

No. 656,436.

Patented Aug. 21, 1900.

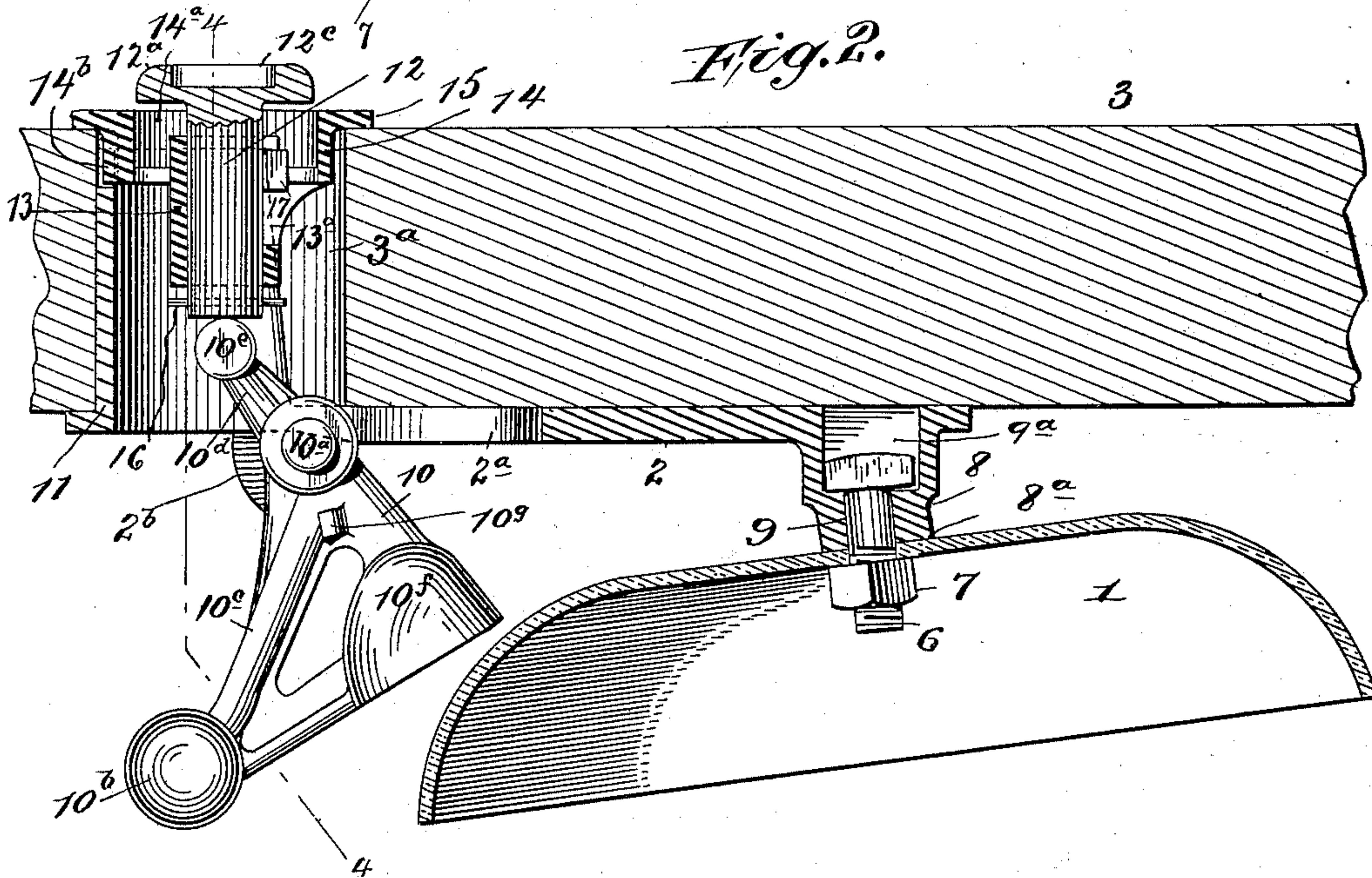
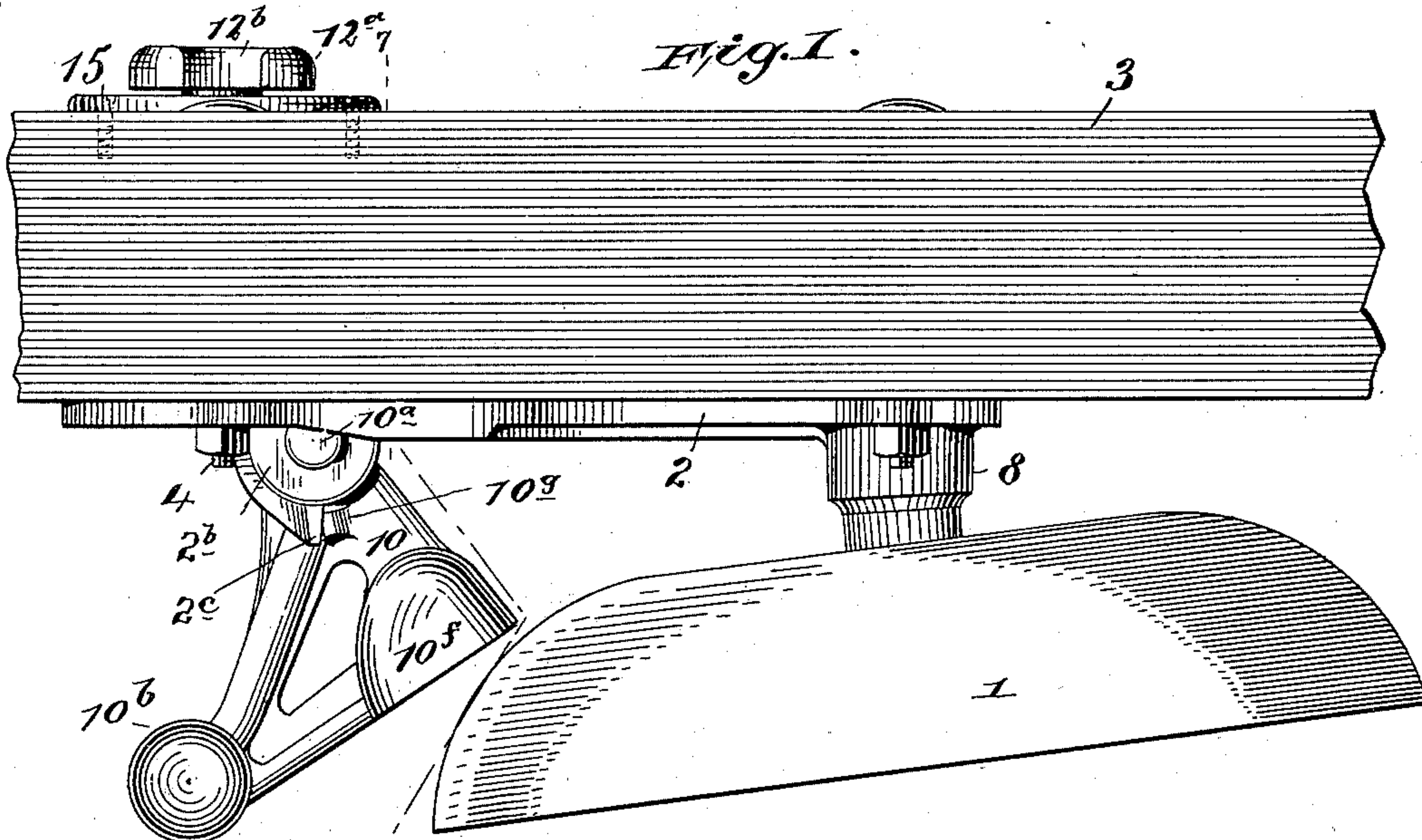
J. A. BRILL.

