

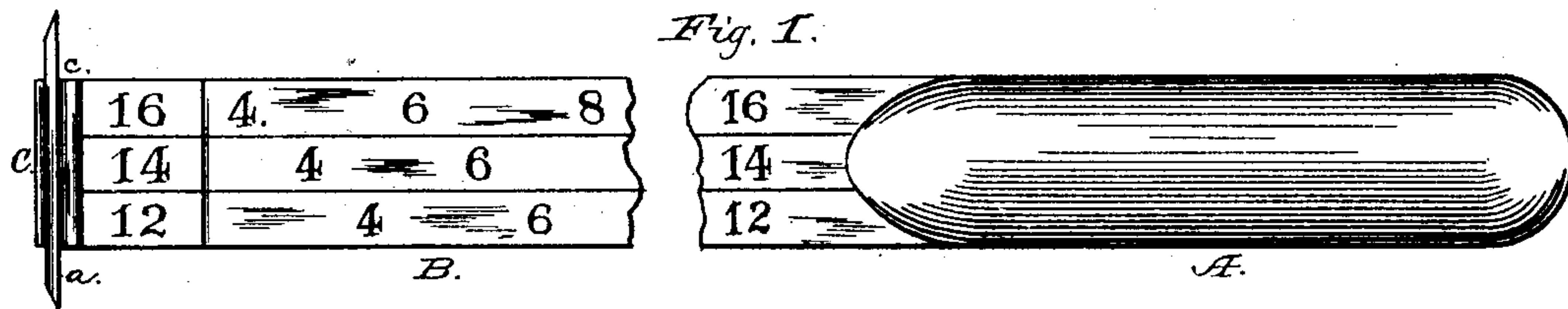
(No Model.)

