No. 784,660. PATENTED MAR. 14, 1905.

J. E. CHRITTON.

LUMBER COMPUTER.

APPLICATION FILED JULY 19, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

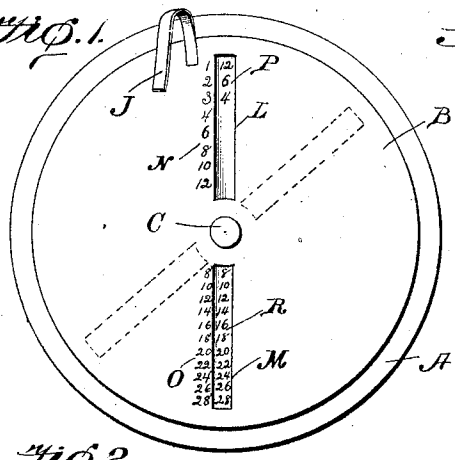


Fig. 3.

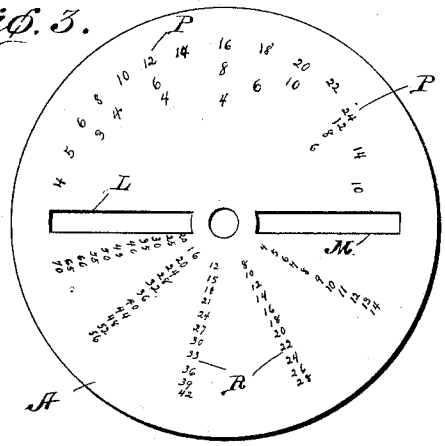


Fig. 2.

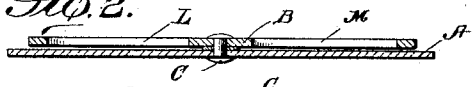
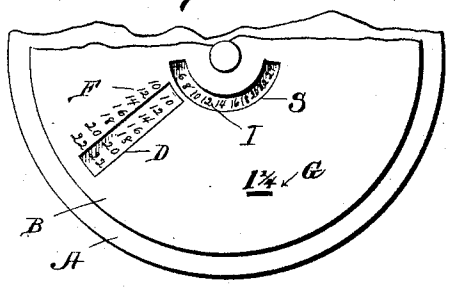


Fig. 5.



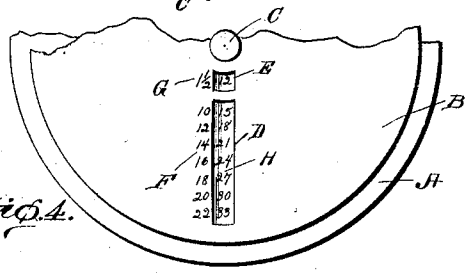


Fig. 4.

Fig. 6.



Fig. 8.

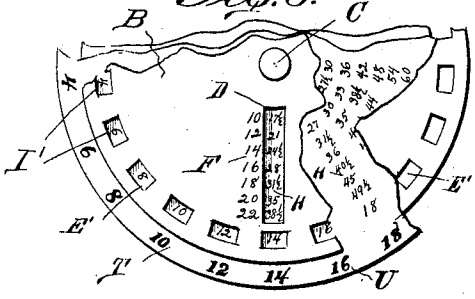
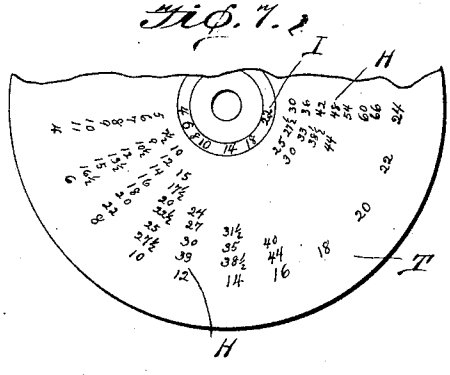


Fig. 7.



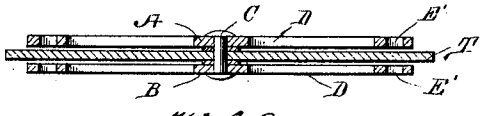


Fig. 9.

Witnesses

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2 SHEETS—SHEET 2.

