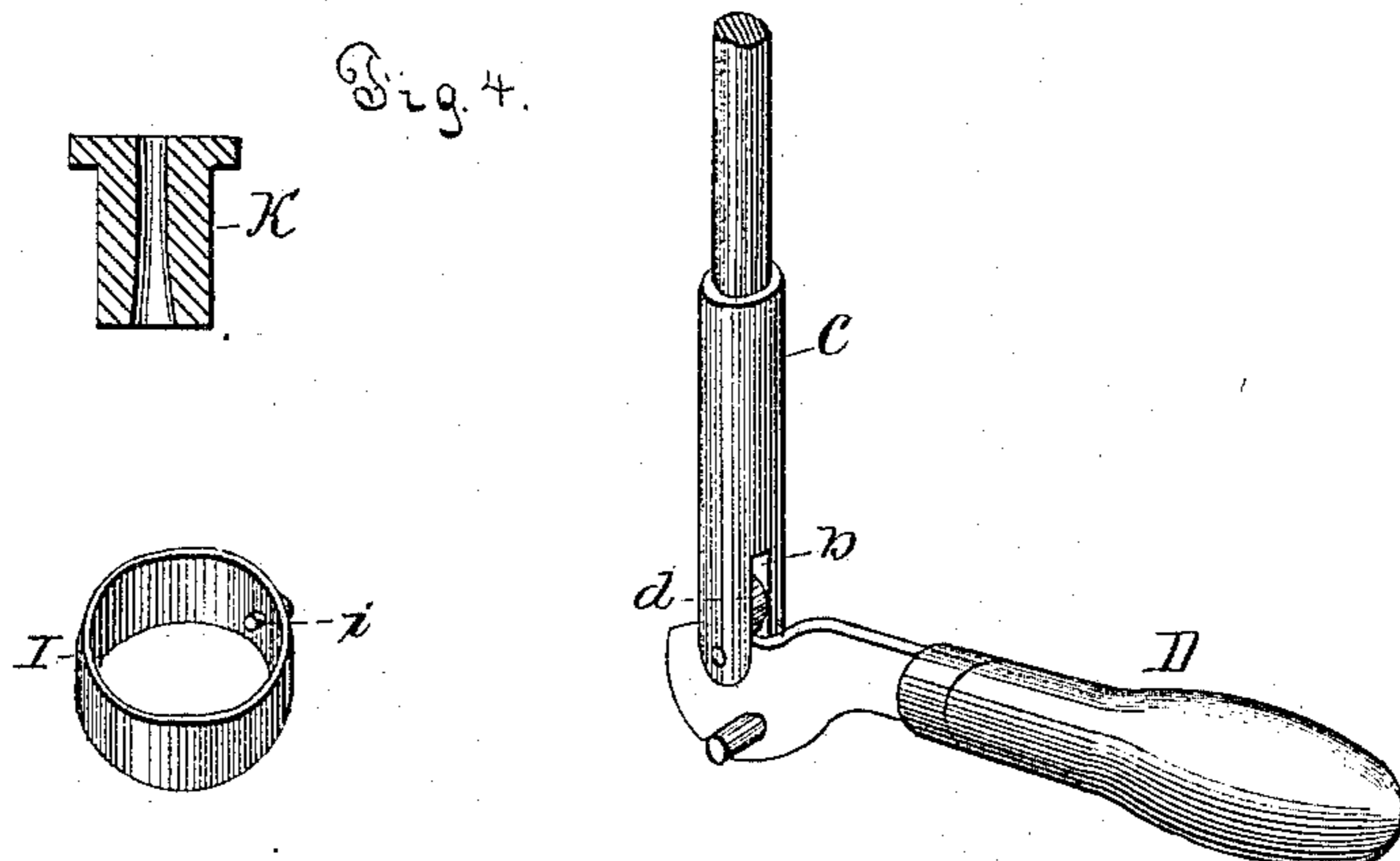
