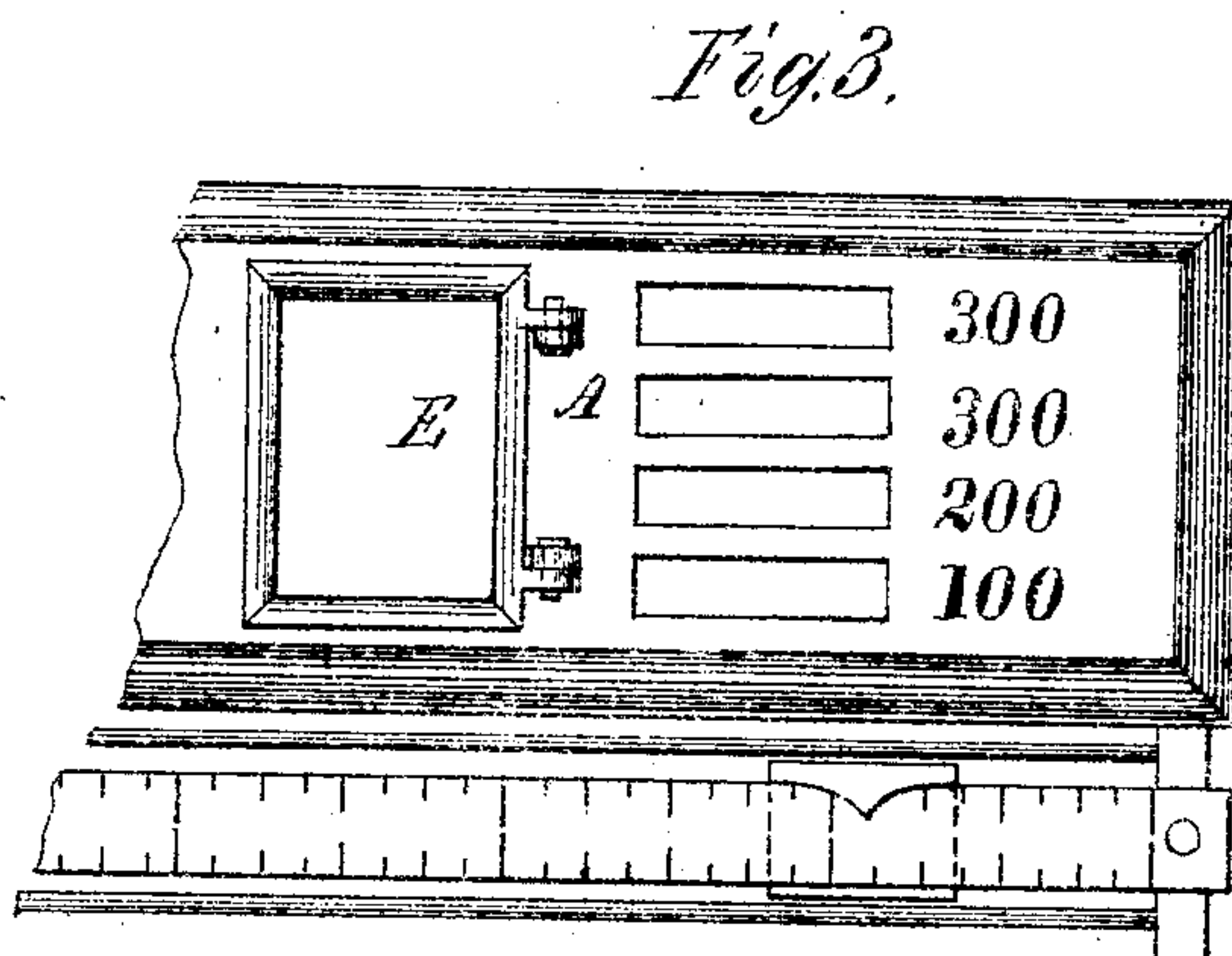
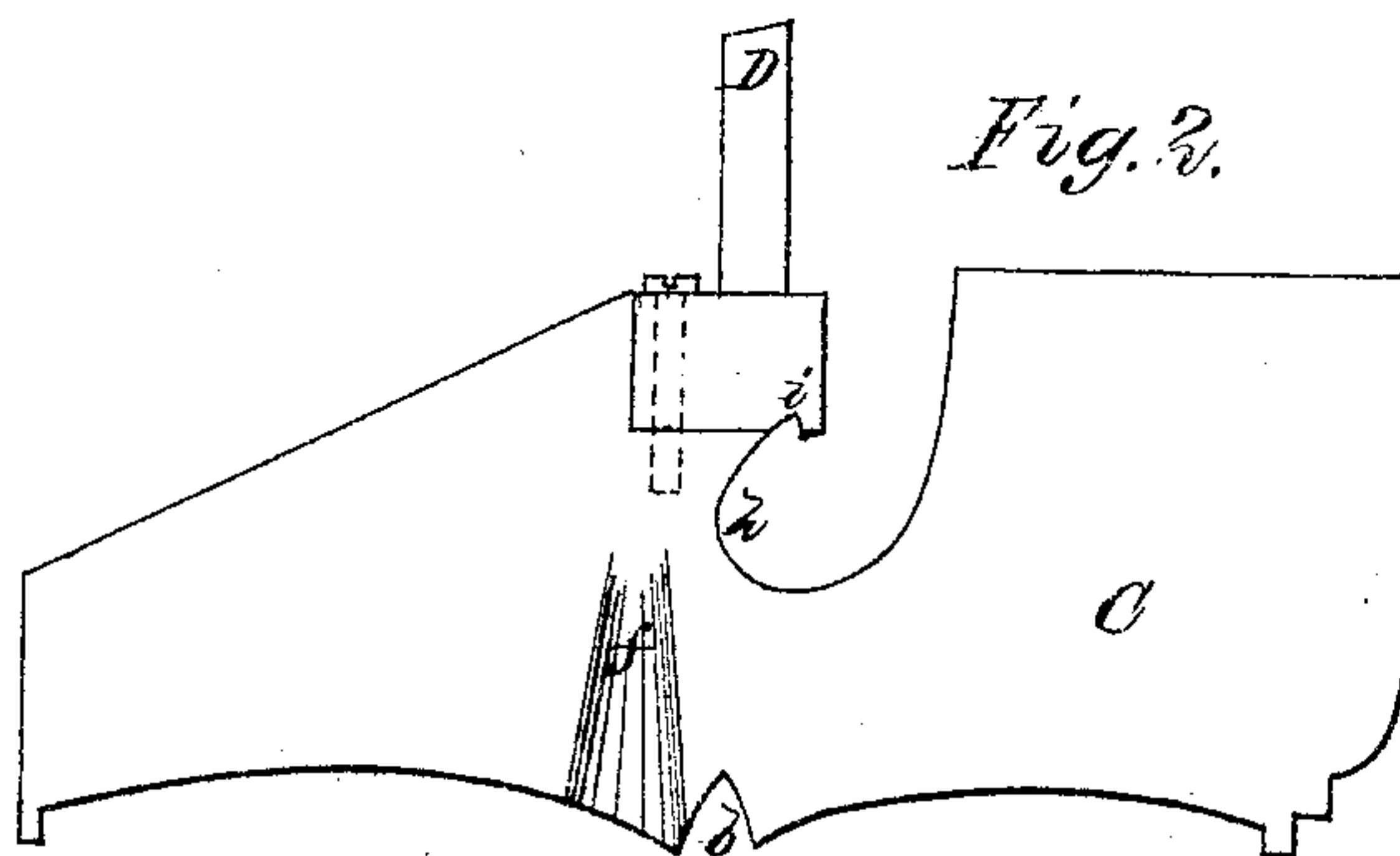