ALARM GONG.

(Application filed Jan. 31, 1899.)

(No Model.)

4 Sheets—Sheet 1.



WITNESSES

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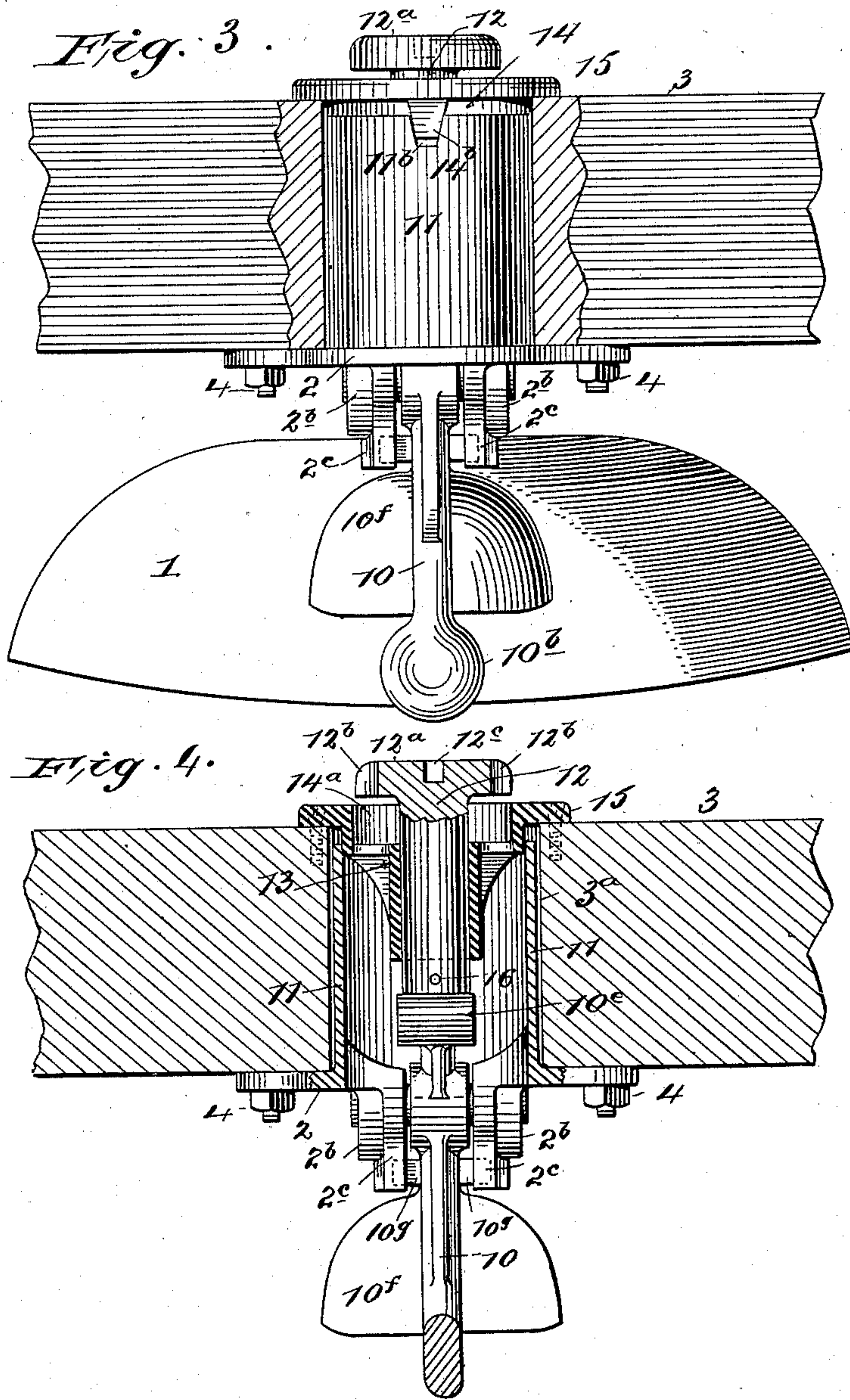
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4 Sheets—Sheet 2.



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Fig. 5.

