

(Model.)

F. P. BARNEY.
Button and Stud.

No. 229,356.

Patented June 29, 1880.

Fig. 3.

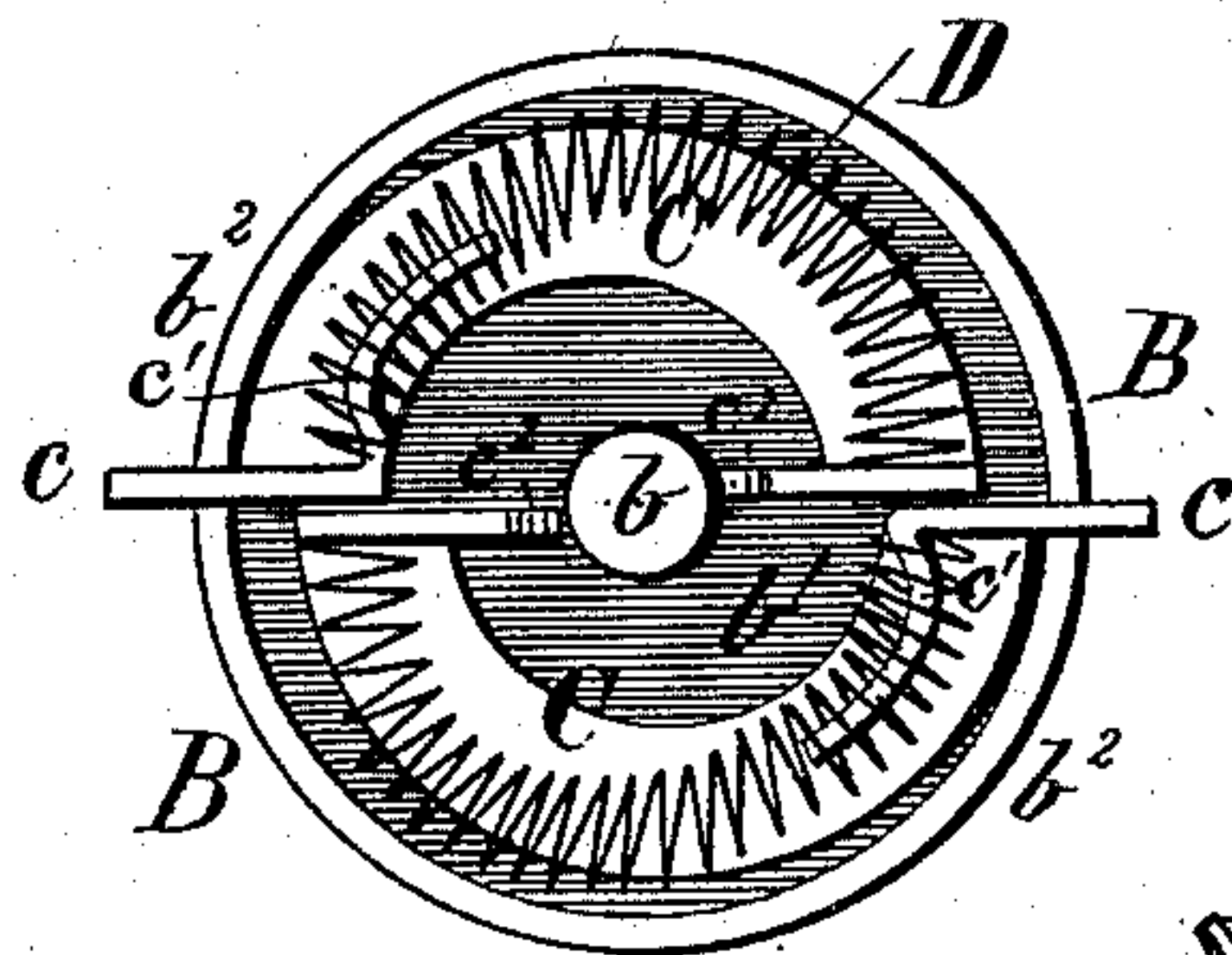


Fig. 7.

