

No. 675,774.

Patented June 4, 1901.

J. G. GADSDEN.
TRUNK LOCK.

(Application filed Apr. 8, 1899.)

(No-Model.)

2 Sheets—Sheet 1.

Fig. 1,

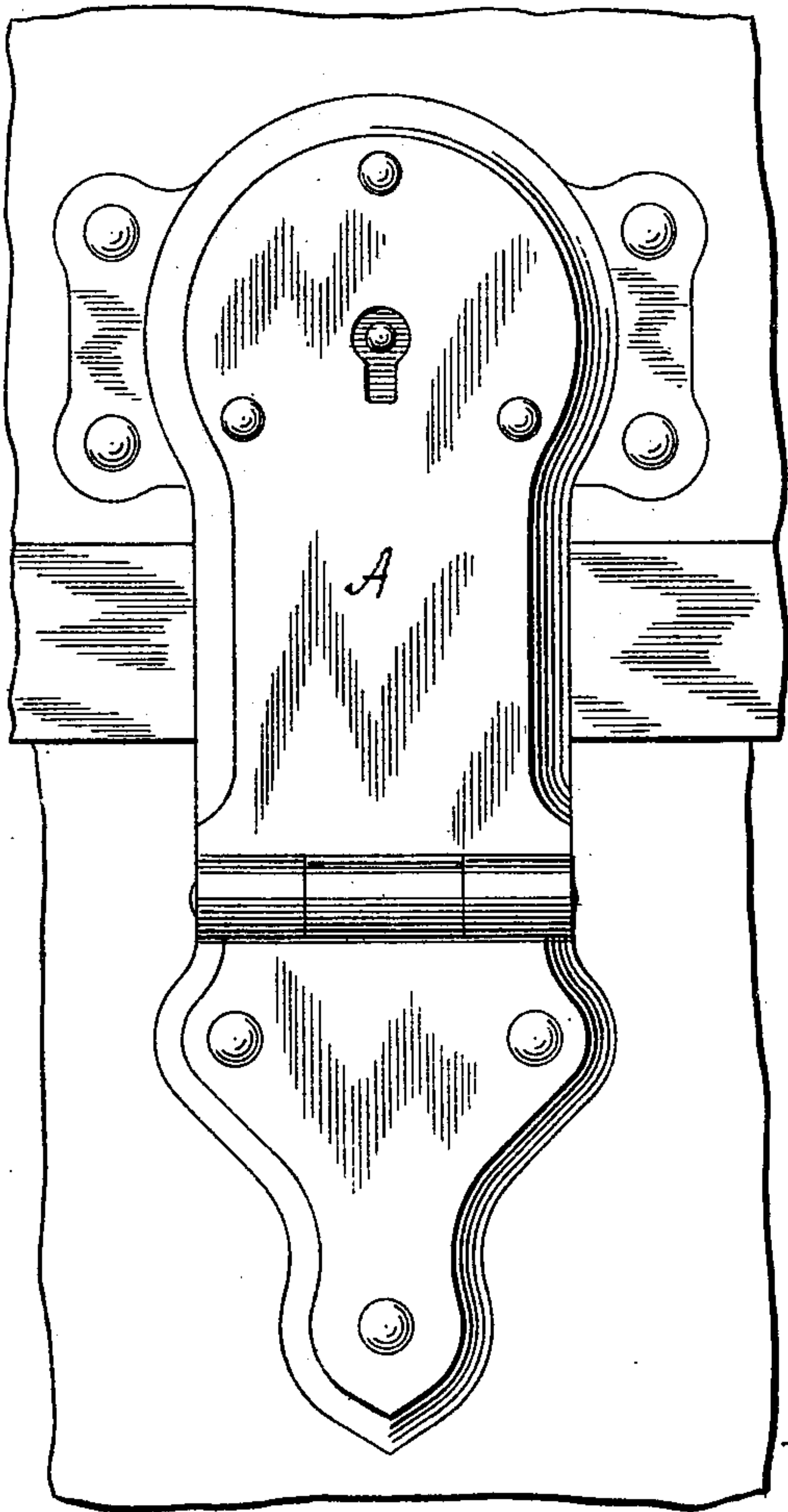


Fig. 4

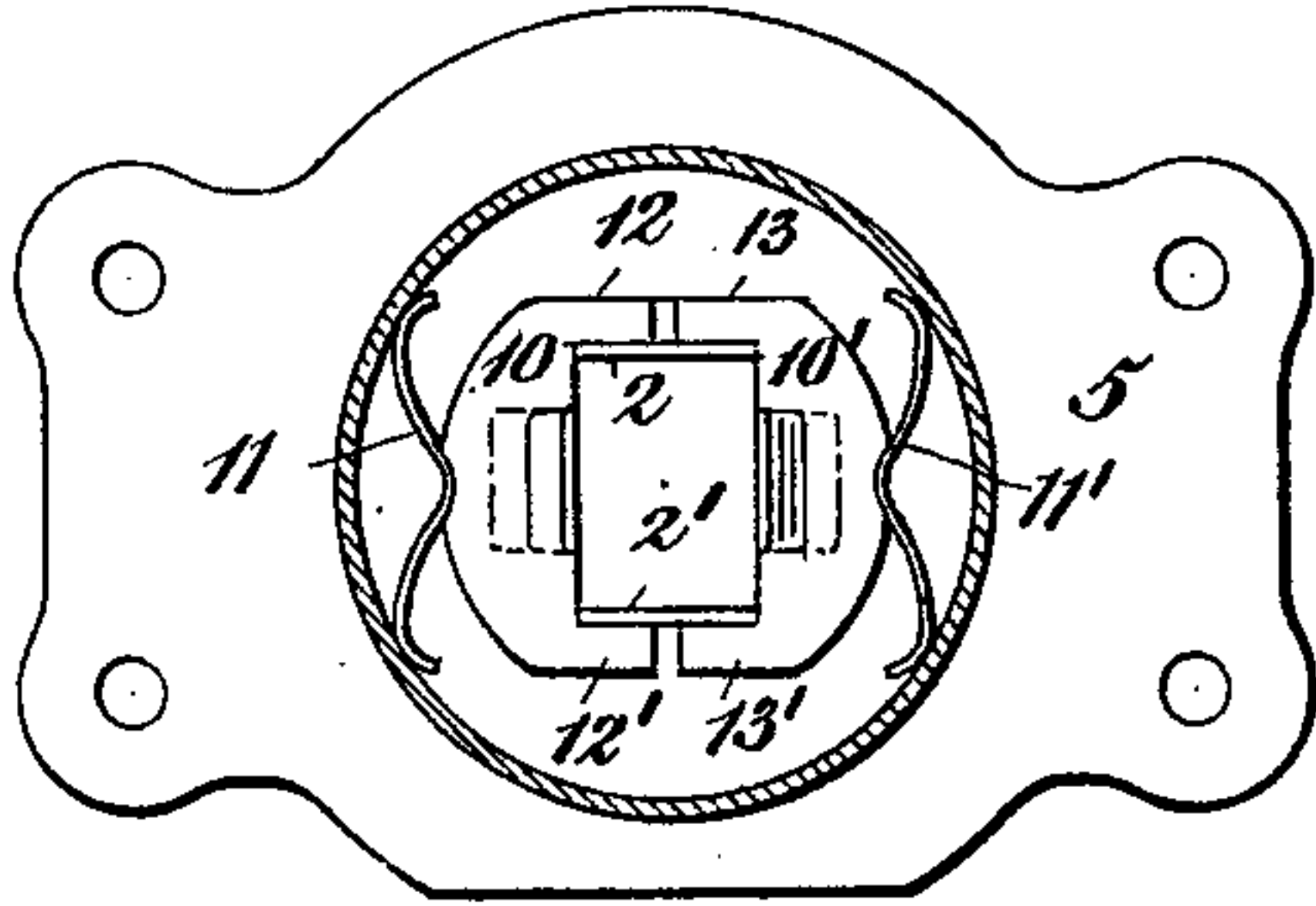


Fig. 5,

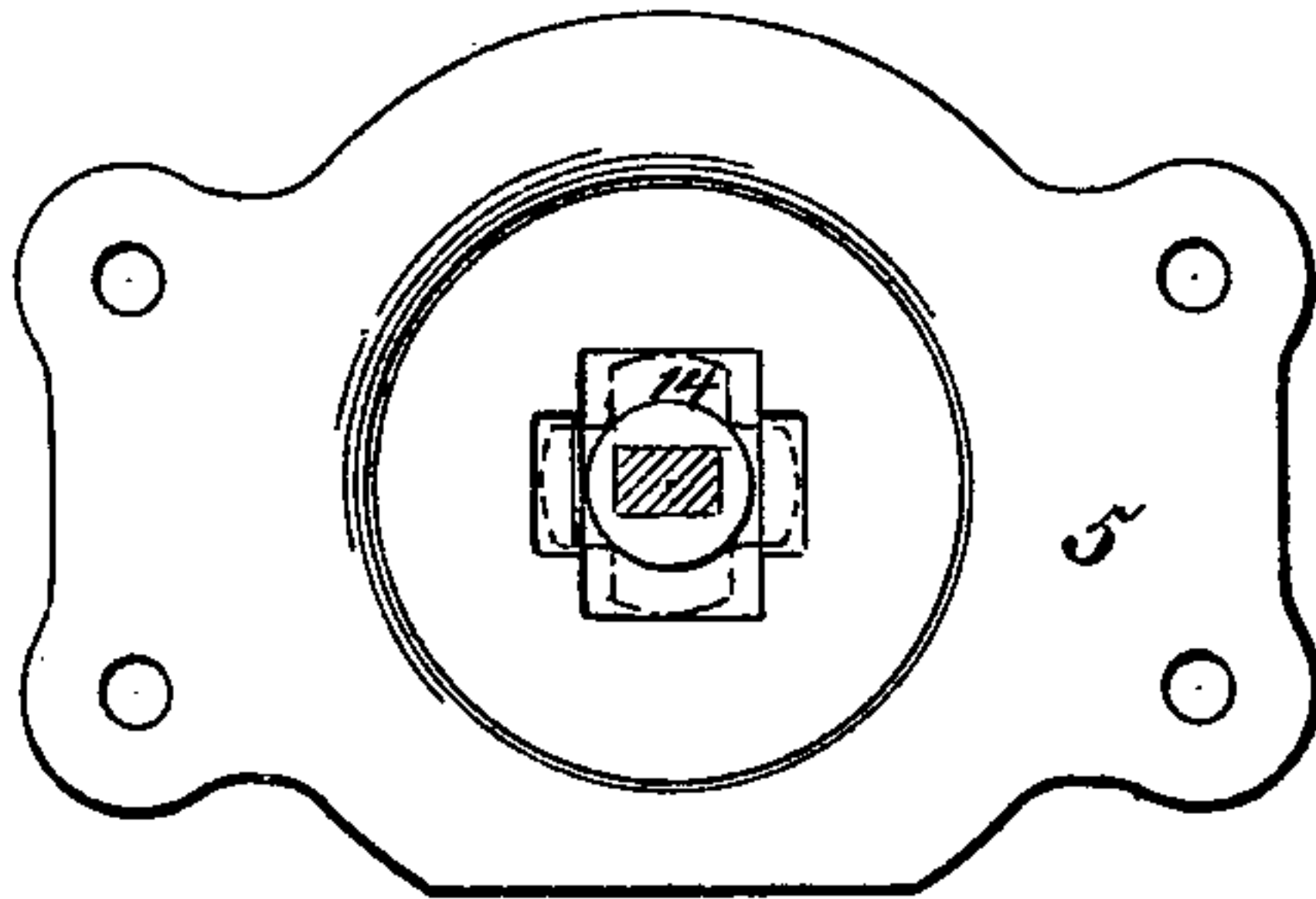


