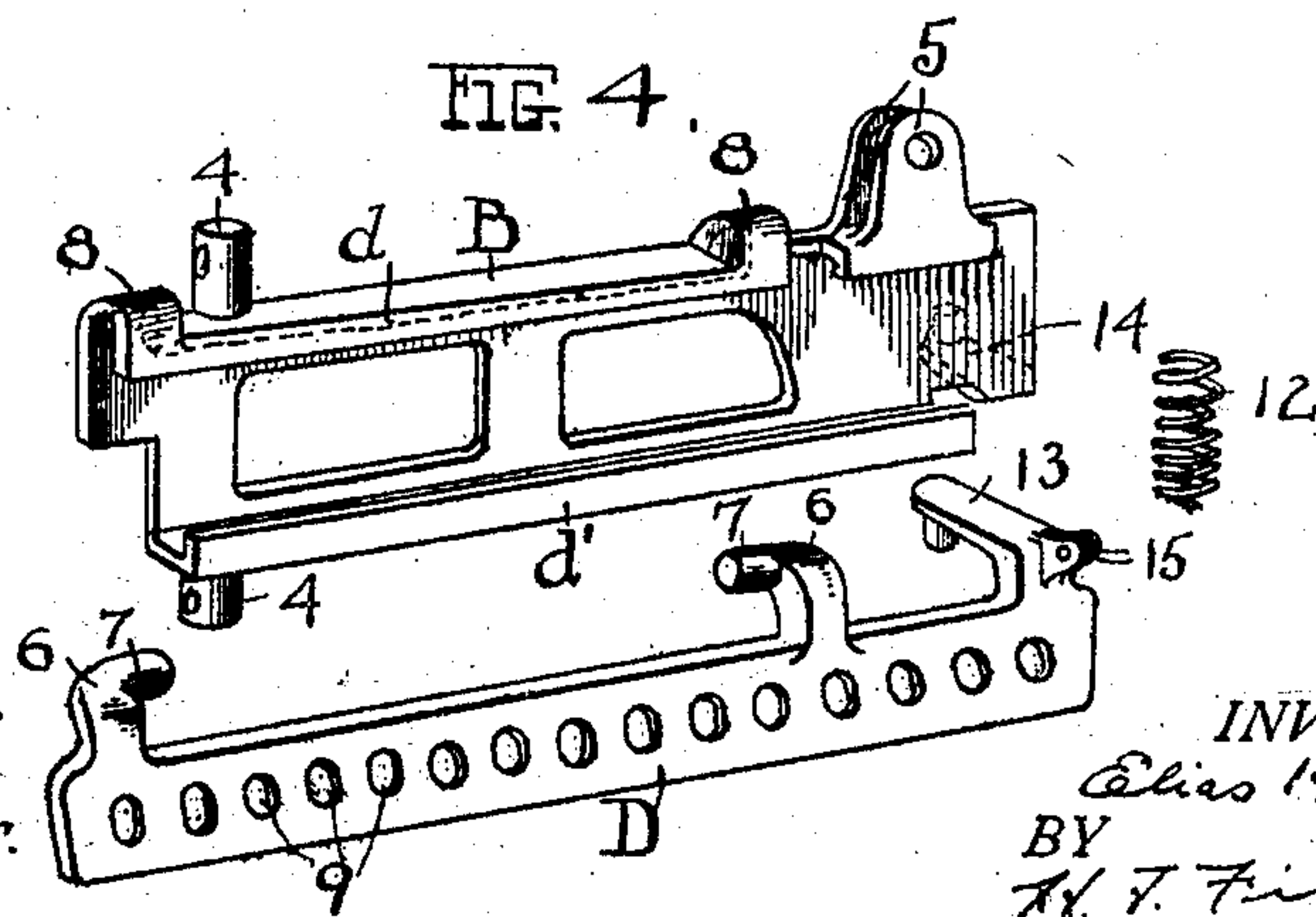