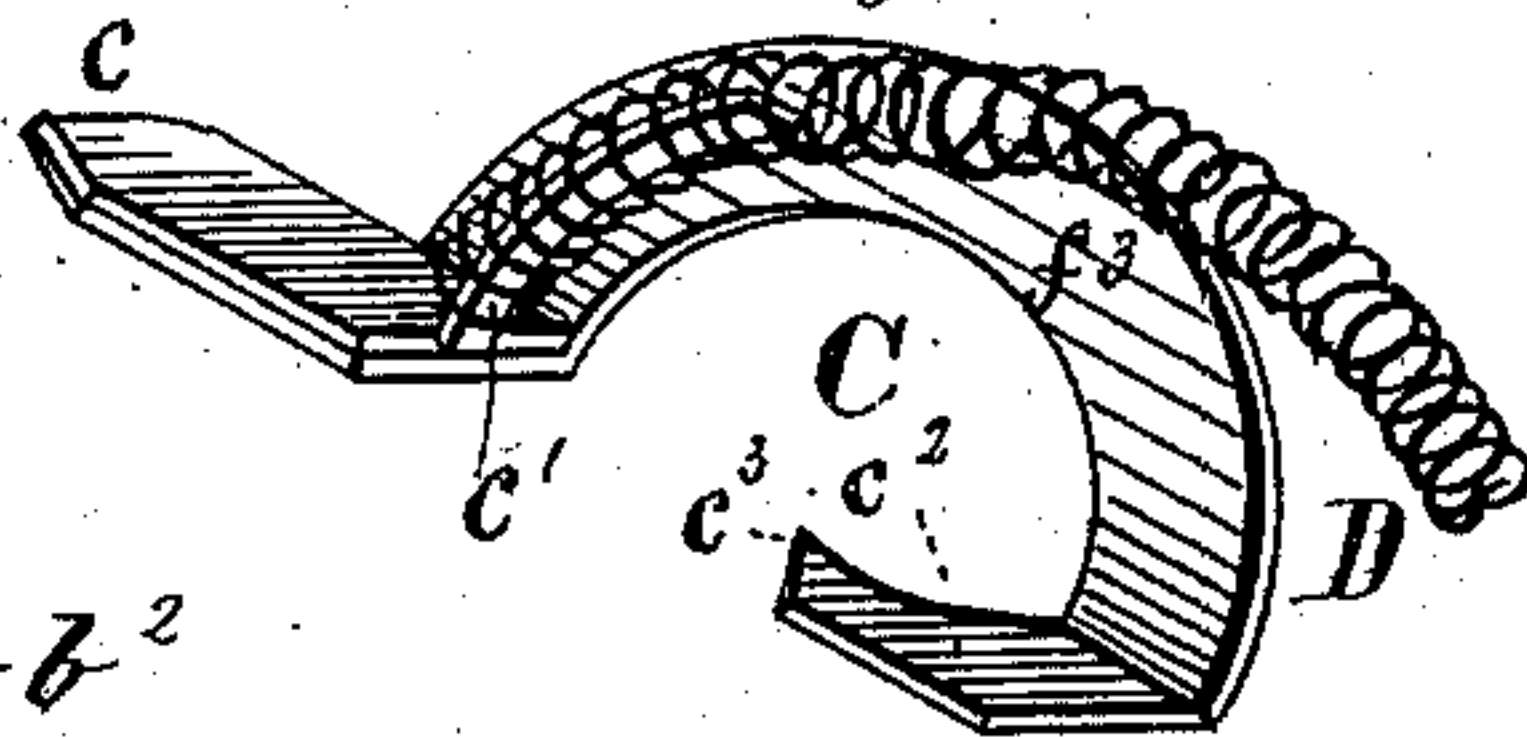


Fig. 1.

