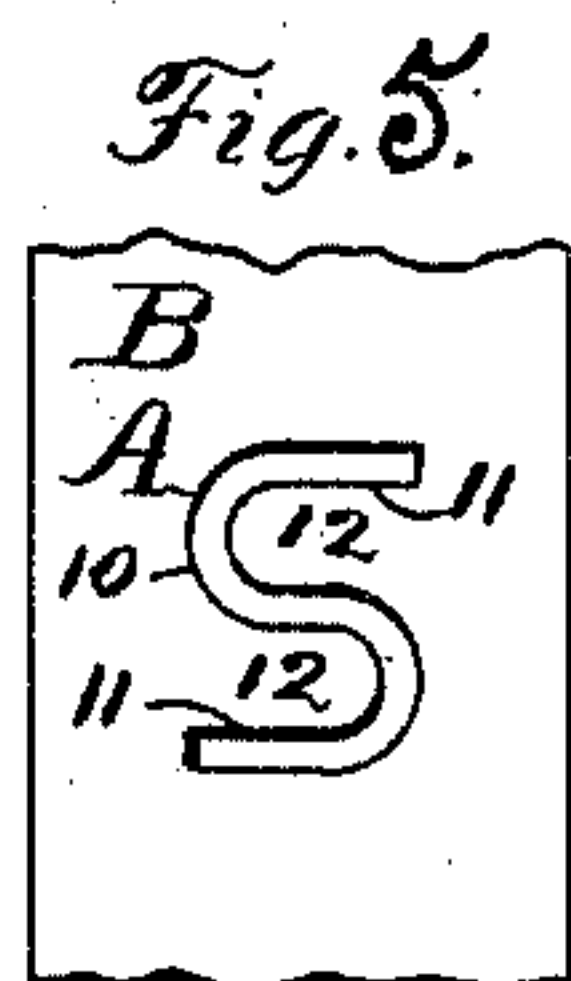
