

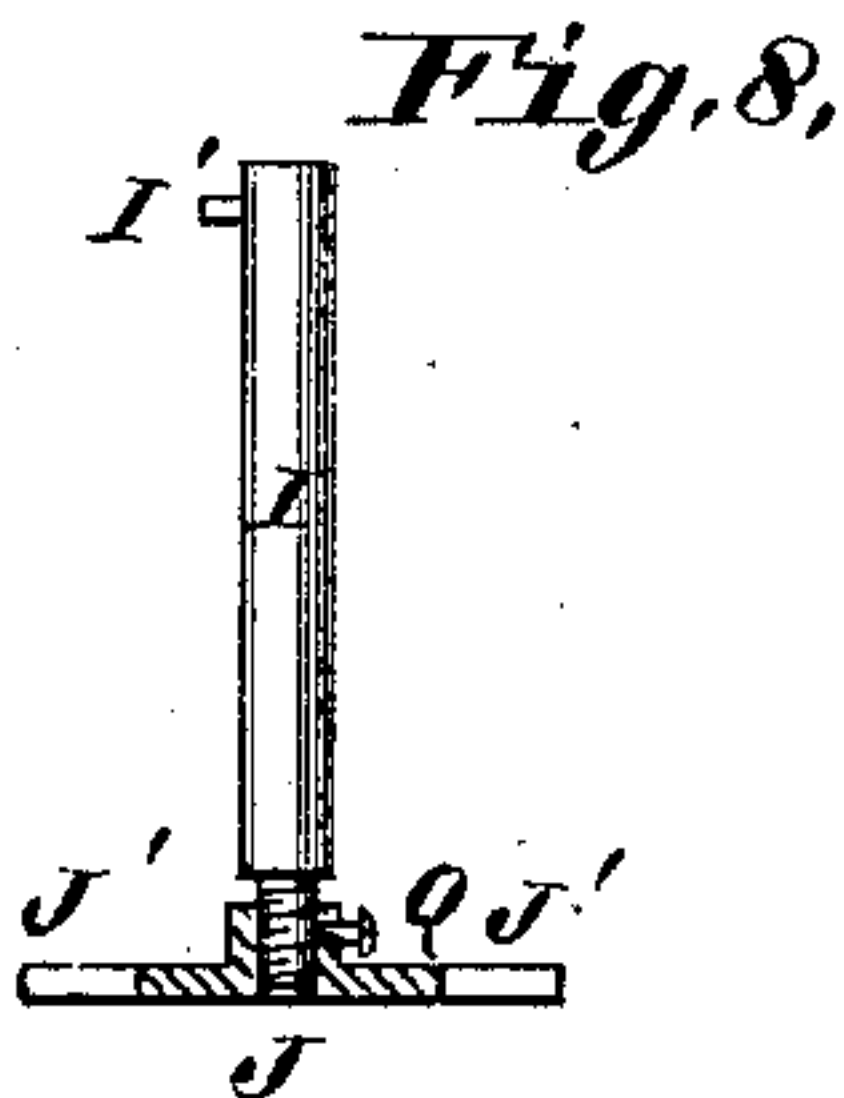