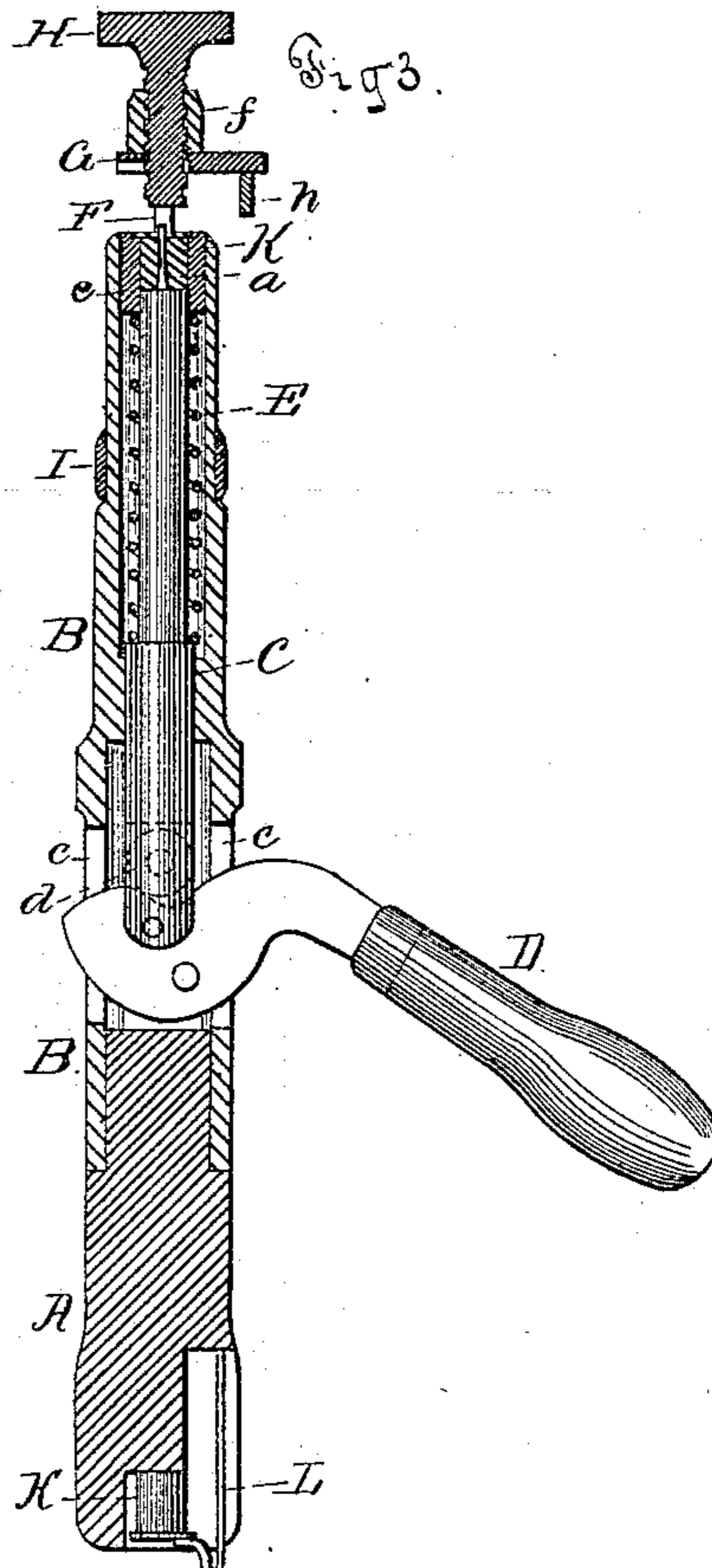
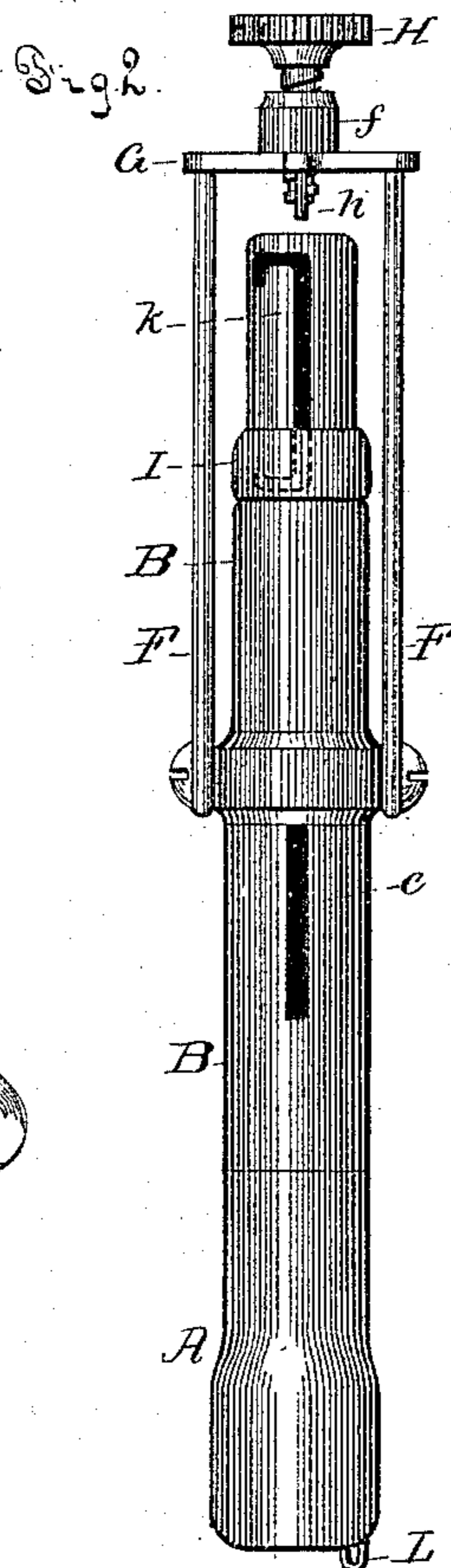