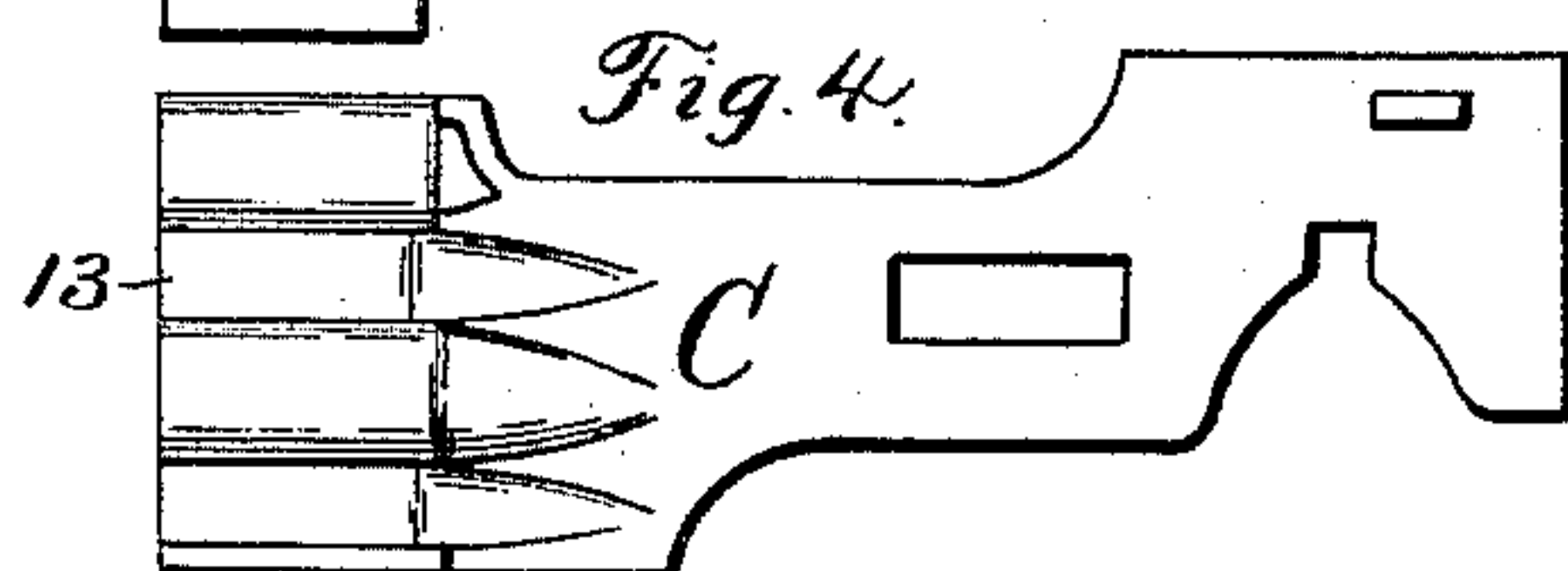
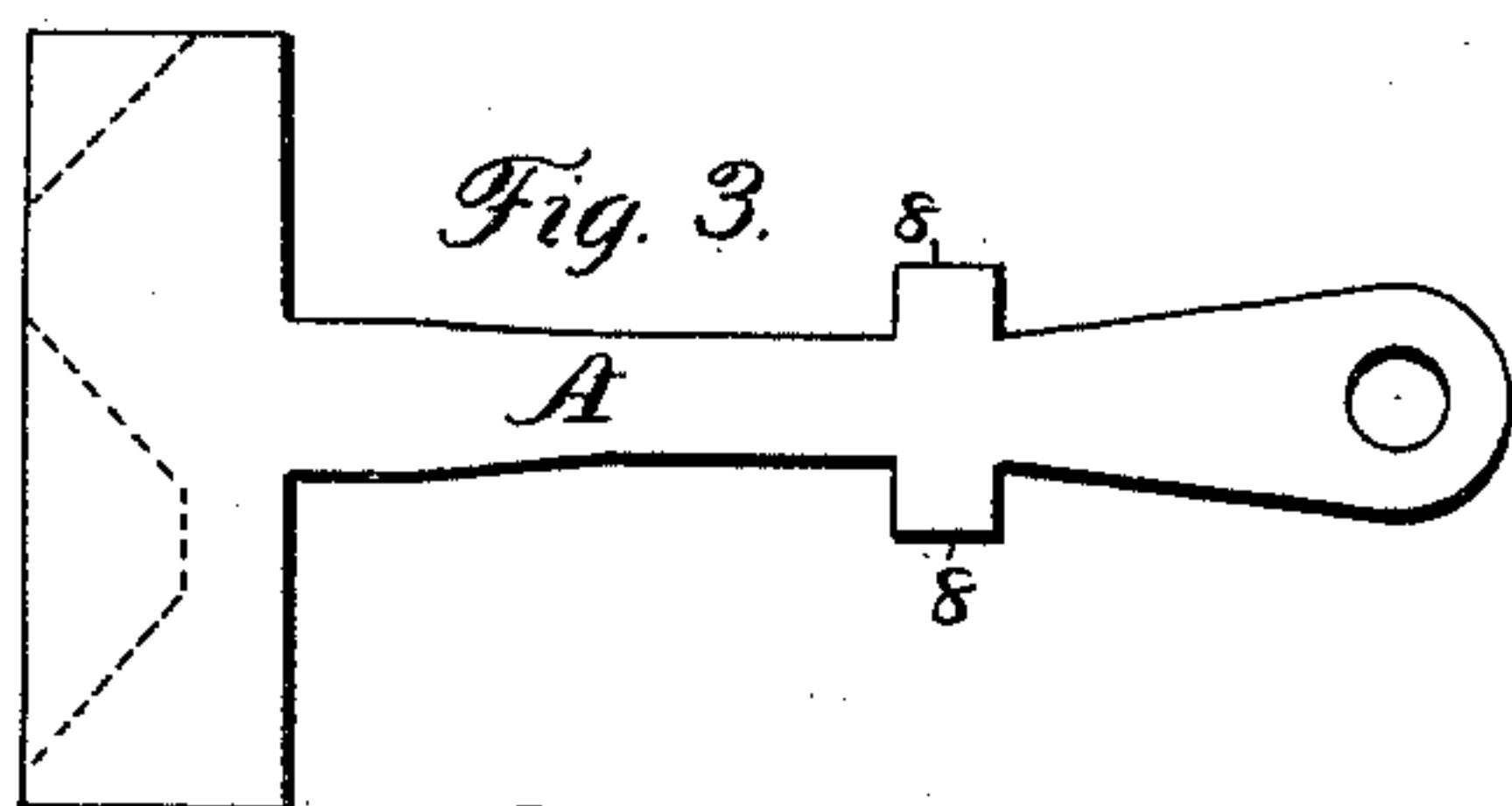
