

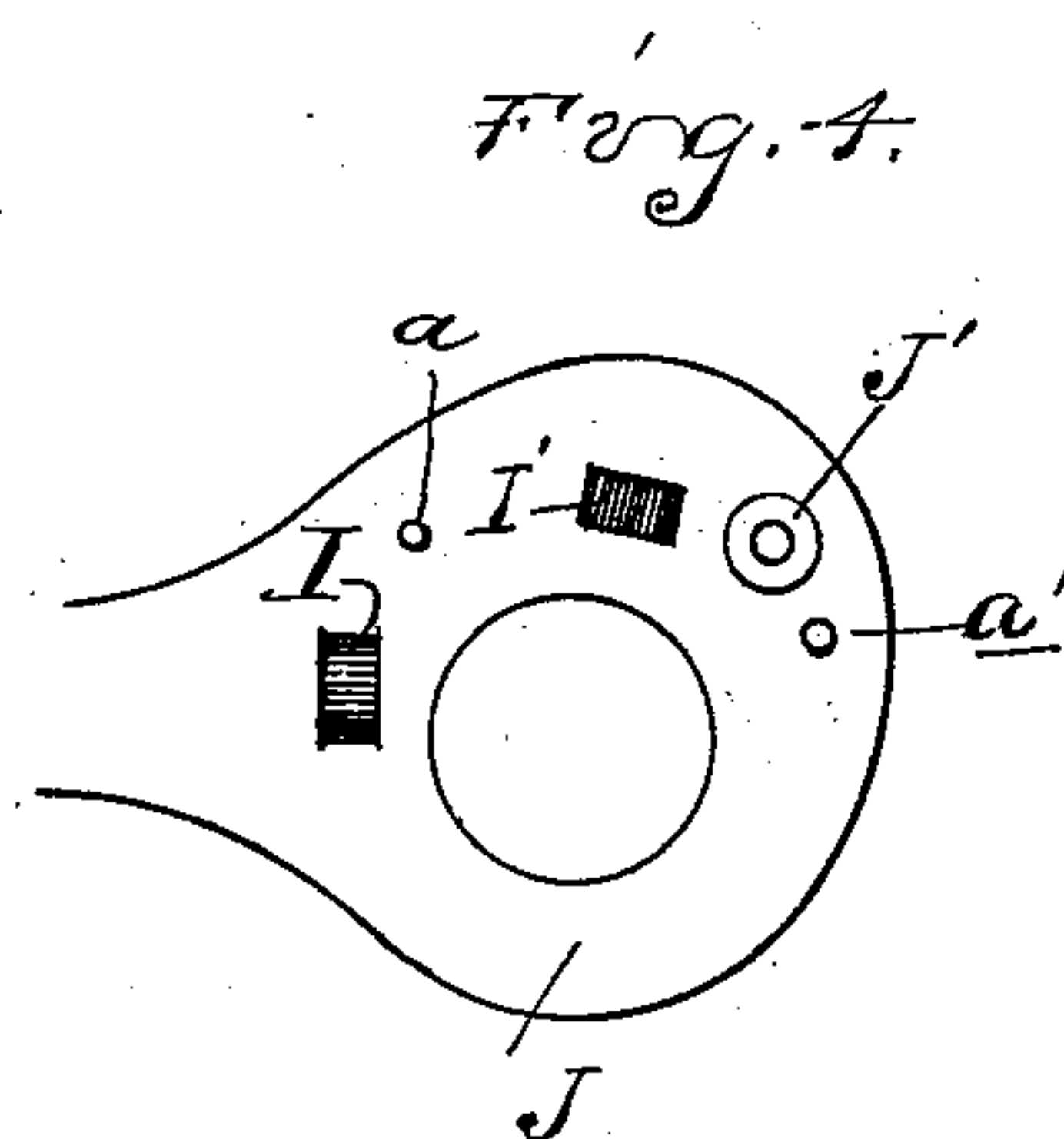