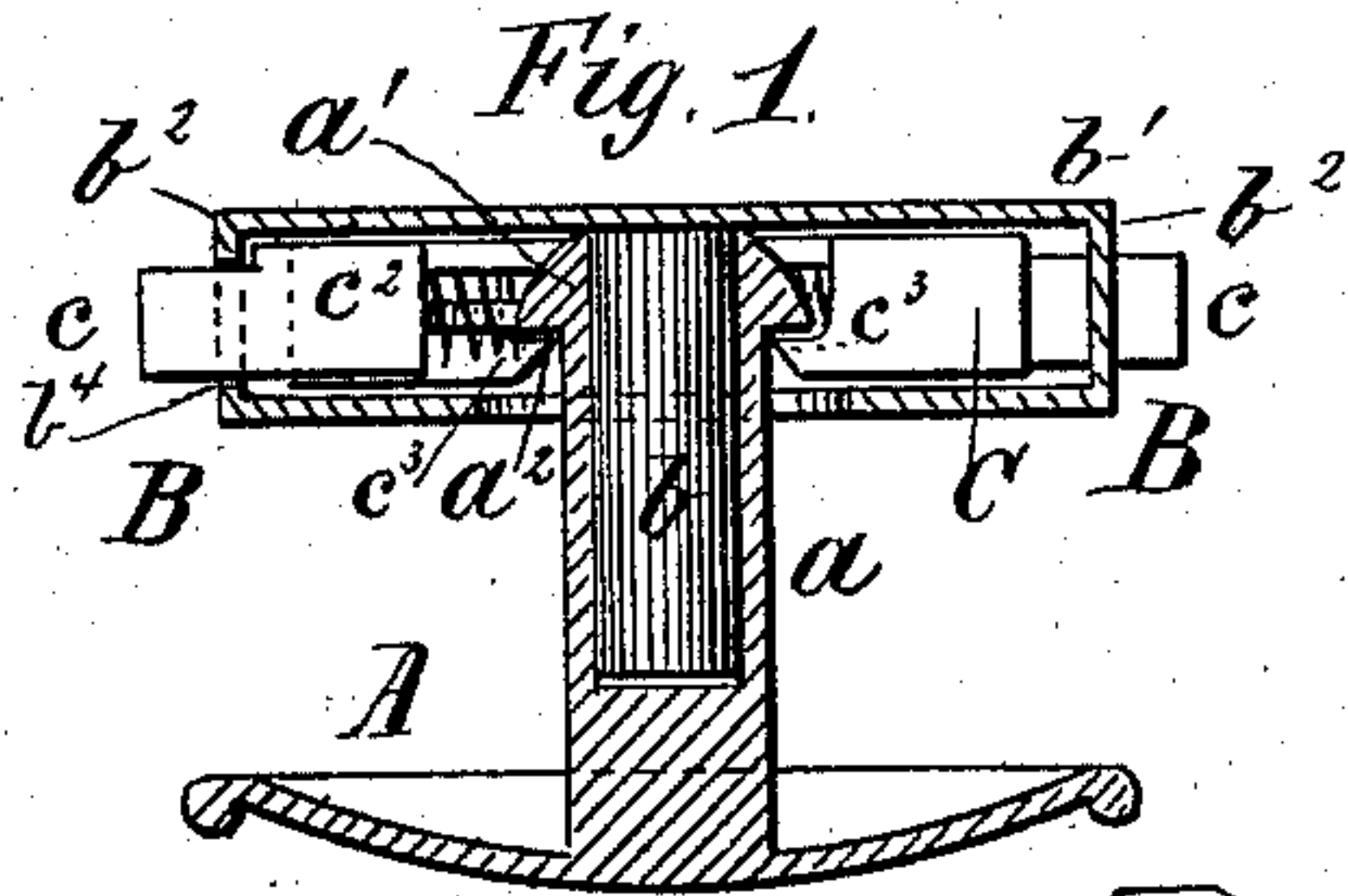


Fig. 6.