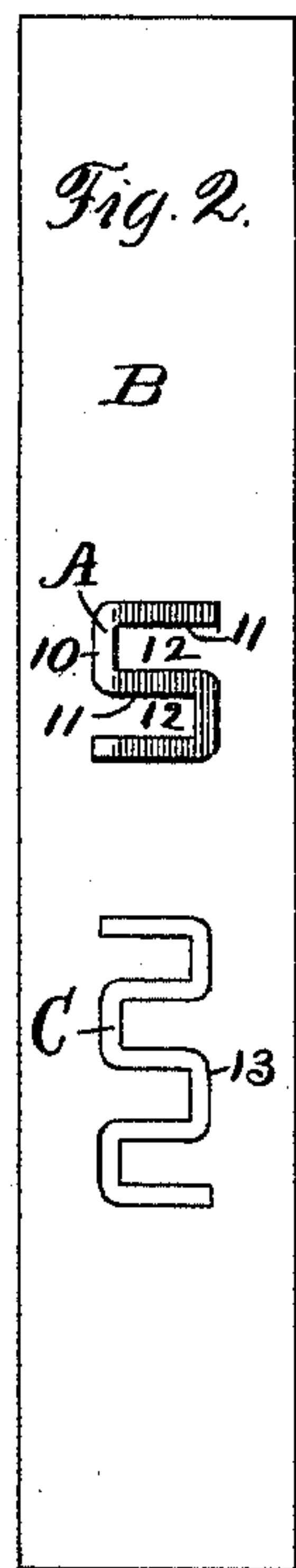
