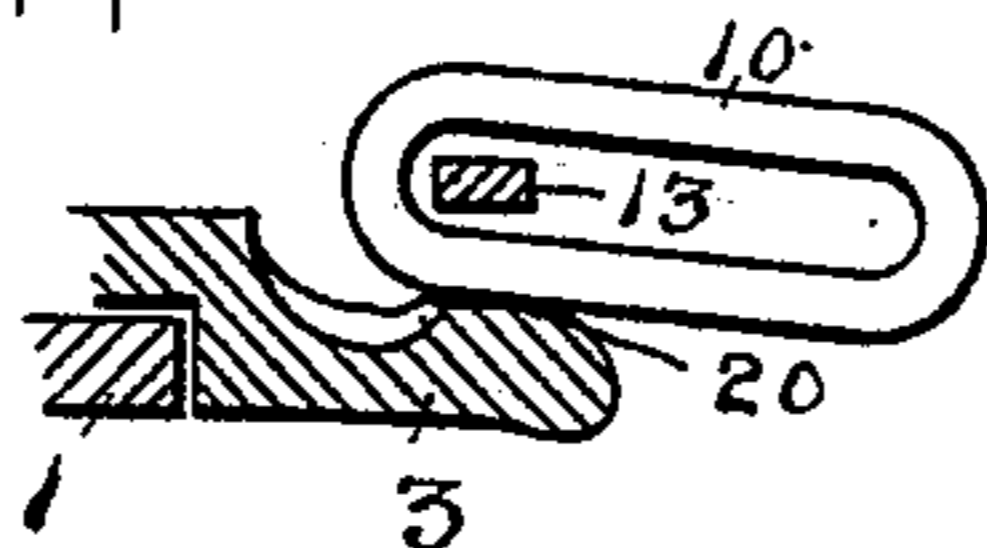