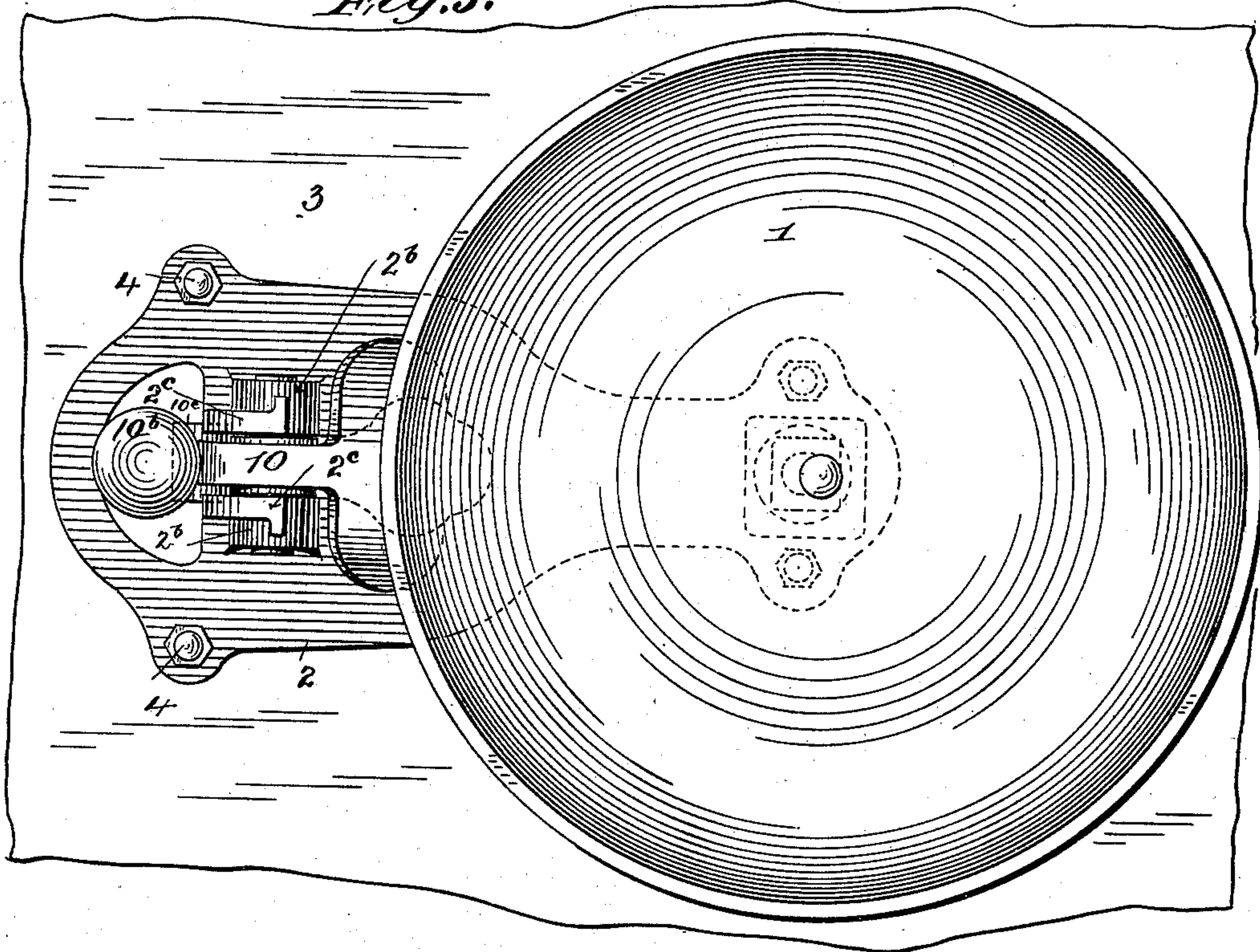


Fig. 6.

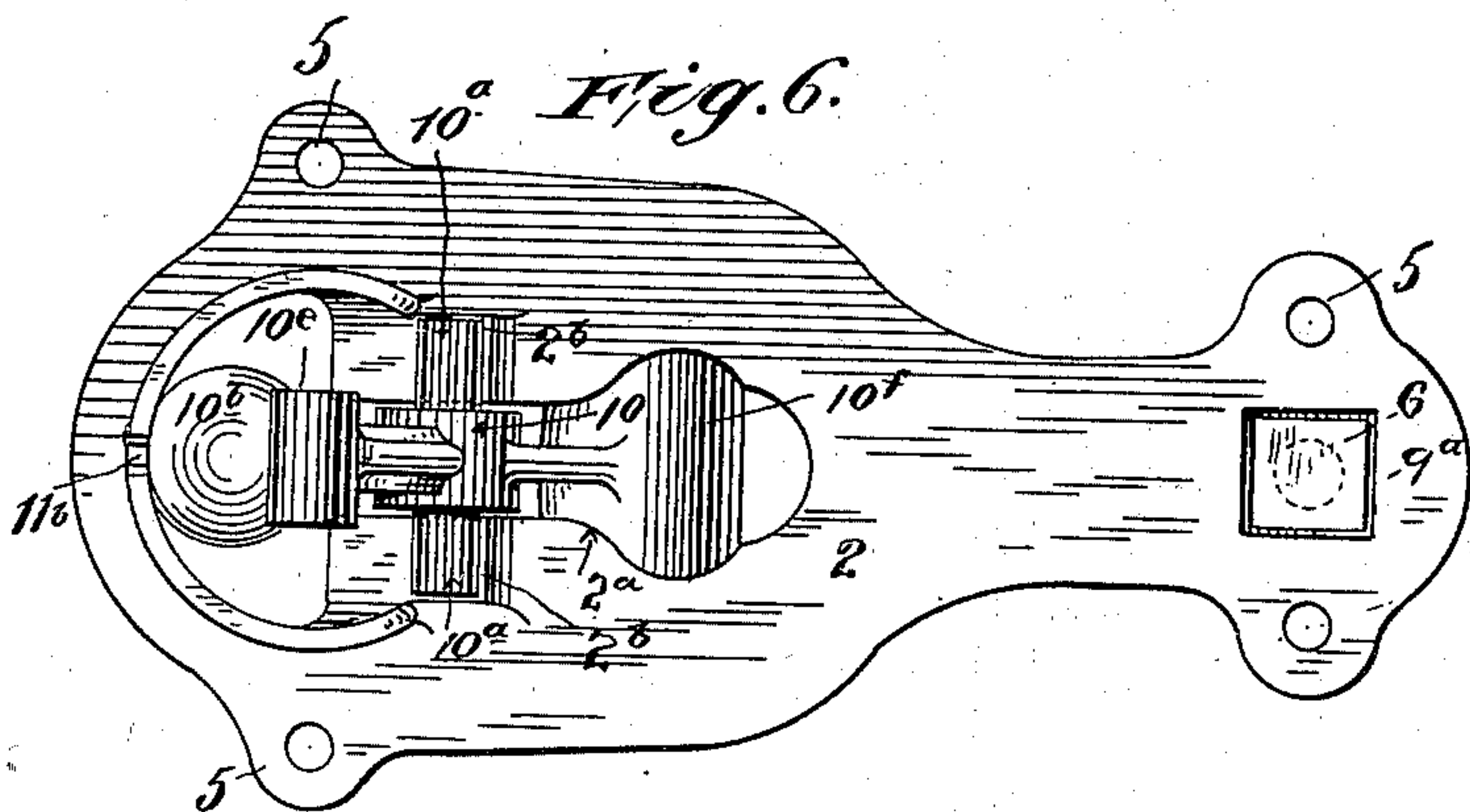


Fig. 12.