E. ANDREWS.

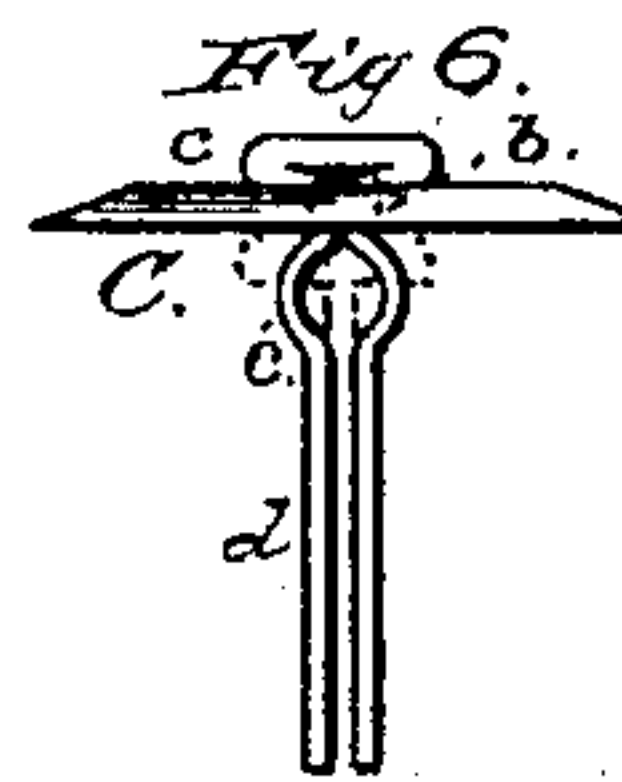
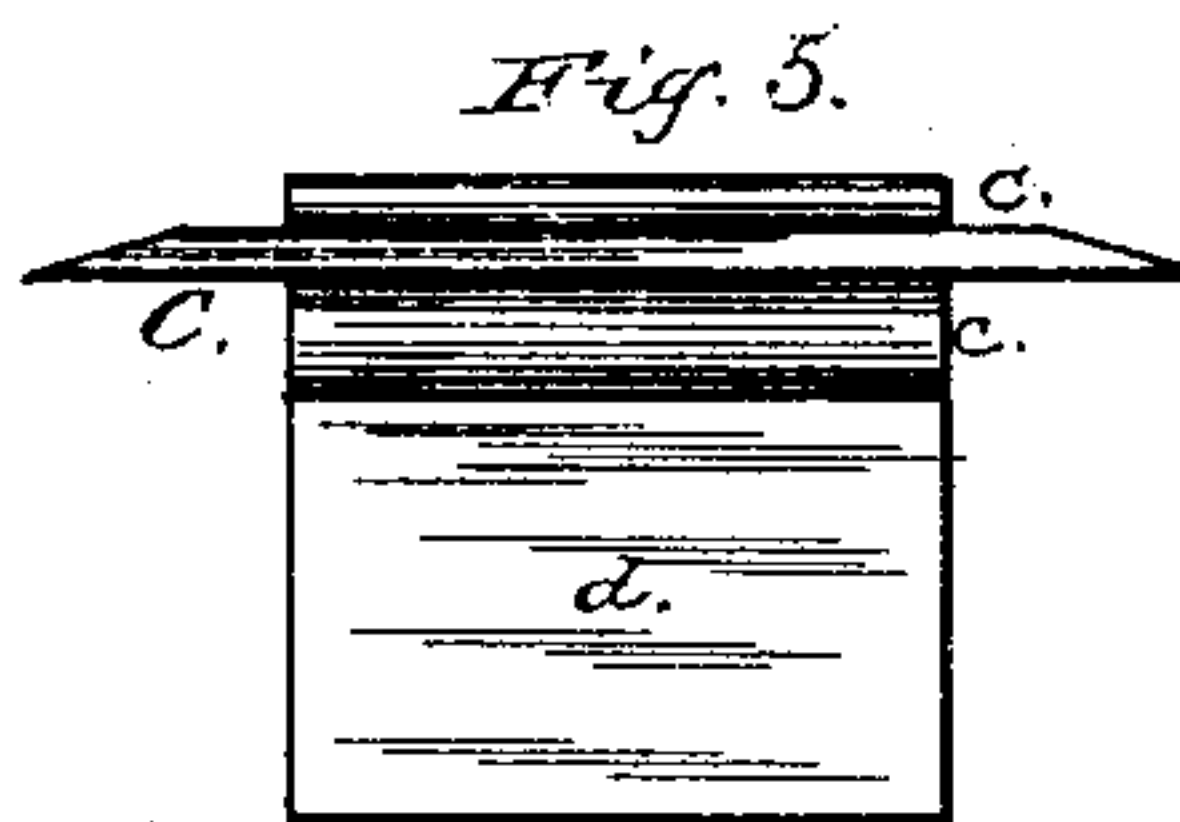
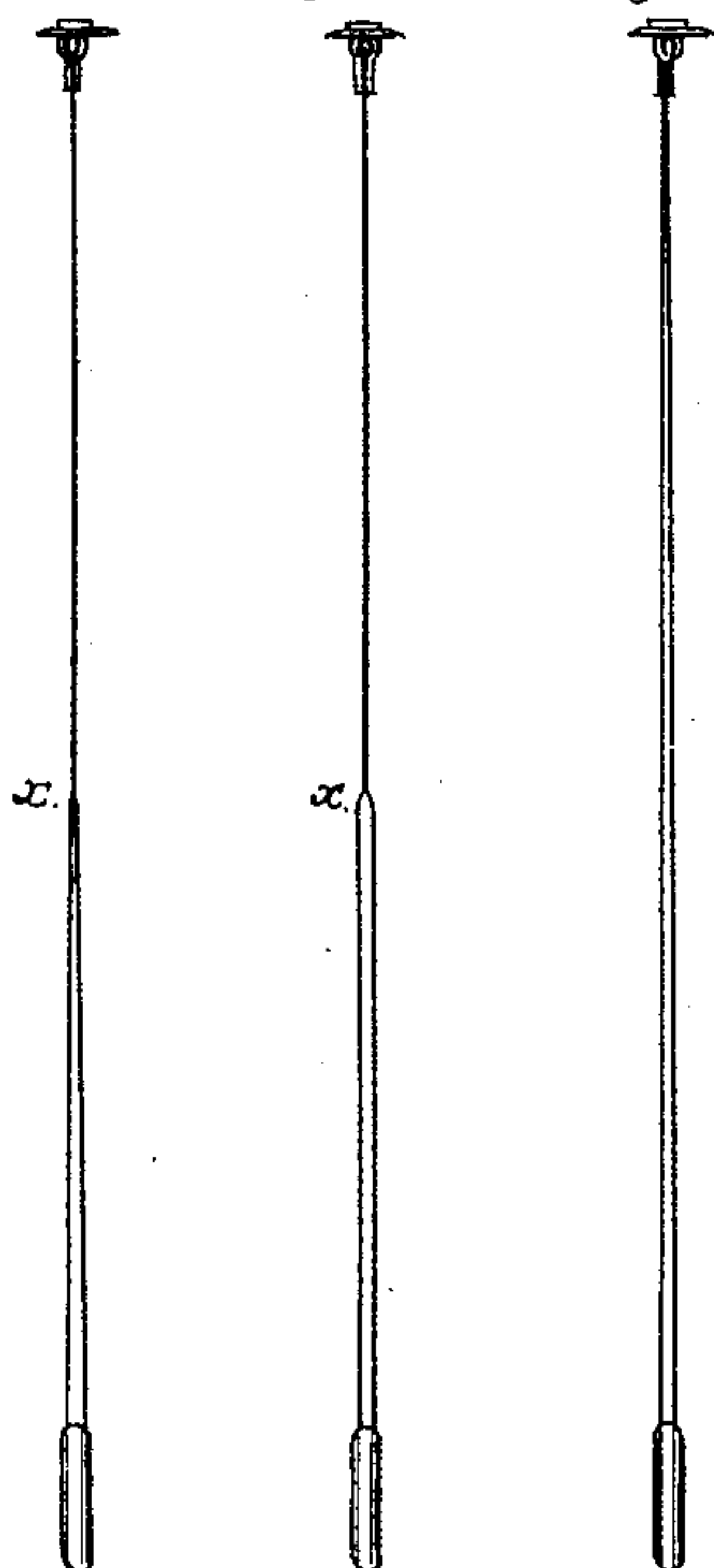
BOARD RULE.

