

(No Model.)

N. R. SHULTS.
LOCKING BOLT.

No. 597,748.

Patented Jan. 25, 1898.

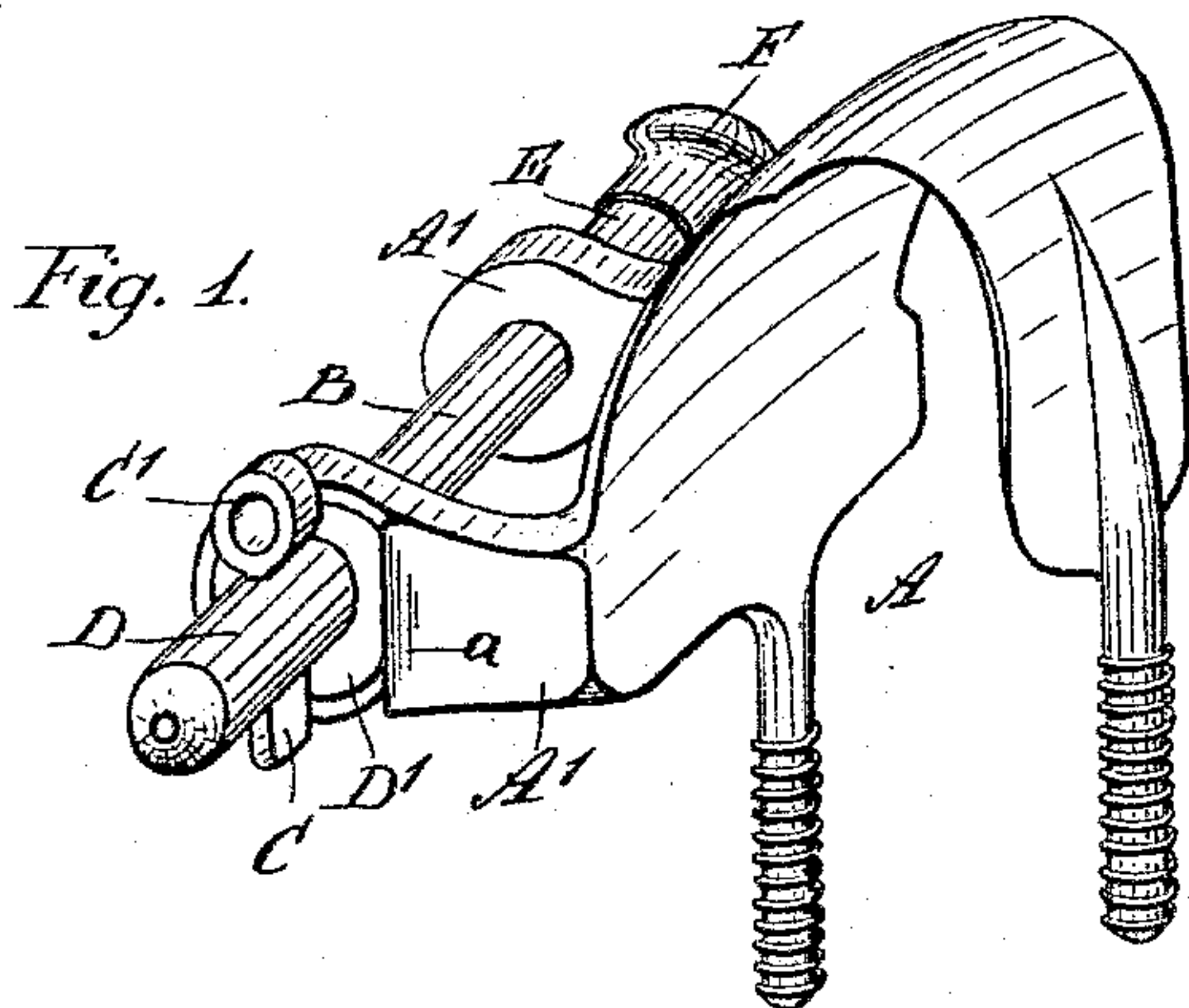


Fig. 2.