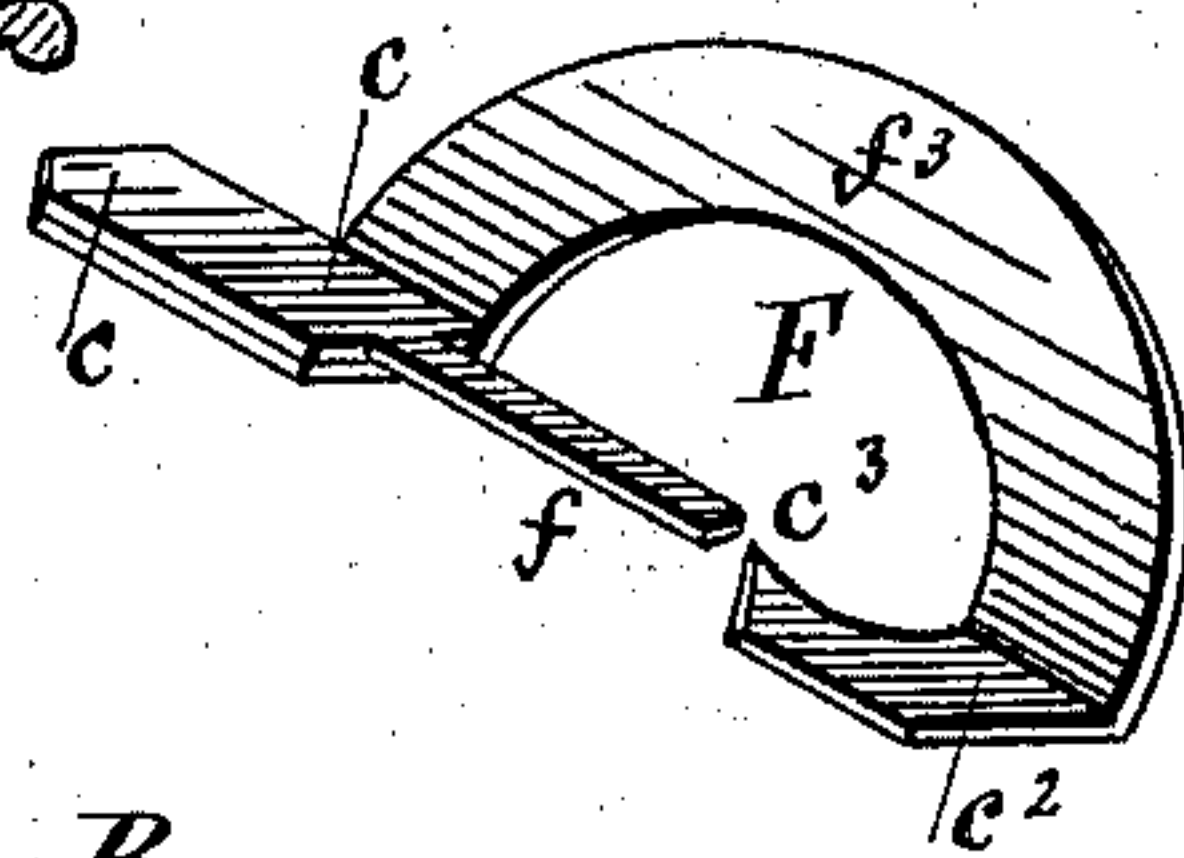


Fig. 2.