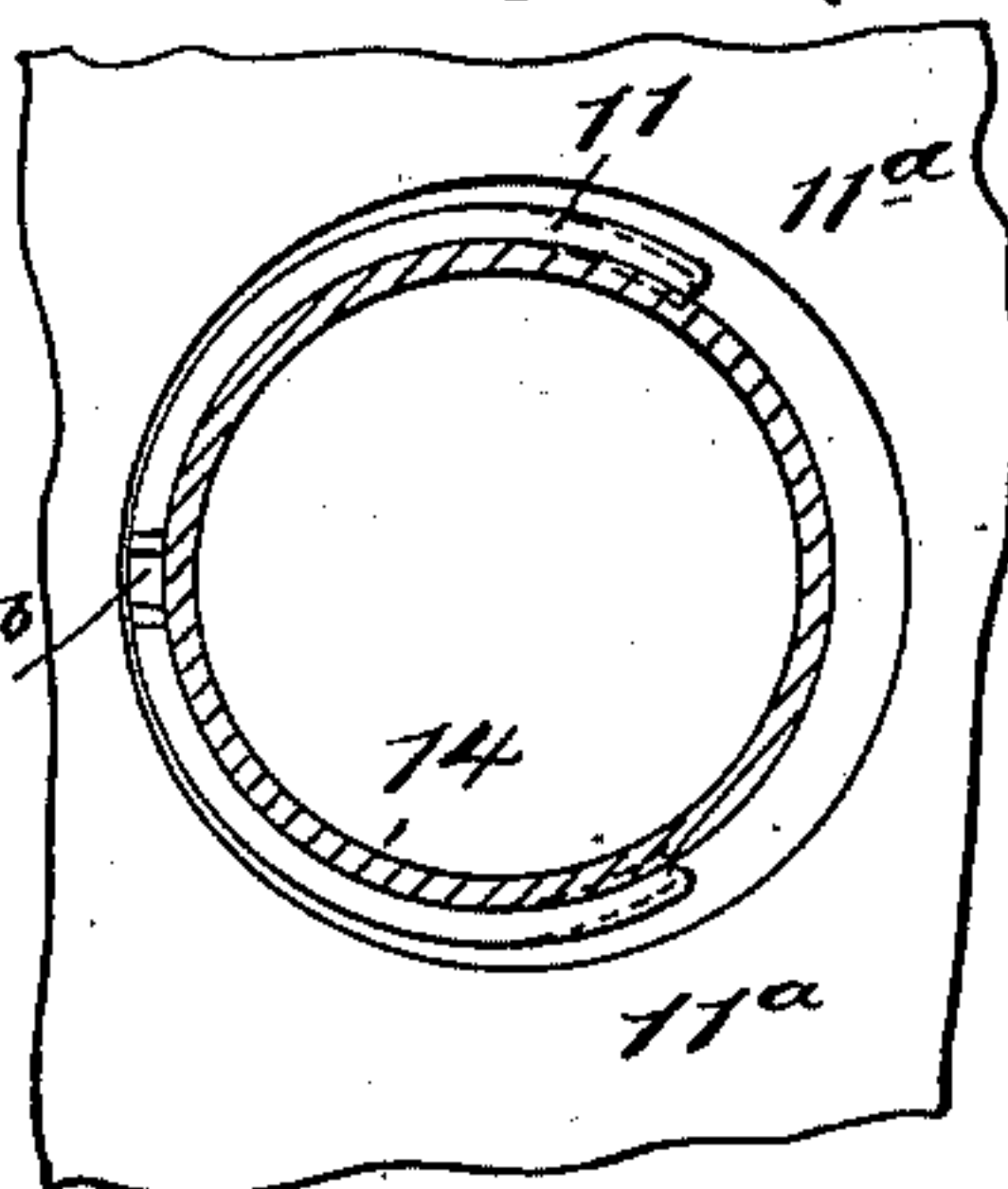
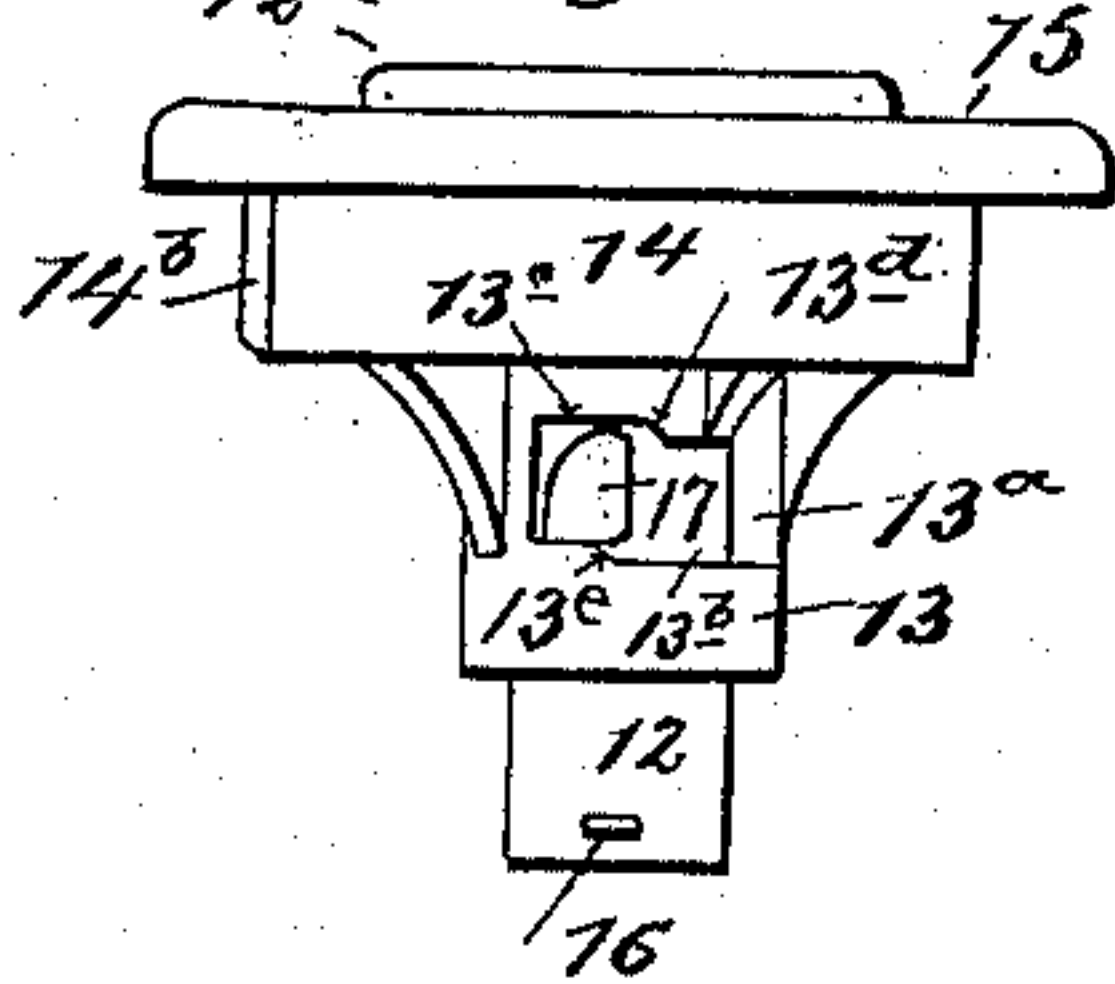


Fig. 11.



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Fig. 7.