No. 265,732.

Patented Oct. 10, 1882.



*Fig. 2. Fig. 3. Fig. 4.*



WITNESSES,

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# UNITED STATES PATENT OFFICE.

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## BOARD-RULE.

SPECIFICATION forming part of Letters Patent No. 265,732, dated October 10, 1882.

Application filed June 21, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EMANUEL ANDREWS, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Board-Measures; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The board-measures in commercial use are made of wood. From the conditions attending their use it becomes necessary to have them light in weight, in order to use them without excessive fatigue, and yet in their use it becomes necessary to employ them continually for moving boards and planks or for turning them over for better inspection. In order to effect the latter results, the board-rule is provided with a heavy outer end or head armed with cutting-edges, which are adapted to enter into the board with a blow, so that the board can be moved by the rule, or to lap over and enter an edge of the board, so that the same may be turned over. In consequence of the small weight and the rough usage before referred to the board-measures of wood are liable to be broken.

My invention has for its object the production of a board-measure which shall be no heavier than the wooden one, and yet will be more elastic and more durable; and the novelty consists in making the same of spring-steel, spring-brass, or other spring metal, with an improved head, as will be more fully hereinafter described, reference being had to the drawings making a part of this specification, and to the letters of reference marked thereon.

Figure 1 represents my board-rule with the center broken out and with one of its faces exposed to view. Figs. 2, 3, and 4 represent the same board-rules with an edge exposure, differing from each other only in relative thickness in parts in order to give greater or less elasticity. Figs. 5 and 6 are separate views of the head.

In Fig. 1 is shown my board-rule divided, as usual, into three longitudinal spaces for different lengths of boards, (in this instance twelve, fourteen, and sixteen feet,) and with cross-lines and figures denoting the number of feet in the board with a certain width. This rule is com-

posed of a handle, A, of some non-conducting material, preferably of wood, and a body, B, of uniform width throughout from the end which enters the handle, and preferably makes a central film in it to the end, which is secured to the head C. The body of this rule, however, differs in its thickness in different portions of it. As shown in Fig. 2, this body is of the same thickness from a point, *x*, near its longitudinal center, to the head, and from such central point is regularly made thicker up to the handle. As shown in Fig. 3, the body is of the same thickness from the point *x* to the head and of nearly uniform thickness from that point to the handle. As shown in Fig. 4, the body tapers in thickness uniformly from the handle to the head. Measurers of lumber who do their work upon or above the boards prefer the rules to be very elastic, so that they can measure with them without much stooping, while those who measure boards raised above the ground—as, for instance, on the tracks on which they are carried to the piling-ground—prefer stiffer rules.

The head C is composed of a steel plate, *a*, with sharpened cutting-edges, preferably beveled on the outer sides, and has a central opening, *b*, through which are forced the ends of a strip of sheet-brass of the width of the rule, bent over itself, with the ends brought together. This strip of brass is riveted upon the outside of the steel plate by pressure or blows, so that the brass metal is spread out on each side of the opening, as at *c*, and likewise riveted upon the inside of the steel plate by being pressed into tubular form and spread out on each of the openings, as at *c*, or flattened, as shown in dotted lines in Fig. 6, and the portion remaining extends from this tubular opening *c* in ears *d* parallel with each other, and such a distance apart as to receive and be firmly secured to the end of the body of the rule.

It will be apparent that my board-rule will not only have great flexibility, but its flexibility will be greatest toward the head, where flexibility is most required, as thereby the surveyor may readily bend the rule from the head which overlaps the edge of the board across the board itself with very little stooping, and thus avoid fatigue, as well as save time. At the same time the strength of the material is such that he may exert great force in striking



the head into a board, or in moving or turning it over, without injury to the rule. At the same time the rule will be light and well balanced without the excessive weight at the head, 5 such as found in wooden rules.

Having thus described my invention and enumerated some of its advantages, what I believe as new therein and desire to claim is—

1. A board-rule measure of spring metal, 10 made of increasing flexibility toward the head, substantially as described.

2. A board-rule measure of spring metal, hav-

ing a head with cutting-edges secured to the same by a clamp which locks the head on both sides, and also serves to secure it to the outer 15 end of the board-rule, substantially as described.

This specification signed and witnessed this 9th day of June, 1882.

EMANUEL ANDREWS.

Witnesses:

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