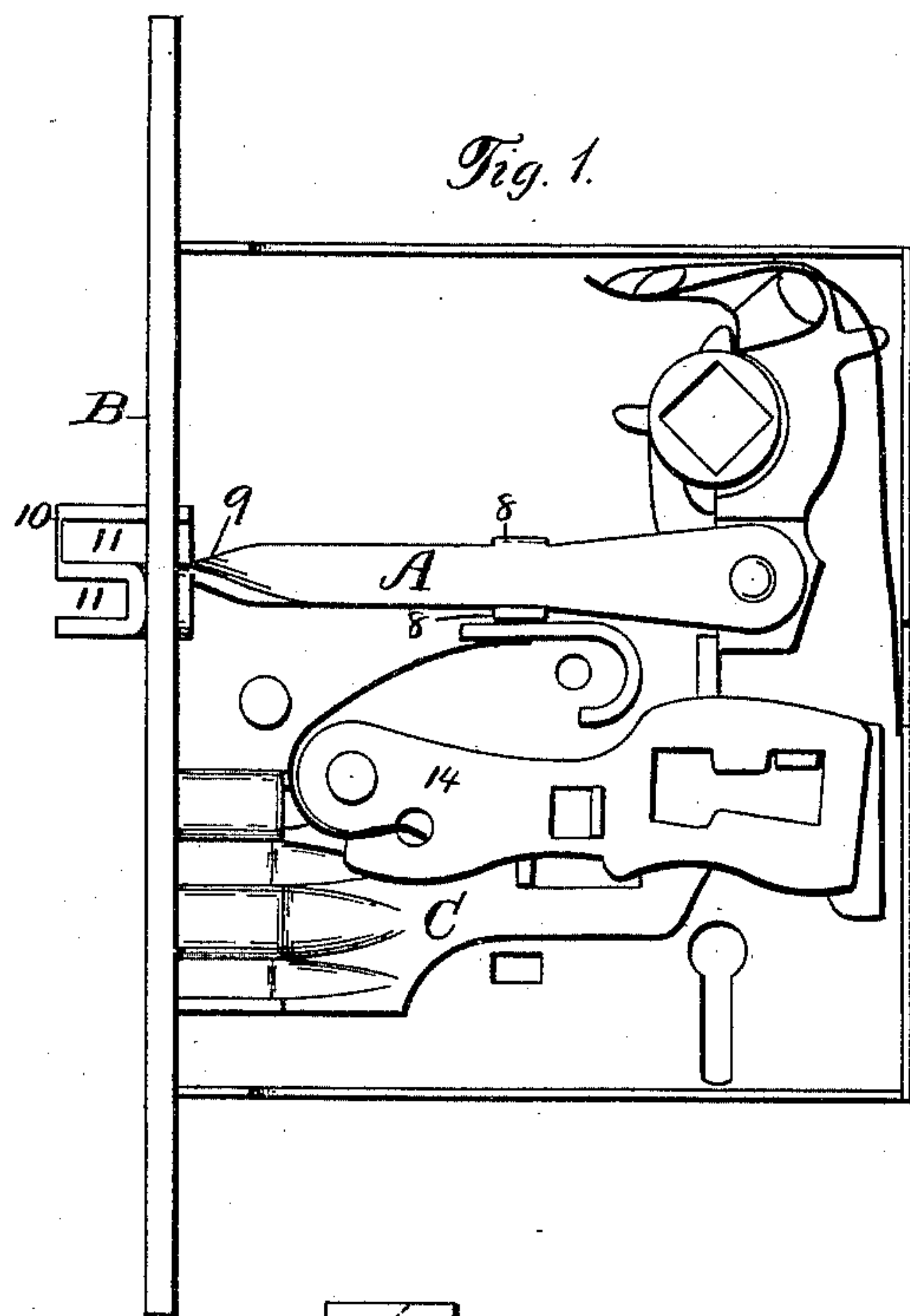