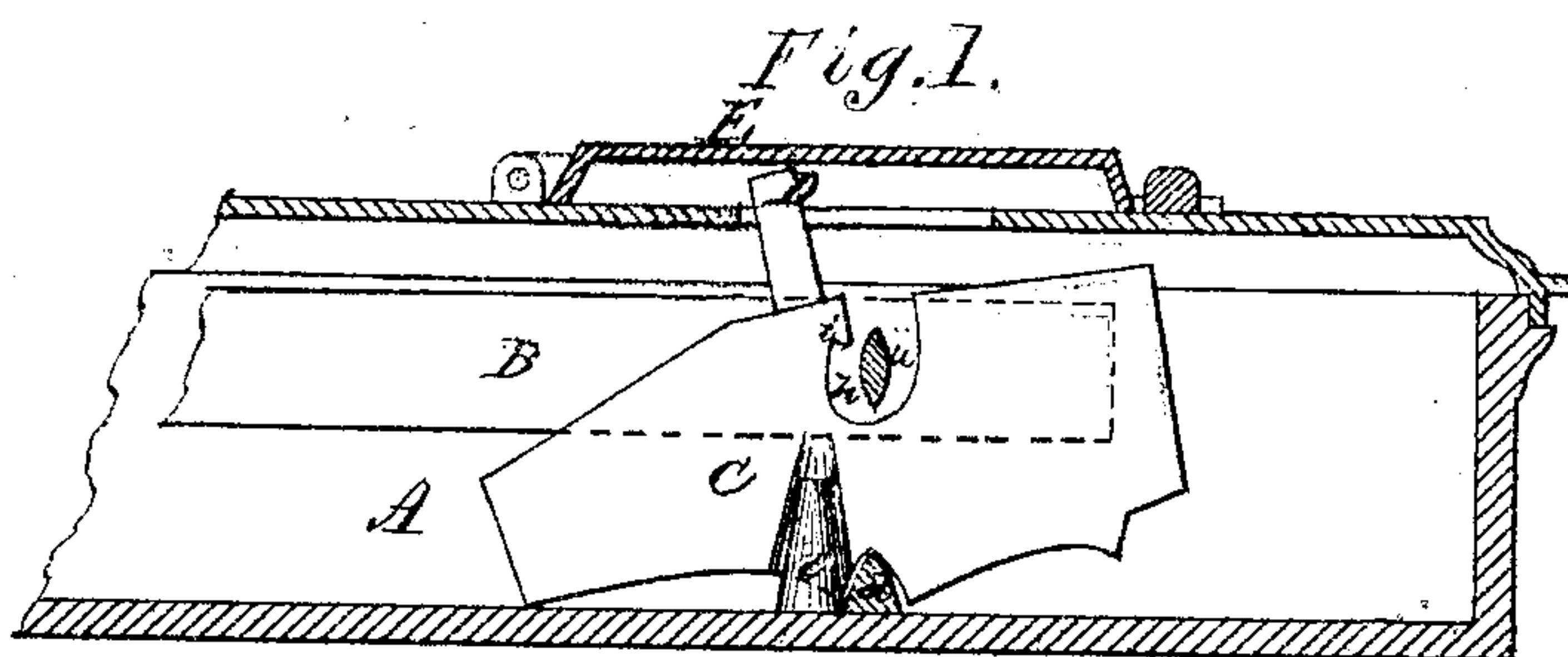


