalent amount of oxygen. Now, animals in their life, take out of the air a considerable amount of oxygen and send off from their bodies an equivalent amount of carbonic acid. You see here one of the adjustments of nature. Animals use the excretions of plants, plants use the excretions of animals. The animals take oxygen and give off carbonic acid, and the plants take carbonic acid and give off oxygen. The process goes on continually, and thus the condition of the atmosphere, so far as oxygen and carbonic acid are concerned, is kept in the same normal state. Thus, so far as these gases are concerned, nature is enabled to be perpetual by the constant use of the same material over and over again.

Now, this is not only true in regard to oxygen and carbonic acid, but it is true also that all the other foods of animals and plants are capable of being used over and over again. Plants live upon phosphates, sulphates, and nitrates chiefly, as well as carbonic acid. Animals live upon such things as albuminoids and starches and sugars. Now, plants cannot live on the food of animals, and animals cannot live on the food of plants. You and I cannot live upon sulphates and phosphates and potassium salts and nitrates and carbonic acid. These are what we call inorganic compounds in nature. Animals cannot feed upon them, but plants can do so. The plants can take those materials and manufacture out of them the starches and sugars and fats and albuminoids, and then we can take the starches and sugars and fats and albuminoids which have thus been manufactured for us and feed upon them. You see, therefore, that the plants serve as a medium of communication between animals and nature. The world is made up chiefly of inorganic compounds like these phosphates and sulphates and potassium salts, etc., and the plants serve as a means of communication between animals and the inorganic world, for the plants take these inorganic materials and make them into something which we can use as food. Plants, then, are the means which we have of making use of inorganic nature; or, in other words, the whole animal kingdom is parasitic upon plants. But plants are in their turn utterly unable to live upon animal food. A plant cannot feed upon albumen, a plant cannot eat starch, a plant cannot eat sugar, a plant cannot eat fat; plants are unable to use the foods that animals use, and when the body of a plant dies, although it is in a condition to be used as food by animals, it is not in a condition to be used again as food for plants. The dead body of the bird is in a condition in which plants cannot make use of it at all. A plant cannot use the albumen of the bird's tissue; a plant cannot use the fats in an animal; a plant cannot feed upon the sugars that are in the dead sugar-canes; a plant cannot feed upon the starches or the cellulose that is in the body of the dead tree. Nevertheless, the plants do succeed in getting hold of this food, and it is through the agency of these bacteria that we are speaking of this morning that they do it. Just as soon as the body of an animal or plant dies, the bacteria get into it, begin to grow in it, decomposing it and pulling it to pieces. They pull the starch to pieces, they pull the sugar to pieces, and albumens and fats share the same destruction. Little by little they take those compounds which plants cannot feed upon, and, by shaking them to pieces, bring them down to simple combinations which plants can feed upon.

Of special importance is one particular kind of organism known as "the nitrifying organism," which produces nitric acid. Plants, as I have said, cannot feed upon such things as albumen. The nitrifying bacteria can decompose albumen and break it up into certain simple compounds, but ordinary nitrifying bacteria are not able to break that albumen down far enough for plants to get hold of it. Plants have got to live

upon such things as nitrates and salts of nitric acid. Now, there is one sort of bacteria living in the soil which gets hold of the albuminous compounds and forms nitric acid. This is the nitrifying organism, and the nitrification is the last stage in the decomposition process by which an albuminoid is converted into a condition in which plants can get hold of it. One practical application of this you are all familiar with in the ripening of fertilizers. You know that green manure is of absolutely or of practically no use as a fertilizer on you fields. You know that it must first stand for a while and ripen, or "rot," as you call it. Now, what is taking place in that fertilizer while it is ripening? Simply the series of changes that have been mentioned. That fertilizer contains chemical compounds of a high degree of complexity, compounds that the plants cannot feed upon; they are too highly complex for plants to use as food. Bacteria, however, get into that heap and begin to grow in it; and, as the fertilizer becomes ripened, these high chemical compounds are pulled to pieces, they become converted into simpler decomposition products, and eventually, if the ripening is continued long enough, the fertilizer is in a condition fit for the fields. Now, when put upon the fields, the plants can get hold of the material. You will see now what I meant when I stated at the beginning of my lecture that in spite of all the cultivating that you and your horses might do in the fields, it would be useless without the agency of these organisms. You might put on your fertilizer; but, if that fertilizer is not acted upon by bacteria, it will be of no use, and thus the bacteria come in to complete the operation which you began. You do your duty and the bacteria do theirs, and the consequence is, the fertilizers which you are using are brought into a condition in which the plants can get hold of them, and thus the food of plants is produced. You see, then, that in this way plants and animals are able to use over and over again the same material. The plant gets this material out of the soil and out of the air; the animal comes along then and feeds upon the plant; then the animal dies, and the plant dies, and the bacteria get into the body of the animal or plant, pull it to pieces and produce from it decomposition products, and they get into the soil in the form of nitrates and nitric acid compounds; or they go off into the air in the form of ammonia and carbonic acid. The bodies of these animals and plants are thus reduced to simple conditions, and now the plants once more get hold of them, and use as food the same material that previous generations used. Thus over and over again the same material is used, and thus nature is kept perpetual. This is the explanation of the constant, perpetual growth in nature. This is the reason that nature does not exhaust itself. This is the reason that animals and plants have been enabled to grow upon the surface of the earth for the past hundreds and hundreds of centuries.