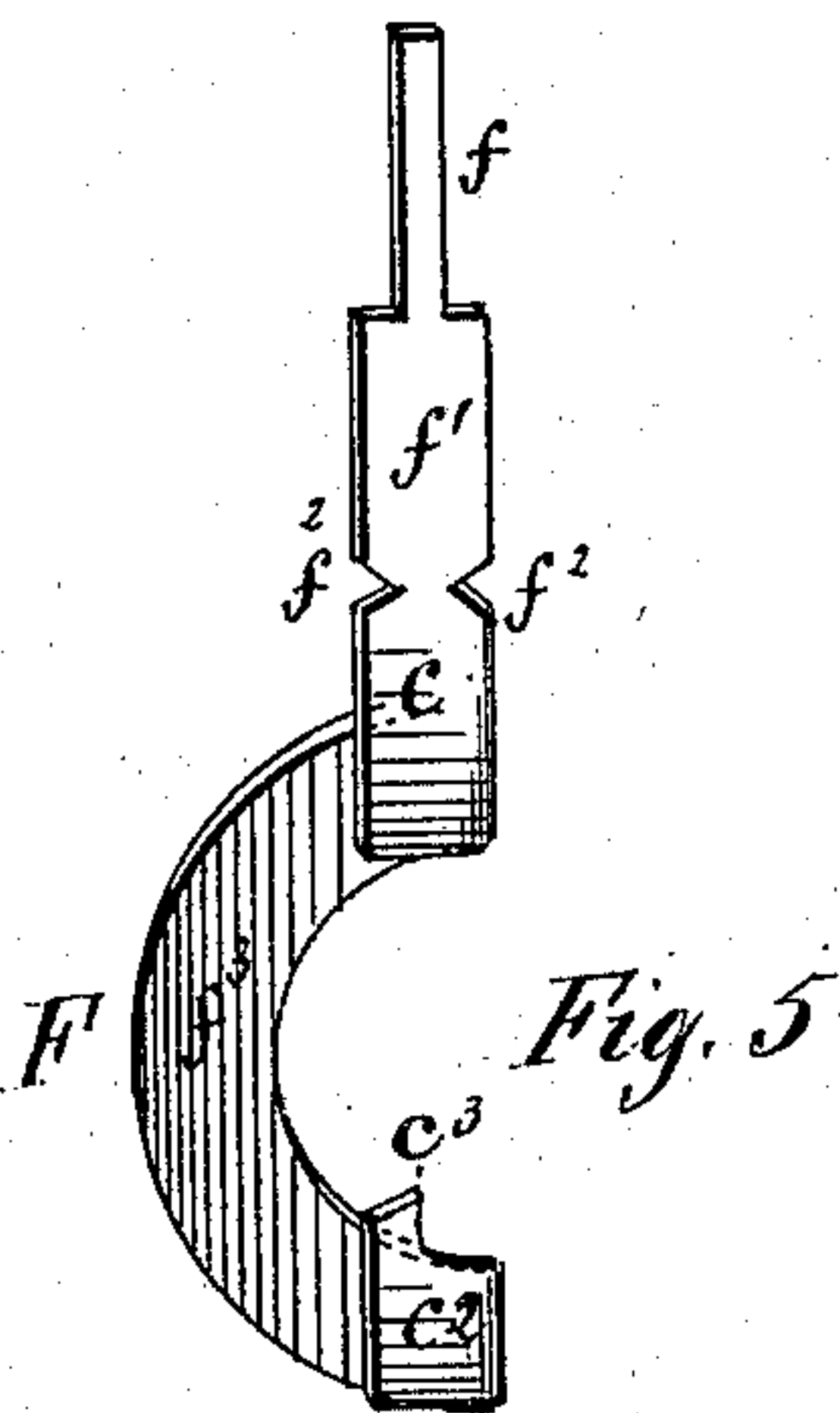
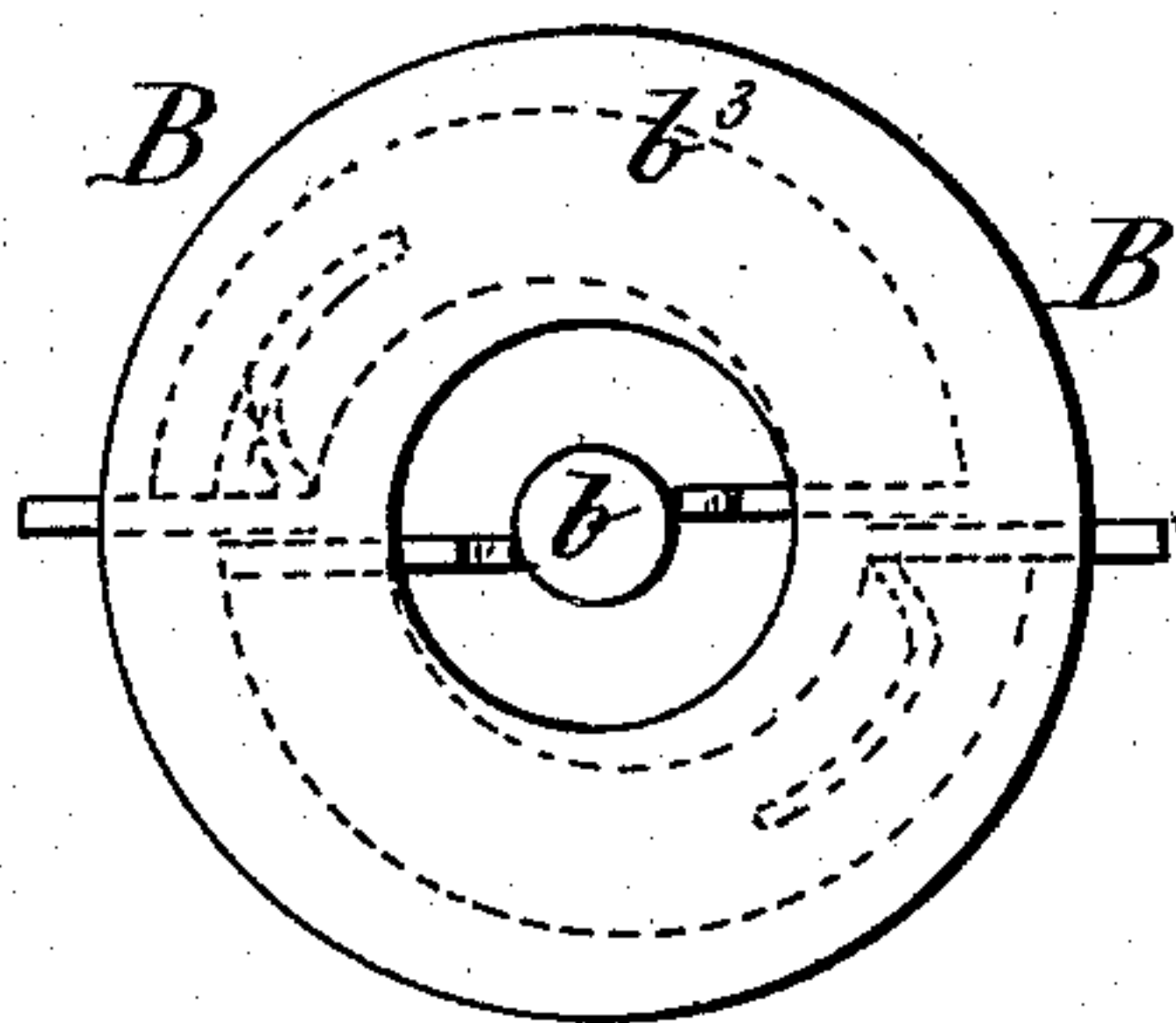