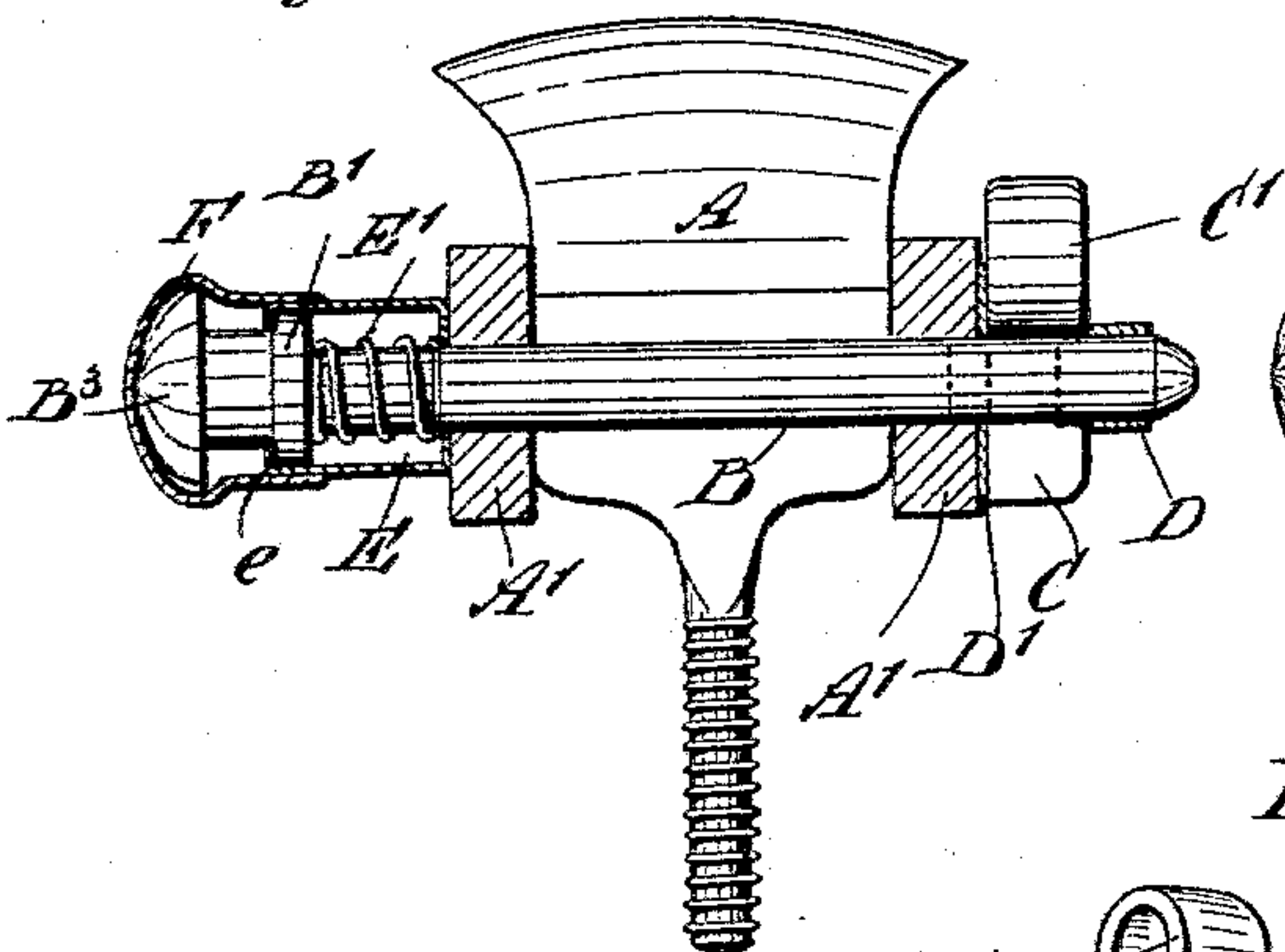


Fig. 3.