HIRAM ANDRES.

Improvement in Adjustable Weights for Scales.

No. 120,927.

Patented Nov. 14, 1871.



Witnesses  
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Fig. 4.

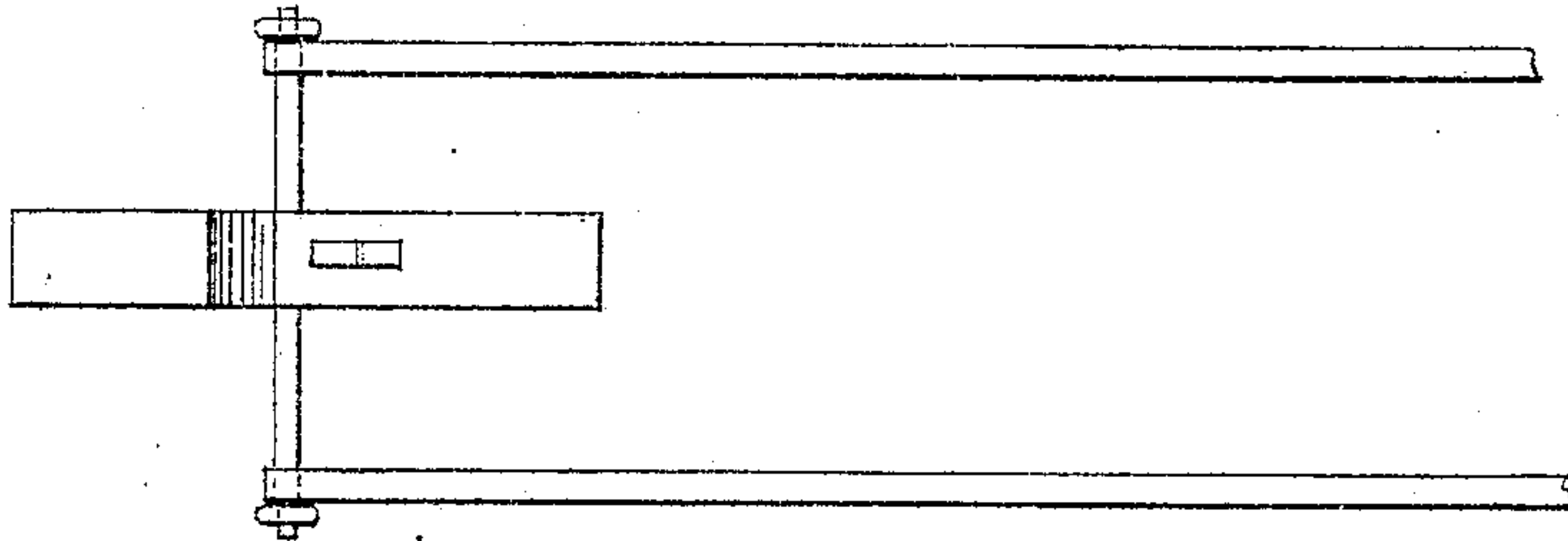


Fig. 5.

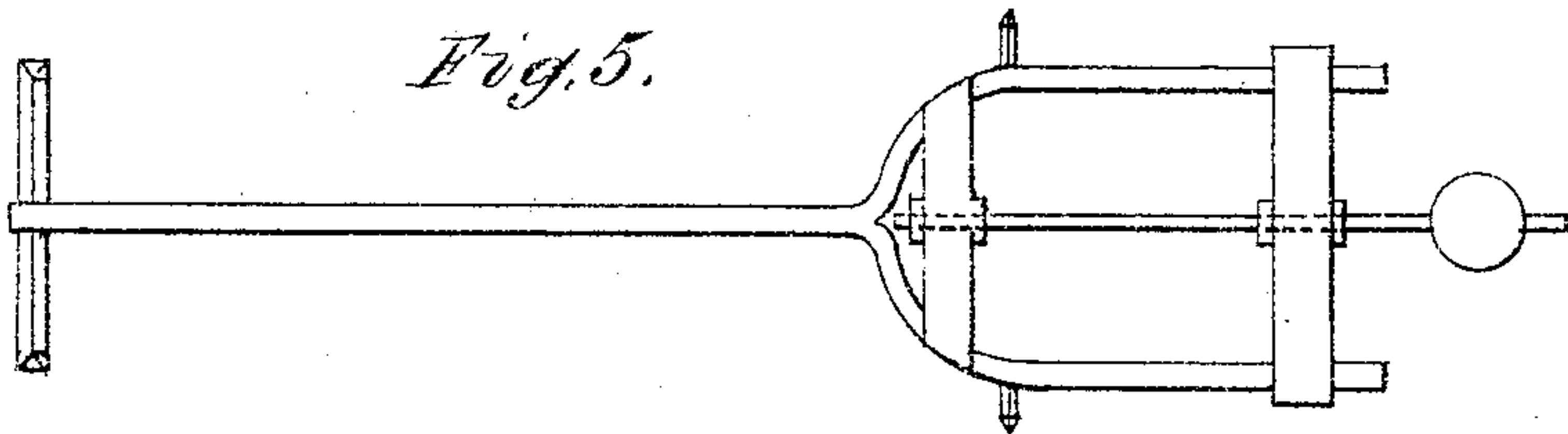


Fig. 6.