Fig. 2,

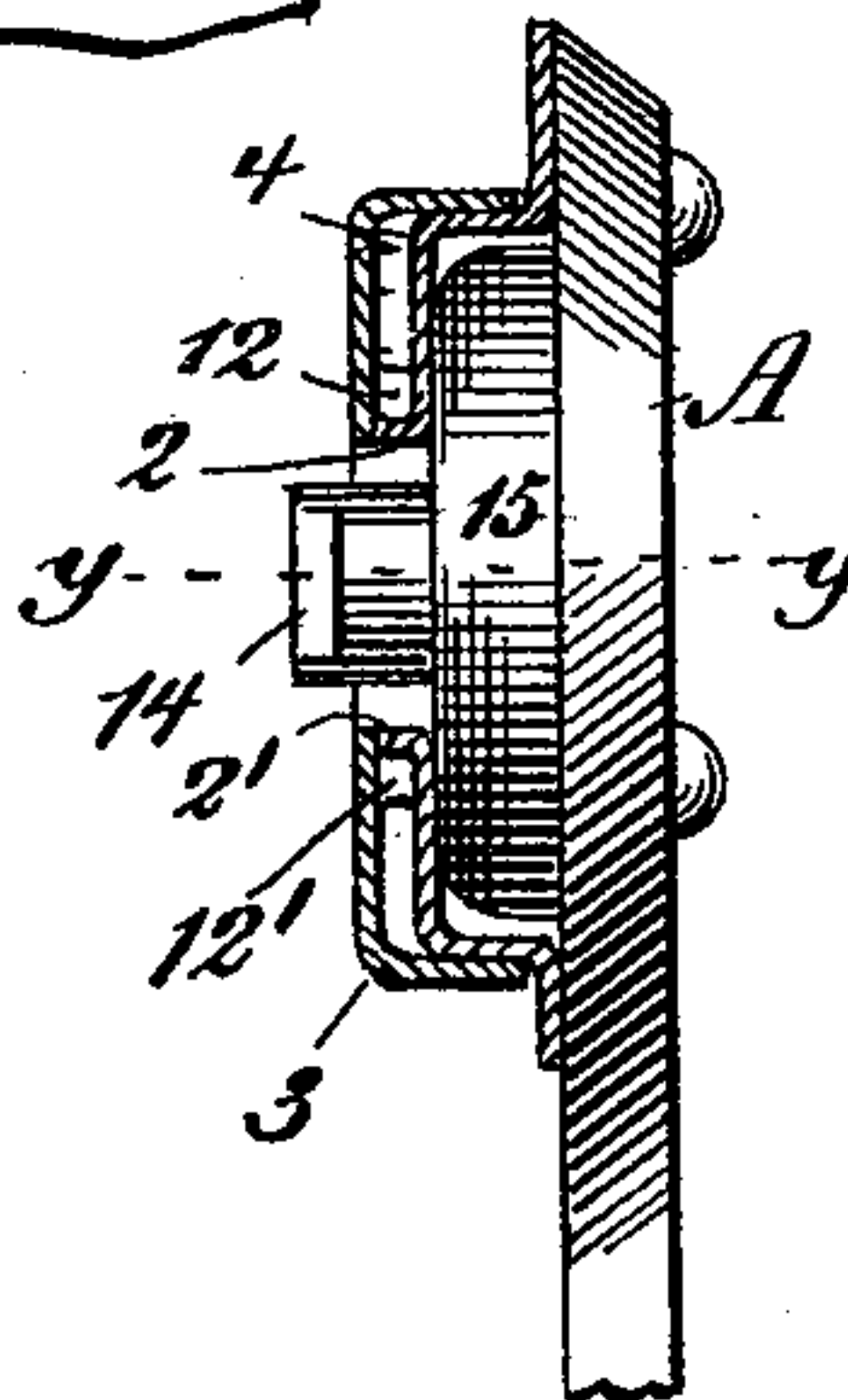


Fig. 3,

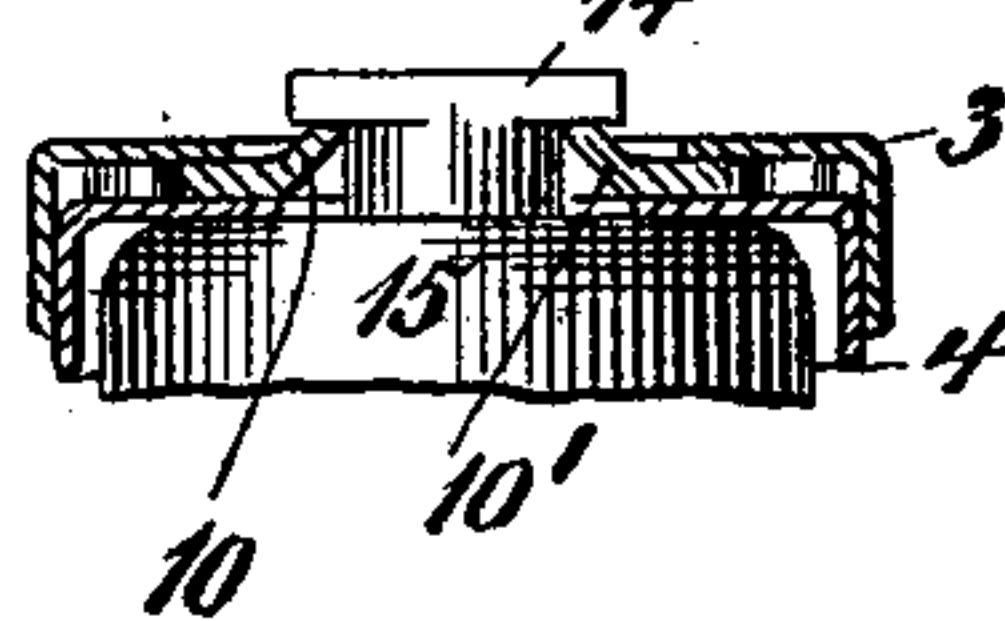
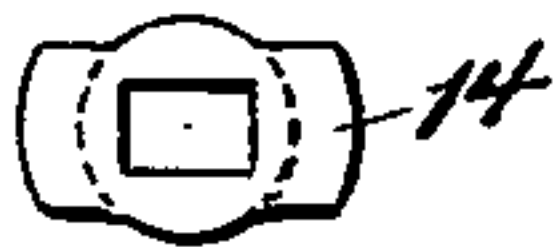