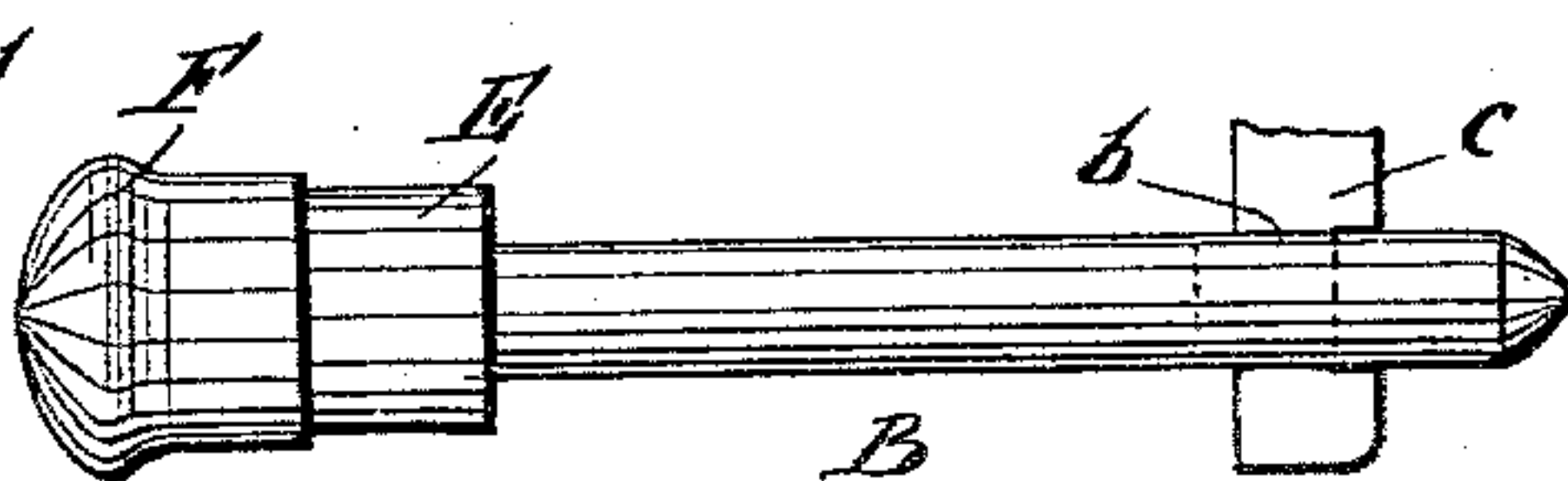


Fig. 5.

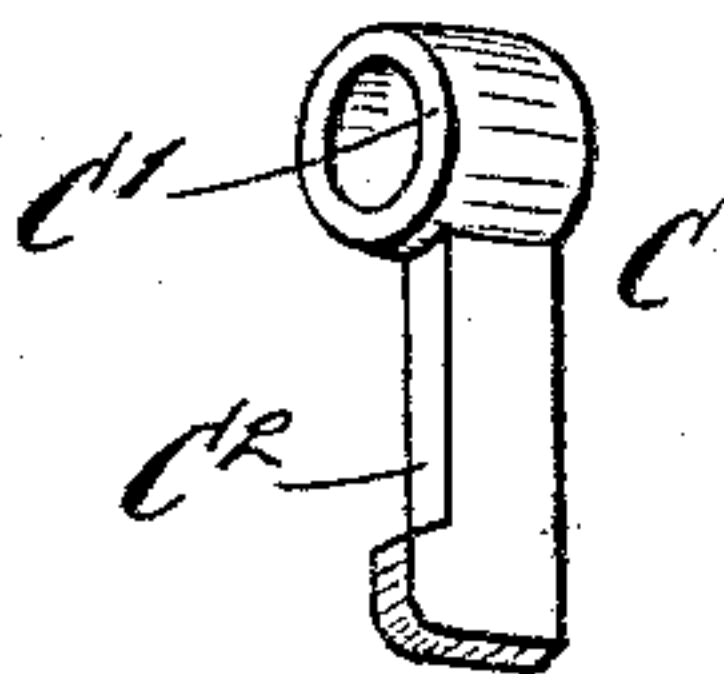


Fig. 4.

