

W. S. POULSON.

Improvement in Lumber Measures.

No. 123,931.

Patented Feb. 20, 1872.

Fig. 1

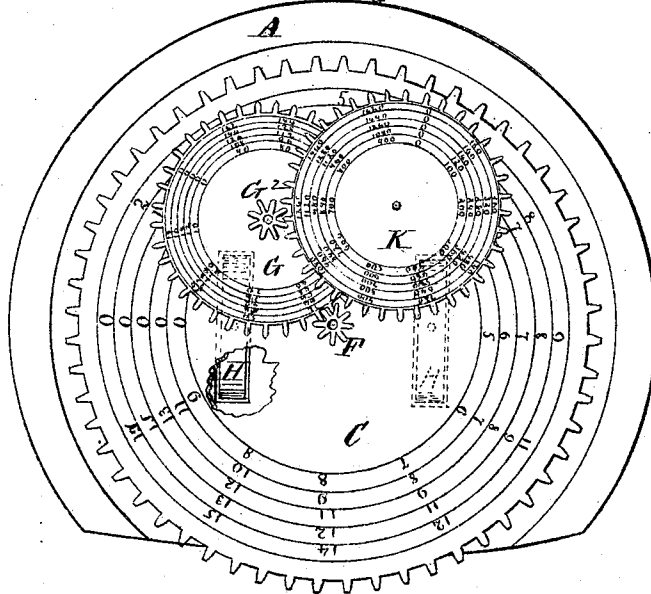
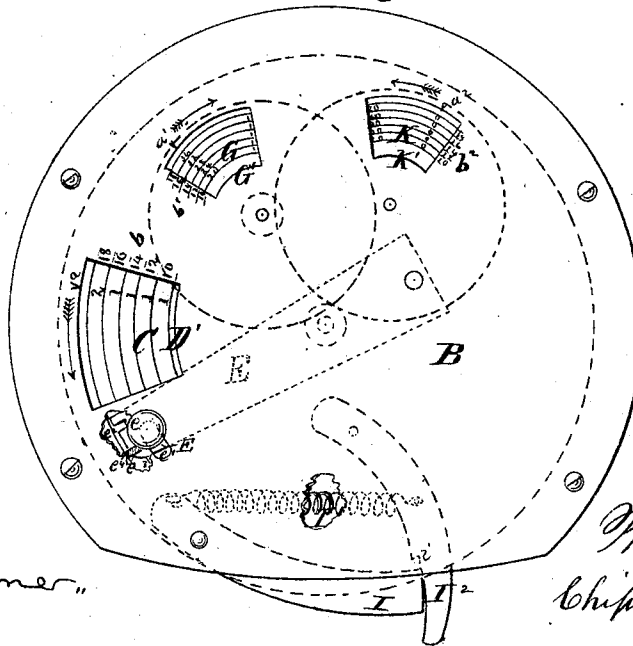


Fig. 2



Witnesses

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WESLEY S. POULSON, OF CADIZ, OHIO.

IMPROVEMENT IN LUMBER-MEASURES.

Specification forming part of Letters Patent No. 123,931, dated February 20, 1872.

To all whom it may concern:

Be it known that I, WESLEY S. POULSON, of Cadiz, in the county of Harrison and State of Ohio, have invented a new and valuable Improvement in Lumber-Measures; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of an interior view of my invention. Fig. 2 is an outside-face view of the same.

My invention has relation to lumber-measures; and consists in the construction and novel arrangement of a guard, guard-spring, and trigger operating in connection with a graduated measuring-wheel, and designed to prevent mistakes in obtaining measurements. My invention also consists in providing a lumber-measure having said trigger, guard, spring, and graduated wheel with a slotted face-plate, additional graduated wheels, and adjustable bearing-plate to hold the shaft of the principal wheel, all constructed, arranged, and employed as and for the purpose hereinafter described.