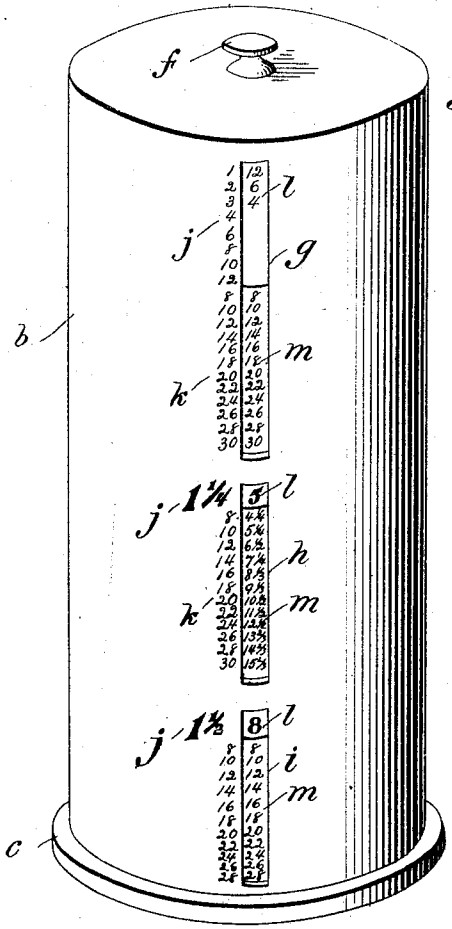


Fig. 11.

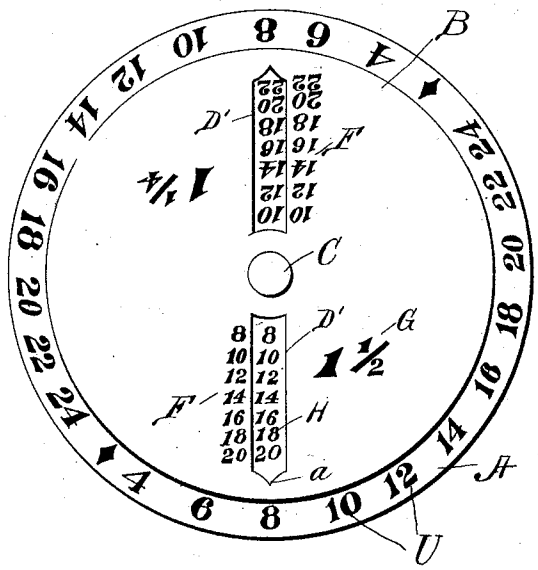


Fig. 10.

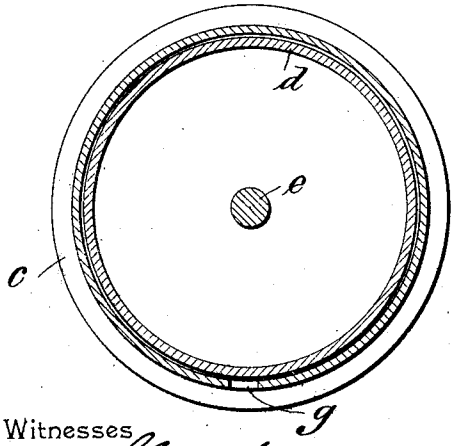


Fig. 12.

Witnesses

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PHOTO-LITHOGRAPHED BY SACHETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 784,660. Patented March 14, 1905.

UNITED STATES PATENT OFFICE.

JOSE E. CHRITTON, OF ROCKYFORD, COLORADO, ASSIGNOR OF ONE-HALF TO HENRY E. BURKDOLL, OF ROCKYFORD, COLORADO.

LUMBER-COMPUTER.

SPECIFICATION forming part of Letters Patent No. 784,660, dated March 14, 1905.

Application filed July 19, 1904. Serial No. 217,268.

To all whom it may concern:

Be it known that I, JOSE E. CHRITTON, a citizen of the United States, residing at Rockyford, in the county of Otero and State of Colorado, have invented a new and useful Lumber-Computer, of which the following is a specification.

This invention relates to computing devices, and has for its object to provide an improved device of this character particularly arranged for readily determining the contents of lumber, timber, and masonry.