But this is not the end of the agency of bacteria in plant life. They are not only of value in ripening your fertilizers and in keeping up this constant growth of nature, but we have learned within the last two or three years that at the very foundation the growth of plants is absolutely dependent upon these organisms, and similarly in the future the continuance of the vegetable world must be also dependent upon them. I have stated that nature is perpetual because the same material can be used over and over again. That is true in a sense, but not true completely, for you will see with a little thought that little by little the soil is being drained of its food, little by little the materials in the soil are being turned into the ocean. A tree grows, takes out of the soil its food, and finally dies. If it fall onto the ground, as I have described, the bacteria get at it and grow there until the tree eventually becomes wholly incorporated into the soil so that it can be used once more as plant food. But it may be that the tree instead of falling in the forest falls into a river, drifts down the river, begins to decay, and eventually goes into the ocean. After the products of decom-

position are passed into the ocean, there is no getting them back to the soil. "The sea will not give up its dead," and the ocean does not give up the nitrogen and the other salts that are gradually being carried to it by this process. Or, again, a plant grows and produces wheat, produces fruit, produces nuts, and the grain, the fruit, and the nuts are taken to the city to be used as food for men. The food is used by men, and most of it eventually gets into the sewage of the city, is carried down to the river, and from the river it is carried into the ocean. So here again through the sewage of our cities the foods which are supplied to our cities are being thrown into the ocean, and thus the soil is being drained of its foods. This process is not a rapid one. It is only slowly that the foods are being taken out of the soil and carried to the ocean. Nevertheless, it is the constant dropping that wears away the rock, and it is easy for us to see that if this process goes on age after age, our soils are inevitably doomed to exhaustion. You know that many fields have become sterile, that many farms have been worn out, that many gardens are becoming infertile. You cannot cultivate your fields as you used to without furnishing them food. In the Old World this is quite noticeable. Although the constant draining of the soil by these agencies is a slow one, it is a sure one, and if there is no way of getting nitrogen and other salts back from the ocean to the soil, it would seem that the life of all vegetation is inevitably doomed to exhaustion, and with the life of vegetation the life of animals must cease, the whole living world must end.

When the scientist observed this fact, he immediately looked around to see if there was not a remedy for it. Now, as far as some of the plant foods are concerned, there does not seem to be any occasion for fear. The phosphates, the sulphates, and the potassium salts, which are plant foods, seem to exist on the surface of the earth in almost unlimited quantities. There have been immense amounts of these salts found in certain parts of the world, and they can be mined at very small expense; they can be taken all over the world and put directly upon the soil, so that the sulphates, and phosphates, and potassium salts are in practically unlimited quantities. We have no fear so far as they are concerned. For an indefinite number of ages to come there is plenty of this sort of food on the surface of the earth for us to supply to the soil. But that is not true of the nitrogenous foods. Of course, every farmer knows to-day that nitrogenous food is one of the very essential foods of plants, and it is not true that there is an unlimited quantity of nitrogenous salts anywhere in the world. There are few sources of nitrogen other than the soil. The chief one is the guano beds in the South Pacific. These are sources of nitrogenous compounds, and upon these sources the agricultural industry of the world has been drawing for years, and will continue to draw until they are exhausted. But these sources are far away. The nitrogen that we get from them is very expensive, and the store is very limited in quantity. We can see in the not very distant future the complete exhaustion of all these nitrogen beds. This has led scientists to look with a considerable degree of dismay upon the future of the vegetable world. What is going to happen when all the available nitrogen is used up? If we are going to continue to take the nitrogen from the soil, and throw it into the ocean, we will soon exhaust the soil, and if there is no store of nitrogen anywhere for our plants to draw upon, what are our plants going to do in the future?

