(No Model.)

# W. D. F. JARVIS.

## CALCULATING DEVICE.

No. 338,075. Patented Mar. 16, 1886.

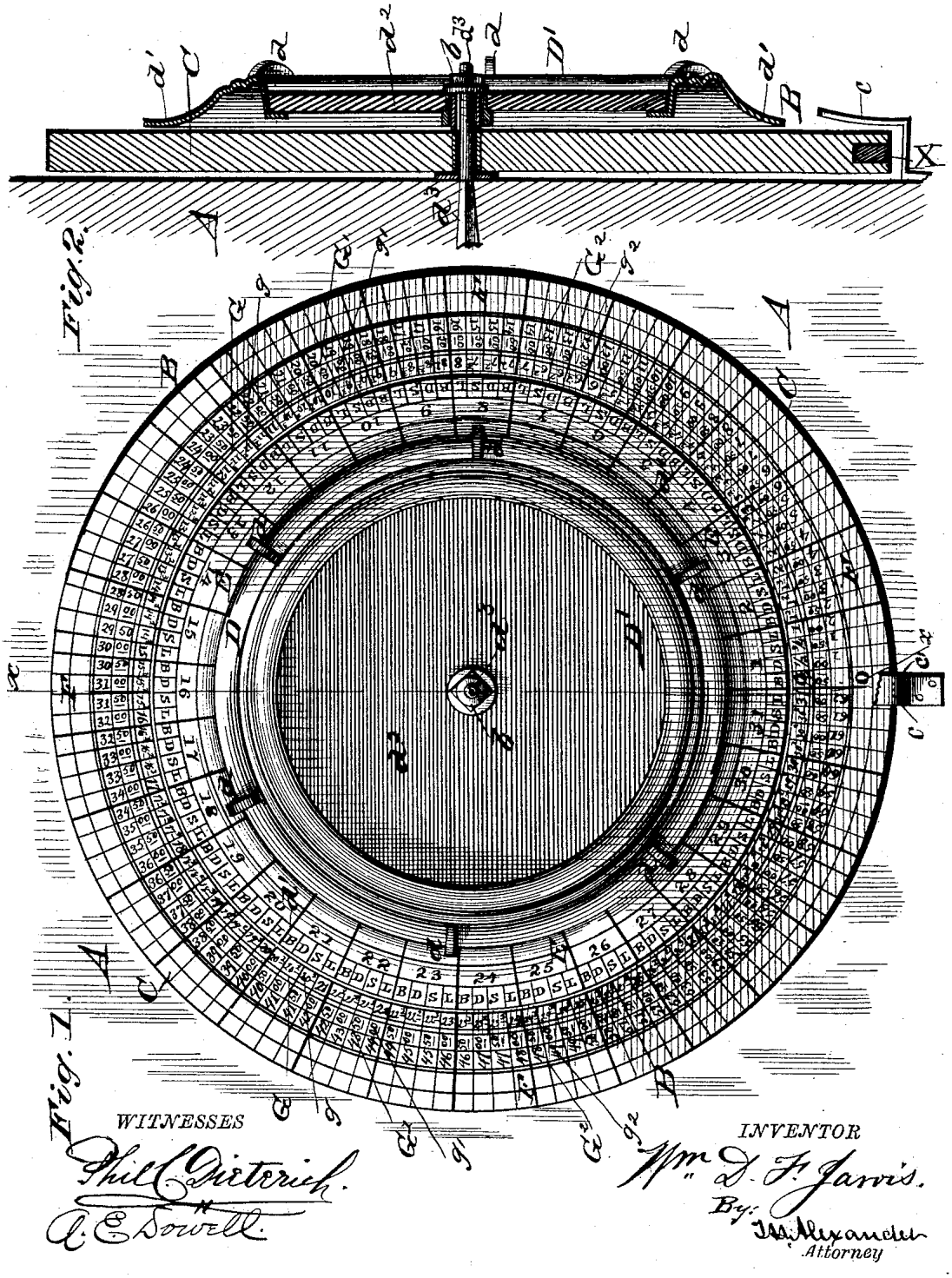

Fig. 2.

Fig. 1.

WITNESSES

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## CALCULATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 338,075, dated March 16, 1886.

Application filed November 20, 1885. Serial No. 183,388. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM D. F. JARVIS, of Philippi, in the county of Barbour and State of West Virginia, have invented certain new and useful Improvements in Calculating Devices; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a plan view of the device. Fig. 2 is a cross-section of the same on line *x x*, Fig. 1.

This invention is an improved automatic calculating device for reckoning amounts in cash for any number of days within a month or within an entire year; and it consists, essentially, in the novel arrangement and construction of two disks pivoted centrally to each other and suitably scored or numbered on their faces adjacent to their peripheries, so that they can be made to properly register with each other, as hereinafter described, and pointed out in the appended claims.

The invention is especially adapted for use in hotels, in calculating pay-rolls, or wherever certain fixed sums are to be paid by the day, the whole amount for any number of days being readily ascertained by turning one disk upon the other, as hereinafter fully described.

In the accompanying drawings, A designates the wall, table, or other support to which the device is affixed.

The device is preferably attached in such manner as to stand vertically, as shown in the drawings.