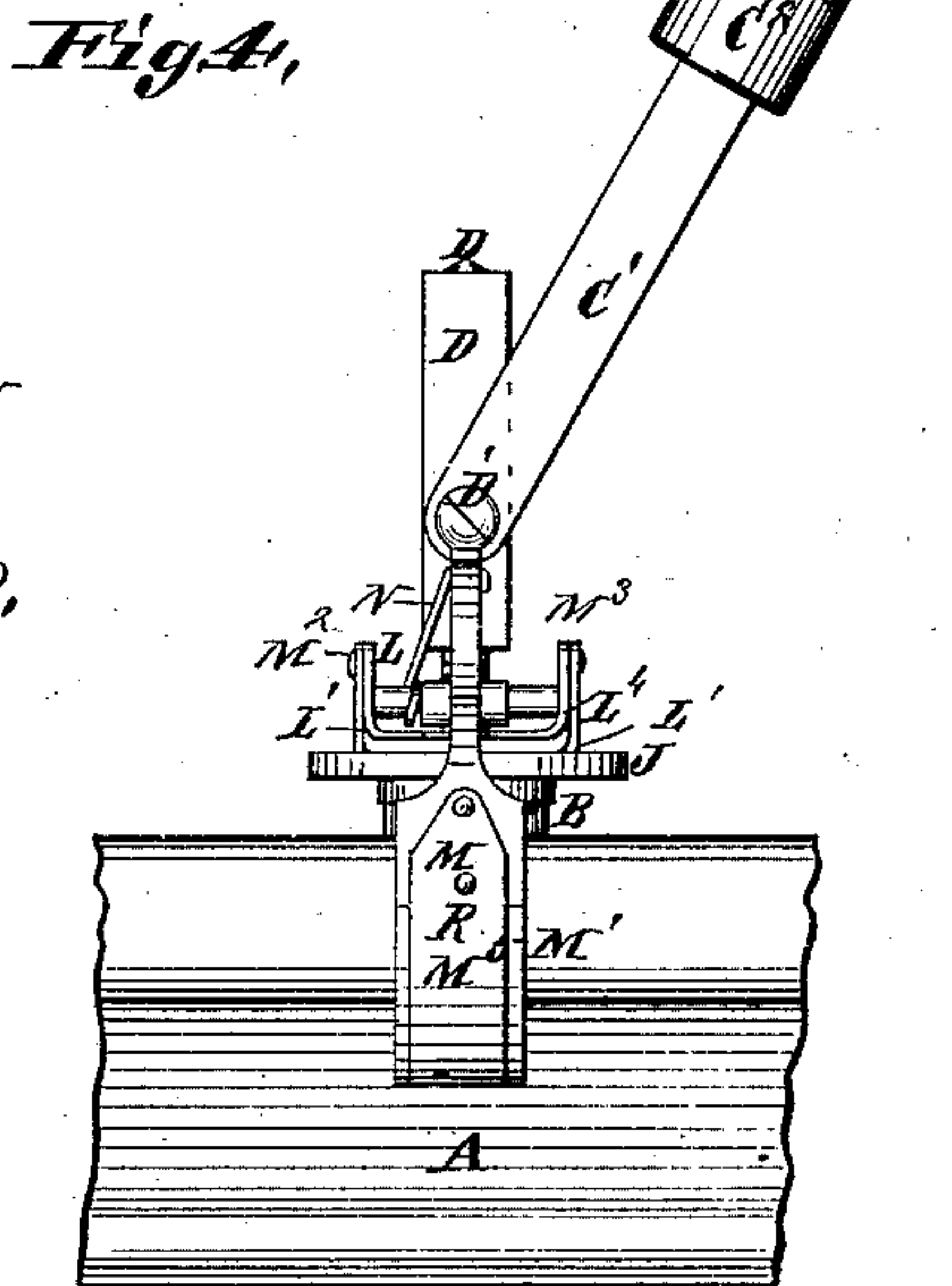
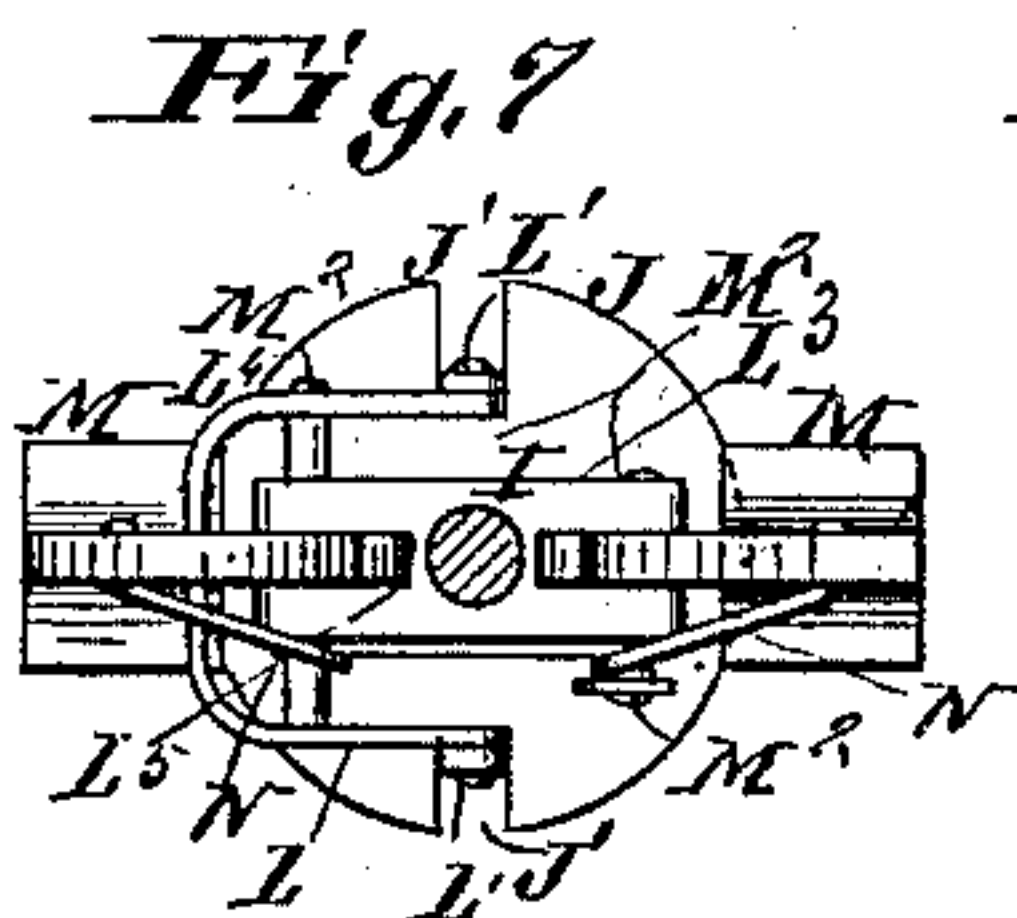