Now, there is a store of nitrogen in the world which is absolutely unlimited, and that is in the air that surrounds us. The air that we breathe is made up of four parts of nitrogen and one part of oxygen. There are quantities of nitrogen everywhere if the plants could only get hold of it, but it has been thought that plants cannot feed on the nitrogen in the air at all. Experiments have been carried on for a great many years to find out whether plants could not in some

BUY THE PENINSULAR Pants, Shirts, and Overalls

Once and You are our Customer
for life.

STANTON, MOREY & CO., Mtrs.

DETROIT, MICH.

Geo. F. OWEN, Salesman for Western Michigan.
Residence, 59 N. Union St., Grand Rapids.

ATLAS SOAP

Is Manufactured
only by
HENRY PASSOLT,
Saginaw, Mich.

For general laundry and family
washing purposes.

Only brand of first-class laundry
soap manufactured in the
Saginaw Valley.

Having new and largely in-
creased facilities for manu-
facturing we are well prepar-
ed to fill orders promptly and
at most reasonable prices.

MICHIGAN CENTRAL

"The Niagara Falls Route."

DEPART.	ARRIVE
Detroit Express.....	7:00 a.m. 10:00 p.m.
Mixed.....	7:05 a.m. 4:30 p.m.
Day Express.....	1:20 p.m. 10:00 a.m.
Express at 7 a.m., returning leave Detroit	4:45 p.m.
*Atlantic & Pacific Express.....	1:00 p.m. 6:00 a.m.
New York Express.....	5:40 p.m. 10:45 p.m.

*Daily.
All other daily except Sunday.
Sleeping cars run on Atlantic and Pacific Express
trains to and from Detroit.
Elegant parlor cars leave Grand Rapids on Detroit
Express at 7 a.m., returning leave Detroit 4:45 p.m.
arrive in Grand Rapids 10 p.m.
FRED M. BRIGGS, Gen'l Agent, 85 Monroe St.
A. ALQUIST, Ticket Agent, Union Depot.
Geo. W. MUNSON, Union Ticket Office, 67 Monroe St.
O. W. RUGLES, G. P. & T. Agent, Chicago.

DETROIT AND MILWAUKEE RAILWAY

NOW IN EFFECT.

EASTWARD.				
Trains Leave	*No. 14	*No. 16	*No. 18	*No. 22
Lv. Chicago.....	.....	.....	.....	.....
Lv. Milwaukee.....	.....	.....	.....	.....
G'd Rapids, Lv.....	6:50am	10:20am	3:25pm	11:00pm
onia, Ar.....	7:45am	11:25am	4:27pm	12:42am
St. Johns, Ar.....	8:30am	12:17pm	5:20pm	2:00am
Owosso, Ar.....	9:05am	1:20pm	6:05pm	3:10am
E. Saginaw, Ar.....	10:50am	3:45pm	8:0pm	6:4am
Bay City, Ar.....	11:30am	4:35pm	8:37pm	7:15am
Flint, Ar.....	10:05am	3:45pm	7:55pm	5:40am
Port Huron, Ar.....	12:05pm	5:05pm	8:50pm	7:30am
Portage, Ar.....	10:53am	3:05pm	8:25pm	5:37am
Detroit, Ar.....	11:50am	4:05pm	9:25pm	7:00am

WESTWARD.				
Trains Leave	*No. 81	*No. 11	*No. 13	
Lv. Detroit.....	10:45am	6:50am	10:50am	
G'd Rapids, Lv.....	7:05am	1:00pm	5:10pm	
onia, Ar.....	8:25am	2:10pm	6:15pm	
Milwaukee Str.....	.....	.....	.....	
Chicago Str.....	.....	.....	.....	

*Daily. †Daily except Sunday.

Trains arrive from the east, 6:40 a. m., 12:50 a. m., 5:00 p. m. and 10:00 p. m.
Trains arrive from the west, 10:10a. m., 3:15 p. m. and 9:45 p. m.
Eastward—No. 14 has Wagner Parlor Buffet car. No. 18 Chair Car. No. 22 Wagner Sleeper.
Westward—No. 81 Wagner Sleeper. No. 11 Chair Car. No. 15 Wagner Parlor Buffetcar.
JOHN W. LOUD, Traffic Manager.
BEN FLETCHER, Trav. Pass. Agent.
JAS. CAMPBELL, City Ticket Agent.
23 Monroe Street.