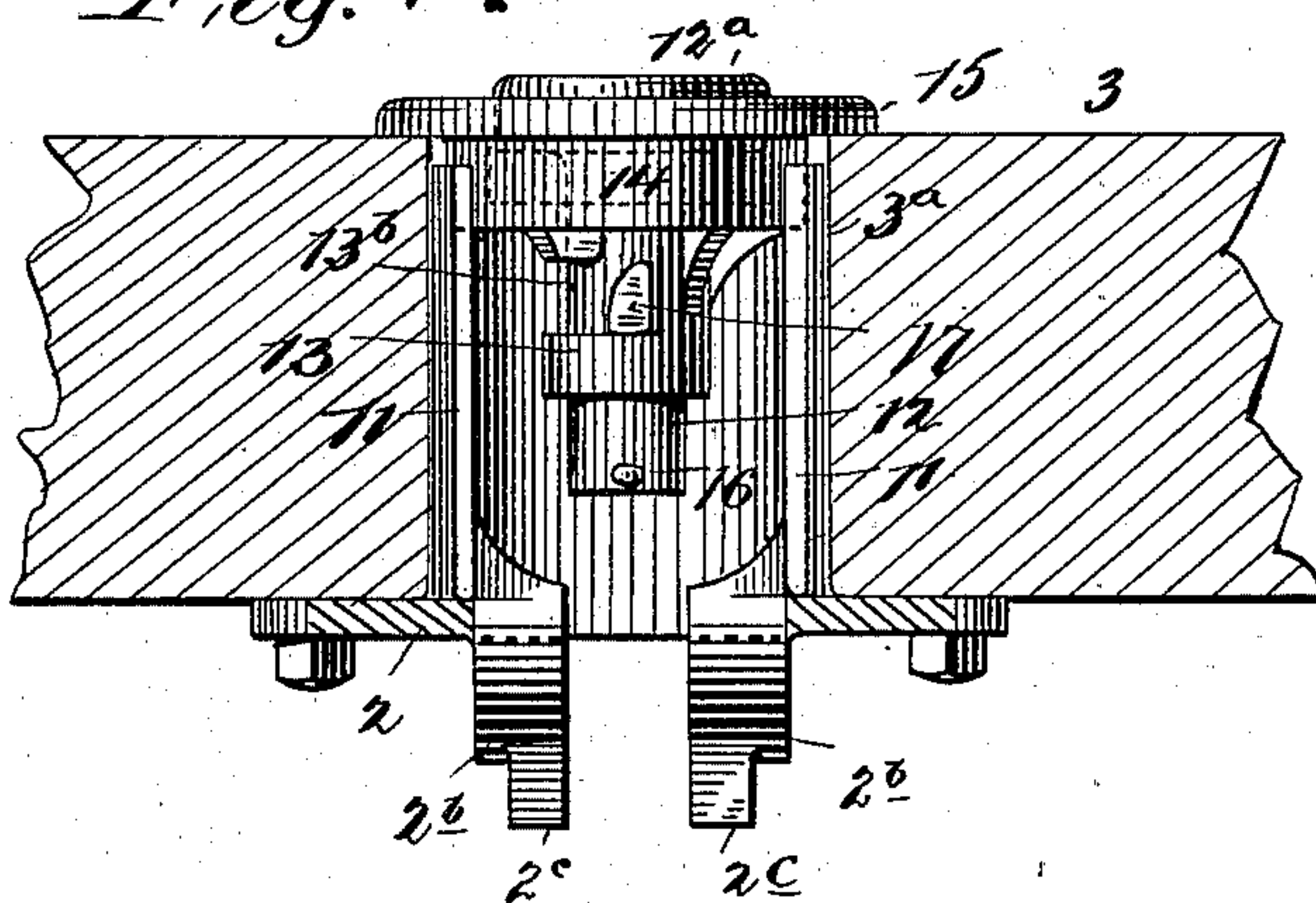


Fig. 8.

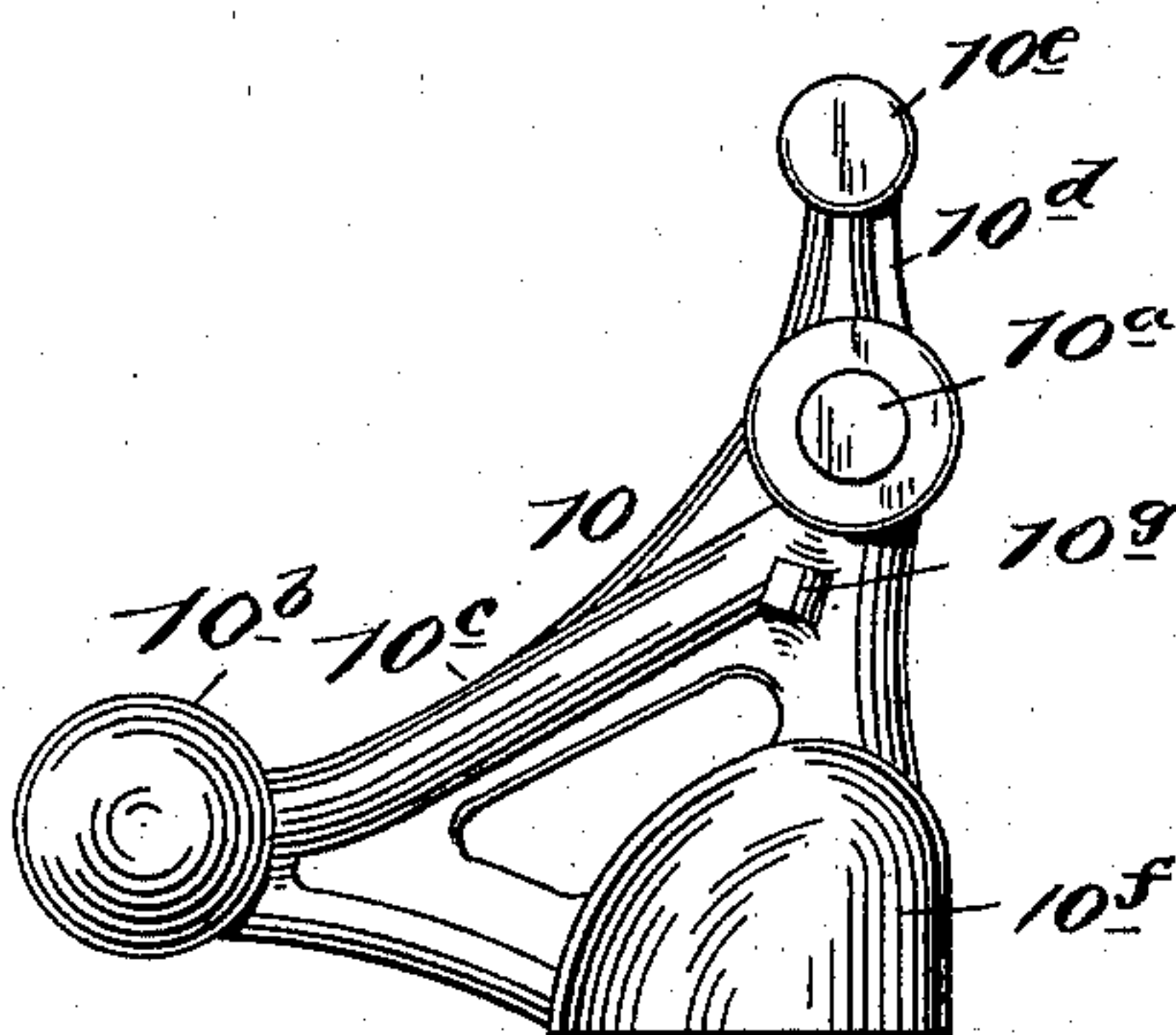


Fig. 9.