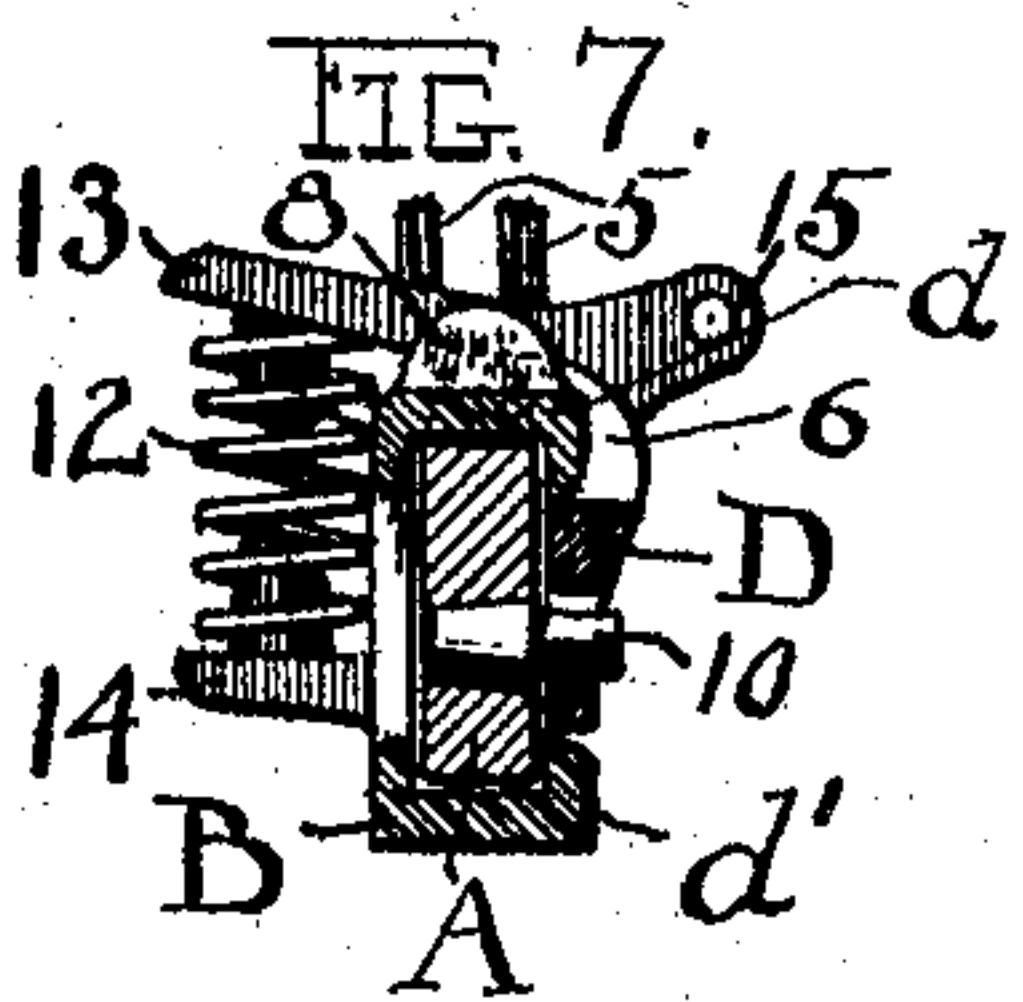
