

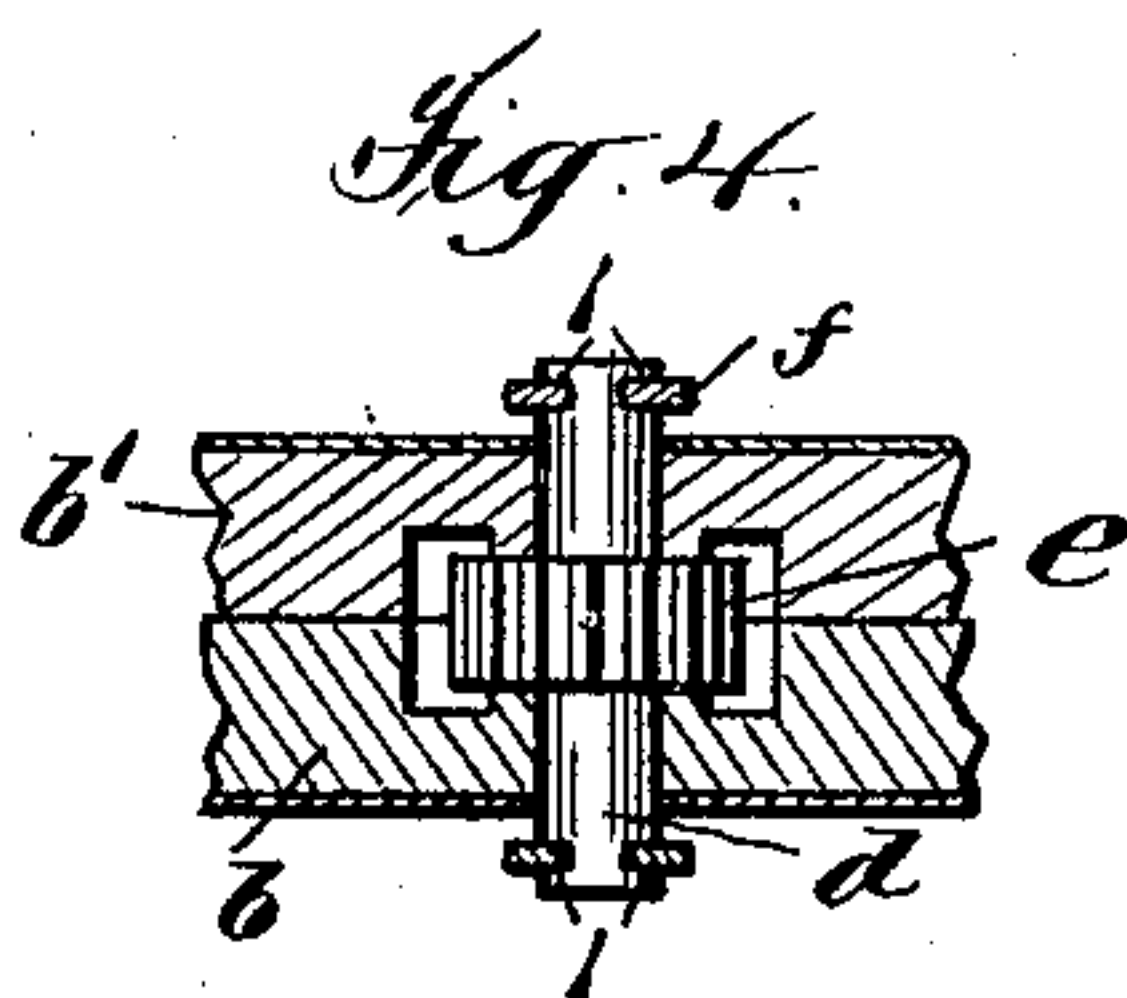