Grand Rapids & Indiana.

Schedule in effect September 25, 1892.

TRAINS GOING NORTH.

Arrive from	Leave going
South.	North.
For Cadillac and Saginaw.....	6:15 a.m.
For Traverse City & Mackinaw.....	9:00 a.m.
For Cadillac and Saginaw.....	1:50 p.m.
For Petoskey & Mackinaw.....	8:10 p.m.
From Chicago and Kalamazoo.....	8:35 p.m.
Train arriving from south at 6:15 a.m. and 9:00 a.m. daily. Others trains daily except Sunday.	

TRAINS GOING SOUTH.

Arrive from	Leave going
North.	South.
For Cincinnati.....	6:30 a.m.
For Kalamazoo and Chicago.....	10:05 a.m.
For Fort Wayne and the East.....	11:50 a.m.
For Cincinnati.....	5:15 p.m.
For Kalamazoo & Chicago.....	11:00 p.m.
From Saginaw.....	11:50 a.m.
From Saginaw.....	11:00 p.m.
Train leaving south at 11:30 p. m. runs daily; all other trains daily except Sunday.	

SLEEPING & PARLOR CAR SERVICE.

NORTH 1:10 p. m. train has parlor car Grand Rapids to Petoskey and Mackinaw.
10:10 p. m. train.—Sleeping car Grand Rapids to Petoskey and Mackinaw.
SOUTH—7:00 a.m. train.—Parlor chair car Grand Rapids to Cincinnati.
10:05 a.m. train.—Wagner Parlor Car Grand Rapids to Chicago.
6:00 p.m. train.—Wagner Sleeping Car Grand Rapids to Cincinnati.
11:20 p.m. train.—Wagner Sleeping Car Grand Rapids to Chicago.

Chicago via G. R. & I. R. R.

Lv. Grand Rapids.....	10:05 a.m.	2:00 p.m.	11:20 p.m.
Ar. Chicago.....	3:35 p.m.	9:00 p.m.	6:30 a.m.
10:05 a.m. train through Wagner Parlor Car.			
11:20 p.m. train daily, through Wagner Sleeping Car.			
Lv. Chicago.....	7:45 a.m.	3:10 p.m.	10:10 p.m.
Ar. Grand Rapids.....	1:50 p.m.	8:35 p.m.	6:50 a.m.
3:10 p.m. through Wagner Parlor Car.			
train daily, through Wagner Sleeping Car.			

Muskegon, Grand Rapids & Indiana.
For Muskegon—Leave..... From Muskegon—Arrive.....
6:55 a.m. 10:00 a.m.
11:25 a.m. 4:40 p.m.
5:30 p.m. 9:05 p.m.

Dunday train leaves for Muskegon at 9:05 a. m., arriving at 10:20 a. m. Returning train leaves Muskegon at 4:30 p.m., arriving at Grand Rapids at 5:45 p.m.

Through tickets and full information can be had by calling upon A. Alquist, ticket agent at Union Station, or George W. Munson, Union Ticket Agent, 67 Monroe street, Grand Rapids, Mich.
C. L. LOCKWOOD,
General Passenger and Ticket Agent.

CHICAGO

SEPT. 11, 1892.

AND WEST MICHIGAN RY.

GOING TO CHICAGO.

Lv. GR'D RAPIDS.....	8:50am	1:25pm	*11:25pm
Ar. CHICAGO.....	3:33pm	6:45pm	*7:05am

RETURNING FROM CHICAGO.

Lv. CHICAGO.....	9:00am	5:25pm	*11:15pm
Ar. GR'D RAPIDS.....	3:55pm	10:4pm	*7:05am

TO AND FROM BENTON HARBOR, ST. JOSEPH AND INDIANAPOLIS.

Lv. G. R.....	8:50am	1:25pm	*11:35pm
Ar. G. R.....	*6:10am	3:55pm	10:45pm

TO AND FROM MUSKEGON.

Lv. G. R.....	8:50am	1:25pm	5:35pm	6:30pm
Ar. G. R.....	10:45am	3:55pm	5:25pm	

TRAVERSE CITY, MANISTEE & PETOSKEY.