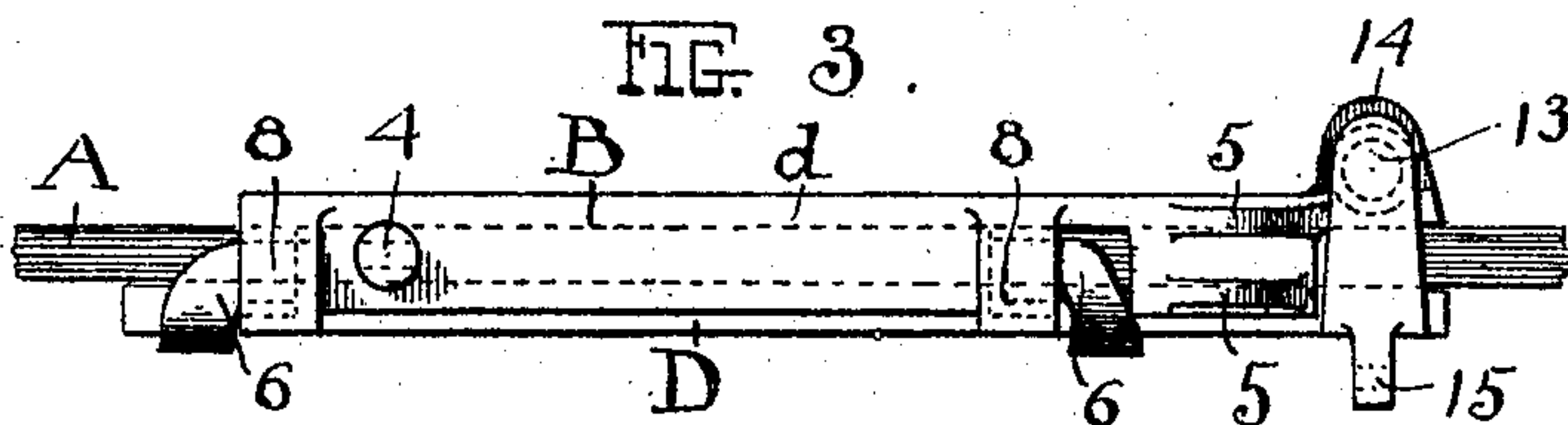
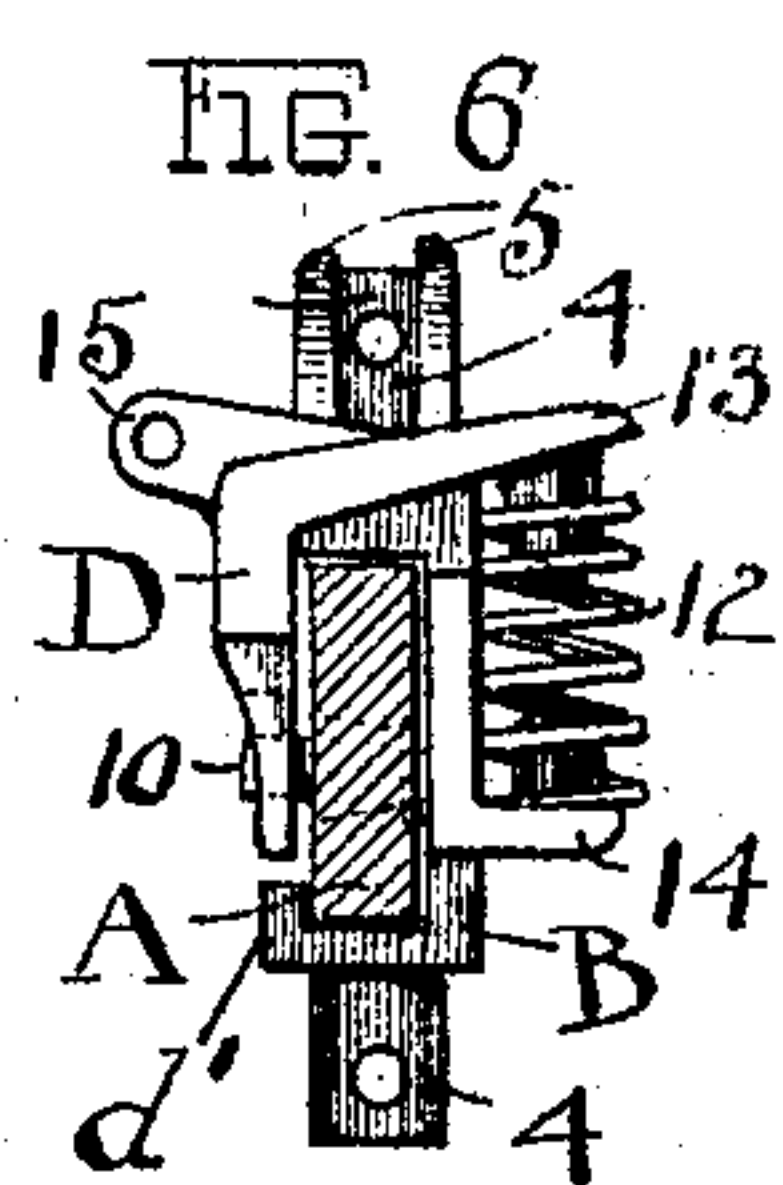