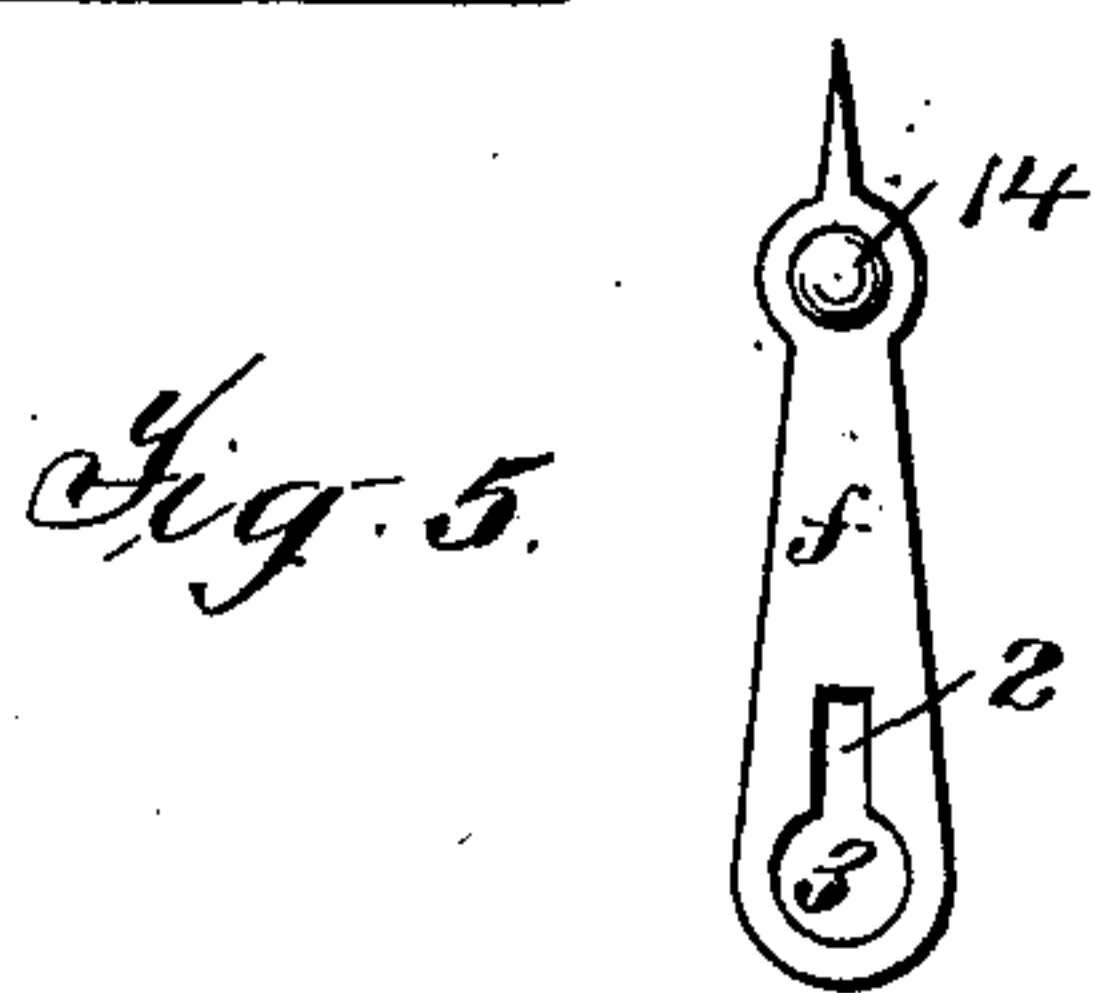
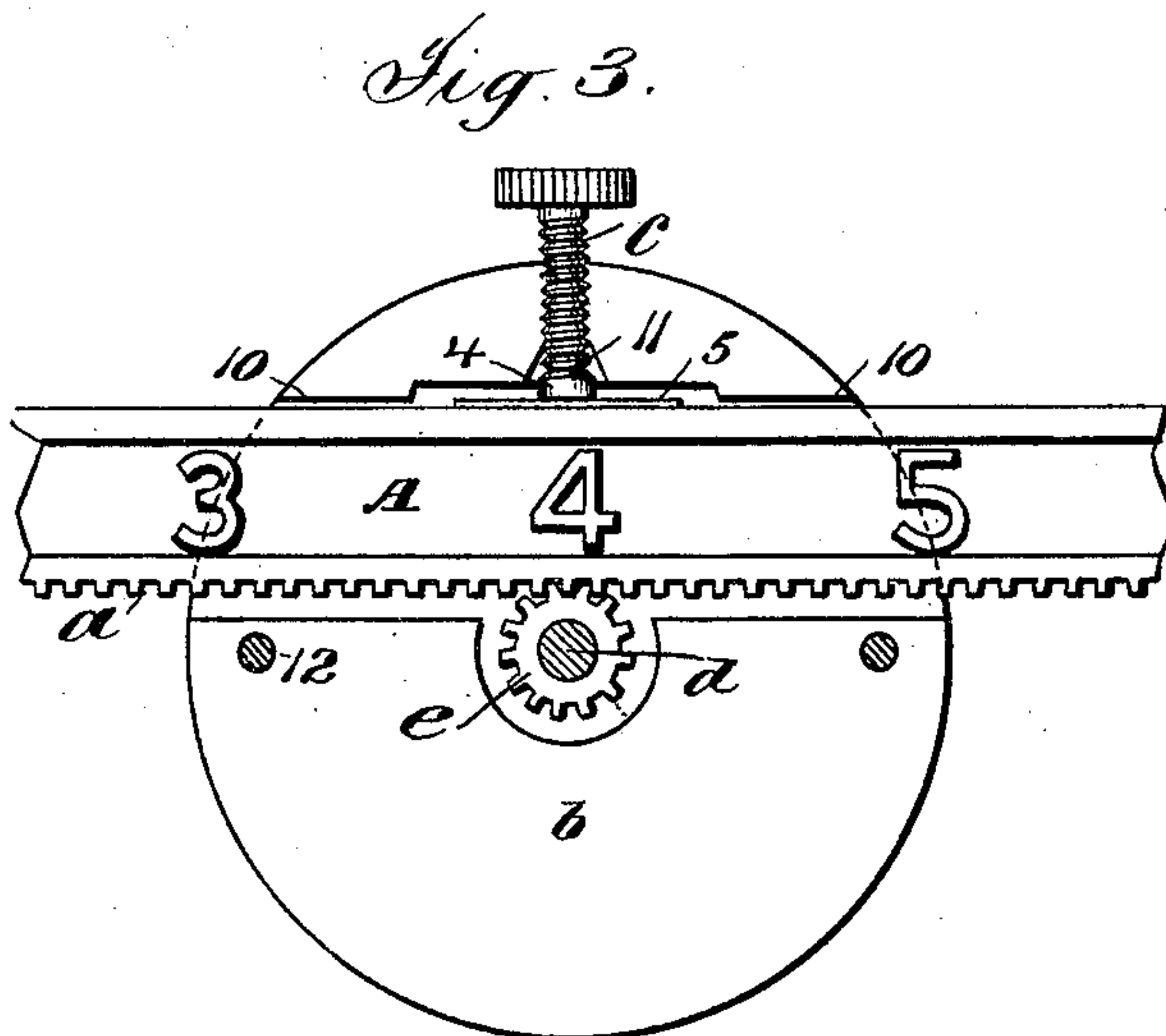