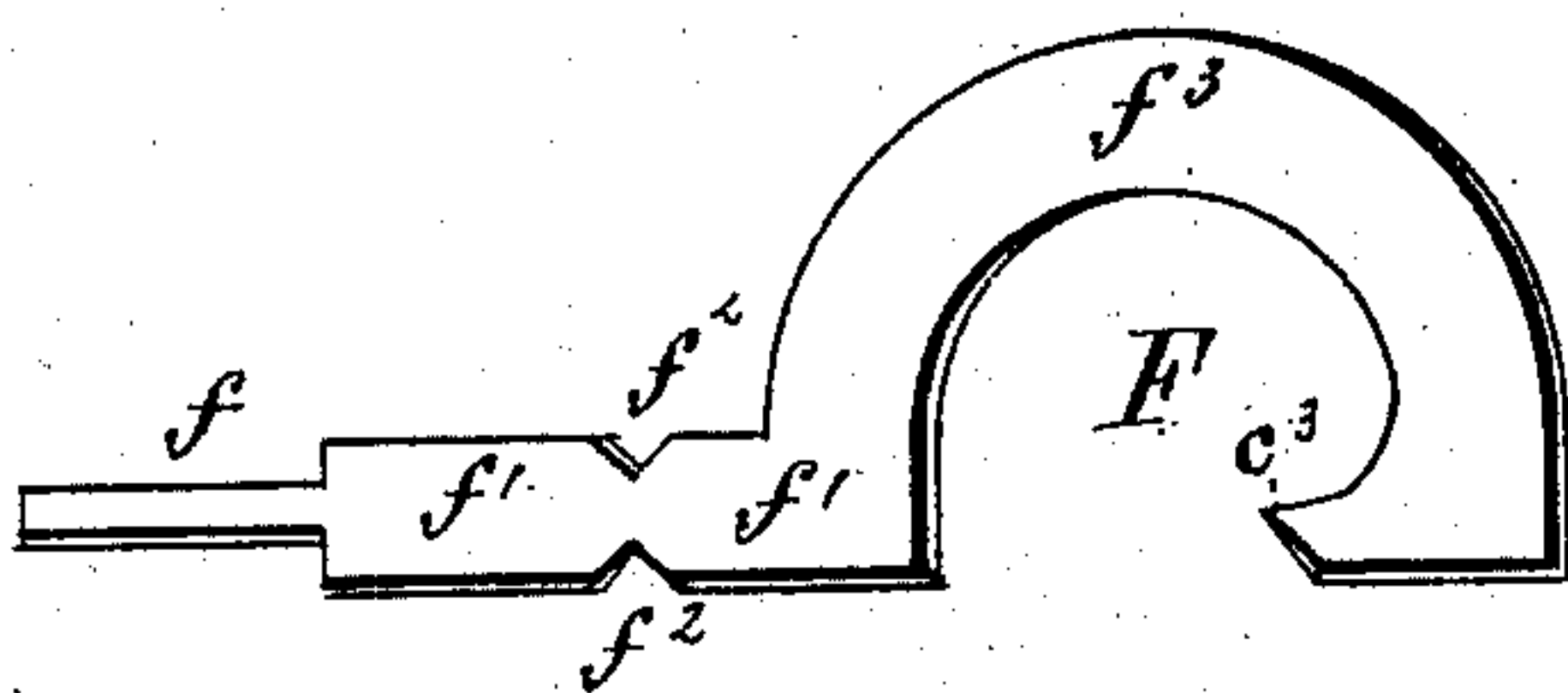


