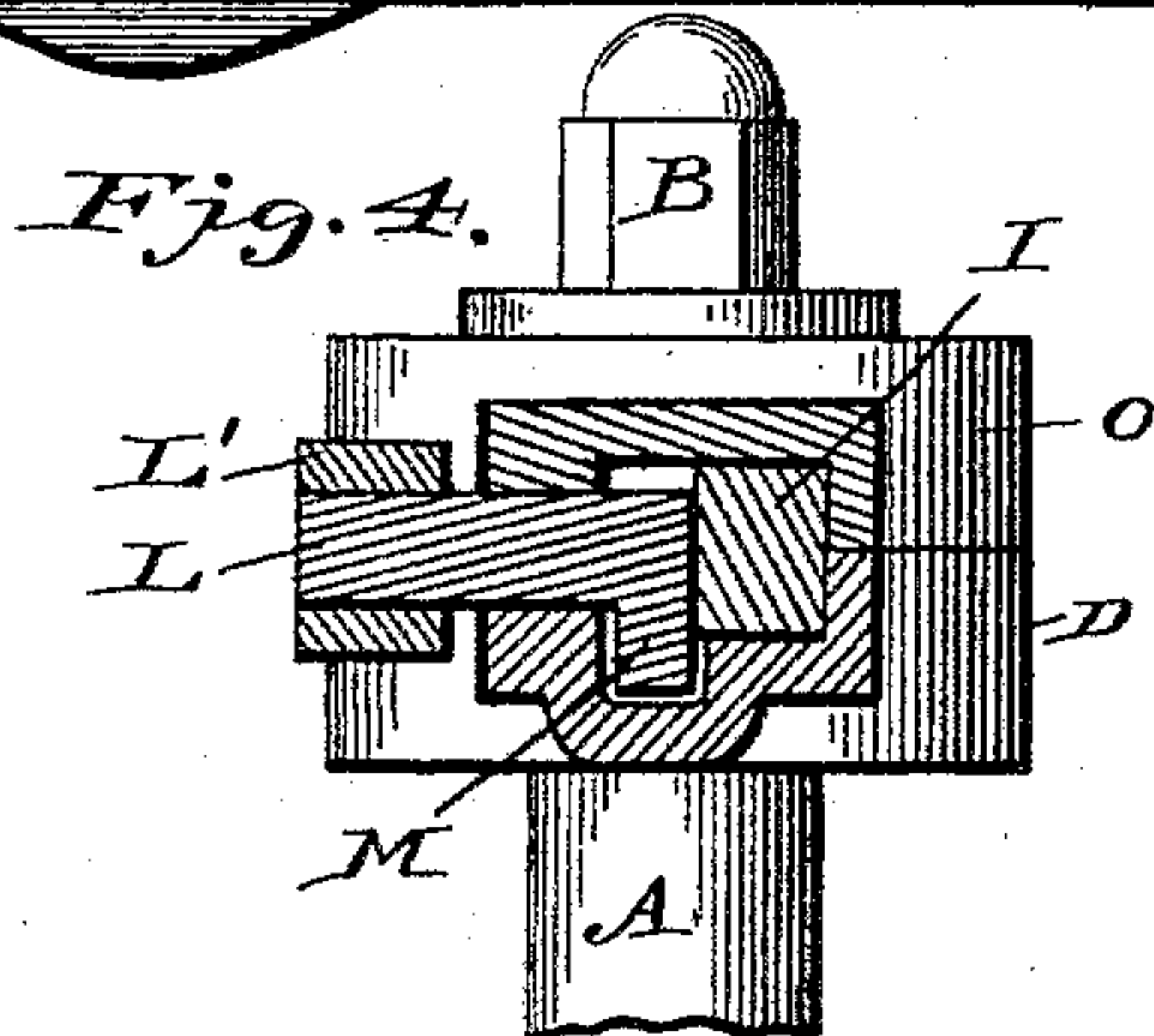