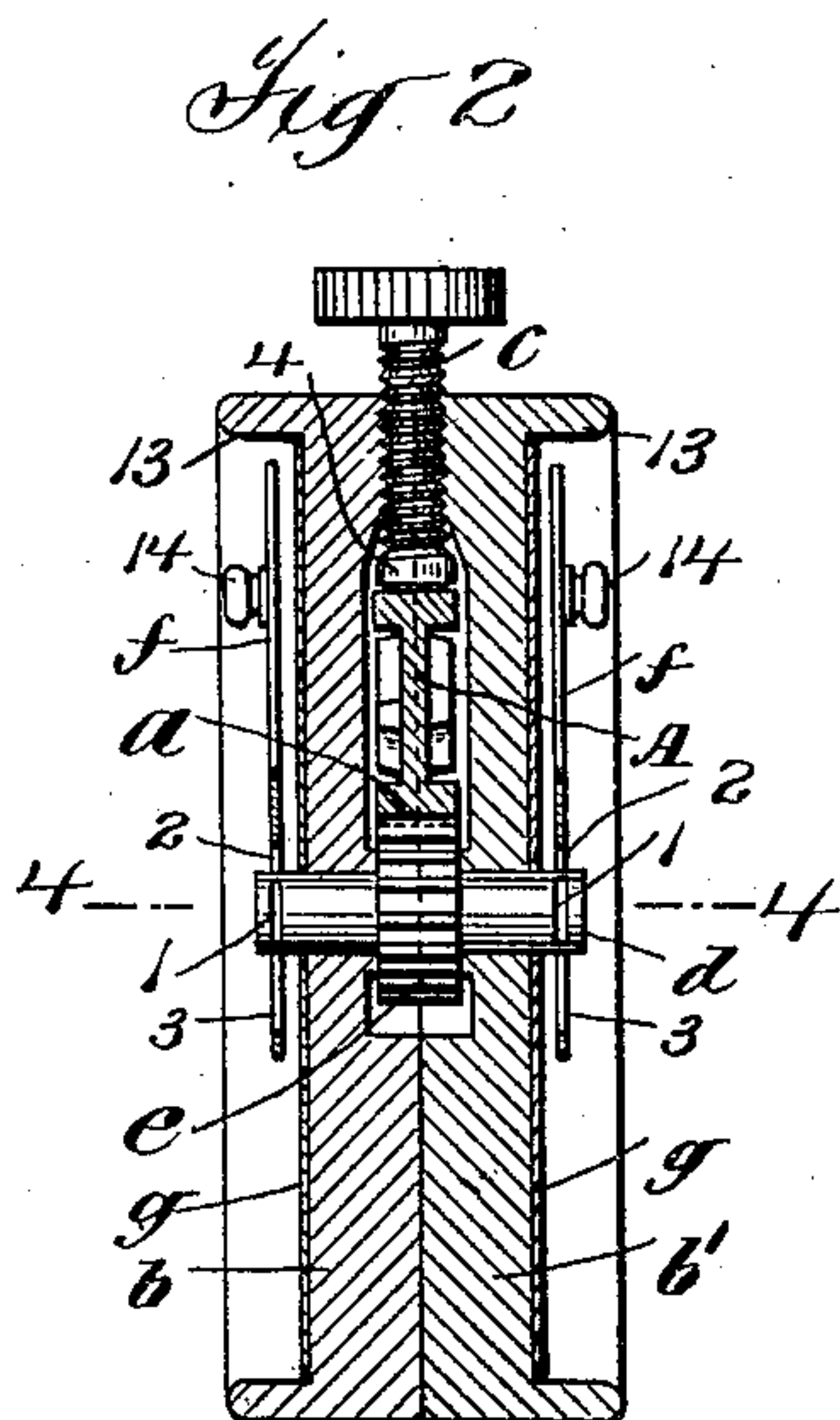