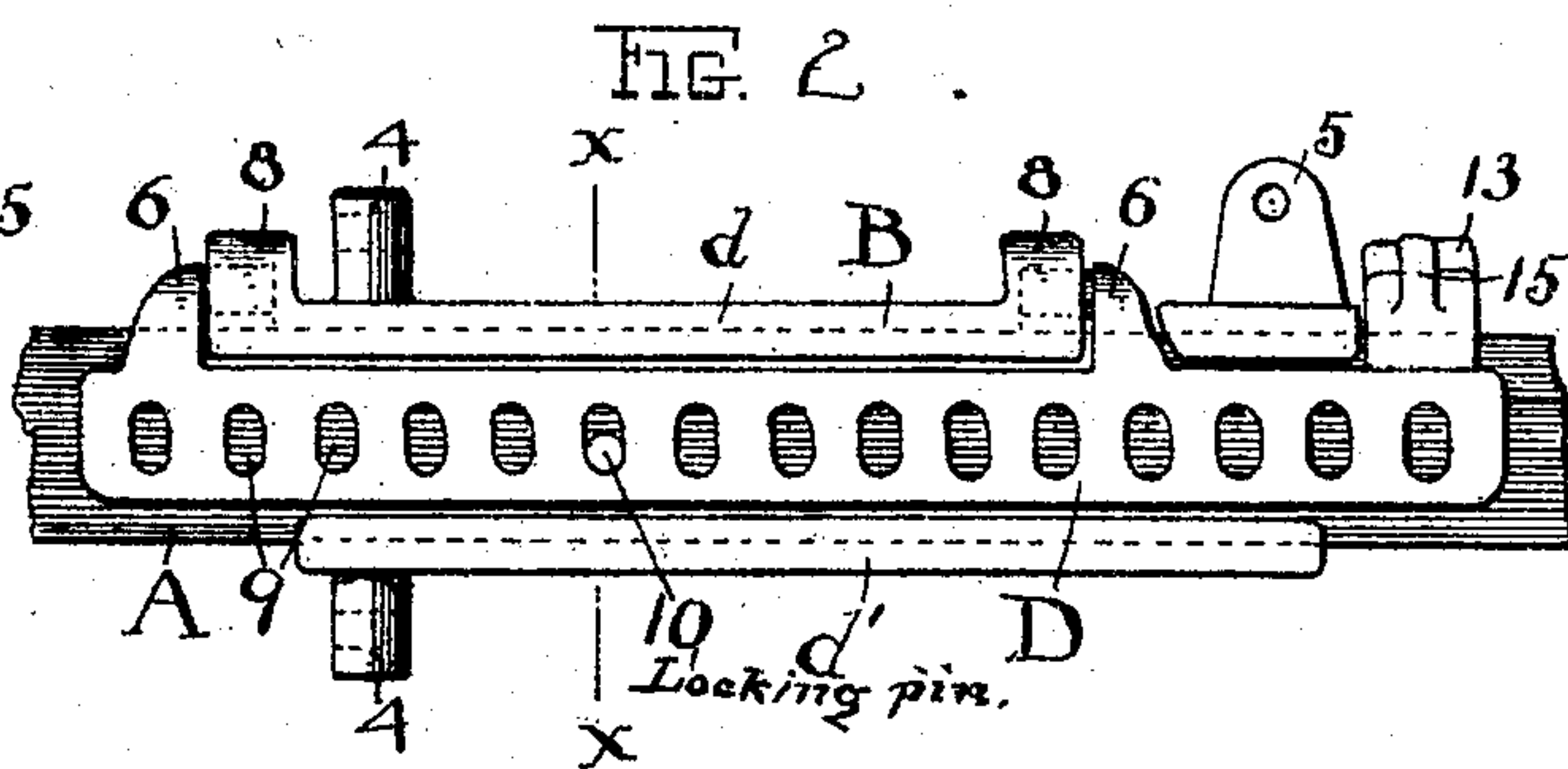