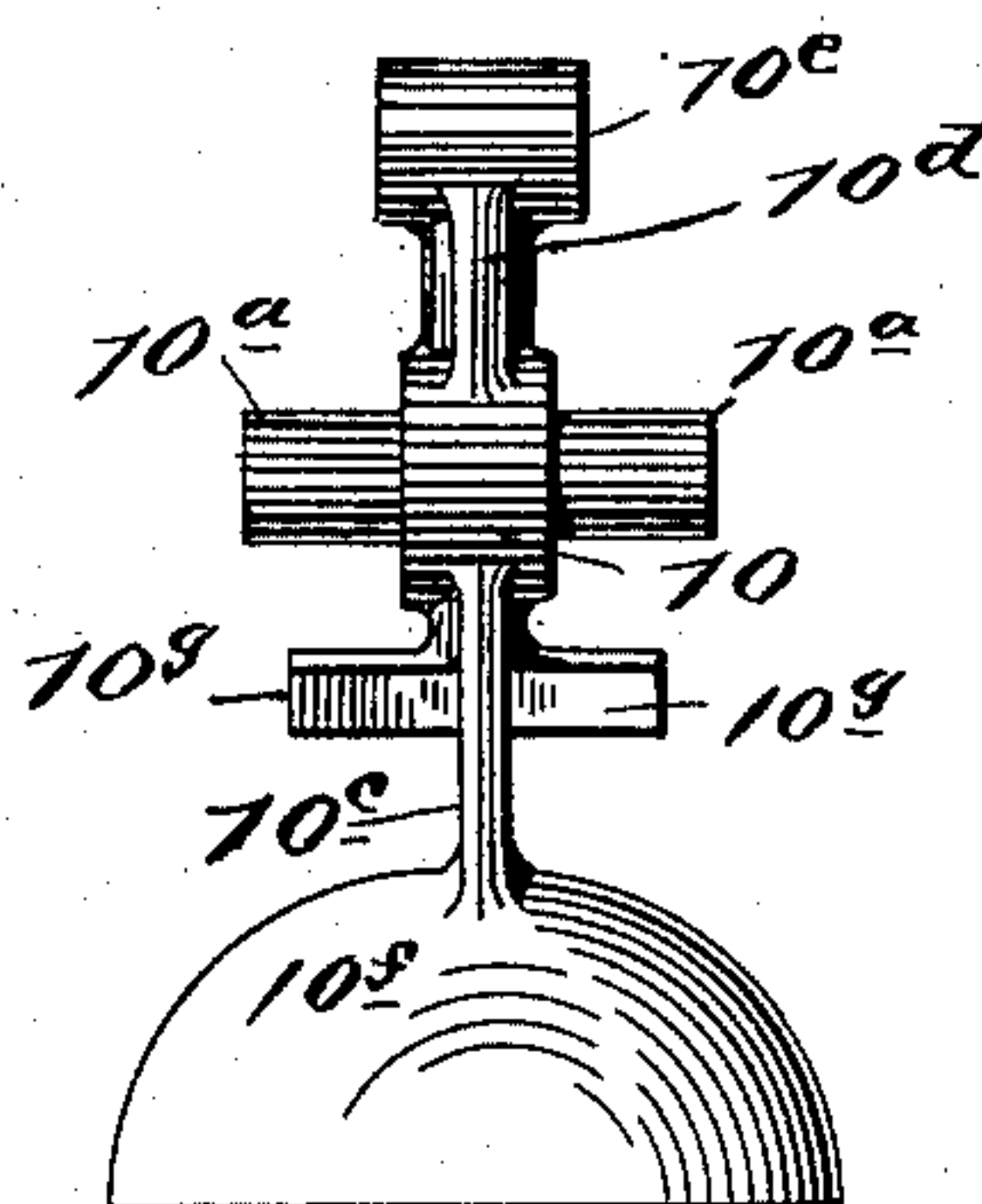
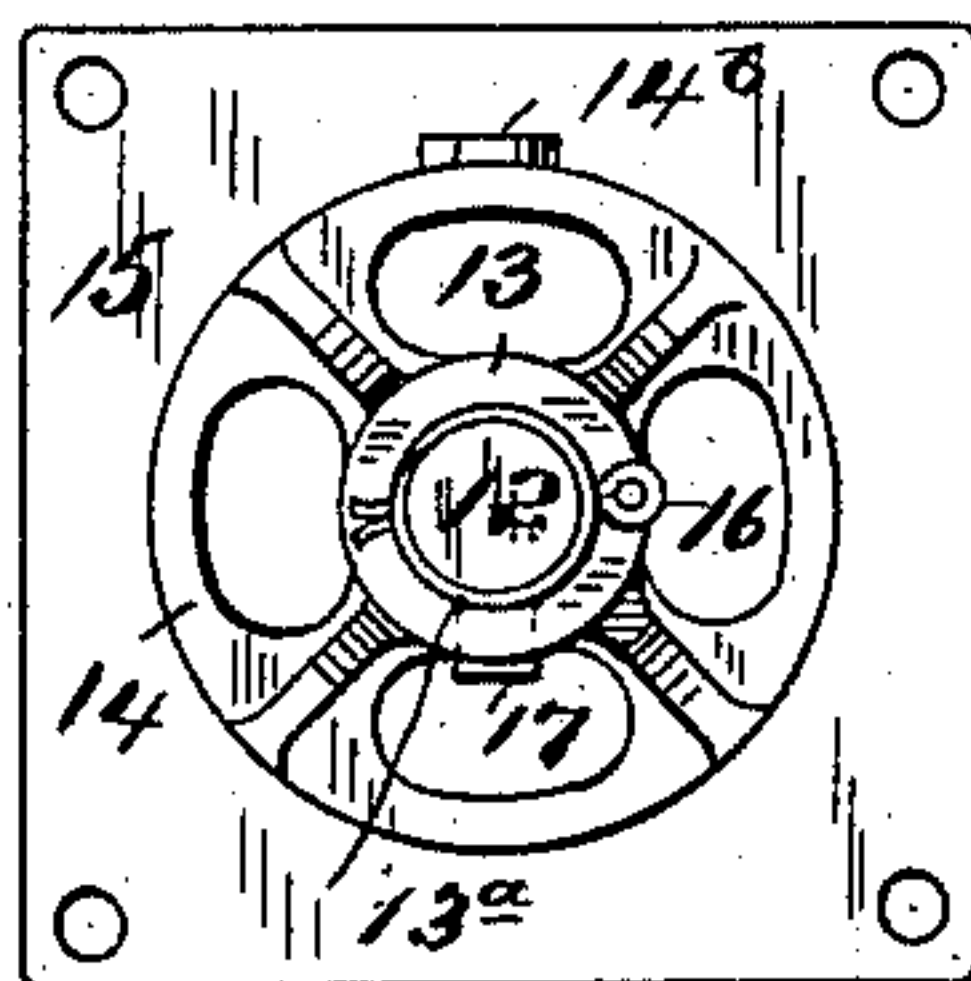


Fig. 10.



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ALARM-GONG.

SPECIFICATION forming part of Letters Patent No. 656,436, dated August 21, 1900.

Application filed January 31, 1899. Serial No. 703,969. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. BRILL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Alarm-Gongs, of which the following is a specification.

My invention relates more particularly to the class of gongs used on street-railway cars and which are operated by a motorman by the action of his foot. In this class of gongs, so far as I am aware, it has been customary to use a plunger or treadle that works in an opening in the platform-floor and operates upon a hammer or clapper that is adapted to strike the gong; but these plungers or treadles are to be removed, and for this reason are liable to be lost or stolen, and, furthermore, they are oftentimes so long as to hold the hammer in contact with the gong, which produces a disagreeable noise during the travel of the car. Also if such a plunger or treadle is left in the platform at the rear of the car passengers are liable to accidentally ring the gong or to trip on the plunger, which projects from the platform, and for this reason it has been customary to require the motorman to carry the plunger from one end of the car to the other when he changes his position at the end of the car.

