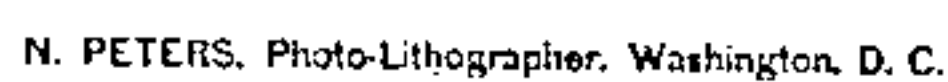


Board Measure.

Patented July 25, 1865.



UNITED STATES PATENT OFFICE.

GEO. S. TIFFANY, OF PALMYRA, MICHIGAN.

IMPROVEMENT IN BOARD-MEASURES.

Specification forming part of Letters Patent No. 49,011, dated July 25, 1865.

To all whom it may concern:

Be it known that I, GEORGE S. TIFFANY, of Palmyra, in the county of Lenawee and State of Michigan, have invented a new and Improved Instrument for Measuring Boards; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a side elevation of my invention. Fig. 2 is a plan of the same. Fig. 3 is a plan of the under side of a part thereof. Fig. 4 is a vertical cross-section on line A B. Fig. 5 is a side elevation of the index and a part of the screw detached.

Like letters indicate like parts in all the figures.

My invention belongs to that class of board-measures which obtain the number of square feet in a board by running a traverse-wheel across the same, the motion of the traverse-wheel being communicated through suitable gearing to an index, which indicates the number of feet measured on a fixed scale.

To enable those skilled in the art to make and use my invention, I will describe its construction and operation.

A is a part which may be made of wood, and for convenience we will call "the stock." It has a handle turned on one end, and in the underside thereof there is a deep slot or groove extending from a point near the handle to the opposite end. On its upper surface there is a scale of feet, K, which has a narrow slit or opening running longitudinally through the center of the scale. This opening is cut through the stock A to the groove.

B is a casting, the form of which may be determined by comparing Figs. 1 and 2. It is cast with a chamber, in which is inserted the end of the stock A.

C is the traverse-wheel, in which are a series of perforations arranged in concentric circles, each series of which acts in the capacity of a bevel-wheel. The perforations in each circle are of a uniform distance apart, and their number is in proportion to the different lengths of boards the instrument is constructed to measure.

The drawings represent an instrument designed to measure boards of eight, ten, twelve, fourteen, and sixteen feet in length, and the number of perforations in the first or inner

circle is twenty four, in the second thirty, in the third thirty-six, in the fourth forty-two, in the fifth forty-eight.

The shaft of the traverse-wheel has two bearings in the casting B, and between these bearings there is a spiral spring coiled about the shaft, which, exerting a constant pressure against the bearing near the wheel, and a pin through the shaft near the farther bearing, holds the traverse-wheel C in mesh with bevel-pinion F. The cogs of the pinion F are rounded upon the back side of the wheel—that is, the form of half of a cone divided by a plane passing through its axis. The pinion hangs loosely on the shaft D. The shaft D has one bearing in the casting B, passes through the chamber of B along the groove in the stock, and has a bearing near the handle. It has a screw-thread cut on that part which lies within the stock, and a slot from beyond the thread to the bearing in B. A set-screw passes through the hub of the pinion F and penetrates the slot in D, causing the shaft to rotate when the wheel is revolved, but permitting the wheel to be moved along the shaft D, so as to mesh into any series of perforations in the traverse-wheel C. The rod H, thumb-piece I, and fork G constitute a shifter for the pinion F.

A vertical central section of the index is given in Fig. 4, an elevation in Fig. 5, and a view of a side of the nut belonging to same detached. (Marked *m*.) The nut *m* has no thread. It has a vertical slot cut in two of its opposite sides. A metallic strap passes around the nut in these vertical slots, and its ends are fastened to the thumb-piece L. The point *o* is fastened to this strap, passes through it and through a hole in the top of the nut, and rests in between the threads of the screw. Between the thumb-piece L and the nut *m* there is a spiral spring, which, exerting a constant pressure downward upon the strap, holds the lower point of *o* between the threads of the screw.

The operation of this invention is as follows: The operator adjusts the wheel F to mesh into that series of perforations designed for the length of boards he wishes to measure—that is, for boards of eight, ten, twelve, fourteen, and sixteen feet in length into the first (numbering from the inner circle,) second, third, fourth, and fifth series respectively. This he may do with facility by pressing the traverse-wheel from the pinion with the left hand, while with the thumb

of the right hand on the thumb-piece I, by means of the shifter he adjusts the wheel, and then letting the traverse-wheel come back in mesh with the pinion. He then places the wheel on the board so that the point J will be at the edge of the board, runs the wheel across until the point J comes to the opposite edge. Motion is communicated to the screw D through the pinion, and the index is moved along the scale K, showing the number of feet measured.

The index may be moved to any point in the scale by pressing upward on the thumb-piece L, which raises the point from between the threads and permits the index to be moved.

I am aware that a traverse-wheel with a serrated edge has been used before, and that a screw, index, scale, and point J have been combined in the same device, but differently arranged. Therefore I do not claim such improvement nor combination; but

I claim as new and desire to secure by Letters Patent—

1. Making one or more series of perforations in concentric circles in the traverse-wheel C, each of which acts in the capacity of a bevel-wheel, or placing a wheel upon the same shaft equivalent to said perforation, in combination with the pinion F, screw D, index, and scale, when the same are arranged to operate substantially as and for the purpose herein set forth.

2. The combination of thumb-piece L, strap n, nut m, and point o, when the same are arranged to operate as and for the purpose herein described.

GEORGE S. TIFFANY.

Witnesses:

PORTER L. SWORD,
R. B. ROBINSON.