PATRONS OF HUSBANDRY.

OFFICERS OF NATIONAL GRANGE.

Master— Samuel E. Adams, of Minnesota.
Overseer—J. J. Woodman, of Michigan.
Lecturer—Mortimer Whitehead, of N. J.
Steward—A. J. Vaughn, of Miss.
Assistant Steward—Wm. Simmes, of Kansas.
Chaplain—A. P. Forsythe, of Illinois.
Treasurer—F. M. McDowell, of N. Y.
Secretary—O. H. Kelley, Louisville, Ky.
Gate-Keeper—O. Dinwiddie, Orchard Grove, Lake county, Ind.
Ceres—Mrs. S. E. Adams, of Minnesota.
Pomona—Mrs. J. J. Woodman, of Michigan.
Flora—Mrs. J. T. Moore, of Md.
Lady Assistant Steward—Miss Carrie A. Hall, of Louisville, Ky.

EXECUTIVE COMMITTEE.

Henley James, of Indiana
D. W. Aiken, of South Carolina.
S. H. Ellis, of Ohio.

OFFICERS OF ILLINOIS STATE GRANGE.

Master—A. P. Forsyth, Isabel.
Secretary—J. M. Chambers, Chicago,
Treasurer—J. S. Armstrong, Sheridan.

EXECUTIVE COMMITTEE.

R. E. Logan, Chairman, Morrison, Whiteside Co.
D. N. Foster, Secretary, Sterling, Whiteside Co.
A. J. Alexander, Gilman, Iroquois Co.
E. A. Giller, White Hall, Green Co.
A. P. Forsyth, Ex-officio, Isabel, Edgar Co.

THE GEORGIA GRANGE.

In writing of the late session of the Georgia State Grange, the organ of the order there, the *Georgia Grange*, says:

The session was harmonious throughout, and the reports of the year, from the various sections of the state, demonstrated that, despite the occasional voice of detraction, the State Grange of Georgia is still a powerful organization, and that its strength is increasing year by year. The last session has proved one thing beyond contradiction, that, whilst there does not appear on the calendar as large a number of subordinate Granges as have been shown at former meetings, this falling off, far from resulting detrimentally, will redound to the material good of the order.

UNSATISFACTORY.

In relation to the late session of the National Grange, the Boston *Cultivator* says:

We fail to see the practical benefit of such a session to the Grange order. If the Patrons of Husbandry are to accomplish worthy results, and the field for action is large, it is in the direction of agriculture, of improved systems of farming, in increased facilities for social intercourse, whereby the wisdom and experience of the members may be compared and discussed; in the education of the farming classes, through club meetings, lectures by competent men, establishment of experiment stations through state aid, publication of important facts and methods, distribution of seeds and many plants, and many other practical operations that constantly suggest themselves to the earnest workers in the cause.

Individual effort is powerless compared with the mighty force for co-operation. Why not first make some substantial progress in the development of agriculture, in the diffusion of improved methods and the results of careful investigation? Why not first attempt the teaching of better culture, of the production of more profitable crops, of making the farm more attractive, of keeping the young men at home? Until this is at least partially accomplished it would seem that dissertations on political economy, hundreds of thousands of tracts on commercial enterprises, tirades against railroads, manufacturing schemes, questions of currency and resumption, discussions as to whether members shall take four degrees or five or even more, are but secondary to the grand beneficent purposes of the Order. The demand of the hour is in the derection of practical results and substantial progress.

ENTOMOLOGICAL.

THE PEA WEEVIL.

The sixth report of the Illinois State Entomologist. Dr. Thomas, contains the following on the pea weevil, with remedies and preventatives:

"This little beetle, which is usually known as the pea-bug, is about one-eighth of an inch long, of a rusty-black color, with spots and partial bands of gray; the tip of the abdomen white, with two very distinct black spots; a very indistinct whitish band a little in front of the middle of each wing-case, and a very distinct oblique white band on each behind the middle.

"About the month of June, or as soon as the young peas in the pod begin to form and swell, the female deposits her eggs on the outside of the pod. These are about one-thirtieth of an inch long, quite narrow, and yellow. The depositing is usually done at night, but occasionally in cloudy weather. The young larva is of a deep yellow color similar to the egg; it cuts directly through the pod to the pea within, into which it penetrates and there takes up its abode. It feeds upon the marrow or albuminous portion of the pea, being careful not to eat the germ, probably, as has been suggested, because it is distasteful to it; and before entering upon the pupa state gnaws a passage way to the surface, leaving only a thin hull as a covering by which the insect is enabled to escape. As a general rule the perfect insect does not leave the peas until the following spring, and often until they are planted.