Lv. G. R.....	7:30am	5:35pm
Ar. Manistee.....	12:20pm	10:24pm
Ar. Traverse City.....	12:35pm	10:59pm
Ar. Charlevoix.....	2:55pm	
Ar. Petoskey.....	3:30pm	
Ar. from Petoskey, etc., 12:00 p. m.; from Traverse City 11:50 a. m., 10:00 p. m.		

THROUGH CAR SERVICE.

Wagner Parlor Cars Leave Grand Rapids 1:25 pm, leave Chicago 5:25 p.m.
Wagner Sleepers—Leave Grand Rapids *11:35 pm; leave Chicago *11:15 p.m.
Free Chair Car for Manistee 5:35 p.m.
*Every day. †Except Saturday. Other trains week days only.

DETROIT,

SEPT 11, 1892

LANSING & NORTHERN R. R.

GOING TO DETROIT.

Lv. G. R. ...	7:00am	*1:25pm	5:40pm	*11:30pm
Ar. DET. ...	11:50am	*5:25pm	10:35pm	*7:30am

RETURNING FROM DETROIT.

Lv. DET. ...	7:50am	*1:35pm	5:15pm	*11:00pm
Ar. G. R. ...	12:55pm	*5:25pm	10:20pm	*7:20am

TO AND FROM SAGINAW, ALMA AND ST. LOUIS.

Lv. G. R. ...	7:20am	4:15pm	Ar. G. R. ...	11:50am	10:40pm
---------------	--------	--------	---------------	---------	---------

TO LOWELL VIA LOWELL & HASTINGS R. R.

Lv. Grand Rapids.....	7:00am	1:25pm	5:40pm
Ar. from Lowell.....	12:55pm	5:25pm	

THROUGH CAR SERVICE.

Parlor Cars on all day trains between Grand Rapids and Detroit. Wagner Sleepers on night trains. Parlor cars to Saginaw on morning train. *Every day. †Other trains week days only.
GEO. DEHAVEN, Gen. Pass'r Agt.

Toledo, Ann Arbor & North Michigan Railway.

In connection with the Detroit, Lansing & Northern or Detroit, Grand Haven & Milwaukee offers a route making the best time between Grand Rapids and Toledo.

VIA D. L. & N.
Lv. Grand Rapids at..... 7:15 a. m. and 1:00 p. m.
Ar. Toledo at..... 12:55 p. m. and 10:20 p. m.
VIA D. G. H. & M.
Lv. Grand Rapids at..... 6:50 a. m. and 3:25 p. m.
Ar. Toledo at..... 12:55 p. m. and 10:20 p. m.
Return connections equally as good.
W. H. BENNETT, General Pass. Agent,
Toledo, Ohio.

way or other get hold of the nitrogen of the air. If we could only prove that our plants can get hold of the nitrogen in the air then the problem is solved. But the experiments which have been carried on year after year have seemed to demonstrate that plants cannot use the nitrogen of the air for food, that it is not in a condition in which they can get hold of it. About ten years ago, however, certain experimenters in this country and in Europe found that in some of their experiments plants did in some way get hold of nitrogen from some source when it was not fed to them; that a plant could be grown in sand absolutely free from nitrogen, and yet in some way that plant got hold of nitrogen; the only source for it was out of the air. That led to further experimentation, until within the last four or five years the results have all been pointing in one direction. They seem to show us that there is one family of plants, at least, which is capable of getting hold of nitrogen out of the air. This is the plant family to which the pea, the bean, and the clover belong. It is, in general, the pea family—the *Leguminosa* family of plants. This family of plants in some way does succeed in getting nitrogen from some source when we do not give it to them as food, and it must be that they get it from the air. And yet those experiments are entirely contradictory to the earlier experiments, which seemed to show that plants could not get hold of nitrogen in the air. The explanation was not found until a few years ago. Two or three years ago some experiments were performed in Germany which have finally led to the solution of the problem, at least in part, and, curiously enough, we find that the whole secret of the matter is connected with these organisms which I am discussing this morning. It is to bacteria that we owe the power which is possessed by plants of the pea family to get hold of nitrogen. If you plant peas in soil containing a certain species of bacteria, or at least certain species of micro-organisms, these micro-organisms crawl into the roots of the pea, and then begin to multiply inside the roots. The little roots begin to swell and there appear upon them a lot of minute nodules, which have received the name of "root tubercles." If I am not mistaken, some of those little root tubercles were shown to the meeting here last evening. These root tubercles, as I say, make their appearance, and it is found that wherever these root tubercles do make their appearance the plant gets hold of nitrogen and grows well. Where these root tubercles do not make their appearance the plants are unable to get hold of nitrogen unless it is fed to them! Now, these root tubercles are produced by bacteria, and these root tubercles are the agencies by which, in some as yet unexplained way, the pea gets nitrogen out of the air.