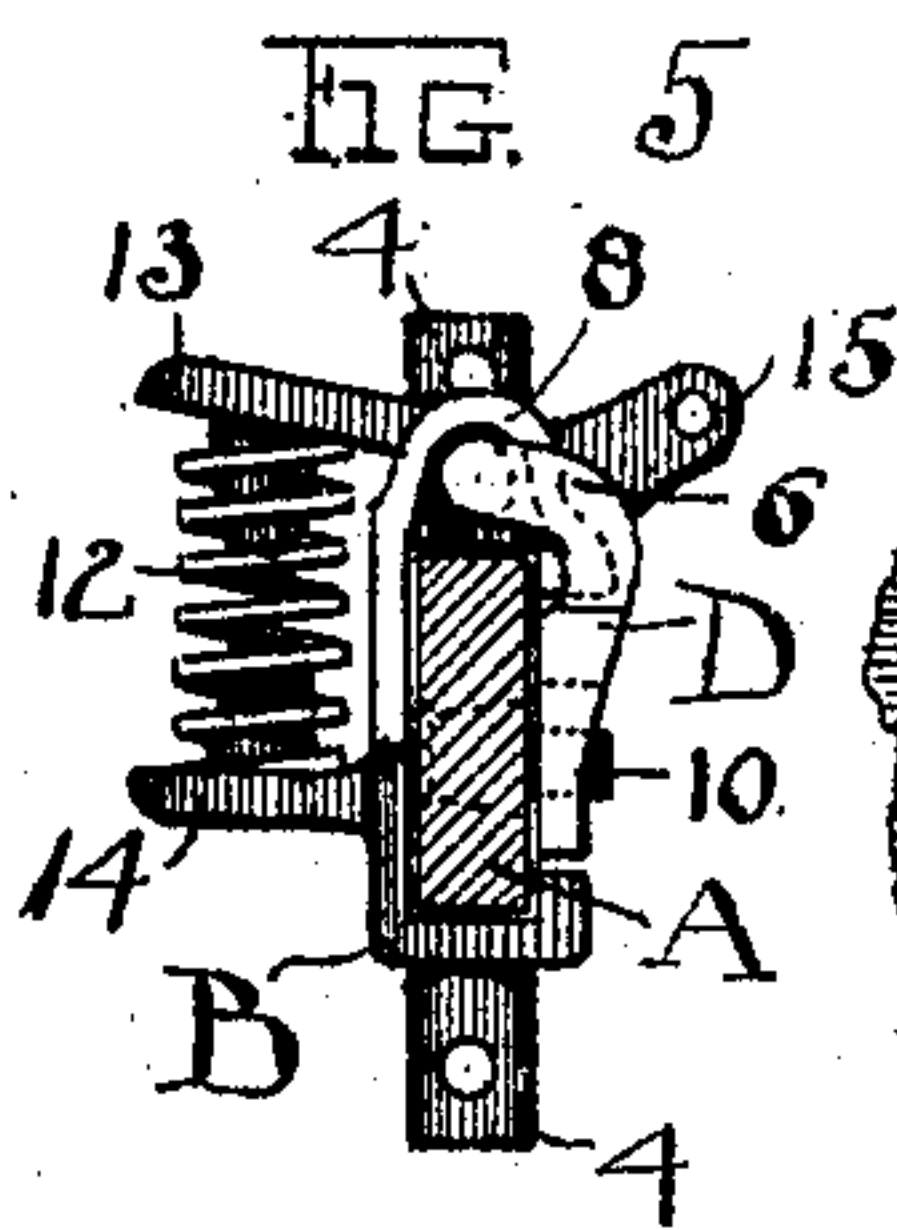