Referring to the accompanying drawing which illustrates this invention, A represents a shallow case or box, containing the working parts of my invention, and furnished with a covering-plate, B. C designates a toothed wheel exactly one foot in circumference. On its face are marked twelve radial rows of figures, denoting measurements in feet of boards less than one foot wide, and of either eighteen, sixteen, fourteen, twelve, or ten feet in length. The following is the order in which said figures are arranged, each line representing a row:

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
0	2	3	5	6	8	9	11	12	14	15	17
0	1	3	4	5	7	8	9	11	12	13	15
0	1	2	4	5	6	7	8	9	11	12	13
0	1	2	3	4	5	6	7	8	9	10	11
0	1	2	3	3	4	5	6	7	8	8	9

As the wheel C revolves, each of these rows is seen in turn through an opening, D', cut through the plate B. The wheel is set for use by turning it until the row of ciphers coincides with the point marked *a* on the outer edge of the opening D'. Now, if the board to be measured is known to be of any of the lengths specified—viz., eighteen, sixteen, fourteen, twelve,

or ten feet—the number of square feet contained in it will appear at the point *a* upon the wheel being moved across the board, conditionally that the width of said board be less than one foot; thus, if the board is six inches wide, the seventh row of figures, containing 9 8 7 6 5, will be presented to view, indicating, in accordance with their respective arrangement, that a board eighteen feet long will contain nine square feet; a board sixteen feet long, eight square feet, and so on. The wheel C is pivoted on a metallic plate, E, which is pivoted at one end to the inner side of the plate B, and adjustable through the medium of a knob, *e*, which is secured to its other end, and has its shank within a curved slot, *e'*. The end of the plate E, near the knob *e*, is slotted at *e²* and *e³*, so as to be held at different positions by means of a stud, *e⁴*. The adjusting of the plate E changes the position of the wheel C, so as to engage it with and disengage a pinion, F, on its shaft from a graduated wheel, G, hereinafter described. The end of the plate E is disengaged from the stud *e⁴* by pressing down the knob *e*. A pair of metallic springs, H, secured to the box A press against the back of the wheel and keep it steady, at the same time allowing it freedom to revolve and to fall back when the knob *e* is pressed down, as specified. The teeth of the wheel C, it will be noticed, project beyond the lower or open end of the box A, so as to catch the surface of the board to be measured. I indicates a guard-arm pivoted to the plate B. It is curved in such a manner that its lower edge shall fall below the points of the teeth of the wheel C. The upper end of this arm is connected, by means of a spiral spring, I¹, to a trigger, I², which is also pivoted to the plate B. Its lower end or handle projects down below the lower end of the guard I, and is notched to receive the latter, as shown in Fig. 2. The object of the spiral spring I¹ is to throw down the lower end of the guard below the shoulder *i* of the trigger. The trigger is sprung by pressing it against the edge of the board in the act of moving the measure across the boards. A slight pressure then raises the guard, and allows the teeth of the wheel C to catch in the board and the wheel itself to turn. The guard and trigger shield the wheel from disarrangement when it is not in actual operation. After

the transverse measurement of the board has been taken, the spring I^1 throws the guard back to its original position and sets the trigger. G represents a smaller graduated toothed wheel, numbered, as shown, so as to indicate the superficial contents of a board of one foot or more in width. The numbers or figures, which are the products of calculations made with reference to the numbers on the large wheel, and the lengths, eighteen, sixteen, fourteen, twelve, ten, appear through an opening, G^1 , in the plate B . The amount indicated on the wheel G , added to that indicated on the wheel C , gives the required sum for a board or boards of from one to ten feet in width and of from ten to eighteen feet in length. K indicates a graduated toothed wheel similar to G . It is designed to indicate products of from ten by eighteen to ten up to one hundred by eighteen to ten, the number shown at the opening K being added to those shown by the other wheels to complete the product. A pinion, G^2 , on the shaft of G drives this wheel.

In setting this instrument, the ciphers on the different wheels are made to coincide with the points a a^1 a^2 on the edges of the openings D'

G^1 K' . The pinion F is disengaged from the wheel G when the wheels G K are to be set.

k are notches in the face of the wheel K for the insertion of a pin to turn it. The row of figures b b^1 b^2 , at one side of the openings D' G^1 K' , coincide with the figures on the wheels, so as to indicate the particular number for a board of a certain length. Intermediate graduations may be made on the wheels C G K to indicate calculations of exact measurements. The wheels G K are pivoted to the plate B .

I claim as my invention—

1. The guard I , trigger I^2 , and spring I^1 , in combination with the graduated wheel C , as and for the purpose specified.

2. The lumber-measure, having the slotted face-plate B , graduated disks C G K , adjustable bearing-plate E , guard I , spring I^1 , and trigger I^2 , constructed and arranged substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

Witnesses: WESLEY S. POULSON.

D. L. HUGHES,
JOHN W. ADAMS.