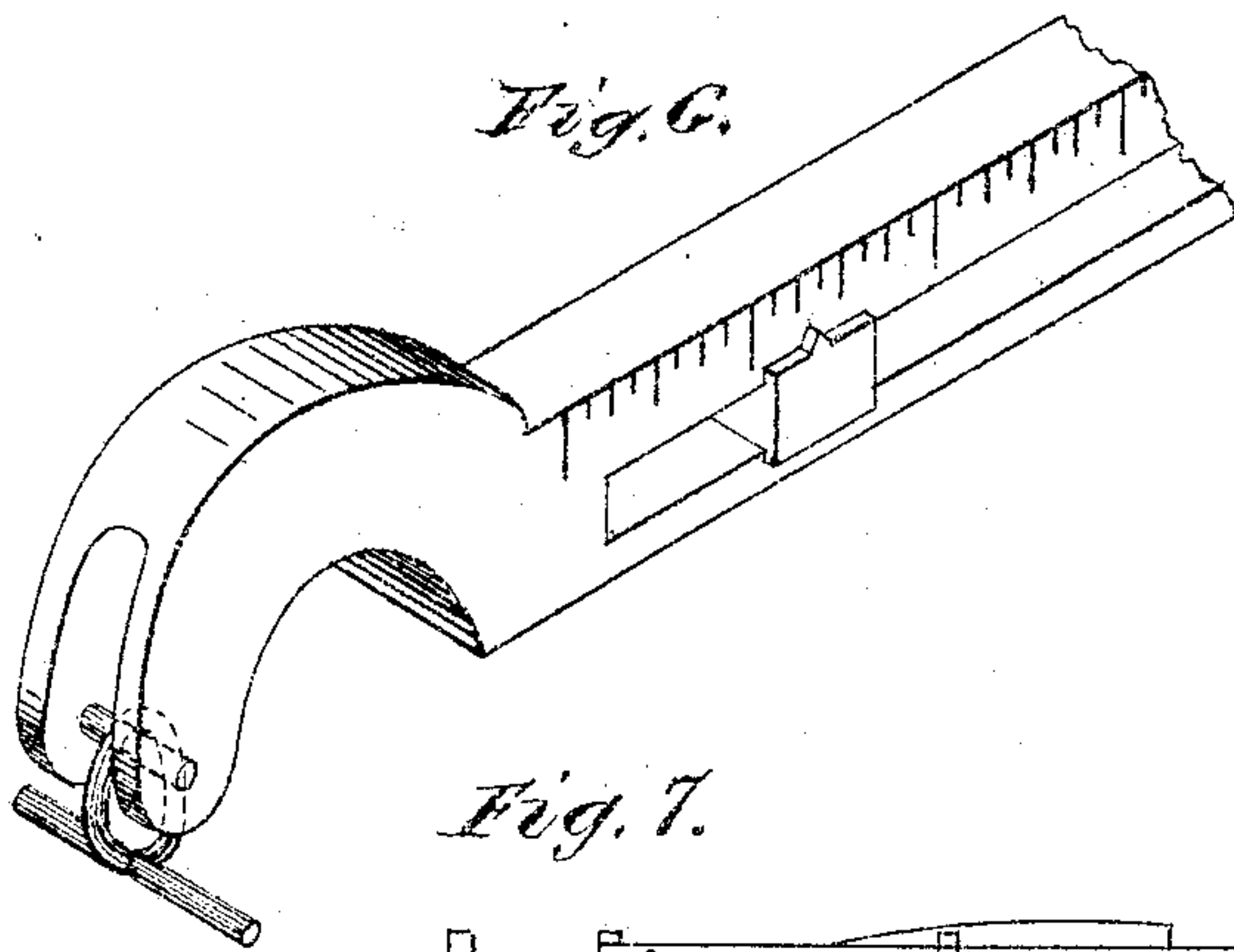