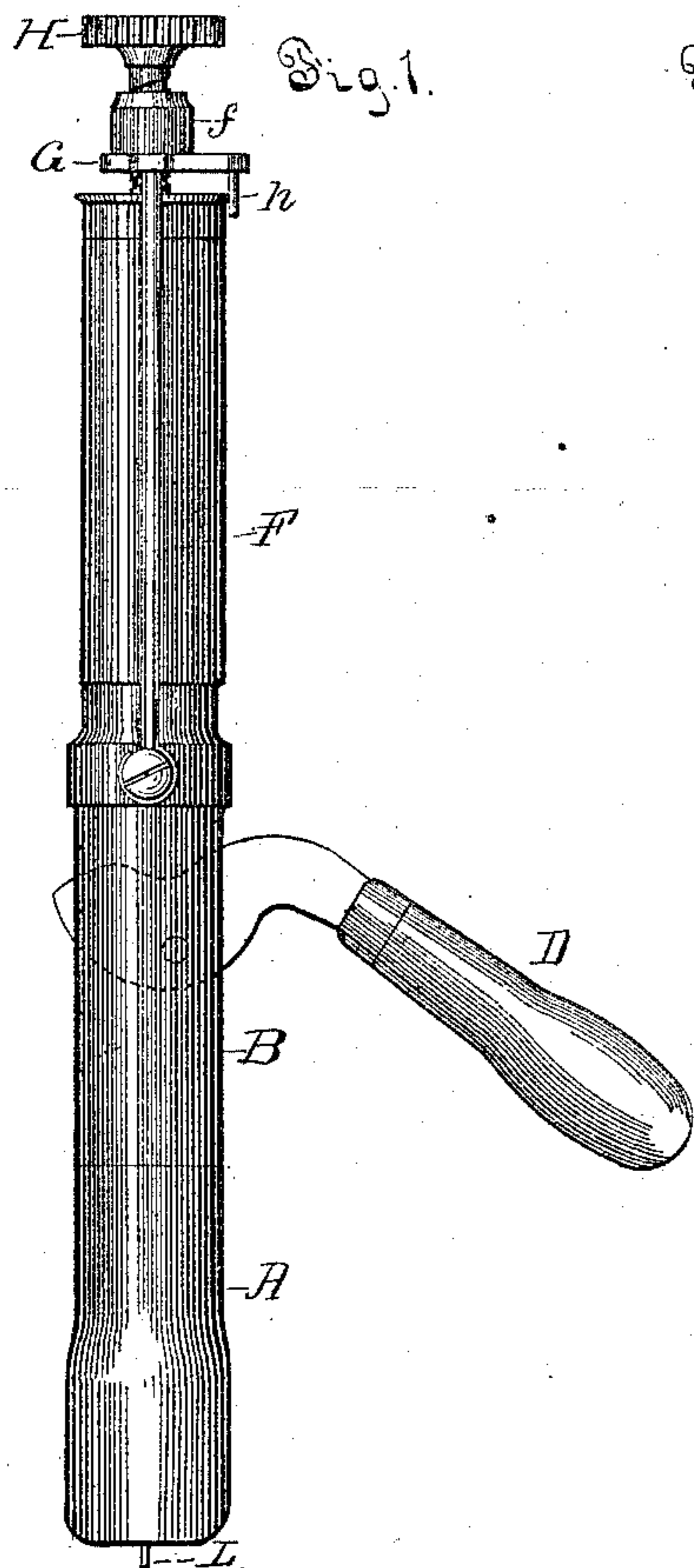


