KALAMAZOO VEGETABLE PARCHMENT CO.

EXPORT DEPT.

200 FIFTH AVE.

NEW YORK, N.Y.

Véase otro lado

Guía

KALAMAZOO VEGETABLE PARCHMENT CO.

EXPORT SALES DEPARTMENT
200 FIFTH AVE. NEW YORK, N.Y., U.S.A.

MANUFACTUREROS de Papeles Bonds, Ledgers Writings, Mani-folds, Onion-Skins, papeles parafinados y papel PERGAMINO VEGETAL LIGITIMO.

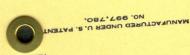MANUFACTURERS — OF — Bond, Ledger, Writing, Mani-fold, Onion Skin, and GENUINE VEGETABLE PARCHMENT paper. Waxed papers

EJEMPLO.
Base 17x22"—16 Lbs.
¿Cuál es el peso de resma Dimen-siones 27½"x39½"?
SOLUCION: Voltéense los discos hasta que 17 en uno y 22 en el otro se alinien. Muévase la GUIA hasta que el borde indicado por la flecha se alinie con 16 del disco INTERIOR. Voltéese el disco INTERIOR hasta que 27½ se alinie con 39½. El resultado es 46½ libras.

EXAMPLE.
Basis 17x22"—16 Lbs.
What is the weight per Ream in size 27½"x39½"?
SOLUTION: Turn discs until 17 on one and 22 on other align. Turn Runner until guide edge is even with 16 on INNER disc. Turn INNER disc until 27½ aligns with 39½. ANSWER: 46½ Lbs.

R. LANDENBERGER, CHICAGO, ILL.
MANUFACTURED UNDER U. S. PATENT NO. 997,780.
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DIRECTIONS FOR USING

LANDENBERGER'S
· PAPER ·
EQUIVALENTOR

An Instrument for Solving

The Equivalent Weight Problem

It is quite necessary to give a little preliminary study to the operation of the instrument. The working of the examples herein is strongly advised.

Price, $2.00 Net

THE PAPER EQUIVALENTOR is, as its name suggests, an instrument designed to solve the problem of equivalent weights or equivalent prices of paper. Given the size and weight per ream as a basis, any possible size, registered in quarter inches, with its equivalent weight can, with its aid, be speedily and accurately determined. In the same manner, where the size and cost per 100 sheets is given, the relative cost of any size will be found by the same method.

In construction it consists of two discs, superimposed, each one having a scale on its outer edge and a runner, or arm, on which also appears a scale, the latter co-operating with diagonal lines upon the small disc.

For practical purposes, the diagonal lines on small disc and scale on runner edge only come into play when the solution is in three figures, in which case the third figure, or the one to the right is indicated by the number on runner nearest to the point where the diagonal line intersects edge of runner. Where the solution is in two figures, the number of the division on small disc nearest to guide edge is the answer sought; in this case the number on runner nearest the point where the diagonal line intersects edge, shows the fraction of a pound in tenths.

As an aid to rapid alignment, the figures 25 and 38 appear in red on the two disc edges, the size 25 x 38 being more commonly used as a basis.

A few examples with directions are shown below, designed to cover every contingency.

EXAMPLE: Basis 22x34=40. What is the equivalent weight in size 28x42?

SOLUTION: Turn discs until 22 on one and 34 on the other align. Hold together and turn runner until guide edge is even with 40 on small disc. Hold runner immovable in relation to large disc and turn small disc until 28 aligns with 42. ANSWER, 63. In this case 63 on small disc appears practically even with guide edge.

EXAMPLE: Basis 22x28 = $2.30 per 100 sheets. What is the equivalent price in size 22½x42½?

SOLUTION: Turn discs until 22 on one and 28 on the other align. Hold together and turn runner until guide edge is even with 23 on small disc. (The 0 of 2.30 may be disregarded). Hold runner immovable in relation to large disc and turn small disc until 22½ aligns with 42½. ANSWER, $3.57. The nearest division on small disc to guide edge is 35. The third figure of answer is shown on runner, where the diagonal line intersects runner edge at 7.

EXAMPLE: Basis 24x36=76. What is the equivalent weight in size 34x46¾?

SOLUTION: Turn discs until 24 on one and 36 on the other align. Hold together and turn runner until guide edge is even with 76 on small disc. Hold runner immovable in relation to large disc and turn small disc until 34 aligns with 46¾. ANSWER, 140. As 14 on small disc appears at guide edge of runner (the 4 appearing through notch), put 0 in third place.