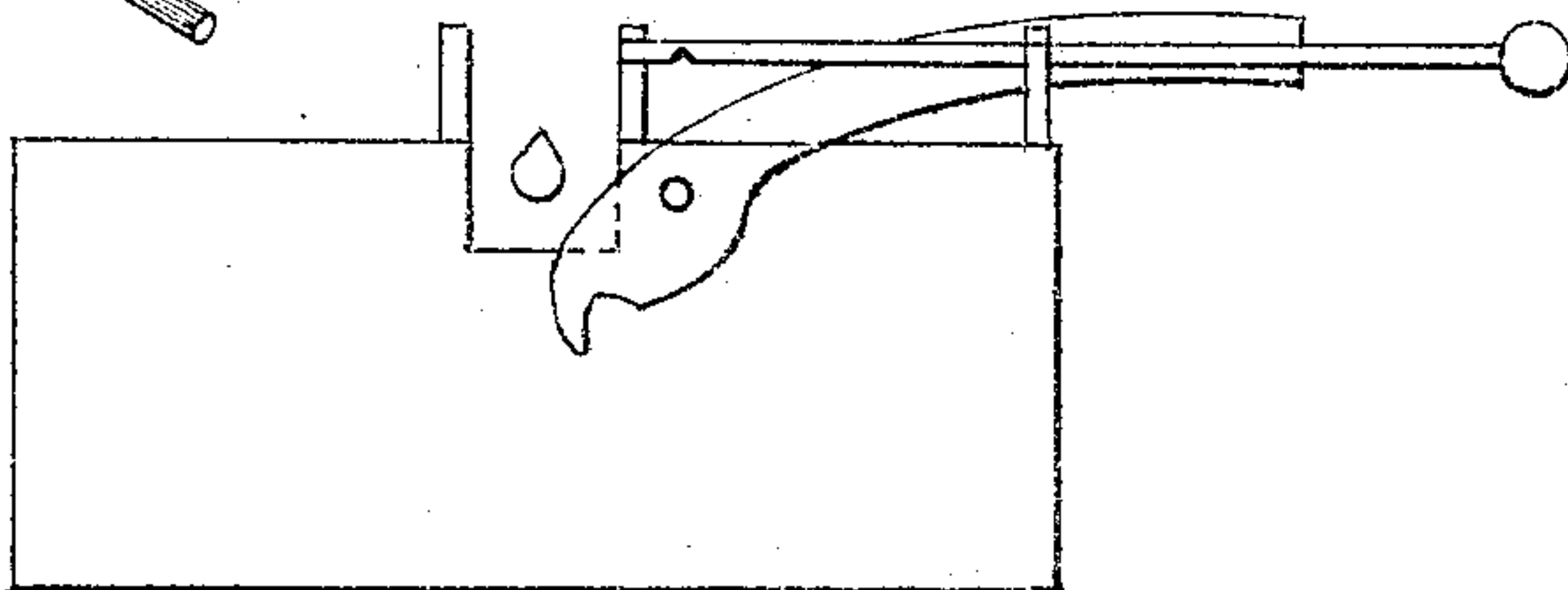