"One obvious means of preventing their increase is to take care that the peas planted are free from the beetle, and to this end those intended for this purpose should be carefully examined. If they are infested there will appear a little spot over the mouth of the burrow made for their egress; if the covering is off it is pretty good evidence the beetle has escaped. If thrown into water the sound ones, as is well known, will generally sink, while the unsound ones will swim.

"Enclosing the peas for a time in tight vessels with camphor, is practiced by some as a method of killing the beetle. Throwing them for a short time into hot water before planting, a method recommended by Latreille, is sometimes adopted. A third, and probably the most effective method, if universally practiced, would be that originally suggested by Deane; that is, to keep the peas intended for planting over the second year, enclosed in some vessel from which the beetles, when they leave the peas, cannot escape. By this method the beetles in the peas so preserved must, as a matter of course, perish; but care should be taken to keep them in a dry situation. As the beetle appears somewhat late in the season, late sown peas are much less subject to their attacks than those sown early.

POULTRY NOTES.

NON-HATCHING EGGS.

In relation to the infertility of eggs during the season of 1877, the *American Poultry Yard* says:

"Various causes have been assigned for this non-fertility; but the impotency of the male birds is the fruitful one. Where fowls have been kept artificially—penned up in close quarters, without access to the green fields or pastures—this ill luck has been especially noticeable, when the eggs laid by hens thus confined have been used or sold for incubating purposes.

"No matter how hardy and vigorous may be the natural constitution of the breed of fowls or how sprightly and useful the cocks that are in use as breeders may appear to be, these males cannot endure absolute confinement and prove really serviceable in the breeding season, as a rule.

"They must have exercise, green food, a run daily outside of the house limits, and not be forced to eat too much dry food, or go hungry. Give these breeding birds plenty of good succulent food. Let them have fresh air and plenty of exercise every day, even in winter time. And so you will find a larger proportion of the eggs will be impregnated, and will hatch much more successfully in spring time."

LICE ON POULTRY.

Dr. Felix Schneider writes as follows to the Paris *Jouanal de l'Agriculture:*

For five-and-twenty years I have been in search of some cleanly method of freeing my pigeons from their implacable enemy, the *acarus nacator;* that minute insect that lies in wait for the young from their very exit from the shell. I have long known that insect vermin generally stand in dread of certain smells. For years I bred pigeons in my stables, and never saw there either lice or fleas, or any kind of insect, and in a pigeon house built in a bark warehouse the birds have been found to enjoy a similar immunity. I have used phenic acid, tar, and tobacco, all of which proved of some service, but only on condition that they were employed afresh every day, and applied to every nest; and last year I found the application of cubebs in the form of powder of considerable service.

This year my young birds were infested with vermin, despite of scrupulous cleanliness. Cubebs having no effect I tried the powdered root of pyrethrum. This acted rapidly, all the vermin that came in contact with it being speedily destroyed. But next day things were just as bad as ever; a fresh generation appeared upon the scene. I then tried essence of turpentine spread on the floor, but it only acted effectually when used in such large quantities as to compromise the health of my birds. Then I tried liquid ether dropped upon the skin, more especially under the wings. The vermin perished as if thunder-struck, but the birds themselves survived their enemies but a few minutes. Then I tried the ether in the nest, but this plan also proved fatal to the birds. At last the idea struck me to have recourse to a well known insecticide used by the vine-growers of the South for the destruction of the phylloxera—the sulphide of carbon.

The very next day I was agreeably surprised to find that the enemy had left, leaving none but dead and dying behind, and on the following day not a single living insect was to be found, while my birds were sitting quietly on the roof enjoying an unwontedly peaceful repose. This lasted for twelve days, till the sulphide of carbon had fully evaporated. Twenty-four hours later a fresh invasion of lice had put in an appearance under the wings of the birds in the warmest portions of the house, where there were no currents of air. I replenished the supply of sulphide, and the next morning only a few of these were remaining. The next morning every trace had disappeared.

Since that time I have personally made a great number of further trials with the sulphide, with immediate and absolute success. I should recommend the sulphide of carbon to be put in small medicine vials hung about the pigeon-house or poultry roost. When it has about three parts evaporated the remainder will have acquired a yellowish tinge, and no longer acts so completely as before, but if it be shaken up afresh it will still suffice to keep the enemy at a distance.

THE APIARY.

Lonely, a belated bee
Hies him homeward drearily—
There's no clover in the lanes—
Cold winds set him shivering;
Sad, he fails to querying:
What for bees remains?