B is the device, composed mainly of the concentric disks C and D′, both pivoted through their centers to the support A.

$d^3$ is the pivotal pin of the disks, having on its threaded outer end the nut *b*, which rests against the outer surface of the front and smaller disk, D′, and keeps the disks in place.

*c* is an indicator, pointer, or finger secured to the support A, with its edge *c′* vertically below the centers of the disks and lying in a radial line of the disk C. The front and smaller disk, D′, is provided with the lugs *d*, by means of which it may be readily turned, and is constructed within its marked rim *d′*, hereinafter described, of slate or any equivalent material capable of being marked upon, as blackboard, the lugs *d* being situated near the inner edge of the rim *d′* and the disk $d^2$ of slate being secured within the rim. The rim *d′* of the disk is primarily graduated by radial lines into thirty-one equal divisions, E. The said divisions are numbered from 1 up to 31, as shown, and each division E has its edge near the perimeter of the disk graduated into equal numbers of equal parts, as shown in the drawings. Each division E in the present instance is graduated to four parts, respectively designated by the letters B, D, S, and L. The disk C is of larger diameter than the disk D′, and has its face outside of the latter disk graduated into thirty-one principal or primary divisions, F, by radial lines, as shown. Each of the divisions F is also graduated by radial lines into equal parts corresponding in number to those of the thirty-one divisions of the disk D′, heretofore described. The graduated portion of the disk C is scored by the concentric circles G, G′, and $G^2$ from within outward, forming with the radial lines the spaces *g*, *g′*, and $g^2$, arranged in circular sets. The inner set of spaces, *g*, running from a radial line marked 0 0, are in this instance numbered $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, and 1 for the first succeeding principal division, and for the succeeding division numbered $1\frac{1}{4}$, $1\frac{2}{4}$, $1\frac{3}{4}$, and 2, and so around the disk, the last space being numbered 31, as shown. These fractions are for want of space in the drawings indicated only by their numerators, the denominators being in all cases 4.

The spaces *g′* $g^2$ are numbered as follows: The outer circle, $g^2$, starting from the nought radial line, is numbered with whole numbers, and the inner circle of spaces, *g′*, are numbered with fractions, preferably decimals of the same. These numbers ascend in regular arithmetical ratio, starting from the 0 or zero-line. The spaces *g*, for example, begin with zero (0) and increase by an arithmetical ratio of one, and run upward from the zero-line from right to left, as shown in the drawings, though the direction might be reversed, if desirable.

To fully understand the manner in which the two disks coact, the following description is necessary: The rim of the disk D′ is graduated into thirty-one principal divisions, each of which is divided into four equal parts in

the present instance. The rim of the disk C is similarly graduated, so that when the left edge of the division 1 of the former corresponds with the naught radial line of the latter the spaces B, D, S, and L will be opposite a line of spaces, $g$, $g'$, and $g^2$, of the disk C. The spaces $g$ are marked from the naught-line with fourths of a day, and the spaces $g'$ $g^2$ are marked with numbers, which show a certain price by the fourth of the day, in this case fifty cents, or two dollars for the whole day. Now, it is evident that by putting the left edge of the division marked 1 of disk D' above the 0 0, radial or zero line of disk C, and moving both together to the left, the corresponding price for any number of days and fractions thereof will be in the spaces $g$ $g'$ of the disk C immediately adjacent to the space for the number of days or fractions thereof on the disk D'.

For months of thirty days, in passing from the end of the month to some day in the next succeeding month, the outer disk, D', is set back one day distance on the disk C, and for the month of February it is set back three days distance thereon, the disk D' being marked for thirty-one days. When the device is attached vertically to a wall, the edge of the disk C is provided with a weight, X, so as to cause its 0 0 radial line to be brought by gravity to the edge of the bracket.

Having described my invention I claim—

1. The combination of the indicating arm or finger $c$, having an edge, $c'$, situated in a radial line of the disk C, the rotating disk C having its edge weighted, so as to bring by gravity its nought radial line to correspond with the edge $c'$ of said finger $c$, and the rotating disk D', pivoted through its center and turning concentrically on the disk C, substantially as specified.

2. The combination of the support A, the indicating-finger $c$, secured thereto, and having an edge, $c'$, situated in a radial line of the disk C, the disk D', having thirty-one equal divisions around it near its edge, each division being divided into four equal parts to show the parts of a day, and the disk C provided with the series of divisions $g$ $g'$ $g^2$ near its edge, the divisions $g$ being marked from the zero-line with fourths of a day in an ascending series, and the spaces $g$ $g'$ $g^2$ being marked from the zero-line with numbers which show the corresponding prices for fourths of a day in an ascending series, substantially as specified.

3. The combination of the support A, the indicating-finger $c$, secured thereto, and having an edge, $c'$, situated in a radial line of the disk C, the disk C having the graduations, substantially as described, and provided on its edge with the weight X, arranged to cause the disk to move by gravity into the position in which its zero-line will correspond with the edge $c'$ of the finger $c$, and the disk D' graduated, as described, on its edge, and having its surface made of some material capable of having records or notes made upon it, substantially as specified.

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

WILLIAM D. F. JARVIS.

Witnesses:

GRAN. E. TAFT,

I. H. ROBINSON.