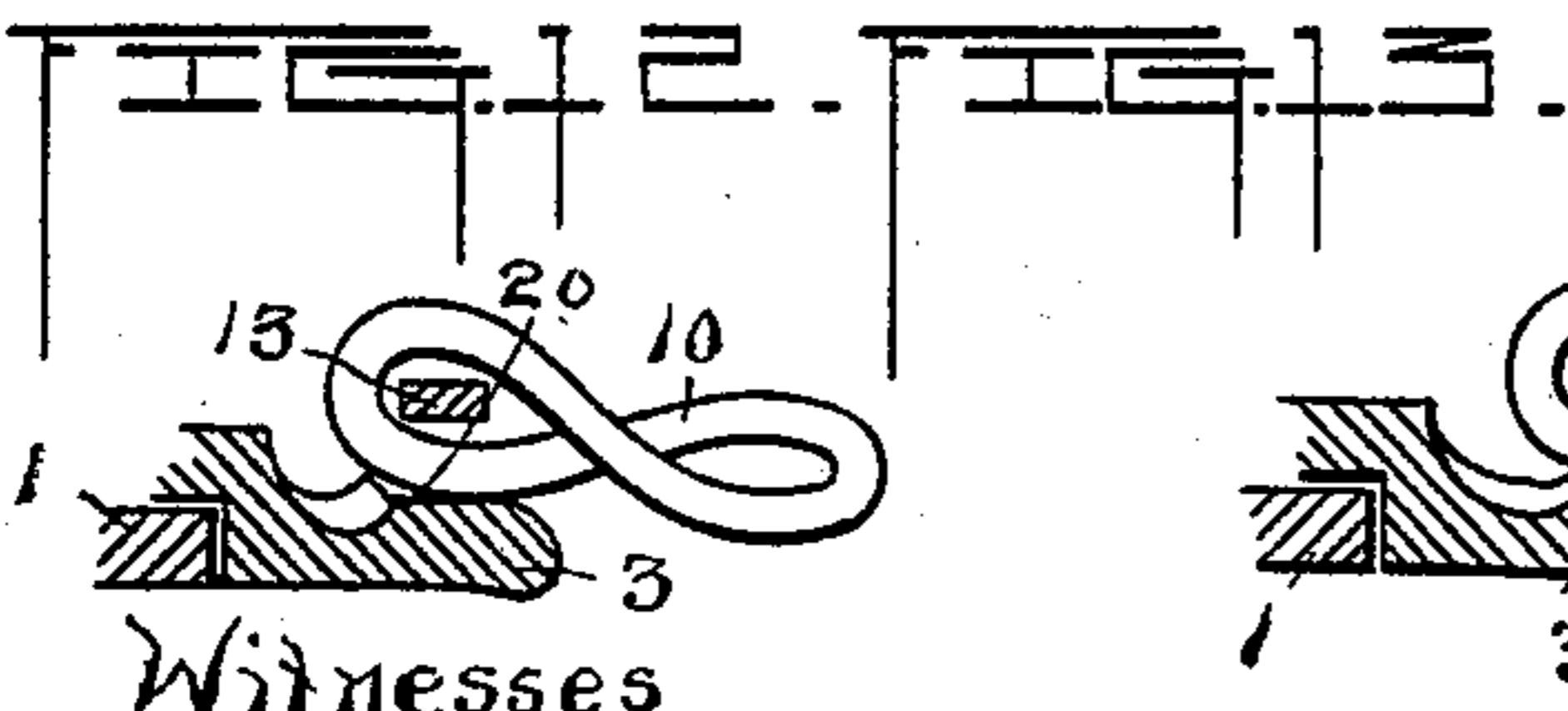