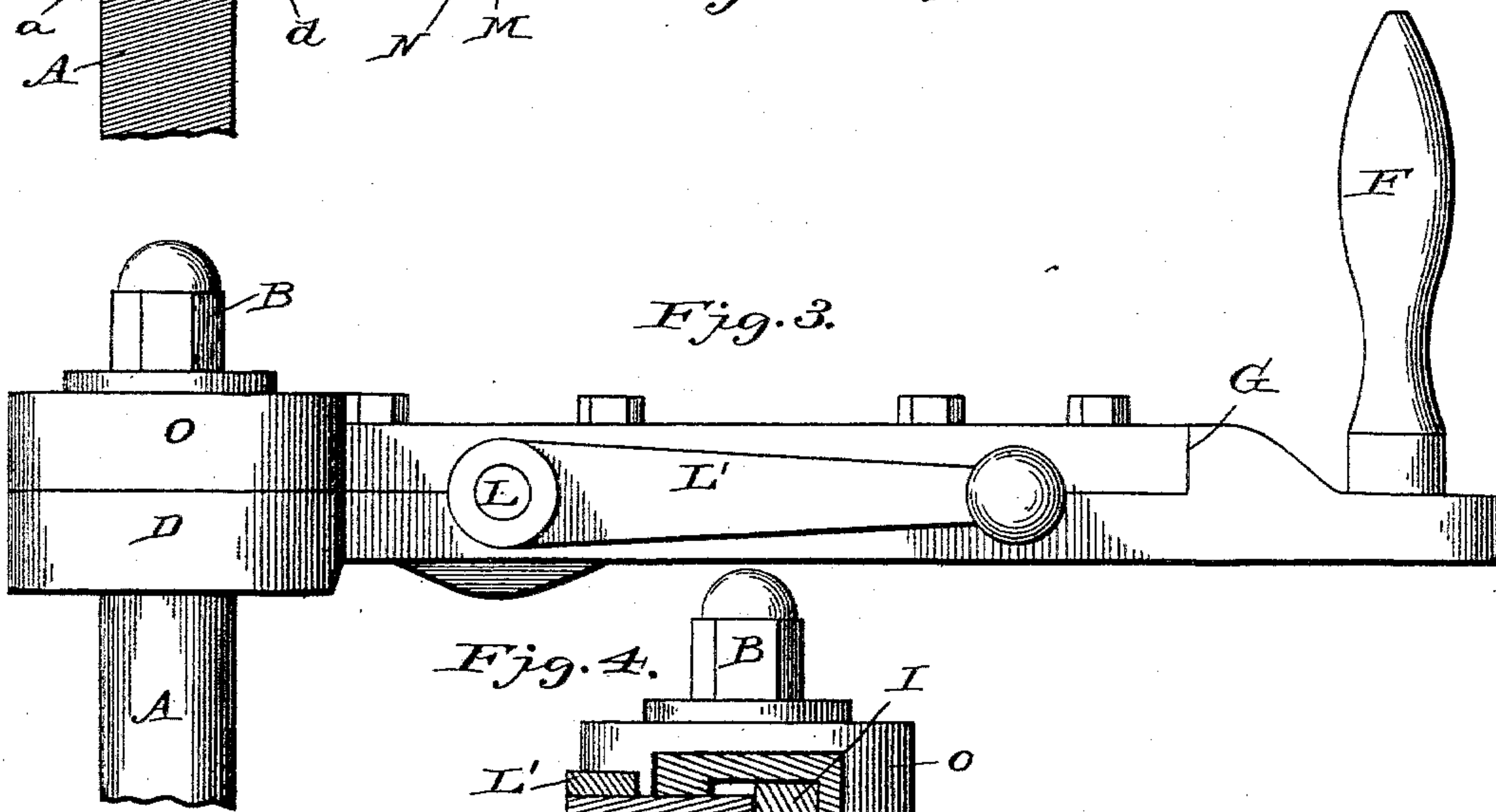