BOTANY FOR BEE-KEEPERS.

I have made the action of behaviour of insects on flowers a study for years. Some flowers are only visited in the morning or forenoon, as the dandelion; others in the afternoon, others at all times of the day when not raining. I tell no news by saying that basswood and raspberries afford good honey, while tulip tree and lobelia afford honey which is unpleasant or unwholesome to some persons.

The *Ranunculaceæ*, crowfoot family, afford us 30 species or more upon which bees work; some of them open very early in the spring. The *Cruciferæ*, or mustard family, about 70 species; *Malvaceæ*, or mallow family, over 20 species; *Geraniaceæ*, or geranium family, 13; *Anacardiaceæ*, or sumachs, 6; *Tiliaceæ*, or vine family, 7; *Sapindaceæ*, or maples, &c., 11; *Leguminosæ*, or pulse family, 110 or more natives, besides some exotics; *Rosaceæ*, or rose family, 83, and several exotics; *Saxifragaceæ*, honeysuckle, &c., about 30; *Compositæ*, sunflowers, asters &c., perhaps 325, besides many in cultivation; *Lobeliaceæ*, lobelia family 13; *Campanulaceæ*, bellflowers, 7; *Ericaceæ*, heath family, 60; *Scrophularicaceæ*, fig worts, about 60; *Verbenaceæ*, verbenas, 10; *Labiatæ*, mints, many of much value, 78; *Borragihaceæ*, borage family, 28; *Asclepiadaceæ*, milkweed family, 25; *Polygonaceæ*, buckwheat family, 38; *Liliaceæ*, lily family 50. Besides these there are many where there is only one or two, or a few in a small order, perhaps not far from 570. Then, probably, there are a hundred or more about which I am uncertain. If I have added correctly, I give above, about 1,775 species from which bees get more or less honey or pollen. These grow east of the Mississippi river and north of Kentucky in the United States. Some, like the grasses and pines, have no showy or fragrant flowers, and afford little or no honey. As a general rule, those plants which produce odorous or showy flowers afford honey, and will be visited by honey bees, unless the flower is of a shape which makes it impossible for the bee to reach the food.—PROFESSOR BEAL in *Country Gentleman.*

HOUSEHOLD.

THE GREEN CHRISTMAS.

And How it Came to the People in this Vicinity.

Our social greetings have grown to be remarkably monotonous during these latter days, for every one on meeting his neighbor, instead of wishing him a "Merry Christmas," inquires with most lugubrious countenance, if he ever saw such weather. The answer is invariably an emphatic "No." The feminine world, instead of emerging in holiday attire as befits the season, goes forth—for go it does—clad in water-proofs and shabby gowns until our thoroughfares present a grotesque conglomeration of people in old clothes, with but a single idea—"What horrid weather!"

To be sure, just before Christmas, the throngs of pedestrians that all day long, through rain and mud and slush, surged up and down the streets and in and out of the various stores, grew for a brief season utterly oblivious of outward surroundings, and jostled and elbowed their way to counters, where tired and supperless clerks endeavored with martyr-like heroism to satisfy the demands of a dozen people at once. Then, out into the rain again with big packages, and little packages and smile-wreathed faces.

Little children who have grown firm in the belief that Santa Claus comes over the roof in a sleigh drawn by reindeer, went to bed on Christmas eve, with many misgivings lest the bad weather and lack of snow might prevent his progress, and they awake in the morning to disappointment and empty stockings. In thousands of homes the pattering of bare little feet, followed by merry shouts, proved hope to have been changed to glad fruition, and Kris Kringle worthy of the trust reposed in him.

I wonder if in all his journeyings round the globe he ever found a rainier, muddier, more unseasonable Christmas?

Luckily the good cheer of the holidays shuts out the damp, uncanny influence of the weather, and the gloomier the sky, the brighter by contrast should be the sunshine of home.

As I write, the days of the old year are almost numbered, and, ere this reaches you, we will have passed the boundary line, and entered on a New Year. With "a tear for pity, and a hand open as day for melting charity" let us, with thankful hearts for blessings past, and trustful hope for happy days to come, strive to fill more perfectly our allotted spheres; and, as day follows day, let each bear witness to kind deeds and loving words, and by and by the recording angel shall write over against our names: "She hath done what she could."

If there are ever any spare moments to be found in a housekeeper's life, they generally occur in the calm that exists between the holidays, and time for the spring sewing to be taken in hand; consequently, it is generally the most convenient time for attending to the odds and ends that have been put off until a more convenient season.

MAKING RAG CARPETS.