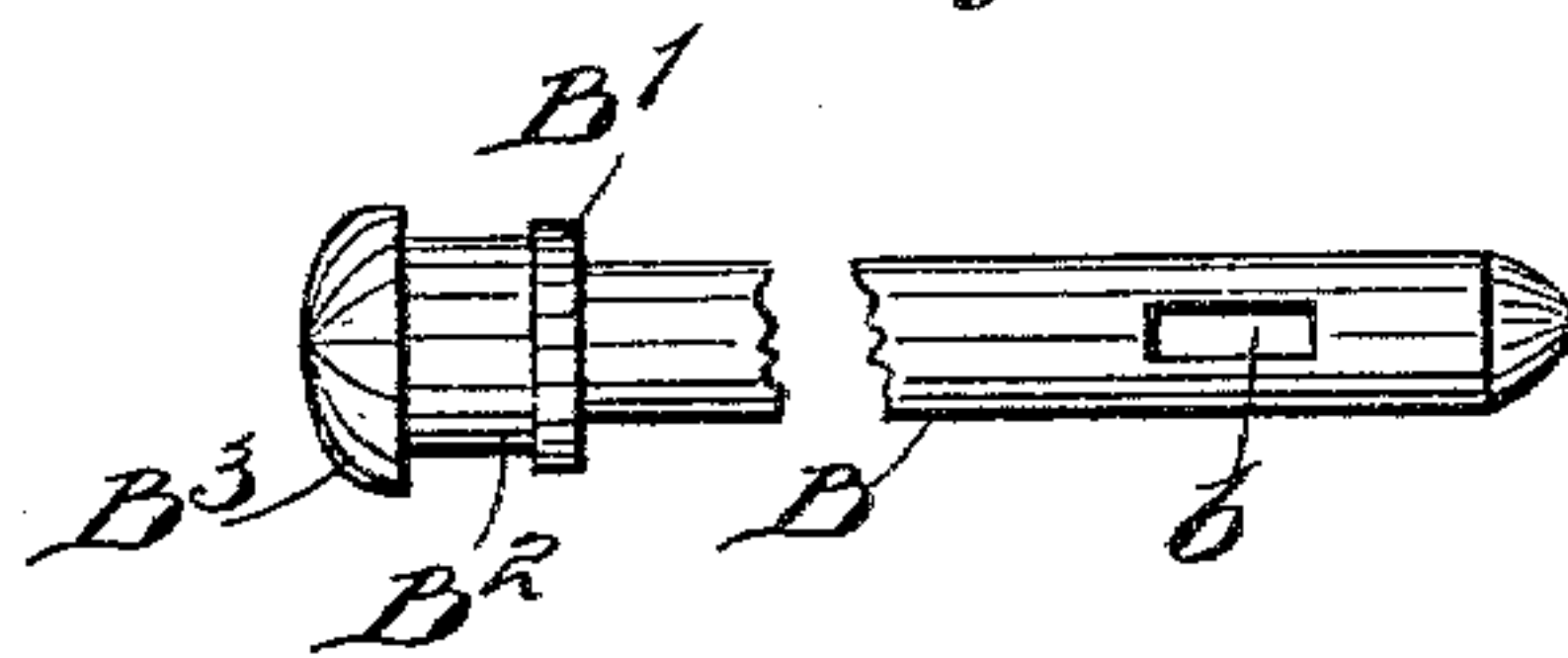
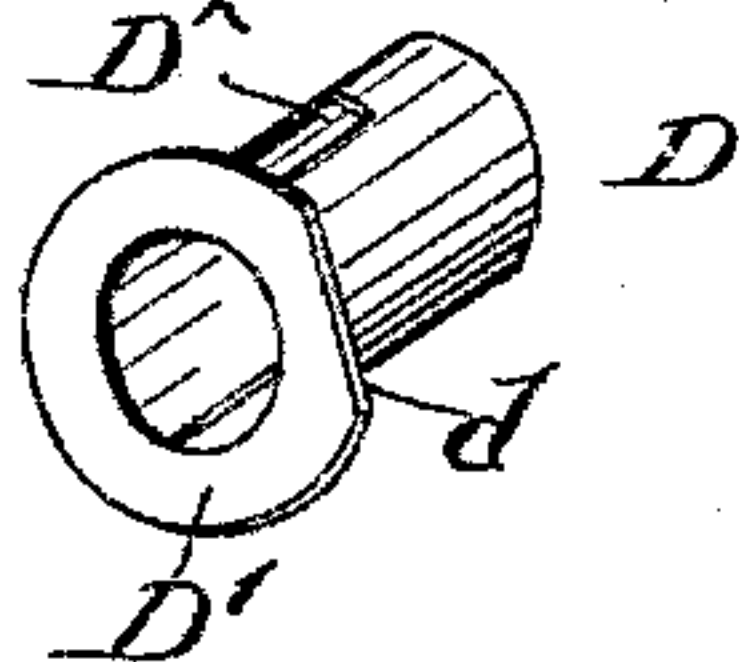


Fig. 6.



WITNESSES:

Otto Spieth.

H. L. Reynolds.

INVENTOR

N. R. Shults.

BY

Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

NICHOLAS R. SHULTS, OF LAKE CITY, MICHIGAN.

LOCKING-BOLT.

SPECIFICATION forming part of Letters Patent No. 597,748, dated January 25, 1898.

Application filed May 4, 1897. Serial No. 635,003. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS R. SHULTS, of Lake City, in the county of Missaukee and State of Michigan, have invented a new and Improved Locking-Bolt, of which the following is a full, clear, and exact description.