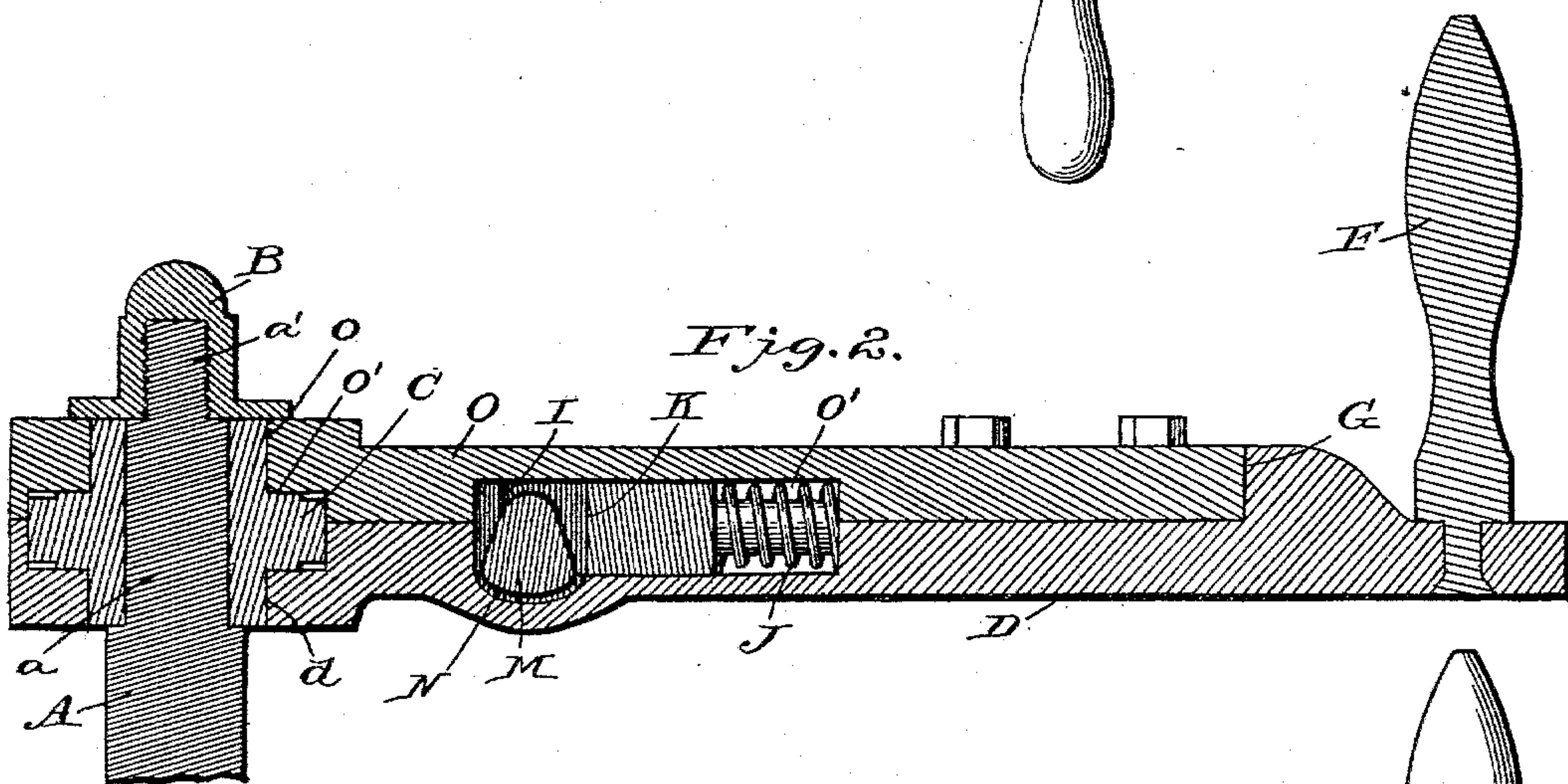