During these winter months is just the time for fashioning some of the rugs that will be found so serviceable, and at the same time ornamental. There is nothing that bears about it such a good, honest family look, as an old-fashioned rag carpet; each separate bit of color being a reminder of some family garment, and all the varying shades, in passing through the loom, mixing and mingling, until the tints no longer stand out in bold relief, but, blending harmoniously together, form a web of indistinguishable color, and a symbol of family life. "But," says the modern age, "carpets are less cleanly than bare, painted or hard-wood floors, and the air of a house is much sweeter without them;" to all of which we readily assent and gladly accept the compromise of a large rug. Costly axminster rugs are woven to imitate the coloring of home-made rag carpets, so we may successfully imitate axminster, and instead of having the carpet cover every square inch of floor, leave two feet of space all around the edge of the room; this should be painted brown and varnished. Have a separate strip of carpet woven in some solid color, and about one-third of the usual width; sew this around the other breadths after they are joined in a square, and finish all with a short fringe of black cloth cut in strips, or a fringe of black yarn. By adopting this plan of carpeting rooms, one can economize in the use of carpeting, avoid the accumulation of a year's dust, consequently many of the discomforts of house cleaning, and last but not least be in the fashion.

COLORED RUGS.

Smaller rugs to lay in door-ways or other appropriate places may be made in a variety of styles. One of the most serviceable of these we noticed in process of construction at our late Exposition. The materials were a piece of sacking a little over a yard long, and proportionately wide, on the center of which a pattern was stamped. The sacking was fastened into a frame similar to quilting frames, only smaller, and with a large hook like a crochet needle, but curved at the end, woolen rags cut in strips—narrower than for carpet rags—and waste carpet yarn were drawn through. The hook is held in the right hand and pressed through from the upper side; the cloth in the left hand, underneath, is caught by the hook and drawn through to the right side where a loop is left about an inch in length. The pattern, which was a red rose with green leaves, was worked first—two threads being left between every stitch—and when it was completed, the whole surface was cut smoothly off until the work had the effect of plush or velvet carpeting. Then the remainder of the mat was filled up with a solid color; brown, black or maroon, are the best shades, but it should be all of one color; an inch wide border in some other shade may be put around the outside edge, or a fancy border may be put in if desired. When completed the whole surface was to be evenly sheared, and the mat made up with a good stout lining. The lady who was making it said that when it became faded or worn all that was necessary was to give it a light shearing, and it would come out as good as new.

DOOR MATS.

A simple and serviceable mat may be made by lining a piece of Brussels or ingrain carpeting with stout canvas or coarse cloth, then finished with a border of cloth braided in long strips. The colors can be put in indiscriminately, or they may be arranged according to taste. Cut the thick cloth narrower than the thinner varieties, so that each strand will be equal in size. Keep the raw edges turned in as you braid, and make the work firm and tight. Sew on additional strips as they are needed. When the braids are sewed together, great care must be taken to have them lay smooth, and, to insure this, place the work on a table and pin a short distance; sew it, then pin another portion. The thread should be strong, used double, and well waxed, so that it will not break or rip easily.

To use up the very small scraps, take a piece of coffee sacking and completely cover it with circles of different sizes cut from black and colored cloth. The lower circles should, of course, be the largest, and should be sewed tight to the canvas, and the smaller ones fastened with colored twine, by taking four stitches from the center across each side of the circle. Wrap some Germantown wool or carpet ravelings a number of times around a small round stick or a lead pencil; pass a stout twine up through the center of a cluster and through a tuft of wool, then pass the needle back again close to the spot where it was drawn up; pull the thread firmly until the tuft is drawn down close, and fasten it with a stitch or two. When all are done clip the tufts into smooth half balls.

Very pretty mats may be made by working figures on burlaps in cross stitch with colored wools, and the edges raveled out for a fringe; the canvas should be double at the edges in order to make the fringe heavy enough, and an occasional strand of worsted drawn in, brightens and improves it. They should be lined with a piece of felt or carpet paper—in order to keep them in place—and then with canvas or strong cloth.

KNITTED RUGS.

A knitted rug can be made at odd times, and after the rags are once ready is capital employment for moments when one would scarcely think it worth while to get out more troublesome or intricate work. Cut the thick rags half an inch wide, and the thin ones an inch in width. With a pair of wooden needles knit—like a garter—a strip ten stitches wide and three eights of a yard long. Then knit a strip long enough to reach around this centre piece; full the inside edge enough to make the outside lay flat, and sew it with strong thread. Knit another strip, and so on until there are four pieces surrounding the centre. Finish with a fringe of black cloth cut into strips.