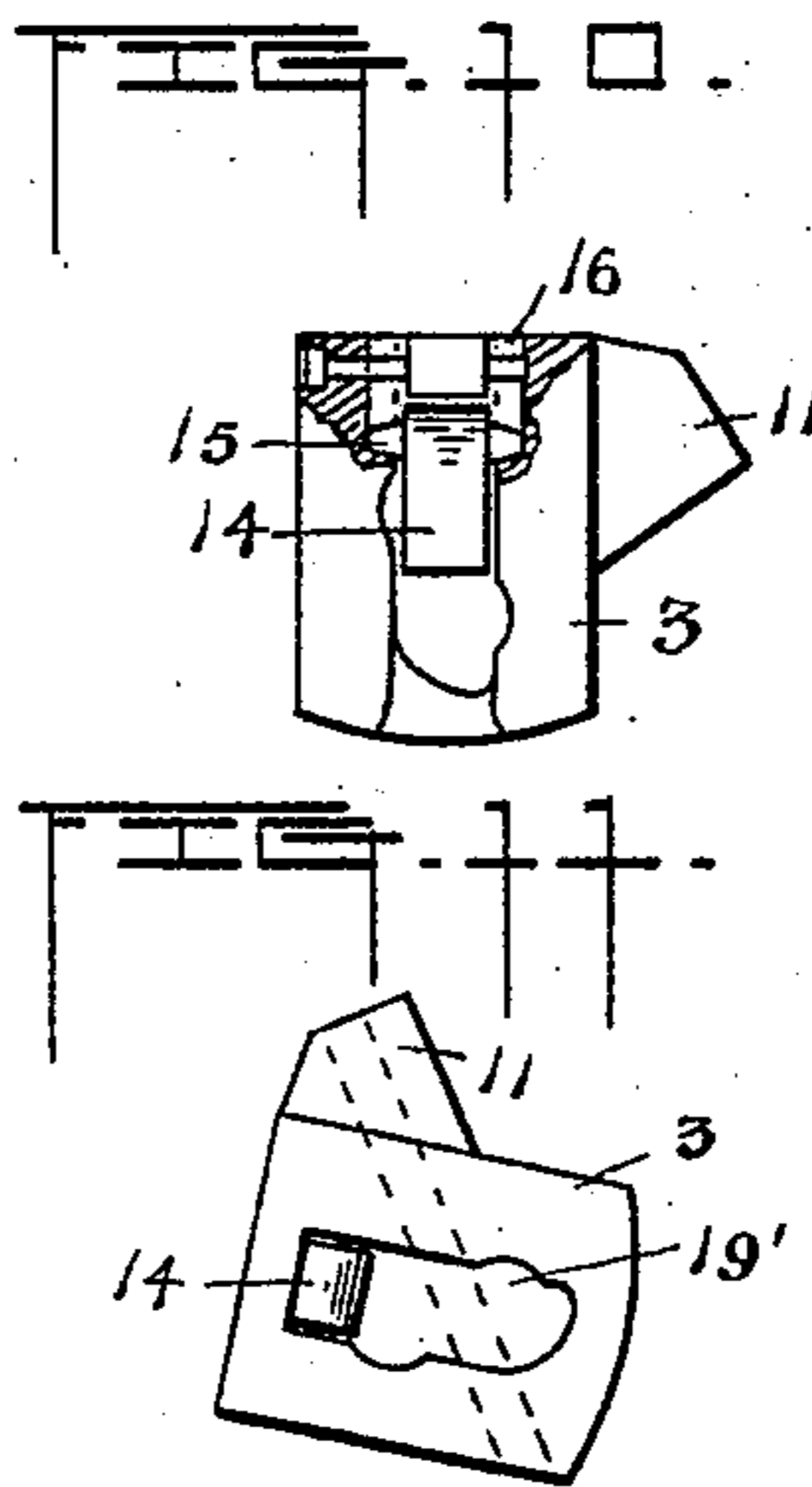
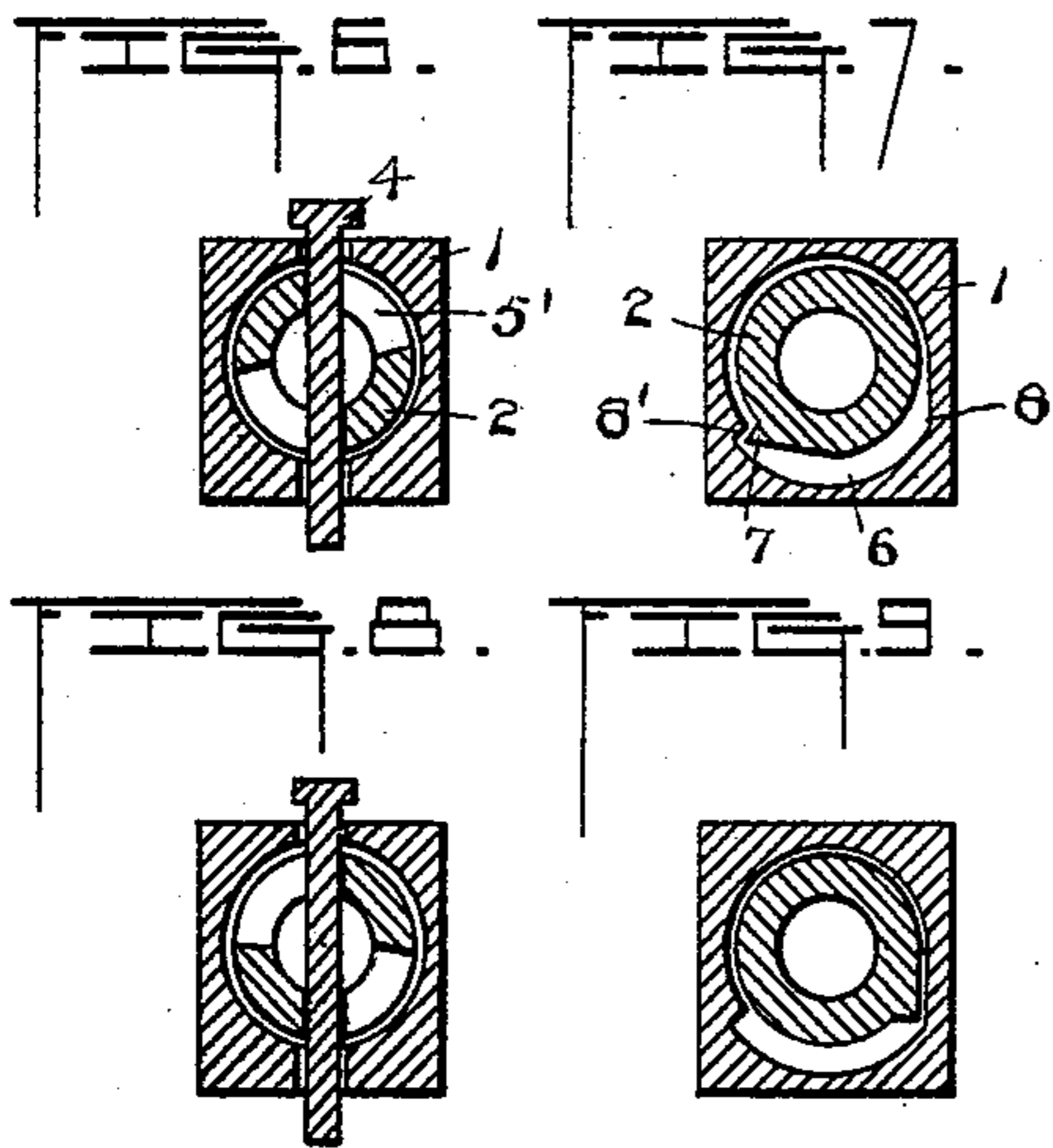