Fig. 16,



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Fig. 6,

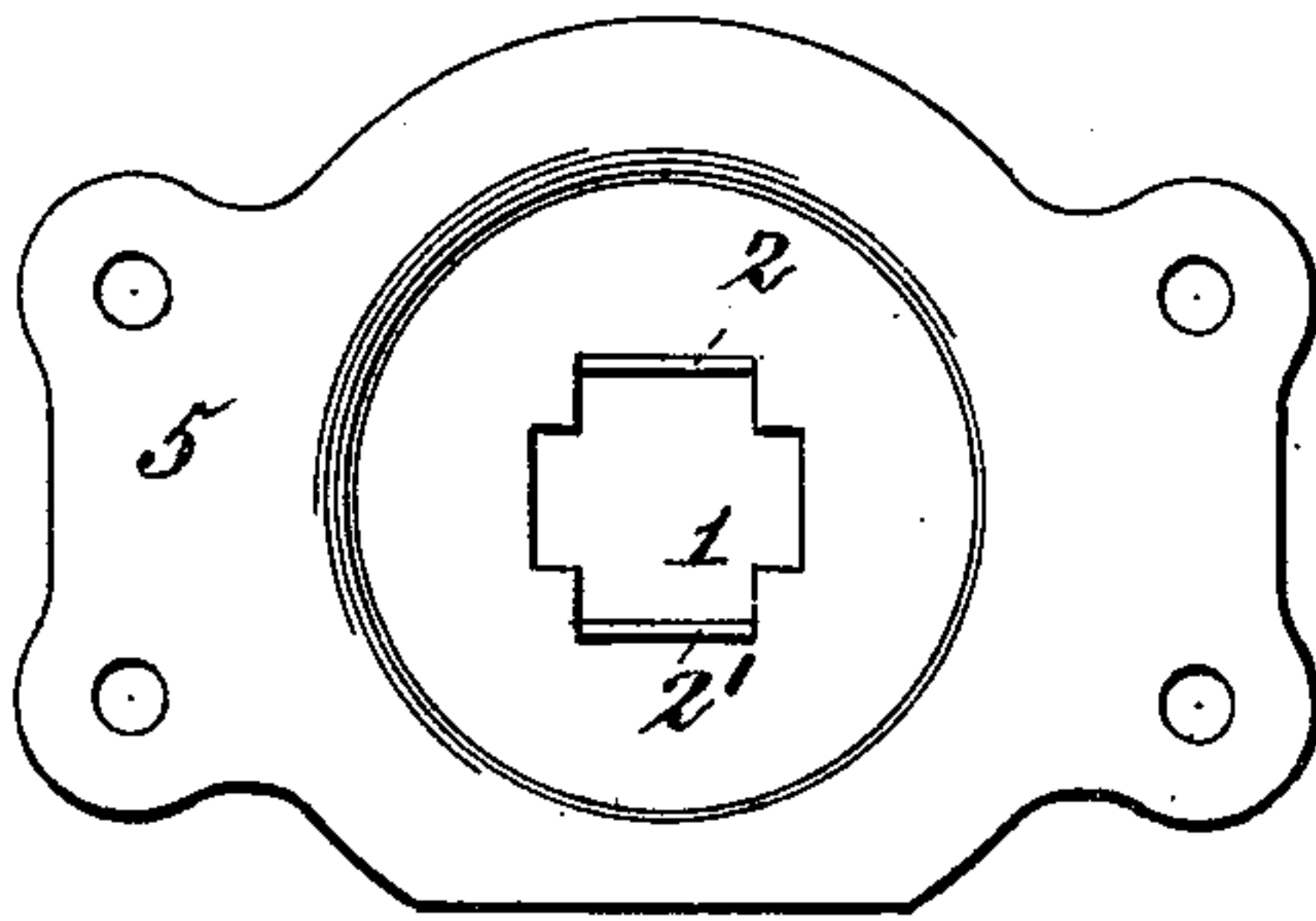


Fig. 7,

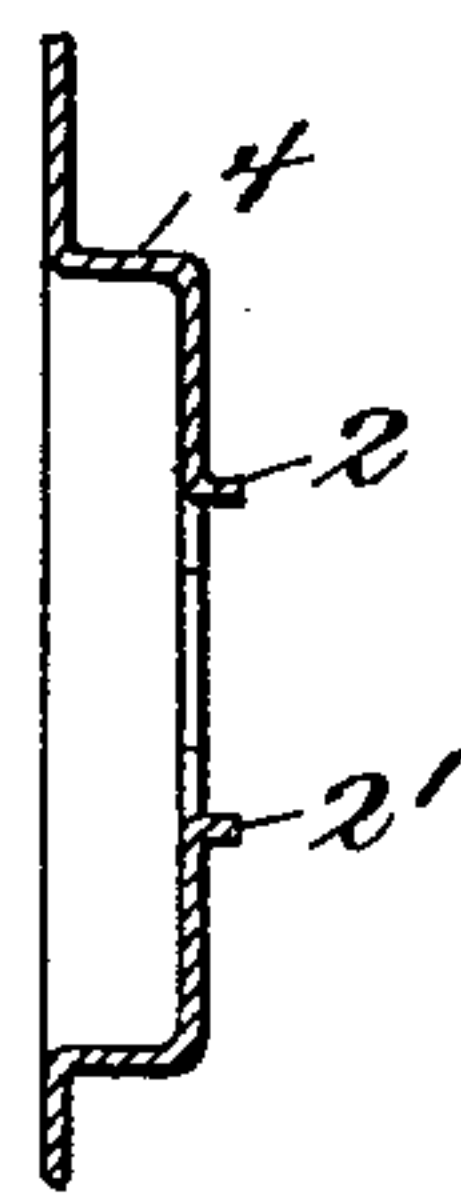


Fig. 8,