Fig. 4.



Witnesses

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BUTTON AND STUD.

SPECIFICATION forming part of Letters Patent No. 229,356, dated June 29, 1880.

Application filed April 27, 1880. (Model.)

To all whom it may concern:

Be it known that I, FRANK P. BARNEY, a citizen of the United States, residing at Norton, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Separable Buttons and Studs; and I 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention has for its object improvements in the construction of separable buttons and studs; and it consists, first, in a novel construction and arrangement of locking devices and their combination with the button-sections; secondly, in the peculiar construction of locking-lever, all as fully described hereinafter, and shown in the accompanying drawings, in which—

Figure 1 is a vertical transverse section of a separable button or stud constructed according to my invention. Fig. 2 is a top-plan view of the locking-section of the button. Fig. 3 is a like view of the same with the cap or covering plate removed. Fig. 4 is a blank, from which the locking-levers are made, shown in perspective. Figs. 5 and 6 are like views, showing the several steps in forming said locking-lever; and Fig. 7 is an isometrical view of said finished locking-lever with its spring attached.

In the above drawings all the various figures are drawn on an enlarged scale, and similar letters of reference are employed to indicate corresponding parts wherever such may occur.

A represents that section of the button or stud carrying a hollow stem, a , preferably of cylindrical shape, provided at its lower end with a flaring flange, a' , having a flat upper engaging or locking face, a^2 , for the engagement of the locking lever or levers.

B is the locking-section of the button or stud, carrying the post b , adapted to fit into the hollow post a . This section B is composed of the base-plate b' , carrying the post b , an annular flange or rim, b^2 , and a perforated cap or

covering plate, b^3 , through which projects the post b , and into which enters the post a , said parts forming a casing for the reception of the locking devices, which I will now describe.

C C are two locking-levers having an extension, c , that serves as a push-rod, a projection or arm, c' , that serves to support one end of the actuating-spring, and an upturned lip or flange, c^2 , having the hook or nose c^3 , that serves to engage the flange a' of the hollow stem a , and said flange c^2 also serves as an abutment for the free end of the actuating-spring. These levers are placed in the casing B' of the section B with the extensions or push-rods c projecting through the slits or slots b^4 , formed on opposite sides in the rim b^2 of said casing, as shown in Fig. 3.