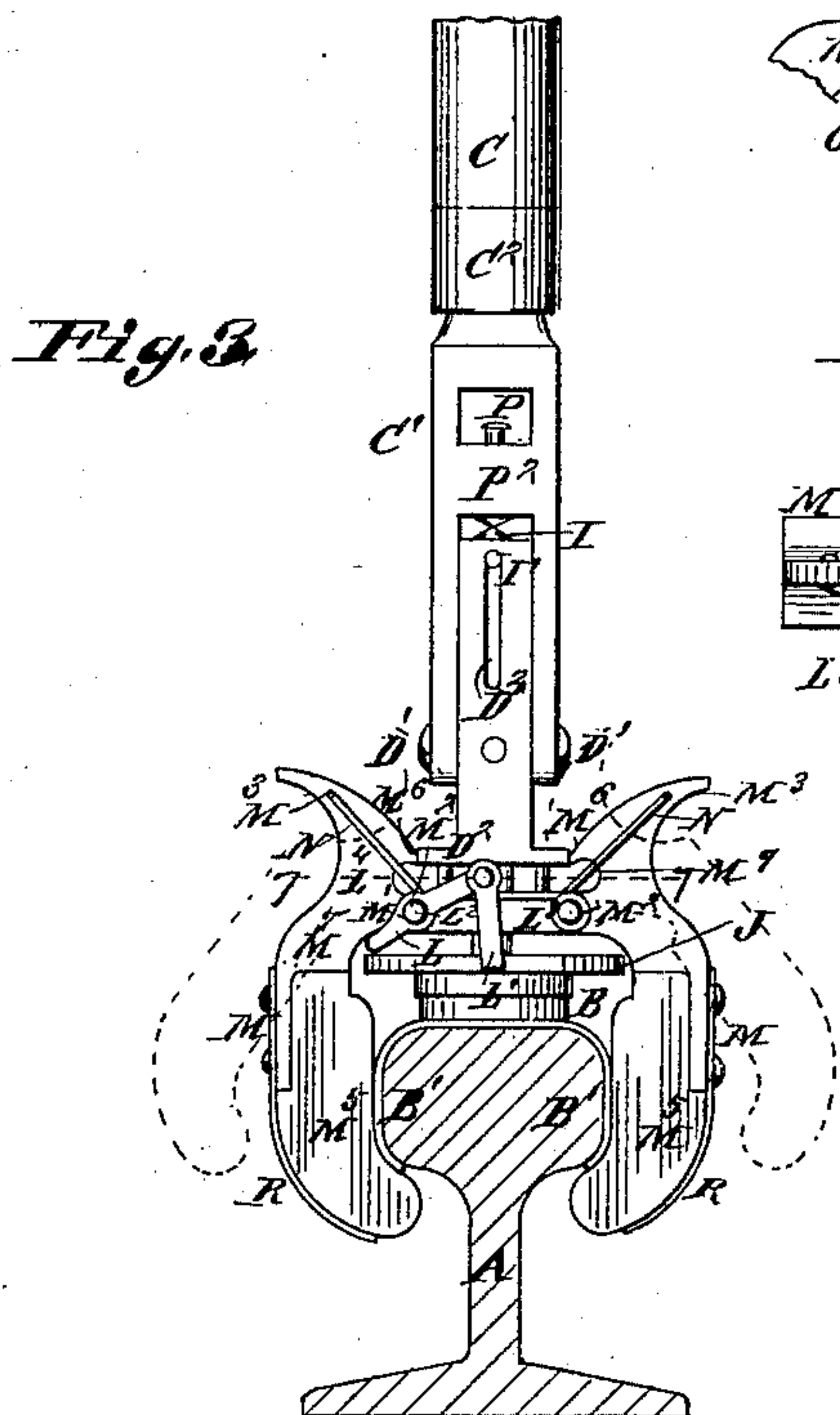