CROCHETED RUGS.

A similar rug can be made by crocheting a piece of the same length and width as the above for the centre, then crocheting around until the rug is of the size desired. Each row should be widened every few stitches so that it will lay perfectly flat and the edge finished with a fringe of black cloth or black yarn. Black or scarlet cloth scalloped with a pinking iron is also a pretty finish for these mats.

GOOD HEALTH.

SEWERAGE.

Much has been said and written on drainage and sewerage by English sanitarians and agriculturalists. The benefits conferred by proper sewerage, to health and profit, have been extensively discussed. The conclusion that nearly all have reached is, that the proper draining, sewerage and cleaning of towns are necessary for the comfort and health of their people. How to remove refuse in the safest and cheapest way is, at present, the great question. Retaining waste and excrement in privies and cesspools has been shown to be the source of much disease. Dry earth systems of controlling such places are of little value except as palliatives, where excrment is to remain but a short time. Its retention may be a less nuisance than its removal, so this dry earth system may answer for detached houses or even for public institutions in small villages and in rural districts.

The draining of house lots and the deep sewerage of towns should be such as to remove all waste water at once and lower at the same time the subsoil water in low and wet districts. But usually no low lands can be found that may receive the waste material of occupied lands; so that where sewerage is attempted, rivers and streams, lakes and ponds, are more or less polluted. The experiment has been made of manipulating domestic refuse into fertilizers, but usually the manufacturing does not pay. And yet we must allow that land irrigation for agricultural purposes may pay well in favorable circumstances. Land irrigation requires a large capital at the outset, and may give rise to loud complaints from those who reside in the vicinity of irrigated lands, on the score of its rendering their homes disagreeable and unhealthy.

Near Berlin, over sixteen hundred acres have recently been bought for the purpose of enrichment from the sewage of the city. What the results may be remains to be seen. In Austria, the law fines any one who casts into wells, cisterns, rivers or brook, whose waters are used for drinking, or for brewing beer, any dead animal, or anything that may pollute the waters and render them unwholesome. In France, the Seine is so much polluted by sewage as to render it a filthy sewer, very offensive to people living upon its banks, for many miles below the sewer outlets. The sewage of that beautiful city constitutes nearly 5 per cent of the ordinary flow of the Seine; 90 per cent of the cesspool drainage is still unconnected with the sewers, but is removed to certain unoccupied lands, and there the liquid constituent runs into the main sewer. The sanitary influence of irrigating lands with sewage is yet a matter of consideration. The amount of land irrigated by Paris sewage is now very large, and a few years' experience and observation will probably yield some satisfactory results. A definite plan by which all the sewage of Paris may be utilized has been recently submitted to the authorities. Objections to sewage irrigation have been urged. Nearly 400 farmers are using it on their lands, that now yield enormous crops. It has been objected to this plan of enriching the soil, that ill health and diseases have resulted, but an exhaustive investigation shows that no deleterious effects need be feared. It has been shown that the sewage is absorbed by vegetation, but observation shows that it is not all absorbed, and that in time of copious rains, when the ground is saturated, particles of sewage have been found in the adjacent wells, thus unfitting them for drinking and cooking purposes. This result evidently must depend upon the subsoil being gravelly or clayey. Definite results may in a few years be reached on the question. At present, much may be said *pro et con* any extensive sewage irrigation. No observer denies that good sewerage promotes health in those places from which the filth is taken. Filth diseases are thereby to a great extent removed, zymotic maladies, fevers, dysentery, cholera and their allies can usually be traced to bad drainage and impertect sewers. The places to which these wastes are carried may suffer.

Some observers say that the most important operation, occurring on a sewage farm is the destruction of contagious particles. The moment they are brought into contact with the spongioles on the rootlets of a sewage grown crop, the spongioles seize upon the albuminous matters in the sewage, remove them from the water and digest them with great avidity. No putrifaction occurs, no retrograde decomposition arises; but the albuminous matter is digested as perfectly as the white of egg, pure albumen, is digested in the human stomach.

The time cannot be distant, when the experience and observation of the last ten years or more will warrant expenditure so large that sewers may be more thoroughly constructed under the direction of municipal authorities in our cities than at the present time. The government of Frankfort-on-the-Main has the best constructed sewers and best regulations on the means of sewerage now existing. This is now the third city in all Germany on the score of health and the productiveness of its adjacent lands.

The value of sewage in irrigating and fertilizing cultivated lands is yet but poorly appreciated by agriculturists of this country. But the time will come, when here as now in many parts of Europe, sewerage will be thought worthy the attention of governments on the score of land productiveness and human health.