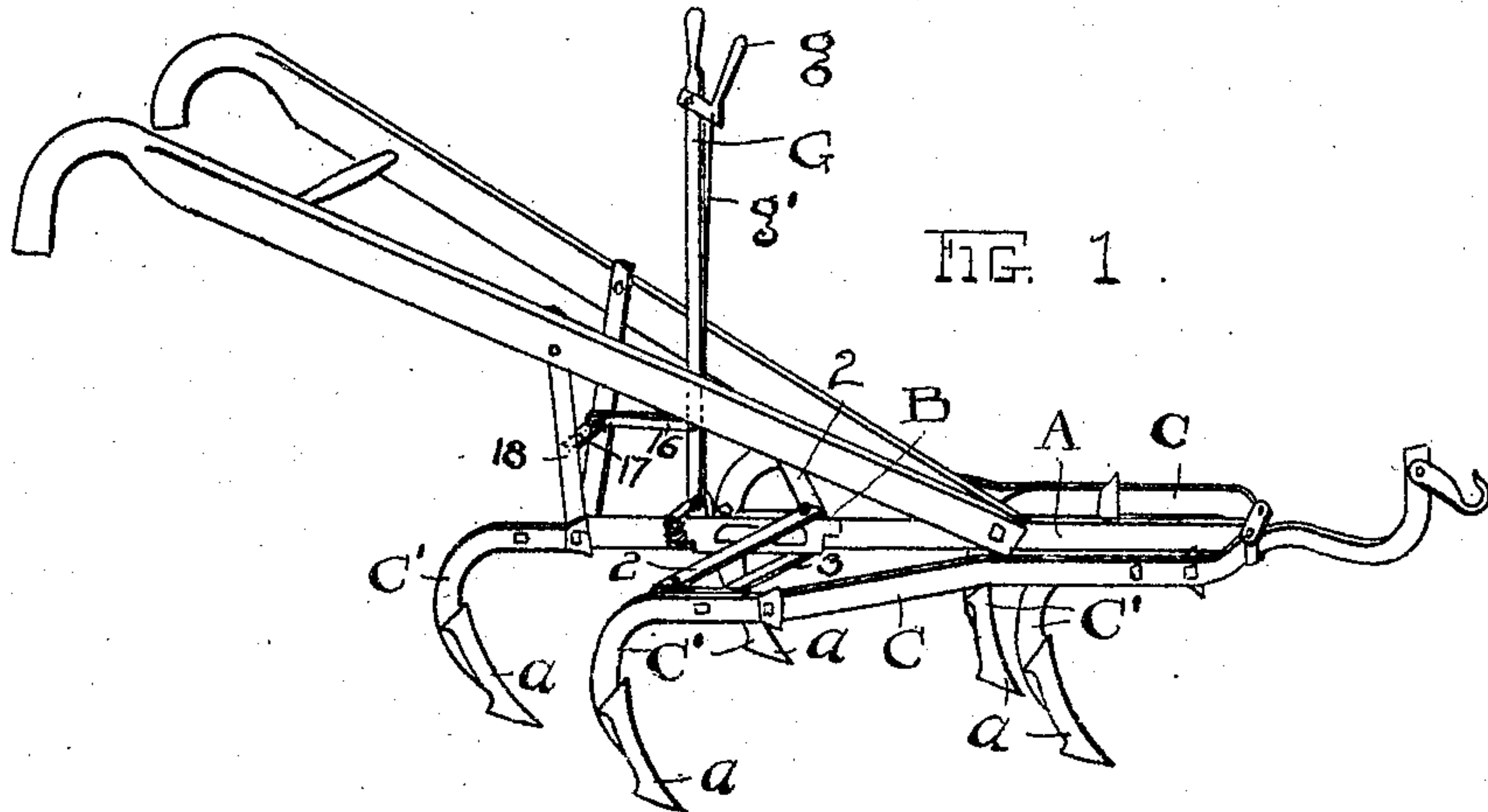