EXAMPLE: Basis 20x25=135. What is the equivalent weight in size 44x56?

SOLUTION: Turn discs until 20 on one and 25 on the other align. Hold together and turn runner until guide edge is midway between 13 and 14 on small disc, when it will be seen that the diagonal line intersects edge of runner at 5. This registers the basic weight 135. Hold runner immovable in relation to large disc and turn small disc until 44 aligns with 56. ANSWER: 665. The 66th division on small disc is nearest guide edge of runner, and the diagonal line intersects edge of runner at 5. Hence the answer, 665.

The discs are made of waterproof bristol board, and if soiled by handling the application of a damp cloth will readily clean them. The waterproofing protects the runner in like measure. These discs are purposely made flexible to facilitate handling.

It is interesting to note that when you line up any size on the two discs the same size also appears transposed elsewhere on the edges. For instance, 26 on large with 38 on small also appearing 26 on small with 38 on large.

You have, therefore, your choice, so that if, as sometimes happens, the runner covers one of the desired numbers representing the dimensions of sheet, you can use the other position in lining up.

Care should be taken to register each position line to line, as the accuracy of the result depends upon careful alignment. A few minutes' study will quickly familiarize the operator with the working of the PAPER EQUIVALENTOR. After a day or two it will be surprising to see with what ease and rapidity each problem can be solved.

Still Another Short-cut

If you happen to use one basic size almost continuously, say, for instance, 25x38, a very good method is to have the various weights 50, 60, 70, 80, etc., marked off on the extreme edge of large disc. The way to mark them is, first line up the basic size, 25x38, and holding the discs permanently in that position, turn runner to 50 on small disc and mark a line along edge of runner near end, on the blank margin of large disc. Then move runner to 60, etc. etc., A sharp pencil can be used, or even better, a pin, to scratch through the waterproofing, after which it can be inked in.

It is often an advantage to have these markings, as it saves a setting, and is therefore obviously quicker than lining up the basic size first for each operation. If you handle writing papers principally, it would be advisable to mark the "Substance Numbers" based on 17x22.

As the Paper Equivalentor is used by so many interests having different basic sizes, it is not practicable to furnish them this way. It is a very simple matter, however, for each one to make his individual markings—those best suited to his particular uses.

For the Paper Box Maker

To find the number of sheets to a bundle of strawboard or boxboard the method is the same with a slight variation. Line up the desired size first, then get the basic number to a bundle, then turn discs to basis size.

Illustration

EXAMPLE: Basis 26x38—50 sheets to bundle. How many sheets to bundle of 30¾x40?

SOLUTION: Line up 30¾ on edge of large disc with 40 on edge of small disc. Hold discs together and turn runner until guide edge is even with 50 on edge of small disc. Hold runner immovable against large disc and turn small disc until 26 on large disc lines up with 38 on small disc. Read answer at edge of arm, on small disc—40.

Three Movements Only

For Proportions

If it is desired to reduce or enlarge a drawing, cut or any object, the proportionate dimensions are obtained in the simplest manner, in three slight movements. In this case the *small hole* in edge of large disc may be considered the *starting point*.

EXAMPLE: If 20 inches wide is 30 inches high, 12½ inches wide is how high?

SOLUTION: Line up 20 on edge of small disc with *starting point*. Hold both discs together and turn runner until guide edge is even with 30 on edge of small disc. Hold end of runner against large disc and turn small disc until 12½ on same is even with *starting point*. ANSWER, 18¾, read off edge of runner, expressed in decimals, 18.75. 18 is the nearest division on small disc to runner edge. The fraction is shown where diagonal line intersects edge of runner, midway between 7 and 8.

EXAMPLE: If 30 inches high is 20 inches wide, 18¾ inches high is how wide?

SOLUTION: Line up 30 on small disc with *starting point*. Hold discs together and turn runner edge around to 20 on small disc. Hold runner against large disc and turn small disc until 18¾ on same aligns with *starting point*. ANSWER, 12½ (12.5) The fractions of inches are always expressed in decimals when read off edge of runner, being determined where diagonal line intersects the figures thereon.

In all sizes under 10, the decimal system must be used throughout. For instance, 1½ is read 1.5; 2—2.0; 2¾—2.75; , or 2.7½, etc.

EXAMPLE: If 5 inches (5.0) wide is 9 inches (9.0) high, 3¾ inches (3.75) or 3.7½) is how high?