Thus you see that in the final analysis of the life of a plant, in the assimilation of nitrogen from the air, we are brought to the conclusion that it is the agency of these minute microscopic organisms that is the source of the assimilation of nitrogen from the air by plants. Thus we owe the growth of these plants to bacteria. How the bacteria gets the nitrogen out of the air has not yet been explained.

Even before the scientists made this discovery, the farmer had made the discovery practically on his farm. You have known that you could, in some, to you inexplicable way, rejuvenate an old, worn-out soil by cultivating clover upon it, or by cultivating beans. That has been the practice of farmers for years. It has been found that in some way the cultivation of clover, instead of exhausting your soil as the cultivation of some plants does, really increases the fertility of the soil. You cultivate your clover for one season, then the next season you plow the roots into your soil, and you find the field will produce a better crop than before. The result is brought about through the agency of these organisms. The clover belongs to the family of peas, and clover is one of the plants that this particular species of bacteria that I am speaking of can attack. The bacteria in the soil get into these roots, grow in

them, produce these root tubercles, and by means of these the clover gets nitrogen out of the air and stores it up in its roots. The next season you plow the roots into the soil, and then come the nitrifying bacteria which pull the roots to pieces and decompose them into the condition of nitrates, and then the next season the plant which you sow gets hold of the nitrates which came from the roots of the clover and which has been brought there through the agency of these bacteria. You see, then, that the farmer owes everything to the bacteria.

I think you will find that I am justified in the statement I made at the beginning, that the study of bacteriology to-day is even more truly a department of agriculture than of medicine. The bacteria belong to the farmer more truly, or at least as truly, as they belong to the physician.

Now, I must draw my remarks to a close. Let me, in conclusion, say that we must not think too hardly of bacteria. It is true they are the cause of evil, it is true that they produce disease, but it is also true that they do good. It is true that they are our enemies, but it is also true that they are our closest allies. It is true that without them we could not have our smallpox nor our yellow fever, we could not have our diphtheria or our scarlet fever, neither could we have the epidemic which is at present going over this country, nor, in fact, should we have any of our epidemics, were it not for the bacteria. But when we remember that it is through the agency of these organisms that we bake the loaf of bread that comes onto our tables; that it is through their agency that the immense brewing industries are able to exist; that it is through their agency that the industries connected with the manufacture of alcoholic liquors are possible; that without them we could not get our vinegar or our lactic acid; that without them we could not make our ensilage; when we remember that these bacteria give the butter-maker the aroma of his butter; when we remember that it is the decomposition products of the bacteria that the cheese manufacturer sells in the market; when we remember their agency as scavengers, how it is that they keep the surface of the earth clean and fresh and pure and in a constant condition for the continued growth of plants; when we remember their value to the soil in decomposing the dead bodies of animals and plants, thus enabling the same material to be used over and over again for the support of life, and hence making possible a perpetual condition of nature, and when we remember, lastly, that it is only through their agency that plants were originally enabled to get hold of nitrogen at all, and that it is only through the agency of these bacteria that we may hope for a continuance of a supply of nitrogen to the soil—when we remember all these things, I think we will recognize that the power of the bacteria for good far outweighs their power for evil. Without them we should not have our epidemics, but without them we should not exist. Without them it might be that some individuals would live a little longer, if we could live at all. It is true that bacteria, by the production of diseases once in a while, cause the premature death of an individual; once in a while they will sweep off a hundred or a thousand individuals, but it is equally true that if it were not for them, plant life and animal life would be absolutely impossible on the face of the earth.

From Out of Town.

Calls have been received at THE TRADESMAN office during the past week from the following gentlemen in trade. Cameron Lumber Co., Torch Lake. L. J. Law, Cadillac. H. M. Patrick, Reed City. J. Cohen, White Cloud. L. E. Swan, White Cloud. L. A. Scoville, Clarksville. H. C. Auer, Cadillac. J. W. Reuter, McCords. Frank Inglis, Mt. Clemens. J. W. Milliken, Traverse City. John W. Perkins, Crystal Valley. Geo. D. Van Vranken, Cadillac. W. R. Mc Murray, Ada. A. Ekstine, Mapleton.