No. 806,469.

PATENTED DEC. 5, 1905.

E. HAIMAN.
CULTIVATOR.

APPLICATION FILED JAN. 16, 1905.



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CULTIVATOR.

No. 806,469.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed January 16, 1905. Serial No. 241,201.

To all whom it may concern:

Be it known that I, ELIAS HAIMAN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Cultivators; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in cultivators; and the invention consists in the construction, combination, and arrangement of parts thereof all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a cultivator comprising my improvements, and the remaining figures are enlarged views of details and sections thereof. Fig. 2 is a side elevation of a section of the central bar or beam with my improved mechanism shown thereon in elevation. Fig. 3 is a plan view of Fig. 2, and Fig. 4 is a perspective view of the two parts of my improved attachment seen together in Figs. 2 and 3 and separated to disclose the details of their construction. Figs. 5 and 6 are end elevations of Fig. 2; and Fig. 7 is a cross-section corresponding to line *xx*, Fig. 2, looking to the right.

The idea of the invention as thus disclosed in the several views is to obtain a positive and convenient adjustment of the side bars of the cultivator in respect to the central bar according to the width to be covered at any given time, the said mechanism being within easy reach through a suitable lever whereby the operator can in a moment adjust the side bars to any desired width within the range of adjustment provided for and when adjustment is effected rigidly fix the said bars in that relation, all as will more clearly appear in the details of description.

I am aware, of course, that various devices have been made and used having the same general object in view and that numerous patents have been issued with constructions of one kind and another to adjust and fix the relations of the side bars to the central bar, and I do not claim to be the first to accomplish this result; but what I do claim for my construction is that it is exceedingly simple in

itself and economical in manufacture and especially effective and advantageous in use and that so far as I know and believe it is essentially new.

Referring again to the drawings, A represents the central tooth-bar of the cultivator, and C the respective side bars thereof. These bars are equipped with cultivator-teeth *a* all around, which may be rigid with said bars or have standards *C'* of their own pivoted and adjustable upon said bars to give more or less pitch to the teeth, as may be desired, and either an integral or a pivoted construction may be used.

Now, in order that efficient and satisfactory means may be provided for the lateral adjustment of the side bars C in respect to the central bar or beam A, I provide a box B and a wing or equivalent movable side part D, pivotally engaged upon box B, and the two are adapted to slide together on bar A to effect the various adjustments of the side bars.

The box B is formed with right-angled flanges *d* and *d'* along its upper and lower edges, adapted to lap over the edges and side of bar A, top and bottom, and to confine the said section B upon said bar independently of the pivoted part D. In this sense, therefore, the box B is an independent member remaining permanently in a slidable position on bar A, and it can be conveniently placed upon said bar, over the rear end thereof, before the rear cultivator-standard *C'* is placed thereon. The side bars C are connected with this box by upper and lower links 2 and 3, respectively, which control the position of the side bars with respect to the central bar. To this end the said box is provided with trunnions or projections 4, top and bottom, and suitable pins through these projections serve to confine the said links thereon in working position. At its rear end the said sliding box or device B has two upright ears 5, between which is pivoted the lever G, whereby the position of the box is controlled. The pivoted side wing or locking member D is provided with short hinge-arms 6, having right-angled pivot-points 7, adapted to engage in the sockets or bearings 8 in the top of section B above and over the beam A in this instance, and the said arms are presumably engaged in these sockets before the parts are assembled upon bar A, so as to be permanently confined therein. These arms