Fig. 7.



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# UNITED STATES PATENT OFFICE.

HIRAM ANDRES, OF TROY, NEW YORK, ASSIGNOR TO HIMSELF AND STEPHEN R. ANDRES, OF SAME PLACE.

## IMPROVEMENT IN ADJUSTABLE WEIGHTS FOR SCALES.

Specification forming part of Letters Patent No. 120,927, dated November 14, 1871.

*To all whom it may concern:*

Be it known that I, HIRAM ANDRES, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Scales; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

My invention is intended as an improvement upon Elnathan Sampson's application for patent on improvement in scales now pending before the office; and it consists in a different construction and arrangement of the weights, and in the mode of attaching or hanging the same on the scale-beam, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of a portion of the box in which the scale beam and weights are situated. Fig. 2 is an enlarged side view of one of the weights. Fig. 3 is a plan view of a portion of the box shown in Fig. 1. Figs. 4, 5, 6, and 7 are modifications in the construction of the weights.

A represents the outer end of the box in which the scale-beams B and weights C are situated. The scale-beams B are constructed and arranged in precisely the same manner as described in the former application, above referred to, with the exception that instead of being connected at their outer ends by a bar upon which the weights rest, they are connected at suitable distance from the outer ends by a bar or pivot, *a*, upon which they are suspended. The weights C are constructed substantially as shown in Fig. 2, having in their under edge a V-shaped notch, *b*, so that when not in use they may rest upon a similarly-shaped bar, *d*, in the bottom of the box A, and they are held in proper position by pins or posts *e*, extending upward from the bottom of the box and fitting in corresponding grooves or recesses *f*, on the sides of the weights. In the upper edge of the weight is a curved recess or cut-out, *h*, in which, when the weight is not in use, the connecting-bar *a* is allowed to play up and down

without on either side touching the weight. The back end of the weight is so shaped that a part of the recess *h* becomes covered, and on the under side of this part of the weight is a V-shaped notch, *i*, and from the upper side of said part a lever or arm, D, extends upward through a slot in the box A. This part of the weight may be made of a separate piece and attached to it in any suitable manner. The weights are so constructed and balanced that when not in use they rest upon the V-shaped bar *d* and upon their back ends; but as soon as the arm or lever D is thrown forward they are entirely lifted up and suspended upon the pivot-bar *a* by said bar fitting in the V-shaped notches *i*. The slots in the box A for the levers D are marked with numbers corresponding with the weights, and all of said slots are covered by a lid, E.

The modifications represented in Figs. 4, 5, 6, and 7 may be briefly described as follows: Fig. 4 shows a suspended bar from the double beam on two short pivots either on the outside or inside of the beam. Fig. 5 shows a fixed pivot in a single beam. Fig. 6 shows a suspended bar or pivot in a single beam. In all these modifications the weights are the same as above described, and the single beam may either be graduated and outside of the box, or inclosed within the box with a graduated beam outside thereof. Fig. 7 is a modification of the weight, showing how a sliding rod or cam motion may be employed in place of the rocking weight.

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

In combination with the weight C and lever D connected thereto, and projecting therefrom into convenient position to be seized and manipulated by the user, the beam-bar *a*, and notch *i* in the weight or lever, so that when said weight or lever is moved into suitable position the beam-bar will take up and suspend upon itself or let down said weight, as and for the purpose described and represented.

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

HIRAM ANDRES.

Witnesses:

T. H. ALEXANDER,  
JNO. A. ELLIS.

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