The object of my invention, aside from cheapening its cost and simplifying its construction, is to overcome the difficulties above mentioned and to produce an improved mechanism in which the plunger or treadle will not be removable from its normal position and which will be adapted to be locked in an inoperative position, so that its head or upper end will lie about flush with the surface of the platform to prevent tripping of passengers thereon and also to prevent the gong from being operated if a person steps upon the plunger. In carrying out this portion of my invention I provide a guide, preferably in the form of a suitably-shaped casting, adapted to be placed in an aperture in a car-platform, and a plunger, a treadle adapted to reciprocate in said guide and to have its head or upper end descend about flush with the top of the guide, and with means, as hereinafter described and claimed, for locking the

plunger in its depressed position when the gong is not to be used. I also provide means to prevent the plunger from becoming detached from the guide during use. In connection with the plunger or treadle I utilize a hammer or clapper which is hung from the car-platform and adapted to be operated by the plunger to cause it to strike the gong, and the arrangement and action are such as to produce a complete disconnection between the hammer and the plunger or treadle before the hammer strikes the gong, so that after such disconnection the hammer will continue its movement owing to the momentum acquired by the action of the plunger to cause the hammer to strike the gong independently, and to thereby drop back from the gong to permit the latter to ring freely without engagement by the hammer. Thus while the hammer is in the act of striking the gong its only point of connection with outside parts is at its pivot, as it is free from the plunger, and when it drops back from the gong it will engage the plunger again, and by this means a clear quick blow is given, which is substantially of a rebounding character.

My invention also comprises improved means for supporting the gong and the hammer from the car-platform, and in carrying out this portion of my invention I provide a plate or frame adapted to be secured to the platform and which is provided with sockets to receive gudgeons carried by the hammer in such position that the gudgeons rest in such sockets, and this plate also carries a projection to which the gong is bolted in such position that it can be struck by the hammer. One end of the hammer normally lies in contact with the plunger, so that when the latter is depressed the striking-head of the hammer will move toward the gong.

The invention also consists in the novel details of improvement and the combinations of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a side elevation of my improvements shown in position on the platform of a car. Fig. 2 is a longitudinal section thereof. Fig. 3 is an elevation at right angles to Fig. 1, part of the platform being broken away, show-

ing the connection of the plunger-guide with the hammer and gong supporting plate. Fig. 4 is a cross-section on the line 4 4 in Fig. 2. Fig. 5 is an inverted plan view of the gong and its mechanism shown in Fig. 1. Fig. 6 is a plan view of the plate that supports the hammer and gong, shown detached from the car-platform. Fig. 7 is a cross-section on the line 7 7 in Fig. 1 looking from the right in said figure. Fig. 8 is a detail side view of the hammer. Fig. 9 is a view at right angles thereto looking from the right in Fig. 8. Fig. 10 is an inverted plan view of the plunger-guide, showing the plunger in position. Fig. 11 is a detail view of the plunger-guide looking from the left in Fig. 7; and Fig. 12 is a plan view, partly in section, showing the socket carried by the hammer - supporting plate into which the plunger-guide fits.

Similar numerals of reference indicate corresponding parts in the several views.

In the accompanying drawings, 1 indicates a gong which may be of any suitable construction or shape.

2 is a frame shown in the form of a suitably-shaped plate adapted to be secured to the under surface of a car-platform 3, being shown secured thereto by screws or bolts 4, that are adapted to pass through apertures 5 in the plate 2. The gong 1 is shown secured to the plate 2 by means of a headed bolt 6 and nut 7, and I have shown said plate as provided with a projection 8, having an aperture 9 for the passage of bolt 6, which aperture is shown counterbored or recessed at 9^a to receive the head of the bolt 6, whereby said head is held below the surface of the platform 3 and is kept from rotating in the recess 9^a because the latter is polygonal, as shown in Fig. 6. It will be seen that the bolt 6 passes through the gong and the gong is held against the outer end of projection 8, and by preference the outer surface of the projection 8 is inclined at 8^a, so that the gong will stand at an angle to the under surface of the platform 3, as clearly shown in Figs. 1 and 2. The plate or frame 2, near the end opposite the projection 8, has a slot or opening 2^a and a pair of depending sockets 2^b, having their openings extending upwardly through the plate, a suitable space being provided between said sockets to receive the shank of the hammer 10. The plate 2 also has at its end opposite the projection 8 an upwardly-projecting shell-like socket which is substantially annular in outline and has one side cut away, as shown in Figs. 7 and 11, and the upwardly-extending edges 11^a of the same are normally slightly bent inwardly from a true circle to form a gripping or holding means to receive the body of a guide for the plunger or treadle, as hereinafter explained. This socket is adapted to pass into an opening or aperture 3^a cut through the platform-flooring 3, as shown in Figs. 2, 3, 4, and 7. This shell-like socket is open at both ends, as shown, and the operating-arm of the

hammer 10 passes into the lower end of the same. (See Fig. 2.)

The hammer 10 is shown provided with a pair of gudgeons or pivots 10^a, that project from opposite sides of the same and rest in the sockets 2^b, whereby the hammer is hung from the plate or frame 2 in such position that its head 10^b can strike the gong 1. The hammer 10 is shown in substantially bell-crank form, having an arm 10^c, that carries the head 10^b, and an arm 10^d, entering socket 11 and provided with a rounded head 10^e to receive the strokes of the plunger. The hammer 10 is also shown provided with a weighted portion 10^f, that is carried between the pivot 10^a and the head 10^b and in such position as to cause the hammer by gravity to move the head 10^b back away from the gong 1. (See Figs. 1 and 2.) The hammer 10 is also shown provided with lugs 10^g, that are adapted to engage lugs 2^c, (shown carried by the sockets 2^b,) whereby when the hammer is at rest lugs 10^a and 2^c will hold the head 10^b in the normal position, as shown in Figs. 1 and 2. From the foregoing it will be understood that when the arm 10^d of hammer 10 is depressed the hammer will be rocked on its pivot, so as to throw the head 10^b into contact with gong 1, and when arm 10^d is released the weight 10^f will cause the hammer to quickly move away from the gong and to return to its normal position. At 12 is a plunger or treadle that is adapted to act upon the arm 10^b to depress the same, and this plunger is shown of cylindrical form, having a head 12^a, adapted to be actuated by the foot of the motorman to ring the gong. At 13 is a guide for plunger 12, being shown provided with a vertical bore 13^a, in which said plunger fits and is adapted to reciprocate. The guide 13 is in the form of a casting having a head 14, provided with a flange 15 to rest upon the platform-floor, to which it may be screwed, and the head 14 has a recess 14^a, into which the head 12^a of the plunger is adapted to fit, so that it may come substantially flush with the top of flange 15 or the platform-floor. The guide 13, with its head 14 and the plunger 12, is adapted to fit within the opening 3^a in the platform 3 and also within the socket 11 of plate 2. The head 14 is annular and is slightly larger at a corresponding point than the distance between the edges 11^a of the socket 11, so that it will have to be forced into the same to spread said edges apart, whereby a firm connection is made between the socket 11 and the head 14. The position of the parts is shown in Fig. 12, and the dotted lines in said figure show the normal position of the edges 11^a of socket 11, thus illustrating how, when the head 14 is forced into the socket, the edges 11^a of the latter will spread apart into the position shown in full lines in Fig. 12. Thus the guide for the plunger and the socket 11 are firmly united together, and by screwing the flange 15 to the platform a solid fastening of the parts to the platform is assured and lateral movement of

the plunger relatively to the hammer is prevented, as the hammer and plunger are thus both united to the plate 2. The head 14 preferably carries a lug 14^b, that is adapted to fit in a recess 11^b in the upper edge of the wall of socket 11, (see Fig. 3,) whereby the guide for the plunger must always be placed in the proper position in connection with the socket 11.