Any desired form of spring may be employed. I prefer, however, to employ a coiled spring, D, one end of which is supported by the arm c' of the lever C, while the free end of said spring abuts against the flange c^2 of said lever when in position in the casing, as shown by Fig. 3. It will be seen that by this arrangement the actuating-spring D is made to exert its power upon the levers C in two directions simultaneously—first, in the direction of the axis of said levers through the arm or support c' , and, secondly, in a direction at right angles to said lever-axis or laterally, which is necessary to hold the levers in proper position relatively to each other, as well as to the post and hollow stem, as it is evident that were the spring D to exert its power in the direction of the lever-axis for the locking of said levers to the hollow stem and post only, their displacement laterally would necessarily follow and materially interfere with or completely destroy their function.

By means of the lateral pressure of the spring D the levers are held against each other, and their push-rods and bearing-flanges form bearings for their mutual support and proper operation, while this peculiar locking device, owing to its compactness and simplicity, may be employed on buttons or studs of very small size. These levers C are struck up from sheet metal into blanks F, having the form shown in Fig. 4, and being composed of a segmental body, f^3 , provided on its inner forward edge with a lip or nose, c^3 , of an arm, f , an enlarged

part, f' , and the nicked or reduced part f^2 . To form the lever C from this blank the arm f , enlarged part f' , and the outer or hook end, f^4 , are first bent at right angles to the segmental body f^3 , as shown in Fig. 5, to form the locking and bearing flange c^3 c^2 , above described. The part f' , with its arm f , is then doubled upon itself at the notched or reduced part f^2 , and the arm f is bent to conform, or nearly to conform, to the segmental body f^3 , as shown by Fig. 6, to form the push-rod or extension c and the supporting-arm c' for the actuating-spring above set forth, and, finally, the spring D is applied or attached to said arm c' , as shown in Fig. 7, when the lever, with its actuating-spring, is ready to be placed into position in the casing B', as shown in Fig. 3.

It will be understood that I do not limit myself to the exact configuration of button hereinbefore described, and shown in the drawings, as buttons or studs of any desired shape may be employed; nor do I desire to limit myself to the exclusive use of the form of locking-lever as I have described it, and shown it in the drawings, as it is evident that any other suitable form of lever adapted to be actuated by the spring in two directions, as described, may be employed.

I do, however, not desire to claim, broadly, the combination of a spring with a locking-lever when said spring is arranged to exert its power in the direction of the axis of the lever and at right angles thereto simultaneously, as I am aware that springs arranged to exert their power in this manner have been previously employed.

Having now described my invention, what I claim is—

1. The combination, with the section A and its hollow stem, provided with the flaring engaging-flange a' a^2 , of the section B, its post

b , the locking-levers C, terminating at one end in a push-rod and at the other in an abutment, c^2 , provided with the engaging lip or nose c^3 , and the actuating-springs D, having one end connected with said levers upon one side of the post and their free ends made to bear upon the lever-abutments on the opposite side of the post, substantially as described, and arranged to operate as set forth.

2. The combination, with the section A and its hollow stem, of the section B, its casing or body b' b^2 b^3 , the post b , the locking-levers C, terminating at one end in a push-rod and at the other in a vertically-projecting abutment having an engaging nose or lip, c^3 , and provided with the projecting arm or bearing c' , and the actuating coiled springs D, having one end supported by said lever-bearing c' upon one side of the post and their free ends made to bear upon the abutments on the opposite side of the post, substantially as described, and constructed and arranged to operate as set forth.

3. A locking-lever for separable buttons, having an extension, c , to form a push-rod, an arm, c' , to support a spring, a bearing-flange, c^2 , provided with a locking lip or nose, c^3 , and an intermediate segmental body, substantially as described, for the purpose specified.

4. The herein-described blank for locking-levers, struck up from sheet metal, and consisting of the segmental body f^3 , having the lip or nose c^3 , the arm f , the enlarged part f' , and the nicks or recesses f^2 , substantially as shown and described, and for the purpose specified.

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

FRANK P. BARNEY.

Witnesses:

ELISHA T. JACKSON,
N. C. PLACE.