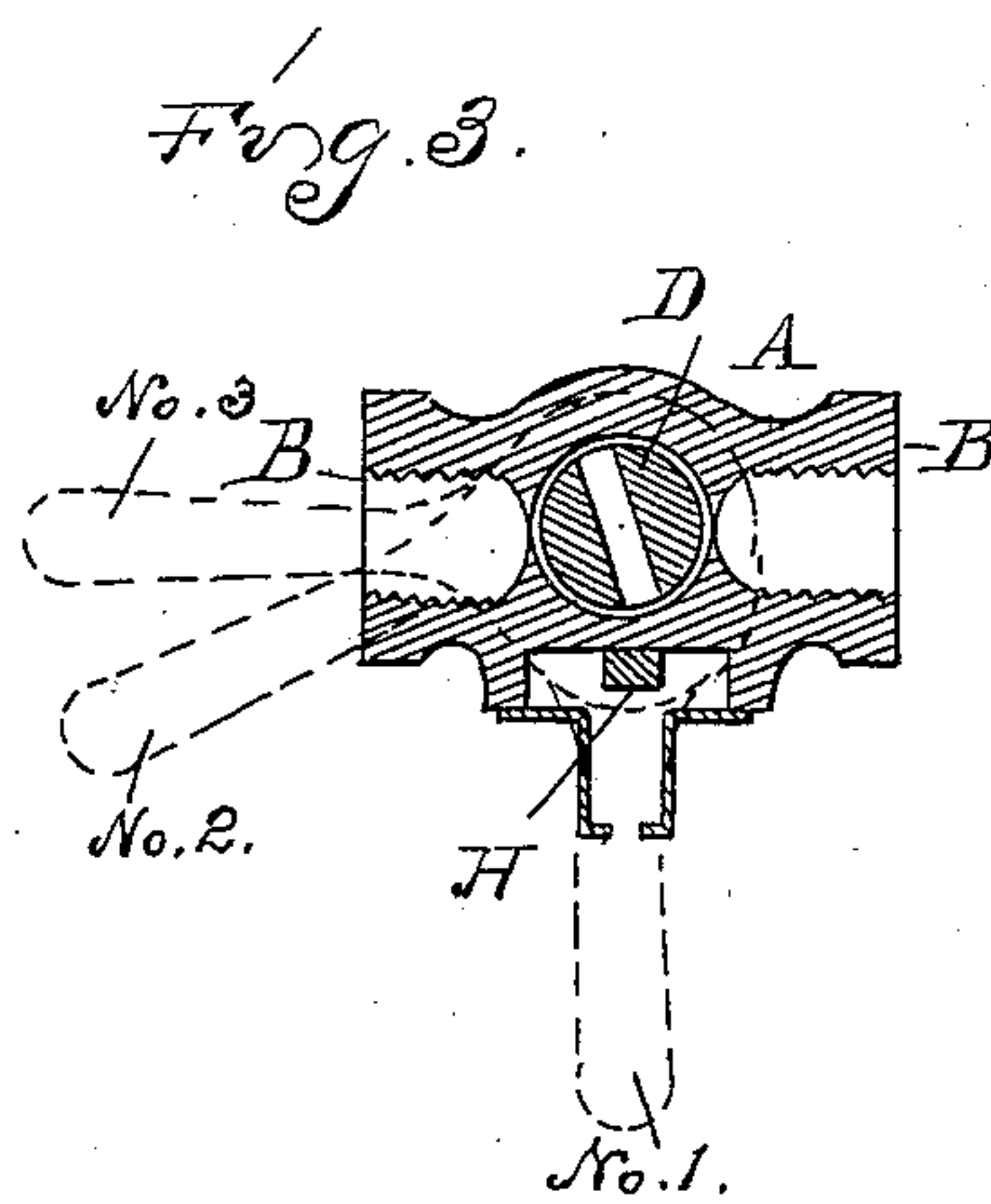