(No Model.)

C. H. SMITH & L. E. HANSBERRY.  
CARTRIDGE IMPLEMENT.

No. 290,127.

Patented Dec. 11, 1883.



Attest.  
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Att'y

# UNITED STATES PATENT OFFICE.

CLARENCE H. SMITH AND LEWIS E. HANSBERRY, OF SPRINGFIELD, ILL.

## CARTRIDGE IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 290,127, dated December 11, 1883.

Application filed February 12, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, CLARENCE H. SMITH and LEWIS E. HANSBERRY, both of Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Improvement in Cappers and Uncappers; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to combine in one implement or tool mechanism for inserting the caps in and extracting the same from the empty cartridges employed in the use of breech-loading fire-arms. The object, further, is to adapt such an implement or tool to accommodate both paper and metallic shells, to remove a crimp should there be one, and to accomplish the work of capping and uncapping without injury to the nipple in the base of the shell or any other portion thereof.

The invention therein consists in the construction and arrangement within a cylinder provided with a handle of a spring-actuated plunger and other operative parts combined therewith, as more fully hereinafter described and claimed.

To enable those skilled in its relative art to know how to construct and use the same, reference will be made throughout the following description to the accompanying drawings, in which—

Figure 1 represents a side elevation of the device constructed in accordance with our invention and with a shell in proper position thereon; Fig. 2, a front elevation of the same with the shell and lever-handle removed; Fig. 3, a vertical longitudinal section, showing the bushing in position upon the upper end of the plunger; and Fig. 4, views in detail of several parts of the implement.

A is the handle proper, of any convenient shape; and B, a metallic cylinder secured thereto in an upright position and made open at its upper end, for a purpose hereinafter readily understood. Within this cylinder is arranged a plunger, C, provided at its upper end and at its true center with a pin or needle, *a*, by means of which, when the plunger is raised, the exploded cap is forced from or out of the shell, which is to be fitted over the upper end

of the cylinder and have bearing at its base upon the upper and outer periphery of said cylinder. The plunger C is provided at its lower end with a deep longitudinal slot, *b*, in which is pivoted the cam-shaped end of a lever-handle, D. This end of the lever-handle D is further pivoted in the sides of the cylinder B, as represented by Figs. 1 and 3, and has free movement within slots *cc*, cut in the sides of said cylinder at points diametrically opposite each other. The upper surface or edge of this cam-shaped end of the handle D is slightly and gradually depressed at its center, and between it and the upper terminus of slot *b* a sufficient space is left in which to mount a roller, *d*, which is designed to take up any friction arising from the operation of the lever-handle D. The plunger C for a portion of its length, and from its lower end upward, is uniformly increased in diameter, the termination of this larger portion furnishing a seat for a spiral spring, E, which encircles the plunger C from that point up to another seat, *e*, which is rigidly fixed within the upper end of the cylinder B, and provides a bearing for the upper end of the spiral spring E.

F F are two parallel bars, each pivoted at its lower end to the outer side of the cylinder at points diametrically opposite each other and united at their upper ends by a cross-head, G, provided at its center with a cylindrical socket, *f*, which is screw-threaded to receive and accommodate the screw H. The cross-head G is further provided with a pin, *h*, depending from an extension located midway between the two, uniting the upper ends of the parallel bars F F.

When a shell is applied to the implement, and the cross-head G brought above it, the pin *h* comes in contact with the edge of the shell and brings the center of the screw H on a line vertically above the point of the pin or needle *a* of the plunger C.

In paper shells there is a rim or projection inside and at the base of the shell, and it is therefore unnecessary to provide a special seat upon the top of the cylinder to accommodate this rim. But in metallic shells there is no such rim or projection; hence in capping and uncapping them it is necessary to provide means for seating and firmly holding them upon the cylinder. For this purpose there is

provided a collar, I, which fits over the cylinder B, and rests upon a flange formed around the same, as shown in Figs. 2 and 3. This collar is provided on its inner surface and at the point shown in Fig. 4 with a pin, *i*, to receive which, and to enable the collar to be slid to the upper end of the cylinder, the said cylinder has a longitudinal slot, *k*, cut in its sides, with a right-angle extension at each end. By means of these extensions the collar (when raised or lowered and given a quarter-turn) is enabled to be held either at the upper end of the cylinder or upon the flange around the same.