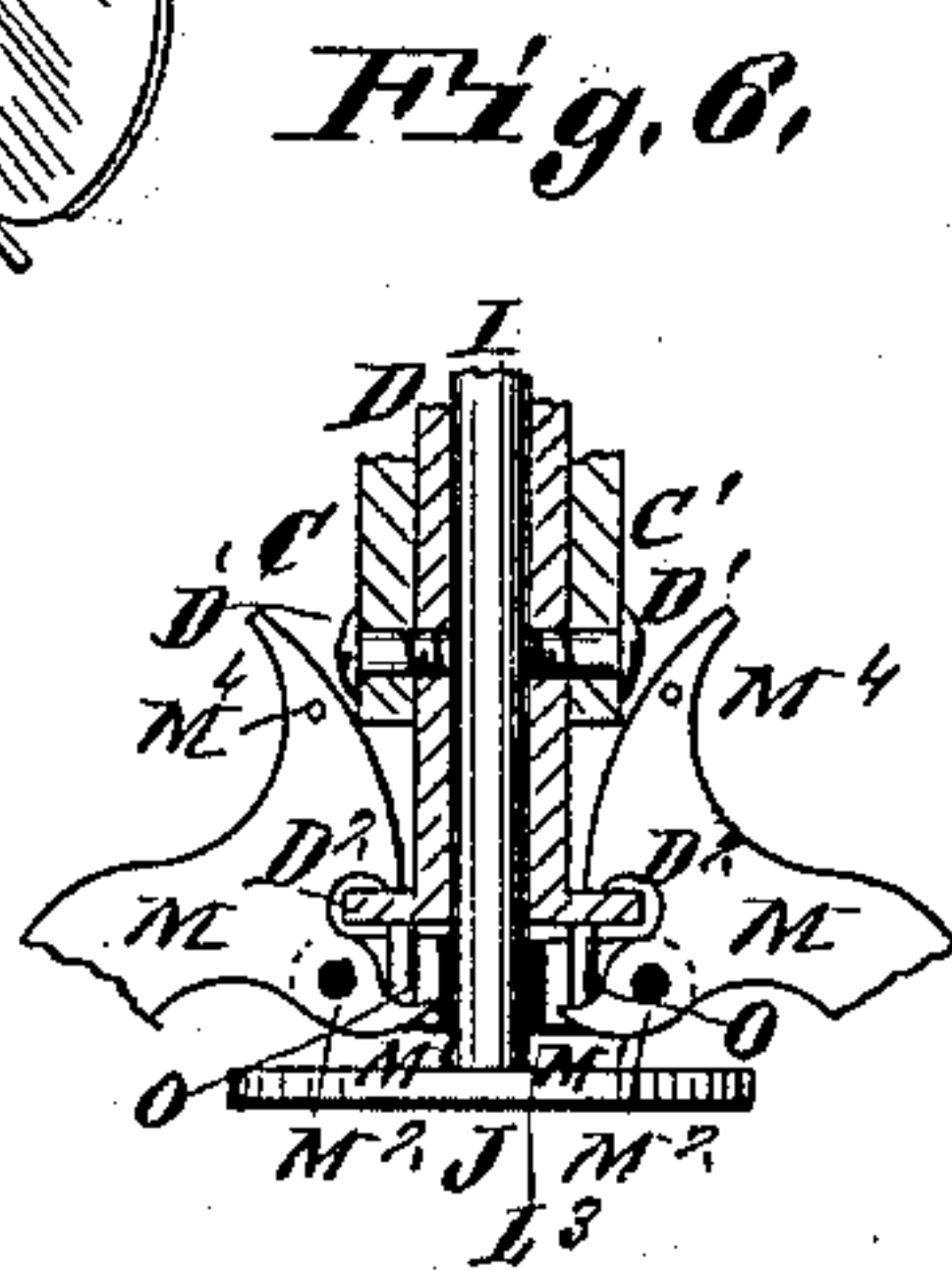
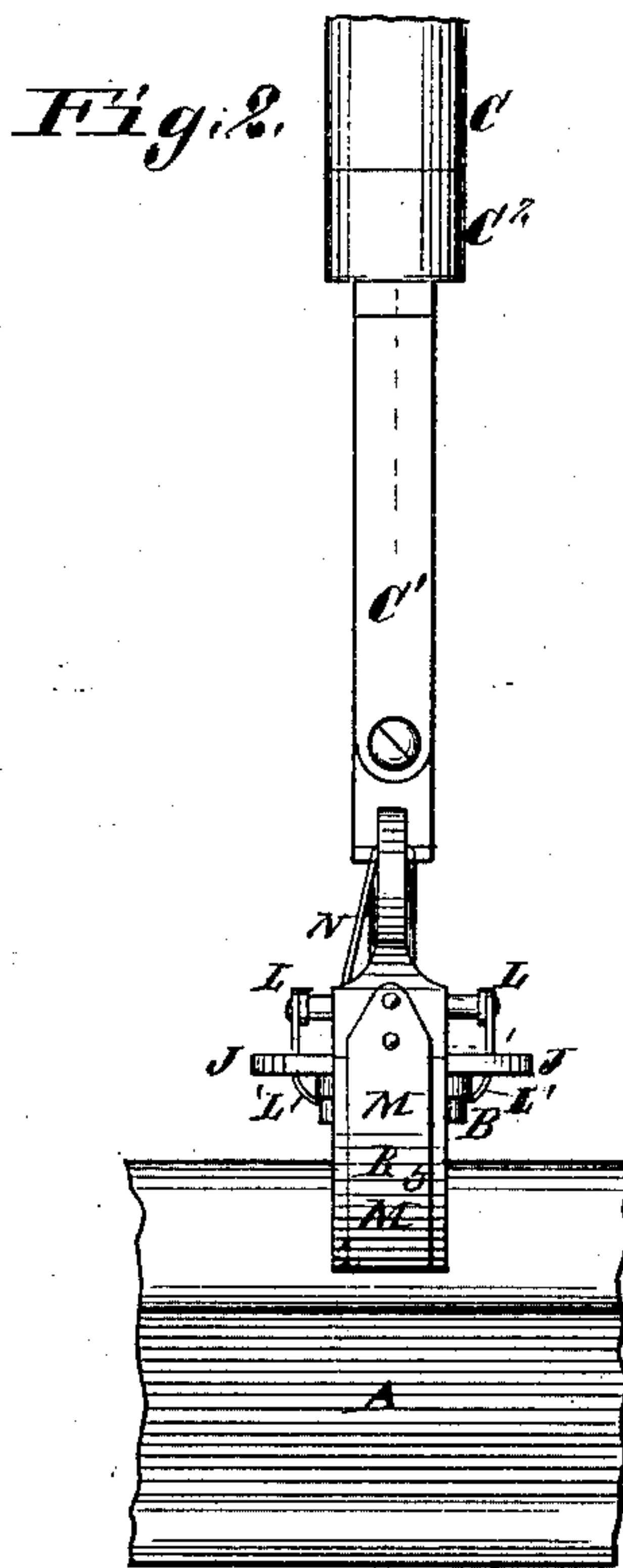