(No Model.)

H. E. RUSSELL, Jr.
LATCH.

No. 436,381.

Patented Sept. 16, 1890.



Witnesses.

John Edwards Jr.
W. H. Pierce.

Inventor:

Henry C. Russell Jr.
By James Shepard
Atty.

UNITED STATES PATENT OFFICE.

HENRY E. RUSSELL, JR., OF NEW BRITAIN, CONNECTICUT.

LATCH.

SPECIFICATION forming part of Letters Patent No. 436,381, dated September 16, 1890.

Application filed June 23, 1890. Serial No. 356,420. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. RUSSELL, Jr., a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Latches, particularly the bolts and face-plates; and the objects of my improvement are to simplify the construction, to reduce the cost of manufacture, to improve the appearance, and to increase the efficiency.

In the accompanying drawings, Figure 1 is a front elevation of a latch and lock containing bolts and face-plate constructed in accordance with my improvement, the cap of the case being removed. Fig. 2 is a side elevation of the same, showing the face-plate and latch and lock-bolts. Fig. 3 is a plan view of the blank for the latch-bolt. Fig. 4 is a detached front elevation of the lock-bolt; and Fig. 5 illustrates portions of a face-plate for a somewhat modified form of latch-bolt.

The latch and lock mechanism, aside from the bolts and the face-plate through which they work, may be of any ordinary construction. I have illustrated the latch-bolt A for a reversible latch, and its body or shank is provided with oppositely-bent wings 8 8, projecting to the front and rear, so as to support the shank of the latch between the two sides of the case. The latch is twisted a quarter turn, as at 9, just inside its head 10, which head is corrugated or grooved substantially in the form of a letter S, as shown most clearly in Fig. 2. The opening in the face-plate B for said latch-bolt is of a corresponding form. It will thus be seen that the head of the sheet-metal latch-bolt is provided with a groove 11 upon each side, both extending to and through the beveled end of the latch-bolt, so that they are open-ended grooves. The face-plate by being of a corresponding form is provided with oppositely-faced tongues 12 12, which fit and fill said grooves. This latch-bolt may be struck up out of sheet metal from a blank, such as is shown in Fig. 3, and after striking up the same its outer end may be given the ordinary bevel, or, if desired, the blank may be cut at its outer end, as indicated by the broken lines in Fig. 3, so that it will have the proper bevel when struck up.

The lock-bolt C has its head 13 grooved or

corrugated in a similar manner, which may be done by striking up in dies. The opening or mortise in the face-plate is of corresponding form. The inner ends of the corrugations at the part of the bolt that does not enter the face-plate may have the corrugations taper and merge into the shank, or, if desired, the metal may be cut at the inner ends of the corrugations to facilitate striking up. I have illustrated the lock-bolt as having the corrugations vanish, but with the vanishing portion of the upper corrugation cut away to accommodate the ordinary lock-tumbler 14. By making grooves on opposite sides of the latch-bolt head as shown, there is one long and one short groove, the former of which necessarily extends to the extreme end or highest point on the bevel of the latch, so that one or the other of the two wings which fit the bottom of the grooves will engage the bottom of said longest groove and thereby effectually support the latch-bolt against moving either to the front or rear by its bearings in the face-plate even when the latch-bolt is fully drawn into the case, and therefore a proper support is formed for the outer end of the latch-bolt without making it bear upon the front and rear sides of the latch-case. In the ordinary form of a solid latch-bolt head fitted in a square or rectangular opening, the face-plate does not support the head of the latch-bolt against working from front to rear when the beveled portion is within the face-plate, and therefore the inside of the case is provided with special bearings therefor.

My improvement causes the face-plate to properly support the latch-bolt head of a reversible latch in a simple and inexpensive manner. For example, as shown in Figs. 1, 2, and 5, one of the tongues 12, as, for instance, the upper one, bears in the bottom of the groove longest in the latch-bolt head to hold it when the latch-bolt is set with the bevel in one direction, and the other tongue, as, for instance, the lower one, will engage the bottom of the same groove and furnish a like support when the latch-bolt is reversed to bring its bevel in the opposite direction.

In both the latch-bolt and the lock-bolt the head may be very accurately struck up in dies and easily fitted to the face-plate by having the mortises therein cut with dies. In

both the bolt-head is of a substantial form and will fit a keeper having the ordinary form of mortise, while the face-plate and end view of the latch-bolt present an ornamental appearance.

While I have shown bolts as adapted only for a latch and lock, it is evident that analogous bolts, as door-bolts, may be made in the same way.

10 I claim as my invention--

1. The herein-described sheet-metal bolt, having its head grooved longitudinally on opposite sides by striking up in dies, and having the body of the bolt twisted a quarter-turn,
15 as at 9, just inside said head, substantially as described, and for the purpose specified.

2. The herein-described sheet-metal bolt, having its head formed into alternate grooves and ridges on opposite sides, substantially as described, and for the purpose specified. 20

3. The herein-described reversible latch, having its latch-bolt head provided with an open-ended groove upon its front and rear sides, and its face-plate provided with a pair of oppositely-faced tongues 12 12, fitted to said
25 grooves, substantially as described, and for the purpose specified.

HENRY E. RUSSELL, JR.

Witnesses:

M. S. WIARD,

W. C. RUSSELL.