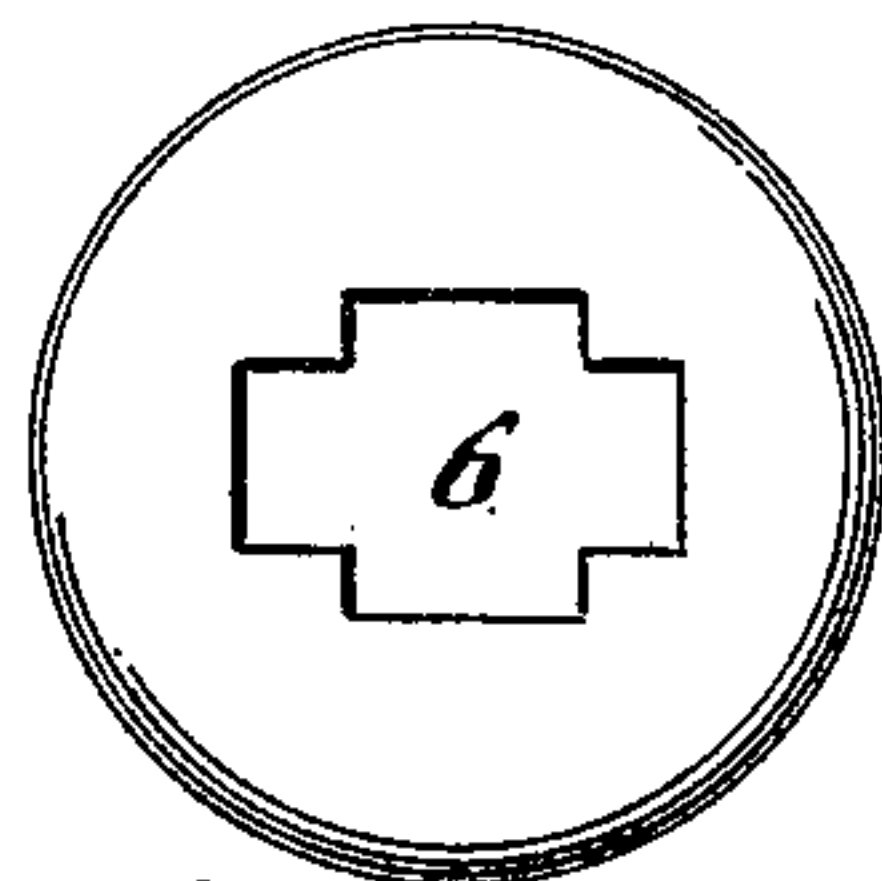


Fig. 14,

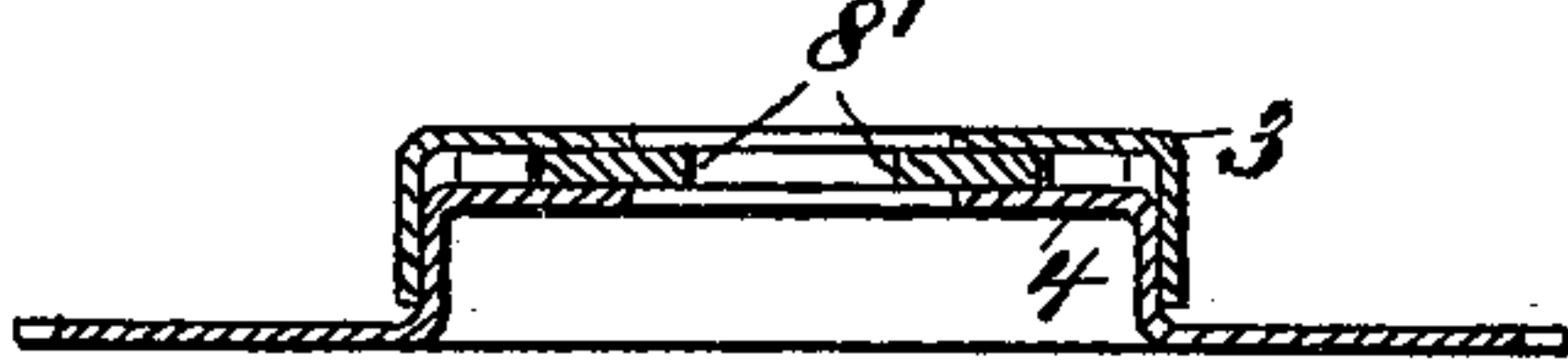


Fig. 15,

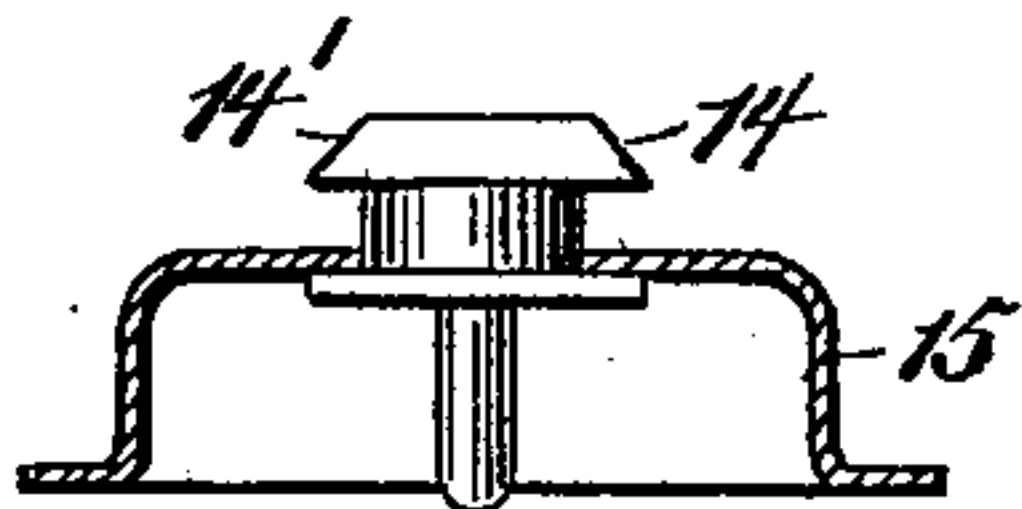


Fig. 9,

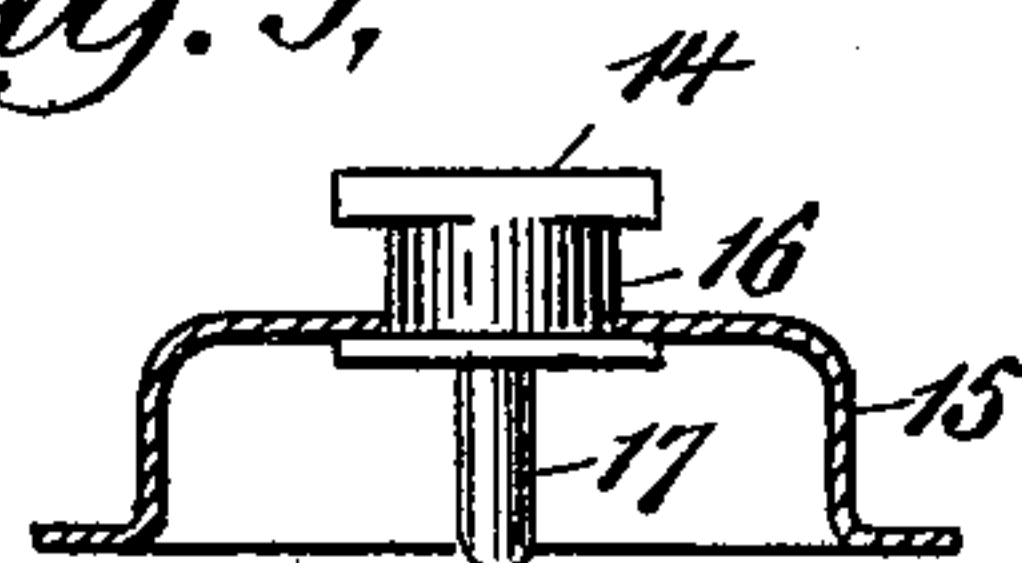