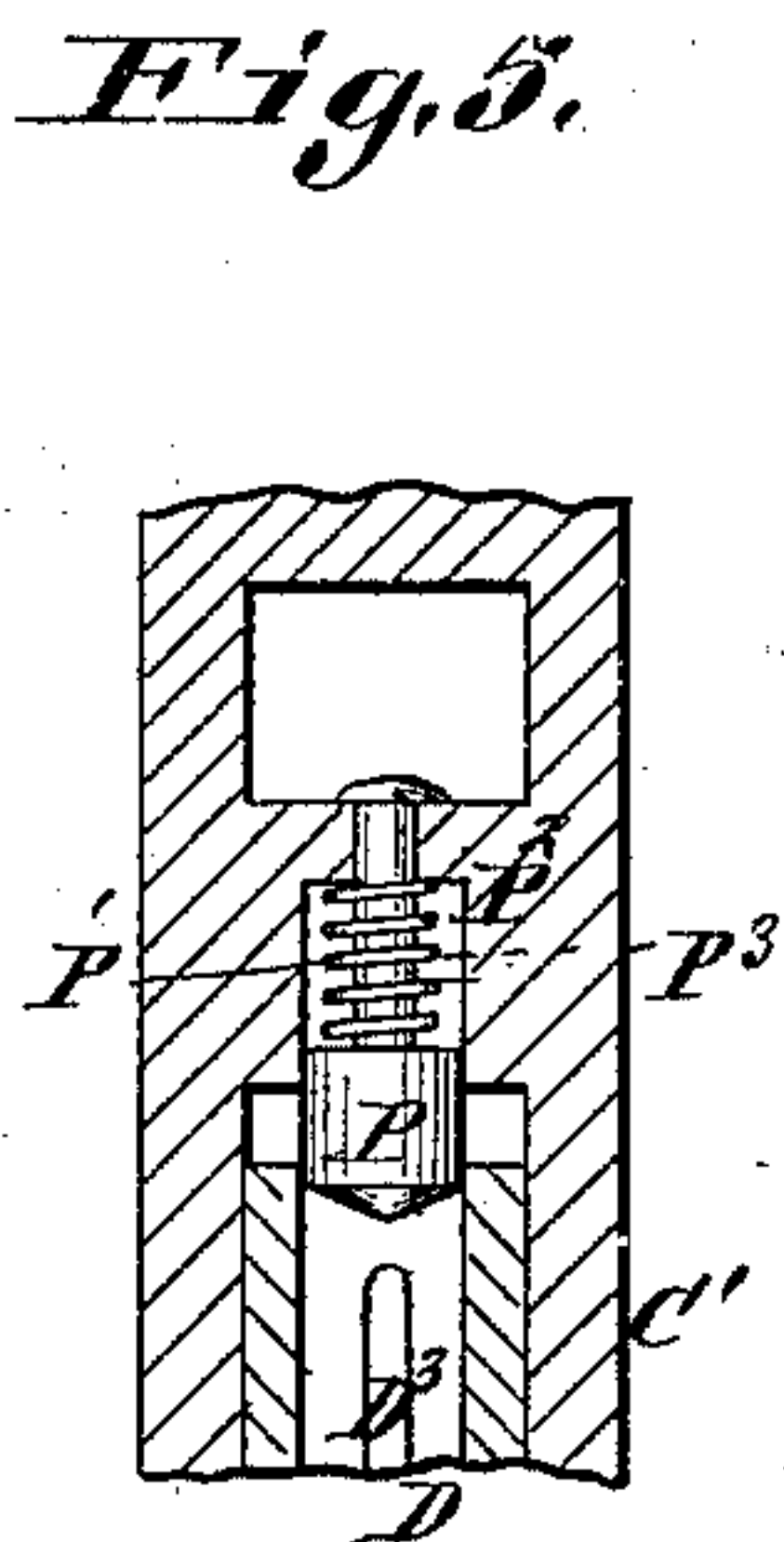