It is furthermore designed to arrange the device in compact form and to provide for the convenient setting thereof to indicate the cubical contents of a piece of lumber when the three dimensions thereof are known.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a plan view of a computing device embodying the features of the present invention. Fig. 2 is a sectional view thereof. Fig. 3 is a reverse plan view of one of the members of the device. Figs. 4 and 5 are detail views of modified forms of the invention. Fig. 6 is a complete section of the modified form shown in Fig. 4. Fig. 7 is a detail view of one-half of one of the members of the modified device looking at the inner face thereof. Fig. 8 is a detail view of another modified form of the device, parts being broken away to disclose the three members thereof. Fig. 9 is a complete sectional view of the form shown in Fig. 8. Fig. 10 is a plan view of a further modified form of the device. Fig. 11 is a perspective view of another modified form of the invention. Fig. 12 is a cross-sectional view thereof.

Like characters of reference designate corresponding parts in each and every figure of the drawings.

While the shape of the present device is not essential to the effective operation thereof, a circular shape is preferred, as it materially facilitates the setting and also permits of the device being readily carried in a pocket of the clothing, and therefore the two main members A and B are in the form of concentrically-arranged disks, which may be formed of wood, metal, cardboard, or any other suitable material. One of these members—as, for instance, the one designated B—is slightly smaller in diameter than the other, and the two members are connected by a central pivot C, wherefore either member may be rotated upon the pivotal connection. As indicated in Figs. 4, 6, and 7, each of these members is provided with a series of radial slots D, which terminate short of the center of the member, with a smaller opening E, located between the inner end of the slot and the pivot C. The number of slots and openings vary according to the size and capacity of the device. At one edge of each slot D, preferably the left-hand edge, there is a radial table F made up of a succession of numerals corresponding to the lengths in feet of standard pieces of lumber and timber, thereby constituting a length-table. At the left-hand side of the opening E there is a numeral G—as, for instance, "1½," indicating a thickness of one and one-half inches. The reverse side of each member of the device is provided with a plurality of radial tables H, the numerals of which indicate board feet, and extending around the pivot C at the inner ends of the table H is a circular concentric table I, the numerals of which indicate widths and are arranged opposite the inner ends of the respective contents-tables H. For convenience in turning one of the members a handle J is provided at the outer peripheral edge of the smaller member B and is preferably in the nature of a flexible tab.

In using the device as thus far described to obtain the contents in feet of a piece of timber one and one-half inches thick, twelve

inches wide, and twelve feet long the member B is rotated until the opening which is adjacent the numeral "1½" exposes the numeral "12" in the circular table I, and then by referring to the numeral in the radial contents-table H, which is exposed through the radial slot of the member B and disposed opposite the numeral "12" of the length-table F, it will be seen that eighteen board feet are contained in a piece of lumber of the dimensions just given. To obtain the contents of a piece of timber of the same thickness but of a different width, the member B is rotated or set to bring the opening E adjacent the thickness index-numeral "1½" into position to expose any of the numerals in the circular width-table I corresponding to the width of the piece of timber to be measured. It will thus be understood that one radial slot and its adjacent opening E may be set to any and all of the contents-tables H within the limit of movement of the member B, which is governed by a suitable stop device K. In the embodiment shown in the present drawings, two diametrically opposite slots D have been shown, and therefore the member B is limited to a half-rotation, the contents-tables H upon one half of the member A being computed for a thickness of one and one-half inches, while the tables upon the other half of the member are computed for a thickness of one and one-fourth inches. The capacity of the device can of course be increased by increasing the number of radial slots and the number of contents-tables in accordance therewith.

A modified arrangement of the device has been shown in Figs. 1, 2, and 3, wherein the member B is provided with opposite slots L and M, with a thickness-table N, expressed in inches and located at the left-hand side of the slot L, while a length-table O, expressed in feet, is provided at the left-hand side of the slot M. One half of the inner face of the member A is provided with a plurality of radial width-tables one of which has been indicated at P, expressed in inches and exposed through the slot L, while the opposite half of the member A is provided with a plurality of radial contents-tables one of which has been shown at R and is exposed through the slot M. By this arrangement the contents of pieces of timber having various combinations of widths and thicknesses may be quickly determined. For instance, a piece of timber two inches thick by six inches wide and eight feet long contains eight board feet, while a piece of timber three inches thick by four inches wide and twelve feet long contains twelve board feet.

A still further modified form of the invention is disclosed in Fig. 5, which differs from that shown in Fig. 4 in the employment of an arcuate slot or opening S to disclose the circular table I instead of individual openings E for the respective radial slots D.