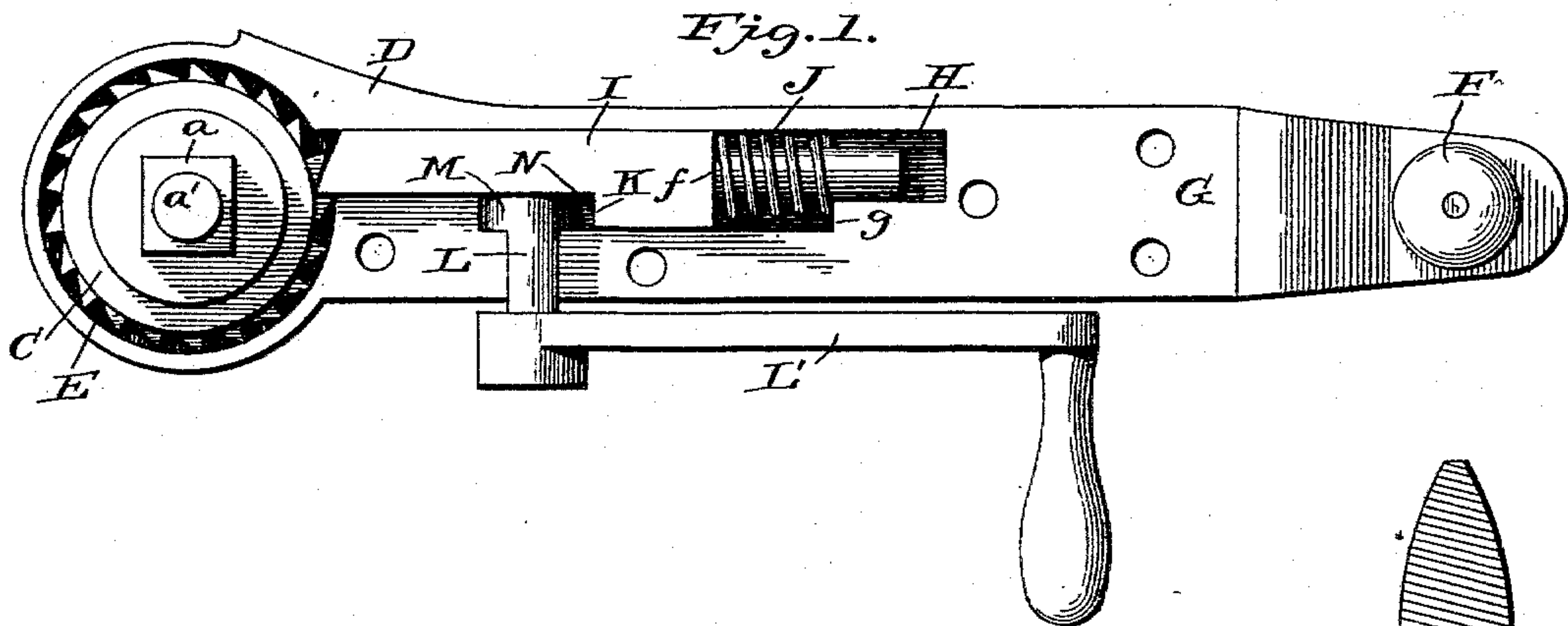