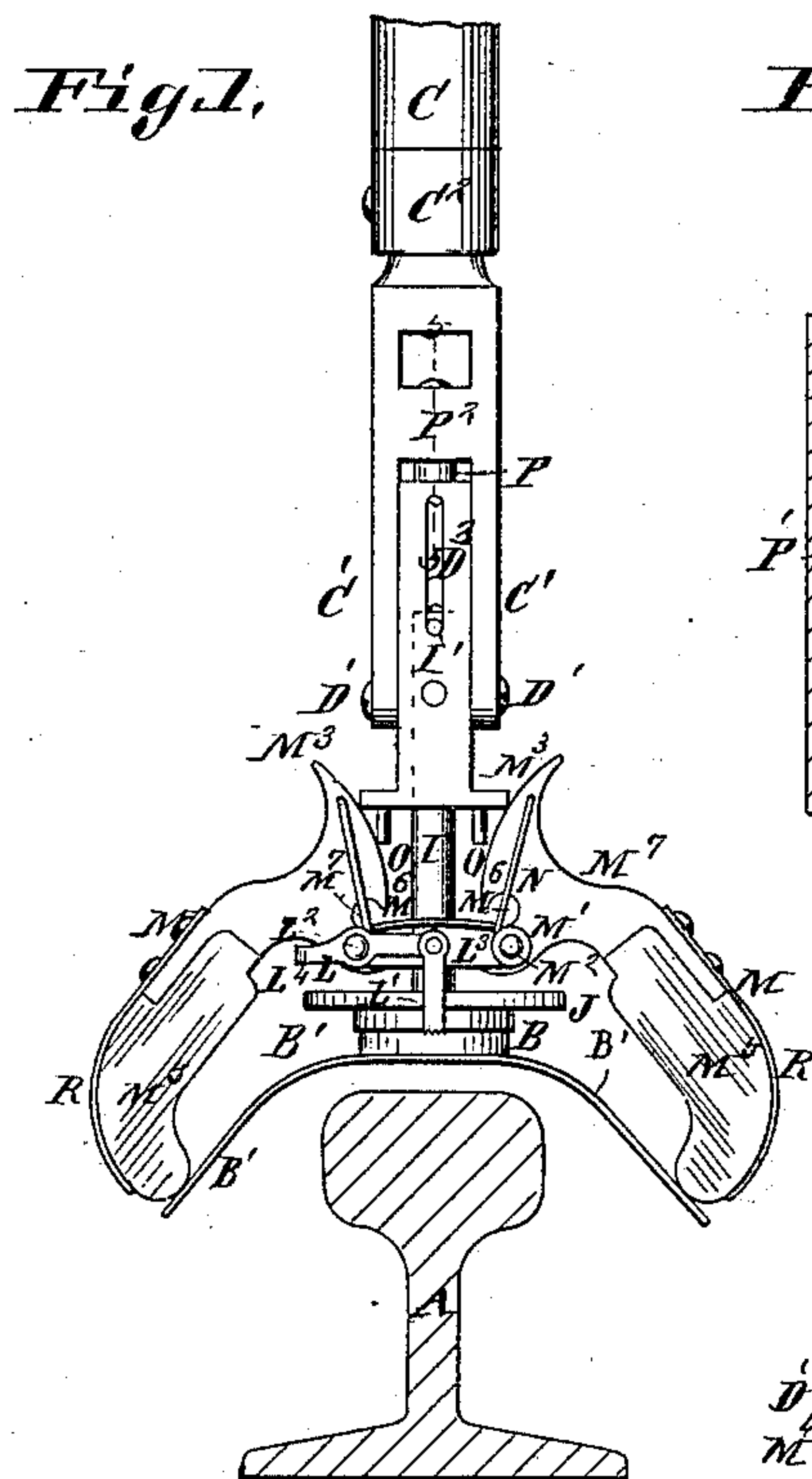
(No Model.)