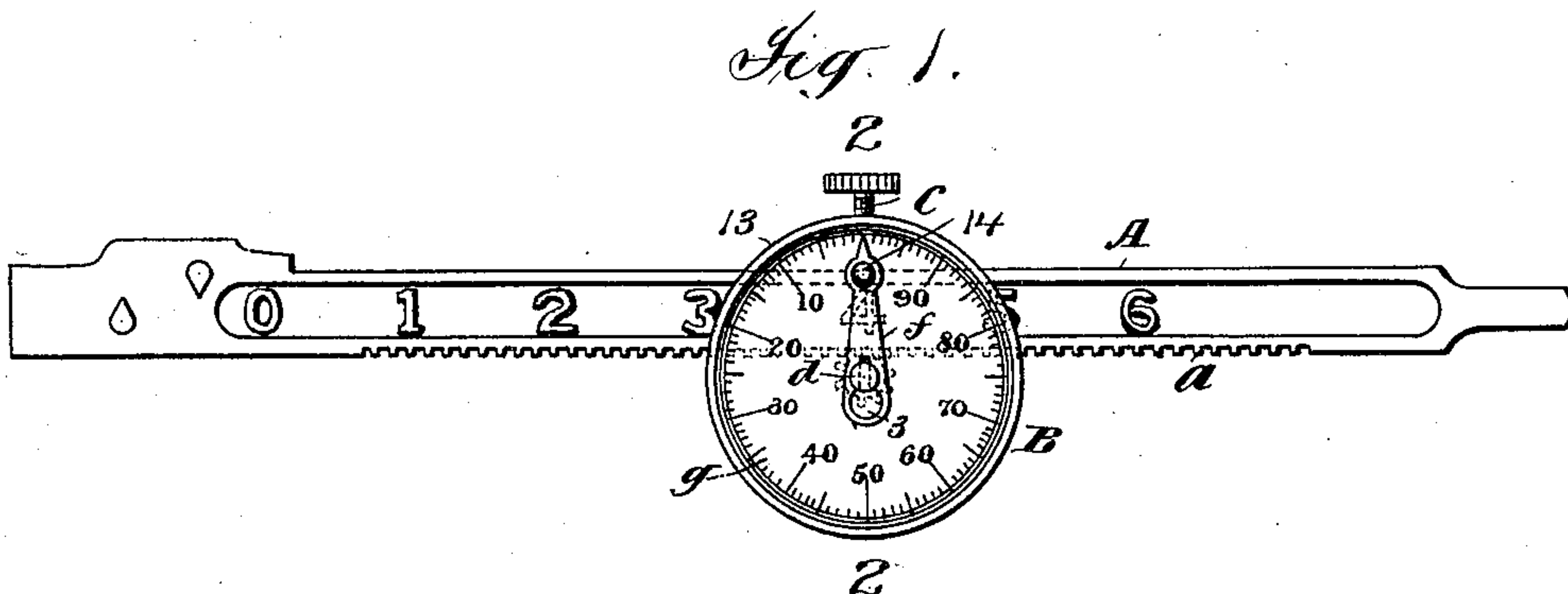
No. 679,010.