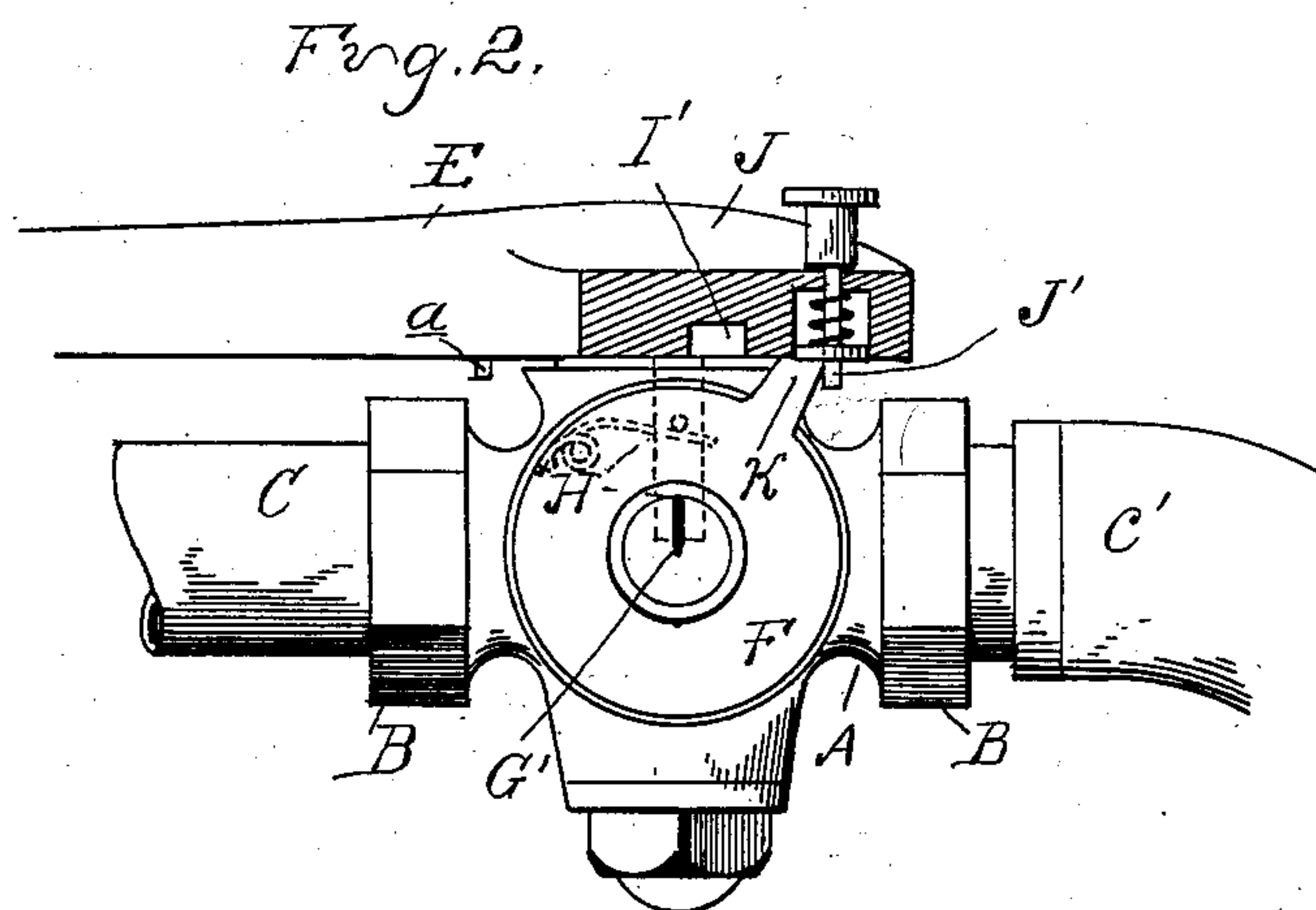