A. B. SHAW.

INSTRUMENT FOR ATTACHING TORPEDOES TO RAILWAY RAILS.

No. 338,307.

Patented Mar. 23, 1886.



Attest:
Geo. Wheelock
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UNITED STATES PATENT OFFICE.

ALEXANDER B. SHAW, OF ST. LOUIS, MISSOURI.

INSTRUMENT FOR ATTACHING TORPEDOES TO RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 338,307, dated March 23, 1886.

Application filed June 10, 1885. Serial No. 168,267. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER B. SHAW, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Instruments for Attaching Torpedoes to Railway-Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is an elevation of my improved instrument, showing it in position for applying the torpedo. Fig. 2 is an edge view of same. Fig. 3 is an elevation showing the parts in the position they occupy when the torpedo has been attached to the rail. Fig. 4 is an edge view of same with the handle turned on its pivots. Fig. 5 is an enlarged detail vertical section taken on line 5 5, Fig. 1. Fig. 6 is an enlarged detail vertical section showing the upper ends of the arms engaged with the collar or flange on the sliding sleeve, the position they occupy when they spring from the rail after attaching the torpedo. Fig. 7 is a detail top view of same; and Fig. 8 is a detail section showing adjustable disk.

My invention relates to an instrument for attaching torpedoes to railway-rails while a train is in motion, being operated by a person on the back platform of the rear car of a train, or on other moving conveyance; and my invention consists in features of novelty herein-after fully described, and pointed out in the claims.

Referring to the drawings, A represents part of a railway-rail, and B a torpedo, both of which are of common construction.

C represents the handle or staff of the instrument, which may be of any desired length. It is broken off in all the figures. Hinged to its lower end at D' is a sleeve, D, the upper end of which fits between arms C' of the handle, this part of the handle preferably consisting of metal fastened into the other part of the handle at C². Within the sleeve is a rod, I, adapted to have longitudinal movement, and held from coming out by a pin, I', therein fitting in slot D³ in the sleeve. On the lower end of the rod is a plate or disk, J, against the lower face of which the torpedo is held when in place to be attached to the rail (see Figs. 1 and 2) by spring-catches L', secured to

the ends of a curved frame, L, pivoted at L² to a plate or cross-bar, L³, rigidly secured to the rod or stem I, the bow L⁴ of the frame extending beyond one end of the bar L³, as shown.

M M represent arms having projections M', fitting in notches L⁵ of the bar L³, and held there by the pivot-pins M², by one of which the frame L is also hinged to the bar. The normal position of the jaws M⁵, forming the lower ends of the arms, is open, as seen in Fig. 1, the arms being held in this position by a spring, N, which is coiled upon the pins M², and its ends made fast to the inclines or horns M³, preferably by the bent ends of the springs being secured in the holes M⁴ of the horns. (See Figs. 1, 3, 4, and 6.)