and their pivot-points 7 in said sockets afford a free lateral rotation or swinging movement to the part D, so that it may be rotated or turned away from the bar A to disengage therefrom when adjustment is to be effected and which will automatically spring or drop back against said bar again when adjustment has been made and the box is to be locked in working position. To these ends the said pivoted locking member D is provided with a series of holes 9 or their equivalent between its ends at suitable intervals apart, which are adapted to engage with the pin, projection, or lug 10 on the side of bar A. Preferably this lug or pin is made a separate part fixed in bar A; but it might be formed in or from the bar itself and is treated herein as a part of the bar. Said pin has a tapered body set into a correspondingly-tapered seat and is upset on its opposite end to fasten it in the bar, which makes a convenient method of manufacture and a desirable locking projection for the box. The said pivoted part D is designed normally to rest against the side of bar A in a locked position by engaging one of its holes over lug or pin 10, and it is held in such position by a spring 12, which is confined between corresponding lateral projections 13 and 14 on the two parts B and D. This spring comes on the opposite side from the pivoted locking member or wing D and the pivots thereof on the side of box B, so that its tendency is to hold part D in locked position, and adjustment can only be effected when the said part or member D has been carried or swung laterally upon its pivots a sufficient distance to disengage it from pin 10. This is accomplished by means of a crank-lever *g* at the top of main lever G, which is connected by a wire or its equivalent *g'* with the lateral projection 15 at the top and edge of the said member or wing D. When such disengagement is effected by these or equivalent means, the box as a whole, with wing D, may be moved along by lever G upon the beam A back or forth, as may be required, and when lever *g* is released and part D drops back to engaging position it is easy to move it into connection with the nearest hole 9 upon the lug 10, if this has not already occurred, and this locks the parts again in working position. Any suitable means may be provided as a fulcrum for lever G; but in this instance a link 16, connected with the cross-bar 17 on the handle-supporting braces 18, serve as such fulcrum.

It will be noticed that the bearings 8 for pivot or hinge projections 7 are raised portions in the overhanging upper right-angled edge *d* of the box B and that engagement with said bearings or sockets can only be made from beneath before the box is placed on the central bar, and when on both parts B and D are permanently engaged on said bar. It will also be noticed that the said locking member

D has only such width that it will come between the edges *d* and *d'* of box B, and the said box has therefore an open side to receive the said member D and which enables it to slide without contacting with projection 10.

Obviously the openings or holes in the locking member D might extend to the bottom edge thereof, which would give it the appearance of a rack-bar; but this would be equivalent only to what is shown, and said member or part D might be as much shorter as a more limited range of adjustment would suggest.

What I claim is—

1. In cultivators, a central and side bar, a slidable member on the central bar and a locking device pivoted thereon, said central bar provided with a projection at its side to engage said locking device therewith, a controlling-lever for said slidable member and means thereon operatively connected with said locking device to release the same from locking engagement.

2. In cultivators, a central bar having a fixed lateral projection at its side, side bars and means to fix the working position of the side bars in respect to the central bar comprising a device slidable on the central bar, links connecting said device with the said side bars and a lock for said device pivoted thereon and constructed to engage adjustably with the said lateral projection on the central bar.

3. In cultivators, central and side bars and means to adjustably fix the relations of the side bars comprising a box slidable on the central bar and links connecting said box with the side bars, said central bar having a lateral projection at its side, and a lock for said box provided with a series of openings adapted to engage with said projection.

4. A cultivator having central and side bars, means for controlling the position of side bars consisting of a box on the central beam having an open side lengthwise, a locking device for said box in said open side and the said central bar constructed at its side to engage said locking device.

5. A cultivator having tooth-bars laterally movable in respect to each other, and means to control the position of the outer bars comprising a box slidable on one of said bars, a locking device for said box mounted thereon, said box and device respectively having lateral projections at the side of said box and spring-mounted between said projections, whereby said locking device is held in locking position.

6. The tooth-bars of the cultivator, the box on the central bar having substantially right-angled portions along its edges and bearings in its top open from beneath, in combination with a locking device hinged in said bearings and constructed to rest in locking position at the side of the central bar.

7. The cultivator tooth-bars, in combination with the adjusting mechanism for the side

bars comprising a box on the central bar,
links connecting the side bars with said box,
a lever to control the position of said box, a
locking device mounted on said box and con-
5 structed to engage at the side of said central
bar and means mounted on said lever to dis-
engage said locking device.

In testimony whereof I sign this specifica-
tion in the presence of two witnesses.

ELIAS HAIMAN.

Witnesses:

R. B. MOSER,
C. A. SELL.