Patented July 23, 1901.

D. M. WINANS.  
SCALE BEAM WITH INDICATING POISE.

(Application filed Mar. 15, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## SCALE-BEAM WITH INDICATING-POISE.

SPECIFICATION forming part of Letters Patent No. 679,010, dated July 23, 1901.

Application filed March 15, 1901. Serial No. 51,294. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL M. WINANS, a citizen of the United States, residing at Binghamton, county of Broome, and State of New York, have invented certain new and useful Improvements in Scale-Beams with Indicating-Poises, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to that class of scale-beam constructions in which the movable poise carries a pointer and dial, one of which is rotated through gearing by the movement of the poise on the beam, and thus indicates 15 the weight on the dial, the especial object of the invention being to provide a very simple, cheap, convenient, and durable construction, while at the same time securing the accuracy of weight indication required.

20 As a full understanding of the invention can best be given by a detailed description of a construction embodying the invention, such a description will now be given in connection with the accompanying drawings, forming a 25 part of this application, and illustrating a construction of the preferred form embodying the invention, and the features forming the invention will then be specifically pointed out in the claims.

30 In the drawings, Figure 1 is a side elevation of the scale-beam and poise. Fig. 2 is a vertical cross-section of the same, taken centrally through the poise. Fig. 3 is a central vertical section longitudinally of the scale-beam, showing the beam and one of the 35 halves of the poise in elevation. Fig. 4 is a cross-section on the line 4 of Fig. 2. Fig. 5 is a detail view of the pointer.