SOLUTION: Line up 50 on small disc with *starting point*. Turn runner to 90 on small disc. Turn small disc until 37½ thereon aligns with *starting point*. ANSWER, 6¾ (6.75). The 67th division on small disc is nearest to runner edge, the diagonal line intersecting 5 on runner edge.

There are other ways of finding proportions than the formula as noted in these examples. Preference is given to the above as the more logical method. Take, for instance, the first example: Turn 20 on small disc to starting point. Turn runner to 12½ on small disc. Turn small disc until 30 thereon aligns with starting point, and read answer at edge of arm, 18¾.

It will thus be seen that the instrument covers the very wide range of from 1 *to* 100 *inches*.

Multiplication

The first thing to bear in mind is that all fractions are expressed in decimals; for instance, $3\frac{1}{2}$ is 3.5, or 35 on disc; $4\frac{3}{4}$ is 4.75, or $47\frac{1}{2}$ on disc; $5\frac{1}{8}$ is 5.875, or $587\frac{1}{2}$ on disc (midway between $57\frac{1}{2}$ and 60) ; 2 is 20 on disc; 3 is 30, etc.

The small hole in edge of large disc is termed the *starting point*, being opposite 1 or 10. With the runner edge held at this point, any product is read at this point when the multiplicand and multiplier are lined up opposite each other on the two discs.

EXAMPLE: 16 multiplied by 20 equals (?)

SOLUTION: Line up runner edge with *starting point* and hold runner in this position while turning inner disc until 16 on large disc and 20 on small disc align. ANSWER, 320. 32 is directly opposite starting point. You may note that 16 and 20 appear aligned, though transposed, elsewhere on the discs. It is immaterial which you use—there is always a choice of two in any example.

It should be realized that in large figures, up in the higher hundreds and thousands a variation of a figure or two either way is to be expected, as you multiply your own inaccuracy when failing to line up the numbers very accurately.

Division

EXAMPLE: 65 divided by 13 equals (?)

SOLUTION: Line up 65 with *starting point*. ANSWER, opposite 13 is 50 or 5.0, therefore 5.

EXAMPLE: 50 divided by 37 equals (?)

SOLUTION: Line up 50 with starting point. Hold discs immovable and turn runner until guide edge is even with 37 on large disc. ANSWER, 1.351. This answer is read off edge of runner—13 on small disc nearest runner edge, with the diagonal line slightly below 5 on runner, hence 51, or 1.351.

Tissue Paper Problems

EXAMPLE: If 24x36 costs 70c per ream, 480 count, what is the cost per ream of $7\frac{1}{2}$x$11\frac{5}{8}$ 400 count?

SOLUTION: Line up 24 on one disc with 36 on other disc and turn runner to 70 on small disc. Hold end of runner in contact with large disc and turn small disc until 75 ($7\frac{1}{2}$) on one and $11\frac{5}{8}$ (midway between $11\frac{1}{2}$ and $11\frac{3}{4}$) on the other disc align. On runner edge will be read 707. This is the comparative cost of 480 sheets (7c). To get the cost of 400 sheets, proceed as follows: Line up 48 (representing 480 count) on small disc even with 10 on large disc (the *starting point* at punched hole) and holding discs together turn runner to register again at 707. Hold runner at end firmly to large disc and turn small disc until 40 (representing 400) is even with *starting point*. ANSWER, 6c. The decimal reading off edge of runner is 5.88.

EXAMPLE: If 480 sheets 24x36 weighs 25 lbs., what does 25,000 sheets $9\frac{3}{8}$x$19\frac{1}{4}$ weigh?

SOLUTION: Line up 24 on one disc with 36 on the other disc and turn runner to 25 on small disc. Hold end of runner in contact with large disc and turn small disc until $93\frac{3}{4}$ ($9\frac{3}{8}$) on one and $19\frac{1}{4}$ on other disc align. On runner edge will be read 522 (5.22 lbs.). This is the comparative weight of 480 sheets. To get the weight of 25,000 sheets, proceed as follows: Line up 48 (respresenting 480 sheets) on small disc with *starting point* and holding discs together, turn runner to register 522. Hold runner at end firmly to large disc and turn small disc until 25 (representing 25,000 sheets) is even with starting point. ANSWER, 272, read off edge of runner.

It is better to get the comparative weight or the comparative cost per ream than to run the problems up into big figures for up in the higher hundreds and thousands a variation of a figure or two either way is to be expected, as you multiply your own inaccuracy when failing to line up the numbers very accurately.