Fig. 10,

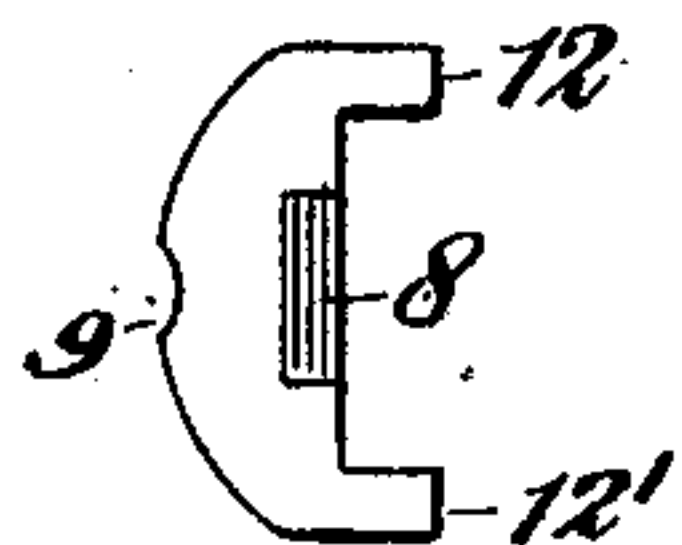


Fig. 13,



Fig. 12,



Fig. 11,



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JULIO G. GADSDEN, OF GLENRIDGE, NEW JERSEY.