(No Model.)

C. MULLIN & F. C. GALLOWAY.
HAND BRAKE.

No. 571,676.

Patented Nov. 17, 1896.



Witnesses
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S. M. Graves.

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UNITED STATES PATENT OFFICE.

CLARENCE MULLIN AND FRANK C. GALLOWAY, OF CINCINNATI, OHIO.

HAND-BRAKE.

SPECIFICATION forming part of Letters Patent No. 571,676, dated November 17, 1896.

Application filed July 20, 1896. Serial No. 599,789. (No model.)

To all whom it may concern:

Be it known that we, CLARENCE MULLIN and FRANK C. GALLOWAY, citizens of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Hand-Brakes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in hand-brakes designed for use either upon freight or passenger cars; and it has for its objects, among others, to provide a simple and cheap construction by which the slack can be taken up with less power and in much less time than by the wheel usually employed and which will not have to be removed in coupling vestibuled and unvestibuled cars together. The brake-handle takes up practically no room on the platform, as it can be set even with the platform hand-rail, where it will not interfere with the passengers in getting on and off the cars.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a top plan with the upper portion of the brake-handle removed. Fig. 2 is a vertical section taken in the direction of the length of the brake-handle. Fig. 3 is an elevation. Fig. 4 is a cross-section.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the brake-staff, adapted to be connected with and actuate the brakes in the usual manner, and as the present invention does not pertain to any of the devices below the upper end of the brake-staff none of the parts below the same have been shown. The upper end of this staff is made polygonal in form, as seen at *a*, and beyond this portion is the screw-threaded portion *a'*, upon which is designed to be screwed the nut B. This polygonal portion engages the

polygonal bore of the hub of the ratchet-wheel C, which hub extends upon both sides of the toothed portion and has bearings in the upper and lower portions of the brake-handle.

D is the lower portion of the handle. It has a socket or recess E about the opening *d* therein and at the other end a handle F rising therefrom. Near the outer end this lower portion is formed with the shoulder G, against which the outer end of the upper portion of the handle is designed to engage. The upper face of the lower portion of the handle is formed with a longitudinal groove or chamber H, in which is arranged the sliding pawl I, the inner end of which is beveled, as shown, and engages with the ratchet-wheel.

J is a spring around the reduced end of the shank of the pawl and finds a bearing against the shoulder *f* thereof and the shoulder *g* of the groove in the lower portion of the handle. The pawl has another shoulder K for a purpose which will soon appear.

L is a shaft at right angles to the length of the pawl and mounted to rock in a bearing formed partly in the lower portion of the handle and partly in the upper portion, as shown. On the outer end is a handle or lever L', while upon the inner end is a cam M, which is mounted to work in the depression or chamber N in the lower portion of the handle and engages the shoulder K of the shank of the pawl.

O is the upper portion of the handle. It is detachably secured to the upper side of the lower portion by bolts or otherwise, and its under side is formed with a longitudinal recess O', and about the opening *o*, which receives the hub of the ratchet, is an annular recess *o'*, forming a part of the chamber for the ratchet.

The operation will be apparent. In applying the brakes the cam-lever should rest in its natural position below the brake-handle. The brake-handle is then turned clear around from left to right until all the slack is taken up by using the ratchet and dog at the bottom of the staff in the usual way. Then to tighten the brake push the brake-handle from you as far as desired and then pull back and continue until set as tight as possible, always using the ratchet and dog at the bottom of the brake-staff with the foot. To release the

brake, pull the handle toward you, loosen the dog from the ratchet at the bottom of the staff, and with the other hand raise the cam-lever as high as the same will go, and this will pull the pawl out of engagement with the ratchet in the handle and the brake will be released.

For passenger-coaches the lever or the handle to the cam-lever should preferably be arranged upon the top of the brake-handle, where it will be more out of the way. In this form the brake-handle will be provided with the cam projection upon which the cam-lever handle will be moved to hold it, so that it will hold the pawl out of engagement with the ratchet in the brake-handle. The spring serves to normally hold the pawl in engagement with the ratchet and the cam-lever moves it away therefrom.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is—

1. The combination with the brake-staff

and the handle in two parts provided with recesses upon their adjacent faces, of the pawl mounted to slide in said recesses, a spring acting on the pawl, a ratchet and a cam-lever mounted in the said handle, said ratchet having its hub arranged to be engaged by the brake-staff, and devices for actuating the pawl against the tension of its spring, all substantially as herein shown and described.

2. The combination with the brake-staff and the handle in two parts having recesses upon their adjacent faces, of the pawl mounted to slide in said recess, the spring acting on the pawl, a ratchet and a cam-lever mounted in the said handle, all substantially as shown and described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

CLARENCE MULLIN.
FRANK C. GALLOWAY.

Witnesses:

HATTIE A. GATCH,
STANLEY M. WITHROW.