The jaws M⁵ are made flexible, being shown as made of rubber, and their form and position are such that by their inward movement they clasp the attaching-strip B' of the torpedo tightly around the cap of the rail. (See Fig. 3.) When the jaws are made of elastic and flexible material—such as rubber—their inner sides will accommodate themselves to the conformation of the part of the rail against which the jaws are pressed, so that when the torpedo may be applied over the fish-plates an effectual attachment may be made; also, if the jaws should strike the ends of the fish-plates, their yielding nature will prevent injury being done to the instrument. The jaws are forced inward for attachment of the torpedo by toes D² on the lower end of the sleeve D, which, as the sleeve is forced downward by the handle C, bear against the inclines M³ of the arms. At the bottom of the inclines are notches M⁷ and projections or hooks M⁶. When the toes D² reach the notches, the spring N draws the horns inward, (see Fig. 6,) causing the jaws M⁵ to be released from the head of the rail. (See dotted lines, Fig. 3.) To provide a positive means for thus opening the jaws, should the spring N fail to act, there are pins O extending downwardly from the toes D², which come against the projections M' of the arms inside the pivot-pins M² just as the toes reach the notches M⁷, so that the pressure applied to the handle will throw the jaws outward. Before the flange D² reaches the notches one of the arms comes against the bow L⁴ of the frame L, and depressing it lifts or pulls the spring-catches L' off the torpedo. (See Figs. 3 and

4.) The catches are guided and held from lateral movement by fitting in notches J' of the disk J. (See Fig. 7.)

The sleeve D, when in its normal position, is held in line with the handle by a spring-bolt, P, fitting in a socket, P', of a block, P², secured to the handle. The bolt has a conical lower end that fits in the upper end of the sleeve. (See Fig. 5.)

Just as the flange D² enters the notches in the jaws the upper end of the rod I comes against the lower end of this pin or bolt P and forces it up out of the sleeve, and thus permits the handle to swing on the sleeve at the pivot D', (see Fig. 4,) so that the moving of the train will not cause the jaws to be twisted over on the head of the rail.

P³ is a spiral spring surrounding the shank of the pin or bolt P within the socket, and tending to hold the pin down in engagement with the sleeve D.

R is a steel spring at the back of the rubber jaws M⁵, to add to the stiffness of the jaws.

Where torpedoes of uniform or nearly uniform thickness are used, the disk J may be fixed to the rod O; but to make the instrument equally available for all forms of torpedoes, where there may be considerable variation in thickness, I prefer to make the disk J adjustable. This may be done, as shown in Fig. 8, by making the disk to screw on the stem or rod O; and to hold it in position a set-screw, Q, may be used, tapped in the disk and bearing against the stem.

I claim as my invention—

1. In an instrument for attaching torpedoes to railway-rails, in combination with the handle, the spring jaws and catches arranged to operate substantially as and for the purpose set forth.

2. In an instrument for attaching torpedoes to railway-rails, the combination of the han-

dle, arms secured to the handle and provided with elastic jaws, and spring-catches for holding the torpedoes, substantially as and for the purpose set forth.

3. In an instrument for attaching torpedoes to railway-rails, the combination of the handle, sleeve secured to the handle, rod fitting and working in the sleeve, disk on the lower end of the rod, plate secured to the rod, frame hinged to the plate, spring-catches secured to one end of the frame for holding the torpedoes against said disk, jaw-arms hinged to said plate, springs connected to the arms to open the jaws, and lugs on said sleeve to close the jaws, substantially as and for the purpose set forth.

4. In an instrument for attaching torpedoes to railway-rails, the combination of the handle, sleeve secured to the handle, rod fitting and working in the sleeve, disk on the lower end of the rod, plate secured to the rod, frame hinged to the plate, spring-catches secured to one end of the frame for holding the torpedoes against said disk, arms hinged to said plate and having notches M', springs connected to the arms to open the jaws, lugs on said sleeve to close the jaws, and pins on said lugs for coming against projections on the arms, substantially as and for the purpose set forth.

5. In an instrument for attaching torpedoes to railway-rails, the combination of the handle, sleeve pivoted to the handle, rod fitting and working in the sleeve, spring jaws and catches secured to the rod, and spring-bolt arranged in the handle to hold the sleeve in line therewith until the torpedo is attached and then released therefrom by the rod, substantially as and for the purpose set forth.

ALEXANDER B. SHAW.

Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.