TRUNK-LOCK.

SPECIFICATION forming part of Letters Patent No. 675,774, dated June 4, 1901.

Application filed April 8, 1899. Serial No. 712,345. (No model.)

To all whom it may concern:

Be it known that I, JULIO G. GADSDEN, a citizen of the United States, and a resident of Glenridge, county of Essex, and State of New Jersey, have invented a new and useful Improvement in Trunk-Locks, of which the following is a specification.

My invention is specially intended for and is adapted to the ordinary "Excelsior" trunk or hasp lock, although it may be used in other similar locks.

The object is to secure a simple self-locking device by which the trunk may be locked without using the key by simply pressing the hasp into the keeper or part usually fixed to the trunk-cover and at the same time to retain all advantages of locking or unlocking with the key.

In the accompanying drawings, Figure 1 is a front view of a trunk-lock to which my improvement is attached, showing the lock fixed to a trunk in place and when locked. Fig. 2 is a side view of the upper part of the lock, showing a sectional view of the keeper complete and side elevation of the upper part of the hasp with lock-movement case and rotatable locking-bolt. Fig. 3 is a sectional view of the same keeper (with locking-bolt in same) across the line *y y* of Fig. 2. Figs. 4 and 5 are back and front views, respectively, of my improved self-locking keeper complete, consisting of casing and cap, spring-actuated locking-plates, springs, and guides, the first view showing working parts of same, the top of cap 3, Fig. 2, being removed. Fig. 6 is a front view of the casing 5 of said keeper without the cap and with working parts removed, and Fig. 7 is a vertical section by itself of said casing 5. Fig. 8 is a plan view of the outside cap, which fits over and is fixed to the projecting part 4 of the said casing, as shown in Figs. 2 and 3. Fig. 9 is a sectional view of the lock-movement case, showing the rotatable locking-bolt. A front view is given in Fig. 16, showing shape of the oblong locking-head of this locking-bolt. Figs. 10, 11, and 12 are different views of my improved self-locking independent spring-actuated plates separate from the keeper. They have a limited movement toward and away from each other between the cap 3 and casing 5 in said keeper. In Fig. 4 the top of the cap 3

(see Figs. 2 and 3) has been removed, and the self-locking spring-actuated plates 10 and 10' and springs 11 and 11' are shown in place, resting on the outside bottom of projecting part 4 of the casing 5. Fig. 13 is a modification of said improved self-locking spring-actuated plates; and Fig. 14 is a sectional view of said modification, showing them in place between cap and casing. Fig. 15 is a modification of the improved rotatable bolt, so as to adapt it to the modification of self-locking spring-actuated plates as shown in Figs. 13 and 14.

Similar characters of reference designate corresponding parts in all the figures.

In the ordinary metal casing of the keeper of an "Excelsior" trunk-lock (or that part which is fastened to the cover of a trunk and incloses the lock-movement case when locked) I have an orifice, as shown at 1, Fig. 6, in shape somewhat like a Maltese cross, being oblong both horizontally and perpendicularly. The upper and lower edges of said orifices are turned outwardly, as shown at 2 and 2' in Figs. 7 and 2 and Figs. 4 and 6. I then form a cap (see 3 in Figs. 2 and 14) which just fits over and is fixed to outside of the projecting part 4 of the casing 5. In this cap I have also an orifice 6, Fig. 8, of similar character to the orifice in the casing 5, (see 1, Fig. 6,) being oblong both horizontally and perpendicularly. I then shape two pieces of sheet metal, as shown in Fig. 10, with a lip 8 in the center turned outwardly at an angle, forming bevel inner edges on the inside, as shown in Fig. 11. These pieces have an indentation cut out at 9, Fig. 10, for the purpose of holding a spring in place. These pieces of metal I designate as "self-locking independent spring-actuated plates," and they are arranged or mounted in said keeper between the casing 5 and the cap 3, having a limited movement toward and away from each other in said keeper and are held against rotation by the two guides projecting outwardly from the edges of the orifice in the casing 5 or inwardly from the edges of the orifice in the cap 3. The cap is then securely fixed over the projection 4 on the casing 5, as shown in Figs. 2 and 3. The spring-actuated plates Figs. 10 and 13 (and 10 and 10' in Fig. 4) fit on the outside of the projection 4 or

bottom of the casing 5 and inside the cap 3, being held in place between the bottom of the first and top of the latter, with the springs 11 and 11', Fig. 4, tending to force the same together. The said springs engage said plates in the indentation 9, Fig. 10, and pressing against the sides of the cap 3 constantly force the said spring-actuated plates toward each other.

10 The outwardly-projecting edges 2 and 2' or turned portions of the metal at the edge of the orifice of the casing (see Fig. 7) just fit inside the horns 12 and 12' and 13 and 13' (see Figs. 10 and 4) of the self-locking spring-actuated plates, acting as guides and holding them in place. They are arranged to engage said self-locking plates, as shown in Fig. 4, and hold said plates against rotation in the keeper.

20 In Figs. 2, 3, and 9 is shown the locking-bolt 16. This bolt has an oblong locking-head 14 fixed to its end (see Fig. 16) and is fixed to a stud, which is connected to a lock-movement inside the lock-movement case 15.