RINDGE, KALMBACH & CO.,

12, 14, 16 Pearl St.,

Manufacturers of the Best Wearing Shoes in the market
Our specialties are Men's, Boys' and Youths'

HARD PAN.

MECHANIC BALS,

HUSTLERS,

and our Celebrated

VEAL CALF

Line. Try them.

Agents for the Boston Rubber Shoe Co.



FALLING PRICES.

See the prices! down they go,
To thrifty people there below;
Don't let your chance of gain go by,
Catch your profits as they fly;
Freely down to you they're tossed
Without the least regard to cost.

Whether it's the tariff, the weather,
the phase of the moon, or what not

Powder is on the
drop, and

DU PONT Gun Powder Leads the Race.

RIFLE.

Kegs, 25 lbs. each, Fg, FFg and FFFg	\$3 75
Half Kegs, 12½ lbs. each Fg, FFg and FFFg	2 15
Quar. " 6¼ " " " "	1 20
1 lb. Cans (25 in case)	30
½ lb. " " " " "	18

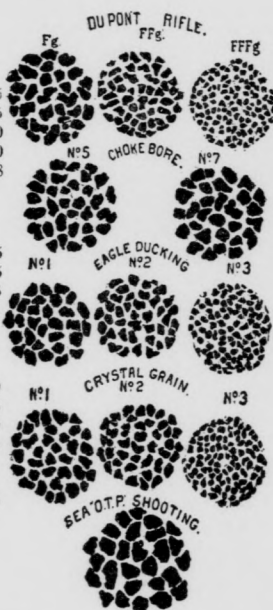
CHOKE BORE.

Kegs, 25 lbs. each, Nos. 5 and 7	\$4 75
Half Kegs, 12½ lbs. " " "	2 65
Quar. " 6¼ " " " "	1 45
1 lb. Cans (25 in case)	34

EAGLE DUCK.

Kegs, 25 lbs. each, Nos. 1, 2, 3 and 4	\$11 00
Half Kegs, 12½ lbs. each, Nos. 1, 2, 3 and 4	5 75
Quar. Kegs, 6¼ " " " 1, 2, 3 and 4	3 00
1 lb. Cans (25 in case)	60

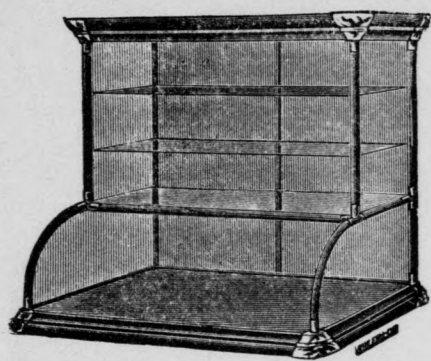
Always specify "Du Pont" and then
you will get the best powder made.



FOSTER-STEVENSON & CO.

MONROE ST.

Heyman & Company.



Manufacturers of

Show Cases

Of Every Description.

First-Class Work Only.

WRITE FOR PRICES.

63 and 65 Canal St., - GRAND RAPIDS.

VOIGT, HERPOLSHEIMER & CO., WHOLESALE

Dry Goods, Carpets and Cloaks

We Make a Specialty of Blankets, Quilts and Live Geese Feathers.

Mackinaw Shirts and Lumbermen's Socks.

OVERALLS OF OUR OWN MANUFACTURE.

Voigt, Herpolsheimer & Co., 48, 50, 52 Ottawa St., Grand Rapids.

Spring & Company,

IMPORTERS AND WHOLESALE DEALERS IN

Dress Goods, Shawls, Cloaks, Notions, Ribbons, Hosiery, Gloves, Underwear, Woolens, Flannels, Blankets, Gingham, Prints and Domestic Cottons.

We invite the attention of the trade to our complete and well assorted stock at lowest market prices.

Spring & Company.

New Prints

Received in all the Best Well Known Brands.

Also Fine Line of Robes

OUTINGS, WIDE BLUES, FANCY SHIRTINGS, DRESS GINGHAMS, SATINES.

Dress Goods

IN CHEVRONS, WHIPCORDS, BEDFORD CORDS, STORM SERGE EFFECTS.

Yarns, Blankets, Comforts, Underwear. Overshirts, Pants and Overalls.

Correspondence receives our Personal Attention.