The implement or tool, as herein described and illustrated, is used and operated in the following manner: To force out or extract the cap from the empty shell, place the shell upon the cylinder, as indicated in Fig. 1. Swing the cross-head to a position above it, and turn the screw H until its lower end is flush with or a little above the upper surface of the cross-head. This done, press the lever-handle D down upon the handle A, and the pin or needle of the plunger, which is pushed forward by this manipulation of the lever-handle, pierces through the nipple-opening against the cap, and forces out or extracts the same from the shell. Release pressure on the handle D, and the resilience of the spring E compels the said handle and plunger to resume their normal position. In this operation to extract the cap the plunger carries the shell forward until it comes in contact with the under surface of the cross-head; so in order to readily remove the shell it must be again pressed down around the cylinder in addition to the backward swing of the cross-head.

To charge the empty shell with a cap, and to accomplish this without liability of injuring the nipple or marring the base of the shell, a metallic bushing, K, is placed over the pin or needle of the plunger, the shell is then fitted over the cylinder, the cap inserted, the cross-head brought to a position above the same, and the screw H so turned as to bring its lower end slightly below the under surface of the cross-head. This done, the lever-handle D is manipulated, as in the former instance, and the cap is firmly embedded in the nipple of the shell. To remove the shell, release pressure on lever-handle and swing back the cross-head.

The construction of the metallic bushing K, above referred to, is clearly illustrated in detail, Fig. 4; and as it will be of great convenience to have this element attached to and carried with this implement, the end of the handle A may be centrally bored, as shown in Fig. 3, and provided with a spring-catch, L, to secure the bushing after it has been inserted therein.

Although the above-described method and means for charging the shell is preferred, yet the same can be easily and successfully accomplished without the use of the bushing or the lever-handle. For instance, after the shell

has been fitted upon the implement and the cap placed in the nipple, swing the cross-head to a position above it, and then turn the screw H down upon the cap until it is firmly embedded in the nipple. By this method and means it will be seen that a shell can be uncapped and capped without its removal from the implement.

From the foregoing description it will be manifest that the removal and replacing of the shell are quickly done, the capping or uncapping of the same is quickly done, and that without injury to the nipple or any other portion of the shell.

It will further be manifest that from the form of this implement a shell which has been crimped can easily be made to resume its proper shape, and thereby enable a wad to be inserted without difficulty.

The implement is light in weight, is compact, durable, effective, and cheap, and in every respect commends itself to the use of sportsmen.

What we claim, and desire to secure by Letters Patent, is—

1. In an implement for capping and uncapping empty cartridges, the combination, with the cylinder B, provided, as shown, with the slot *k*, of the external collar, I, having a pin, *i*, adapting the same to engage with said slot, for the purpose substantially as set forth.

2. In an implement for capping and uncapping empty cartridges, the combination, with the cylinder B and lever-handle D, constructed as described, of the friction-roller *d*, plunger C, slotted at its lower end, and spiral spring E, extending around said plunger the greater portion of its length, substantially as described and shown.

3. In an implement for capping and uncapping empty cartridges, the combination of the parallel bars F F and cross-head G, provided with pin *h*, cylindrical socket *f*, and screw H, substantially as and for the purpose set forth.

4. In an implement for capping and uncapping empty cartridges, the combination, with the plunger C and its pin or needle *a*, of the metallic bushing K, with a flat top to serve as a guide for said pin or needle and present a flat surface to the base of the shell, to prevent the same from concaving when the screw of the cross-head is brought into contact with the cap, substantially as and for the purpose set forth.

5. In an implement for capping and uncapping empty cartridges, the handle A, centrally bored at its lower end to receive the bushing K, and provided, as shown, with the spring-catch L, to secure said bushing after being inserted therein, substantially as described and shown.

6. In an implement for capping and uncapping empty cartridges, the combination, with the lever-handle D and plunger C, of roller *d*, mounted between the same, as described and shown.

7. In an implement for capping and uncapping

ping empty cartridges, the combination, with the handles A D, cylinder B, and mechanism contained in said cylinder, substantially as described and shown, of the parallel bars F F  
5 and cross-head G, provided with pin *h*, cylindrical socket *f*, and screw H, substantially as described and shown.

In testimony whereof we affix our signatures in presence of two witnesses.

CLARENCE H. SMITH.

LEWIS E. HANSBERRY.

Witnesses:

SAML. D. SCHOLES,

C. J. FRICHEL.