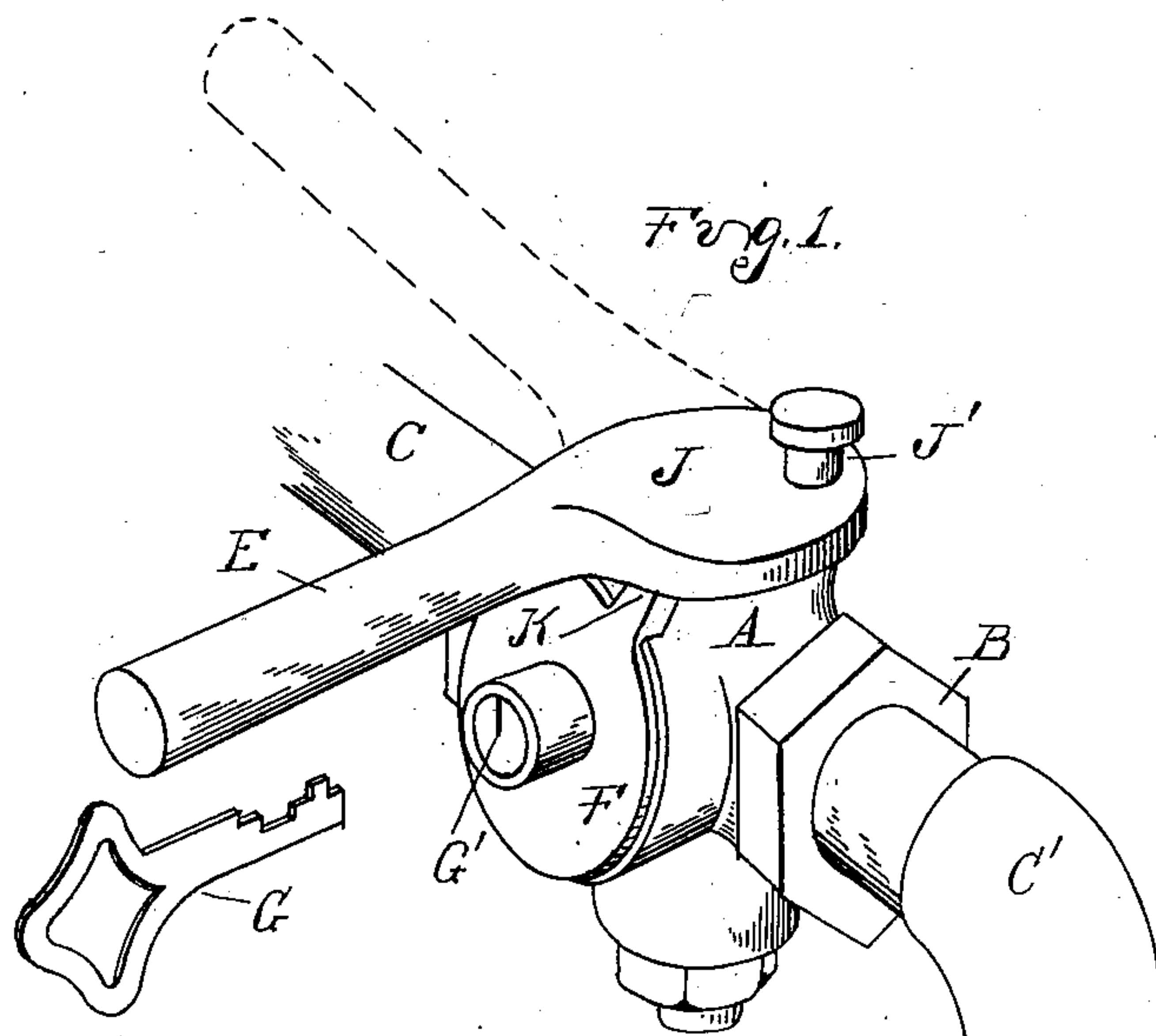
No. 606,680.