25 It is rotatable and can be turned a quarter-turn or at right angles when the key is turned on the key-stud 17, Fig. 9. In Figs. 2 and 3 this bolt is shown locked, and it cannot be withdrawn from the keeper by reason of coming in contact with the edges 8, Fig. 11, of the spring-actuated plates 10 and 10'. (See Fig. 3.) The oblong locking-head of this locking-bolt will pass through the orifices in both cap 3 and casing 5 of the keeper in either locked or unlocked position, except for coming in contact with the two spring-actuated locking-plates, and it will pass through in its locked position in one direction (inwardly) when pressure is applied to it from the outside. In its unlocked position it will pass through in either direction without coming in contact with said plates. By turning the bolt 16 a quarter-turn to the position shown in Fig. 5 it can easily be withdrawn through the orifices 1 and 6 in casing and cap, respectively. (See Figs. 5, 6, and 8.) By turning the bolt 16 to the position shown in Figs. 9 and 3 when the lock-movement case of the hasp A, Figs. 1 and 2, is not in the keeper the key can be withdrawn, and then by pressing the lock-movement case 15 on the hasp A (see Figs. 2, 3, and 9) into the casing 5 of the keeper the bolt-head 14 comes in contact with the bevel edges or angle-lips 8, Figs. 10 and 11, of the two self-locking spring-actuated plates 10 and 10', (see Fig. 4,) and they force back the springs 11 and 11', the plates sliding apart on the projecting edges or guides 2 and 2', so as to allow the bolt 16 to pass in through the orifices in the casing and cap. Then the springs actuate the plates 10 and 10', and they are forced in toward each other and lock under the ends of the oblong locking-head of the bolt 16, as shown in Fig. 3, and the lock is securely locked.

By beveling the outside ends of the bolt-head, as shown in Fig 15 at 14 and 14', and doing away with bevel-lip 8 on the two spring-actuated plates, but leaving a flat straight edge, as shown in Figs. 13 and 14 at 8', the same result is obtained. All that is required is that there shall be a bevel edge either on the two plates or on the two ends of the oblong locking-head at the point of contact with each other, so that the plates will be forced apart by the locking-bolt head under pressure as the hasp A and lock-movement case 15 are pressed into the keeper until the bolt has passed in and the plates are actuated by the springs to close in under the ends of the bolt-head and they lock as before. This is a modification in construction; but I prefer the construction shown in Fig. 3.

A special feature of my invention is that by reason of the locking-bolt being shaped with an oblong head, as shown in Fig. 16, and the orifices in casing 5 and cap 3 being shaped as they are, similar in shape to a Maltese cross, the lock can be used as an ordinary "Excelsior" lock and operated by key alone without the plates 10 and 10' being moved, or it can be locked without the key, as heretofore described.

It will be noticed that the plates 10 and 10' are exactly alike, thus necessitating only one die, and I make them on an ordinary punching-press from steel or brass. The springs 11 and 11' are also exactly alike and both springs and plates interchangeable. This insures great simplicity and economy in construction.

The guides 2 and 2' are just a trifle higher than the thickness of the spring-actuated plates, thus serving as a rest for the cap 3 and allowing free action of the plates in movement on the guides, so that the springs 11 and 11' act freely and quickly. The nick or indentation 9, Fig. 10, on the back edge of each of the plates serves to hold the springs in place, thus avoiding breakage and liability to get out of order.

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

1. In a trunk or hasp lock the combination with a hasp carrying a rotatable locking-bolt, of a keeper having two independent spring-actuated locking-plates mounted therein, said plates being adapted to be forced apart by pressure applied by said locking-bolt in one direction, and to be returned by spring-pressure, substantially as specified.

2. In a trunk or hasp lock the combination with a hasp carrying a rotatable locking-bolt, of a keeper consisting of a casing having an orifice through which the head of the said locking-bolt may pass in either its locked or unlocked position, a cap secured to said casing, and having an orifice of a similar character, two independent spring-actuated plates, arranged between said casing and said cap,

and guides whereby said plates are held against rotation in said keeper, substantially as specified.

3. In a trunk or hasp lock the combination
5 with a hasp carrying a rotatable locking-bolt, of a keeper, two independent plates mounted in said keeper, said plates having a limited movement toward and away from each other in said keeper, and springs engaging with
10 both of said locking-plates and tending to force same together, and means for holding said springs against displacement, substantially as specified.

4. In a trunk or hasp lock the combination
15 with a hasp carrying a rotatable locking-bolt, of a keeper consisting of a casing having an orifice through which the head of the said locking-bolt may pass in either its locked or unlocked position, a cap secured to said casing, and having an orifice of a similar character, two independent plates, arranged between said casing and said cap, guides formed by turned-up portions of the metal at the edge of the orifice of the keeper, which guides
20 are arranged to engage with the said locking-plates, and to hold same against rotation in the keeper, and springs adapted to force the locking-plates toward each other, substantially as specified.

30 5. In a trunk or hasp lock, the combination

with a hasp having a rotatable locking-bolt carried thereby, of a keeper having two independent spring-actuated locking-plates mounted therein, said bolt and locking-plates constituting locking members, the coacting
35 faces of one or both of said members being beveled, said plates being adapted to be forced apart by pressure applied by said locking-bolt in one direction, and to be returned by spring-pressure, substantially as specified. 40

6. A keeper for a trunk or hasp lock adapted to coact with a lock having a rotatable locking-bolt carried by the hasp, the said keeper having two independent spring-actuated locking-plates presenting when in closed position
45 an opening of substantially the size and shape of the rotatable locking-bolt with which the keeper is intended to engage, and means whereby the said locking-plates are held against rotation in said keeper, substantially
50 as specified.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 29th day of March, 1899.

JULIO G. GADSDEN.

Witnesses:

J. F. PLACE,
M. SPITZER.