16 is a pin carried by the plunger 12 at its lower end below the guide 13 and is preferably in the form of a cotter-pin. It serves to prevent the plunger from being removed from the guide and also limits the upward movement of the plunger by the action of the hammer, so that when the hammer returns from its stroke against the gong it will have no effect in throwing the plunger out of its guide.

The plunger 12 is shown in Figs. 1, 2, 3, and 4 in the upper position ready to be depressed to operate the hammer, and in Fig. 7 it is shown in its depressed position, and I have provided means for locking the same in the depressed position, so that it will not be in the way of passengers on the platform.

The means I have shown for this purpose are as follows: 17 is a lug or projection carried by the plunger 12 and adapted to travel in a vertical slot 13^a in the wall of guide 13, that opens into the bore of the guide, so that the plunger and its lug can travel up and down, and the plunger is prevented from rotation when in its uppermost position by the walls of said slot. The slot 13 is substantially L-shaped or formed like a bayonet-joint, its lower portion 13^b extending sidewise around the guide 13 and opening into the bore thereof, as shown in Figs. 7 and 11, so that the lug 17 can travel sidewise through said slot when the plunger 12 is rotated while in its depressed position. It will thus be seen that when the plunger is depressed, so that its head enters the socket 14^a of head 14 and is then rotated, the lug 17 will pass sidewise through the slot 13^b and will rest against the upper wall 13^c of said slot, which forms an abutment for the lug, (see Fig. 11,) and as the hammer presses against the lower end of the plunger it will tend to hold the lug against said wall. To prevent rotation of the plunger while the lug is in this position, I provide a shoulder 13^d at one end of the wall 13^c, which is adapted to lie in the path of the upper edge of the lug 17. Furthermore, to permit the upper end of lug 17 to pass the shoulder 13^d the lower edge of slot 13^b is beveled at 13^e, but at one side of a line passing through the shoulder 13^d, the arrangement being such that when the lug 17 first encounters shoulder 13^e the upper end of the lug will about have passed the shoulder 13^d, and as the plunger is rotated farther the lug will ride up on the shoulder 13^e to confine the lug at the end of the slot with the lug pressing against the wall 13^c. The lug is now substantially locked in the slot; but by moving it sidewise into engagement with shoulder 13^d and then allowing

it to descend slightly it will be free from said shoulder, so that it can be turned fully in line with the slot 13^a in the normally-operative position. By preference the head 12^a has depressions 12^b in its outer walls to permit a person's fingers to grip the head while it is in the socket 14^a, (see Fig. 4,) and the top of the head 12^a is shown provided with a recess 12^c to receive a tool for rotating the plunger, if it is desired. It will be understood that by depressing the plunger and turning it to one side it will be locked in the depressed position, in which case there will be substantially no protrusion of the plunger above the flange 15 or the platform-floor, and as the plunger is locked in its lowermost position the gong cannot be operated. Furthermore, as the plunger is locked in its guide by the pin 16 it cannot be removed, and thereby the advantages are gained of always having the plunger in readiness on the platform, of preventing the plunger from interfering with passengers, and of preventing the plunger from being operated surreptitiously.

The construction of the gong is very simple and its cost reduced considerably; but one screw or bolt is used in the assembling of the gong, with its consequent advantages, one of which is that it can be detached from its support without dismemberment.

I do not limit my invention to the precise details of construction shown and described, as they may be varied without departing from the spirit thereof.

Having now described my invention, what I claim is—

1. The combination of a gong, a plate or frame and a hammer, said plate or frame having a shell-like socket provided with edges 11^a that are normally extended inwardly, with a plunger and a guide for the same having a head adapted to fit within the socket and of greater corresponding diameter than the distance between the edges 11^a of the socket, whereby said edges will be spread apart when the head is forced between the same into the socket, substantially as described.

2. In a plunger mechanism for operating gongs, the combination with a portable guide socket or housing, and a plunger vertically movable and rotatable therein, and means carried by the housing adapted to allow of a vertical movement of the plunger and a partial rotation thereof, further means to lock the plunger in the housing when so rotated, and means for preventing the complete separation of the plunger and housing, the said housing having means for securing it to a car-platform or the like, substantially as described.

3. The combination with a plunger having a head; of a hollow guide therefor having a recess adapted to receive the head of said plunger; means for normally allowing a limited longitudinal movement to the plunger;

and means for locking the plunger in the said guide when the head of the said plunger lies substantially flush with the top of the said guide, substantially as described.

5 4. In a gong, the combination with a plunger having a head; a hollow guide for said plunger having a recess adapted to receive the head of the plunger; and means for normally allowing a limited longitudinal move-
10 ment to the plunger; of a pivoted weighted hammer or striker having an arm extending above its pivotal point, said arm bearing against the end of said plunger; and means for locking the said plunger in the said guide
15 when the head of the plunger lies substantially flush with the top of the said guide, substantially as described.

5. The combination with a plunger having a head; of a hollow guide therefor having a
20 recess adapted to receive the head of said plunger; a key securing the said plunger in said guide and allowing normally a limited longitudinal movement to the plunger, said guide having a longitudinal slot provided
25 with a lateral offset; and a lug on the said plunger arranged to work in the said slot when the plunger is free, and adapted to be caused to enter said offset and lock the plunger against longitudinal movement when the
30 latter is partially rotated in its depressed position, and the head of said plunger is substantially flush with the top of the guide, substantially as described.

6. The combination with the cylindrical plunger; of the hollow cylindrical guide-
35 socket, said guide-socket having a longitudinal slot, and a lateral offset from said slot, a raised portion or step at the bottom of the rear of said offset, a shoulder at the upper side of
40 said offset somewhat nearer the longitudinal slot than the said step or raised portion; and a radial lug or projection on the said plunger arranged to work freely in the said slot, and adapted to be caused to enter the said offset
45 upon the plunger being partially rotated, the shoulder in the said offset serving as a stop to retain the said lug within said offset, substantially as described.

7. The combination in a gong, of a supporting-plate having depressions opening out-
50 wardly; a hammer having outwardly-extending gudgeons detachably secured in said bearings in the top of the plate; oppositely-extending stops on the said hammer and stops
55 depending from the said plate upon opposite sides of the said hammer arranged to engage the stops on the hammer, substantially as described.

Signed at Philadelphia, county of Philadelphia, State of Pennsylvania, this 28th day
60 of January, 1899.

JOHN A. BRILL.

Witnesses:

J. W. CAMAC,
R. ELLA HAPPERSETT.