P. STEKETEE & SON.

HERCULES POWDER



SEND
FOR
DESCRIPTIVE
PAMPHLET.



Stump before a blast. | Fragments after a blast.

STRONGEST and SAFEST EXPLOSIVE

Known to the Arts.

POWDER, FUSE, CAPS, Electric Mining Goods

AND ALL TOOLS FOR STUMP BLASTING,

FOR SALE BY THE

HERCULES POWDER COMPANY,

40 Prospect Street, Cleveland, Ohio.

J. W. WILLARD, Manager.

Agents for

Western Michigan.

WRITE FOR PRICES

FOSTER STEVENS & CO.

You can take your choice

OF TWO OF THE

Best Flat Opening Blank Books

In the Market. Cost no more than the Old Style Books. Write for prices.

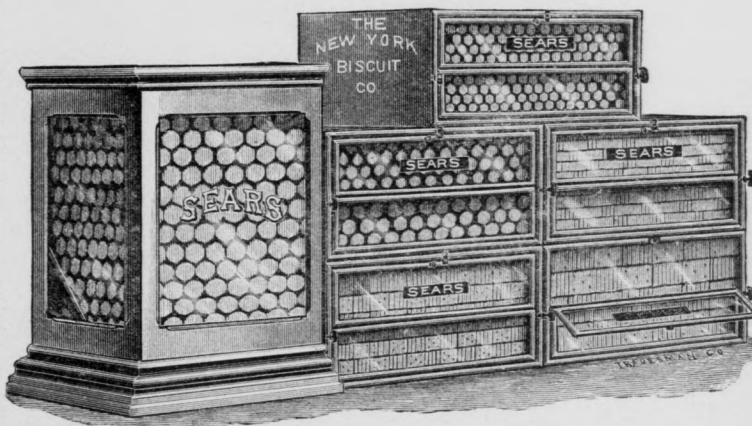
GRAND RAPIDS BOOK BINDING CO.,

29-31 Canal St.,

Grand Rapids, Mich.

Cracker Chests.

Glass Covers for Biscuits.



THESE chests will soon pay for themselves in the breakage they avoid. Price \$4.

OUR new glass covers are by far the handsomest ever offered to the trade. They are made to fit any of our boxes and can be changed from one box to another in a moment. They will save enough goods from flies, dirt and prying fingers in a short time to pay for themselves. Try them and be convinced. Price, 50 cents each.

NEW NOVELTIES.

We call the attention of the trade to the following new novelties:

CINNAMON BAR.

ORANGE BAR.

CREAM CRISP.

MOSS HONEY JUMBLES.

NEWTON, a rich finger with fig filling. This is bound to be one of the best selling cakes we ever made.

THE NEW YORK BISCUIT CO.,

S. A. Sears, Mgr.

GRAND RAPIDS.

**If You Do Not Handle Holiday Goods,
WHY DON'T YOU?**

What We Can Do.

We Can Save You *Time, money and freight* in the purchase of Holiday and staple wares in the lines of Crockery, China, Toys, Glass and Fancy Goods

We can show you *Our Unrivalled Assortment* of the most profitable lines of merchandise it is possible for you to invest your money in. Be prepared to take advantage of the demand sure to come for Christmas Novelties

We Can Sell You *A Complete Assortment* of Holiday goods, thus allowing you to choose, to examine, to decide and to make your selections from various lines at once.

We can send you (If you will drop us a postal) our catalogues showing our extraordinary assortments of Decorated Crockery, Fancy China, Glassware, Lamp Goods, Bazaar Goods, Hardware Sundries, Children's Toys, Dolls, Plush Goods, Picture Books, Games, etc., etc.

We can make you Admit that our prices are right Our purchases are for *spot cash* direct from manufacturers in all parts of the world. We pay no middle profits. Buy from first hands.

We can please you With our selections and the variety presented You will recognize the most popular, everyday, useful and brilliant line of Christmas goods ever presented to the trade.

Our Terms are *Net Cash Jan. 1, 1893. 2 per cent. 10 days from Nov. 1, 1892. 1 per cent. 10 days from Dec. 1, 1892. No discount after Dec. 10, 1892.*

Correspondence Invited.

If inconvenient to call in person, early in the season, write us, as one of our agents may be in your neighborhood and able to call upon you. If our agent has passed, write us, and we will make some arrangement to see you in time for an early order.

H. LEONARD & SONS,
134 to 140 Fulton St., Grand Rapids.