The capacity of the device may be materially increased by interposing a third disk T between the disks A and B and providing each side of the intermediate disk T with radial contents-tables H, and instead of employing the opening E at the inner end of the slot D, as in Fig. 4, said opening may be located at the outer end of the slot D, as indicated at E′ in Fig. 8, in which event the circular width-table will be located at the outer edge of the intermediate disk member, as at I′. In addition to the width-table I′ a series of index-numerals U may be provided upon the outer exposed peripheral portion of the disk T, so as to facilitate the alining of any of the contents-tables H with the slot D. While the series of numerals I′ serves as an index, said numerals may be concealed by the disk B, and therefore it would be necessary to first turn one of the disks to expose the numerals and then turn the disk in the proper direction to aline the desired numeral with the slot D. By the employment of the index-numerals U, which are always in view, only one turn of the disk is necessary.

Another modified form of the device has been shown in Fig. 10, wherein each half of the member B is provided with a single radial slot or opening D′, with its outer end contracted, as at *a*, to form a pointer adjacent the outer peripheral edge of the member for coöperation with the annular series of width-numerals U upon the member A. At one side of the slot D′ is a column of figures F, indicating lengths, while the numeral "1½," indicated at G, designates thickness measurement. Upon the larger disk member A is a series of radial contents-columns, one of which has been shown at H exposed through the slot D′. In this latter form of the device the outer reduced or tapering terminal *a* of the slot D′ constitutes a pointer coöperating with the annular table U to facilitate the adjustment of the disk member B with respect to the disk member A and is similar to the form shown in Fig. 8.

I have also embodied the invention in an upright form, as indicated in Figs. 11 and 12, wherein the reference character *b* designates an external upright cylinder having a base *c* for the support of the cylinder in an upright position. Within this cylindrical casing is an inner cylinder-shell *d*, which is rotatably supported upon an upright center shaft *e* mounted upon the base, with its upper end projected through the top of the cylindrical casing and provided with a suitable handle or finger-piece *f*, whereby the inner shell may be rotated upon its axis. The casing is provided with a set of three vertically-alined slots or openings, designated *g h i*, respectively. The slot at the upper end of the cylinder is longer than the other slots and is provided at one side of the slot with a thickness-column of numerals *j* and a length col-

umn of numerals *k*, the inner shell being provided with a plurality of columns of width-numerals, one of which columns has been indicated at *l* and exposed through the upper portion of the slot *g*, and the inner shell is furthermore provided with a series of contents-tables, one of which has been shown at *m* exposed through the lower portion of the slot. In connection with slots *h* the casing is provided with a length table or column of figures *k*, but only a single thickness-numeral *j*, there being a contents-table *m* exposed through the slot *h*, and only a single width-numeral *l* exposed through said slots. The same arrangement is employed in connection with the slot *i*, the only difference being that the thickness-numeral *j* differs from the thickness-numeral of the slot *h*, and the contents-table *m* is computed in accordance with the thickness-numeral "$1\frac{1}{2}$" instead of "$1\frac{1}{4}$." It will be understood that for each of the slots *g h i* there is an annular series of width-numerals *l* and an annular series of contents-tables *m*, any one of which may be brought in position for exposure through the proper slot by rotating the inner shell through the handle or finger-piece *f*.

Having thus described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A device of the class described including a pair of members which are concentrically pivotally connected, one of the members having a radial slot with a length-table at one side of the slot and an opening with a numeral indicating thickness adjacent the opening, the other member having a plurality of radial contents-tables capable of being individually exposed through the slot, and a circular series of numerals indicating widths to be exposed through the opening in the first-mentioned member.

2. A device of the class described including a pair of members which are concentrically pivotally connected, one of the members having a slot with a series of factor-numerals at one side thereof and also provided with an opening adjacent the slot with a factor-numeral adjacent the opening, and the other member being provided with a concentric series of factor-numerals capable of being exposed through the opening and a plurality of tables made up of numerals designating multiples of the factors and capable of being individually exposed through the slot.

3. A device of the class described comprising a pair of movably-connected members, one of said members having a pair of factor-numerals and the other member having a series of factor-numerals and a plurality of contents-tables arranged in coöperative relation with the respective factor-numerals thereof, one of said members being movable to bring the factor-numerals of the first-mentioned member into coöperative relation with any of the factor-numerals of the other member and a corresponding contents-table of the other member.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSE E. CHRITTON.

Witnesses:
H. G. SIGMAN,
HENRY E. BURKDOLL.