Referring to said drawings, A is the scale-beam, which is preferably of double-T form 40 in cross-section, as shown, thus providing a recessed central portion for the figures indicating large weights, shown as hundreds in the present case, so that the figures do not 45 project beyond the face of the beam, while at the same time securing with a light beam the extended surfaces required on the top for supporting the poise and on the bottom for the rack *a*, which moves the poise-pointer. 50 The poise B is cylindrical and is formed of two halves *b b'*, each of which is grooved to

provide one-half of the beam-slot 10, through which the beam passes, and with half of the screw-hole 11 for the locking-screw *c*. These halves *b b'* are secured together by the screws 55 12 or in any other suitable manner and are bored centrally for the pointer-shaft *d*, which passes through the poise and carries the central pinion *e*, which engages the rack *a*, and at its opposite ends outside the poise carries 60 the pointers *f*, which move over the dials *g* on opposite sides of the poise, these pointers *f* preferably being protected by the flanged rims 13, formed on the opposite sides of the poise. These dials are preferably of celluloid 65 or similar material to avoid the use of glass covers for the dials, which are liable to breakage, although this feature is not essential to the invention. The pointers *f* must be rigidly secured and accurately positioned upon the 70 ends of the shaft *d* in order to secure accuracy of weight indication on the dials and the desired rigidity of construction, which would be interfered with by any looseness of the pointers, and a rigid strong construction is im- 75 portant also in case it is desired to move the poise by the pointer, for which my construction is adapted, knobs 14 being shown on the pointers for this purpose. I secure the desired rigid and strong connection between the point- 80 ers *f* and the shaft *d* in a simple manner, while permitting the pointers to be readily removed, by providing the ends of the shaft on opposite sides with slots 1 and forming the pointers with slots 2, terminating in openings 3 85 of sufficient size to permit the pointer to be passed over the end of the shaft *d*, the slotted portion of the shaft fitting tightly in the slot 2, so that by passing the hole 3 over the end of the shaft and then moving the pointer so 90 that the walls of the pointer-slot 2 engage in the slots 1 on the end of the shaft and drawing the pointer up tight a firm rigid connection is secured, while the pointer may be 95 readily detached. The locking-screw *c* is preferably provided with a slightly-enlarged head 4 at its inner end, so that it cannot be withdrawn from the poise, which head may well be made by solder, this screw being inserted by laying it in the half of the screw-hole 11 100 in one of the poise halves *b* or *b'* in assembling the parts and then laying the other



poise half over it. To avoid wear of the top of the scale-beam by the locking-screw *c*, a thin loose piece of metal 5 is preferably interposed between the set-screw and beam, and this aids also in avoiding the movement of the poise and pointer by the set-screw in locking. This loose piece of metal 5 is placed in a recess formed in the upper part of the halves *b b'* above the groove 10, so that the shoulders formed at opposite ends of this recess secure the movement of the piece 5 with the poise as the latter moves along the beam A.

In the use of the scale-beam it will be understood that the hundreds are read off the scale-beam and the units and tens from the dials, the movement of the poise between two figures on the beam giving the poise-pointers a complete rotation. After the poise has been roughly positioned by the movement of the poise by hand it may be accurately adjusted by rotating one of the pointers by the knob 14, which moves the poise slowly on the scale-beam. The scale-beam illustrated weighs up to six hundred pounds, the indications on the poise-dials being to one hundred. In the case of scale-beams intended for larger weights, where it may be desired that the poise should indicate to thousands or where for any reason a greater travel of the pointer is desired, this may readily be provided for by using multiplying-gearing between the rack and pointer.

While I have shown weight-figures on oppo-

site sides of the scale-beams and pointers on opposite sides of the poise, it will be understood that this is not necessary, although preferred for convenience, and that the weight indication by scale-beam and poise may be on one side only. Instead of rotating the pointer over a fixed dial the dial or dials may be rotated and the pointer or pointers be stationary.

What I claim is—

1. The combination with a scale-beam and its rack, of a poise movable on said beam and carrying a shaft formed with slots 1 at the end, a pointer *f* provided with a hole 3 adapted to pass over the end of the shaft and a slot 2 adapted to receive the slotted portion of the shaft, and gearing connecting said shaft with the rack, substantially as described.

2. The combination with the beam A having rack *a* on its lower side, of the two-part indicating-poise B grooved to form the beam-slot and having shaft *d* carrying the rotating indicating member, gearing between said shaft and rack, and locking-screw *c* at the top of the poise in a hole formed partly in each part of the poise, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

DANIEL M. WINANS.

Witnesses:

THEO. R. TUTHILL,  
GEO. DANA SESSIONS.