Patented July 5, 1898.

M. O'SULLIVAN.
LOCK VALVE FOR BRAKE MECHANISM.

(Application filed Oct. 6, 1897.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

MICHAEL O'SULLIVAN, OF FLINT, MICHIGAN, ASSIGNOR TO I. WIXOM
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LOCK-VALVE FOR BRAKE MECHANISM.

SPECIFICATION forming part of Letters Patent No. 606,680, dated July 5, 1898.

Application filed October 6, 1897. Serial No. 654,282. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL O'SULLIVAN, a citizen of the United States, residing at Flint, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Lock-Valves for Brake Mechanism, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates more particularly to stop-cocks for the train-pipe of air-brake systems in which means are provided on the cock for locking the same in its open and closed position for the purpose of preventing malicious tampering; and the object is to provide means whereby the operation of the locking mechanism is dispensed with when it would cause unnecessary delay, as in the operation of switching cars. Thus in taking one car off and putting another car on the stop-cock on the last remaining car has to be temporarily closed and when the operation of switching is completed it has to be opened again. With the ordinary locking-valve the brakeman would thus be compelled to unlock twice—first to close the stop-cock and then to open it again.

My invention consists in doing away with the necessity for unlocking the stop-cock more than once by means of a movable stop, all as in the manner more fully hereinafter described, and shown in the drawings, in which—

Figure 1 is a perspective view of my improved locking stop-cock with the key detached. Fig. 2 is an elevation, partly in section. Fig. 3 is a horizontal section through stop-cock in its closed condition, as in Fig. 2. Fig. 4 is a plan of the under side of handle.

A is the casing of the stop-cock, B the couplings thereof, C C' the sections of the train-pipe to which they are connected, D the apertured plug, and E the handle for turning it, all arranged and operating in the well-known manner of the ordinary stop-cock, except as more fully hereinafter described.

The casing A is provided at one side with a cylindrical enlargement F, which forms the casing of a spring-lock of any desired and appropriate construction, (not shown in the drawings,) preferably of the character requiring a key, as G, for unlocking it by introducing the same into the keyhole G', formed

in the side of the casing. This lock has a spring-bolt H, (shown in dotted lines in Fig. 2,) which is adapted to engage into either one of two recesses I I', formed in the under side of the handle, which to this end is made with a disk-shaped inner end J, all in such manner that when the bolt engages into the recess I (which is in line with the handle) the stop-cock is locked in its closed position, as shown in dotted lines in Fig. 1, while the engagement of the bolt into the recess I' locks the stop-cock in its open position, as shown in full lines in Fig. 1. Suitable stop-pins α α' projecting from the under side of the handle arrest the movement of the latter in the positions required for locking it either in its closed or open position.

In order to effect the object of my invention, I arrange the ports so that the stop-cock is already fully closed in the intermediate positions indicated by the dotted lines of the handle marked No. 2, (Nos. 1 and 3 indicating its locking positions,) and in order to hold the handle in this its intermediate closed position I provide it with a spring-stop J', adapted to prevent it from being turned into the position No. 3 by striking against a fixed stop or projection K on the casing. In this position No. 2 therefore the stop-cock is closed, but not locked, and at the termination of the switching operation the operator can throw the cock back into its prescribed open position without using his key, as he would have to do if the handle were in the position No. 3. Should, however, the operator desire to lock the handle in the closed position of the stop-cock, he can readily do so by withdrawing the stop J sufficiently to clear the projection K and then turning the handle into its locking position No. 3. The spring-stop is provided to this end with a suitable knob to be readily grasped with the fingers.

My invention is of great advantage to railroads, as it saves time and does away with the objections to the use of locking stop-cocks as a safety device to the brake mechanism.

The specific construction of locking stop-cock shown and described by me is especially simple and well adapted for carrying out my invention, the spirit of which, however, includes any construction provided with means

for arresting the handle in what I call "a contingent position" of being closed but not locked, and the stop by means of which I accomplish the same I call correspondingly "a contingent stop."

What I claim as my invention is—

1. In a stop-cock provided with a locking device for locking the same in its closed position, a movable stop operating to arrest the movement of the stop-cock in a contingent closed position without becoming locked.

2. In a stop-cock provided with a self-locking device for locking the same in its open and closed positions, a spring-stop operating to arrest the movement of the stop-cock in a contingent closed position without becoming locked.

3. In a locking stop-cock, the combination of the casing, a lock-bolt, a handle having recesses engaging with said lock-bolt to lock the

stop-cock, and a spring-stop on the handle adapted to hold the stop-cock in a contingent closed position.

4. In a locking stop-cock, the combination of the casing the spring-bolt in an enlargement of the casing adapted to be operated by a detached key, a handle provided with a disk-shaped inner end having recesses therein for locking the same in open and closed positions, fixed stops on the handle corresponding with the locking positions of the handle, and a spring-stop J' for holding the handle in a contingent position of being closed but not locked.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL O'SULLIVAN.

Witnesses:

VERNA COOLEY,
JONATHAN PALMER, Jr.