My invention relates to an improvement in locking-bolts, and is designed more particularly for use in connection with thill-couplings, but is adapted for use in many other locations.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully described, and pointed out in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the bolt, showing it as applied to a thill-coupling. Fig. 2 is a vertical section taken through the axis of the bolt, but showing the bolt in elevation. Fig. 3 is an elevation of the bolt, showing it as removed from the clevis. Fig. 4 is a view of the bolt, showing the spring and casing for the head end thereof removed. Fig. 5 is a perspective view of the locking-pin, and Fig. 6 is a perspective view of the cap which coöperates with the locking-pin to prevent turning of the bolt.

The clip A, which passes over the axle, is of the usual form and has forwardly-extending ears A', between which the eye of the shaft-iron is placed. A bolt B passes through both of these ears and the eye of the shaft-iron, the bolt having a collar B' near its head. Between this and the head B³ the bolt is slightly reduced in diameter. A cylinder E, of thin sheet metal, is placed over the bolt and has one end thereof beaded over, as shown at e, so as to catch the outer side of the collar B'. The other end of the sleeve is also turned inwardly, forming a head which has a hole large enough to freely admit the shank of the bolt. Within the space thus formed between the bolt and the cylinder or sleeve E is placed a spirally-coiled spring E'. This spring acts to force the head of the bolt away from the ears A'.

The head B³ is incased by a cover F of such diameter at its inner end as to slide freely

over the cylinder E. This cover is of somewhat less diameter than the head and is held on the head by this reduction in diameter. The opposite end of the bolt B is provided with a slot b, adapted to receive the shank of the pin C, which has a recess or notch formed in one edge, which reduces the width of the pin. The wider portion of the pin will pass through the slot b in the bolt B. The recess or notch C² in the pin is large enough so that it will embrace the sides of the bolt B, and the length of this recess or notch must therefore be equal to the diameter of the bolt. For convenience the pin is provided with an eye in its head C', by which it may be fastened, so that it cannot get lost when removed. A thimble D is slipped over the end of the bolt, which receives said pin C. At the inner end this thimble is provided with a flange or washer D', which is cut away on one side or made of a non-circular outline. This washer is formed integral with the thimble or otherwise made a permanent part thereof. The ear A' upon the side of the coupling receiving the thimble D is provided with a shoulder a, adapted to engage the straight side d of the flange or washer D'. This prevents the thimble or sleeve D from turning, and it in turn prevents the bolt B from turning.

The thimble D is provided with holes D², adapted to register with the hole b through the bolt B. In the position shown in Fig. 2 the hole in the bolt B and the holes in the thimble D do not exactly register. They will exactly register, however, if the head of the bolt is forced inward, compressing the spring E'. To insert the pin C, the head of the bolt is forced inward until these holes B² and b exactly register. The enlarged end of the pin C can then pass through the holes both in the pin and the thimble D. When it reaches the point where the notch C² is even with the bolt, the bolt will, if permitted, be thrown back by the spring E' and thus lock the pin C in place. The thimble D, being prevented from turning by engagement with the shoulder a, will prevent the pin C from turning, and this will in turn prevent the bolt from turning. The spring E' will hold the bolt out at all times, so that the pin C cannot become accidentally displaced. This form of coupling may be used in connection with the

clips ordinarily furnished for thill-couplings. The construction of the bolt is also simple and inexpensive. It is impossible for the bolt to become accidentally displaced, and its use will therefore prevent many accidents which would otherwise cause a great deal of inconvenience as well as possible danger.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a bolt having a spring under its head acting to withdraw the same and a slot through its opposite end, of a tubular cap having a washer-flange which departs from a circle on one side, said cap having holes adapted to register with the hole through the bolt, a fixed shoulder or abutment engaging the non-circular part of said washer, and a pin fitting said holes, having a notch in one side edge adapted to receive

the bolt-body therein, substantially as described.

2. The combination of a bolt having a spring under its head acting to withdraw the same and also having a slot through its opposite end, a cylinder surrounding the bolt-spring, a cap attached to the bolt-head and telescoping with said cylinder, a tubular cap having a washer-flange which departs from a circle on one side and has holes adapted to register with the hole through the bolt, a fixed shoulder engaging the non-circular part of said washer, and a pin fitting said holes, having a notch in one side edge, and adapted to receive the bolt-body therein, substantially as described.

NICHOLAS R. SHULTS.

Witnesses:

JAMES E. WRIGHT,
C. L. GOLL.