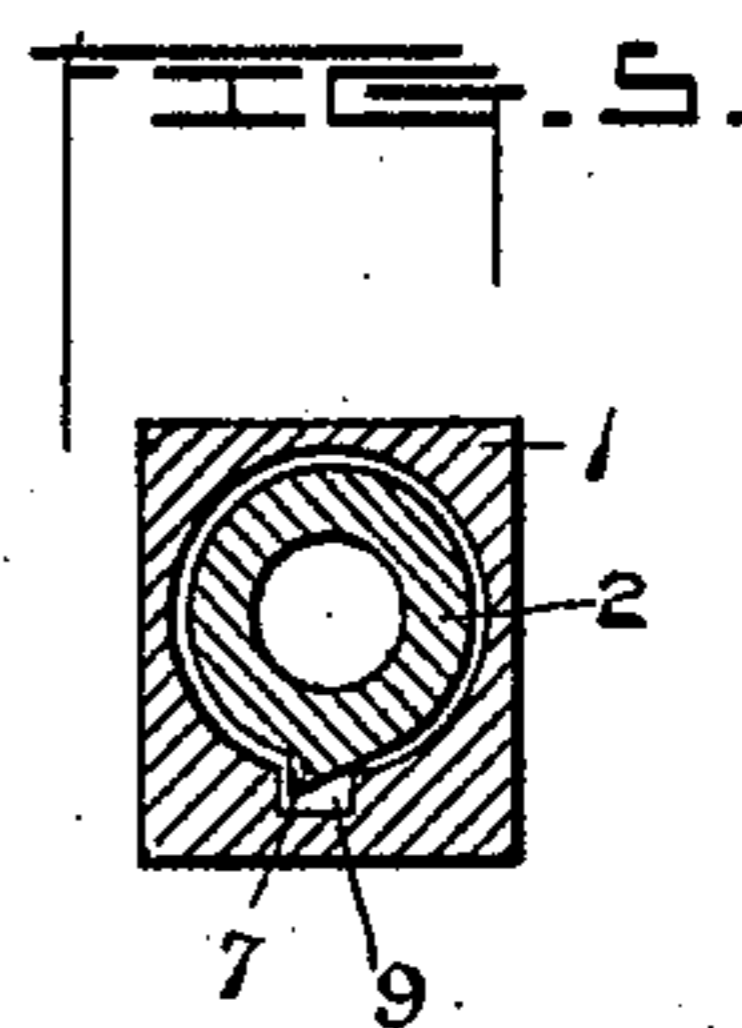
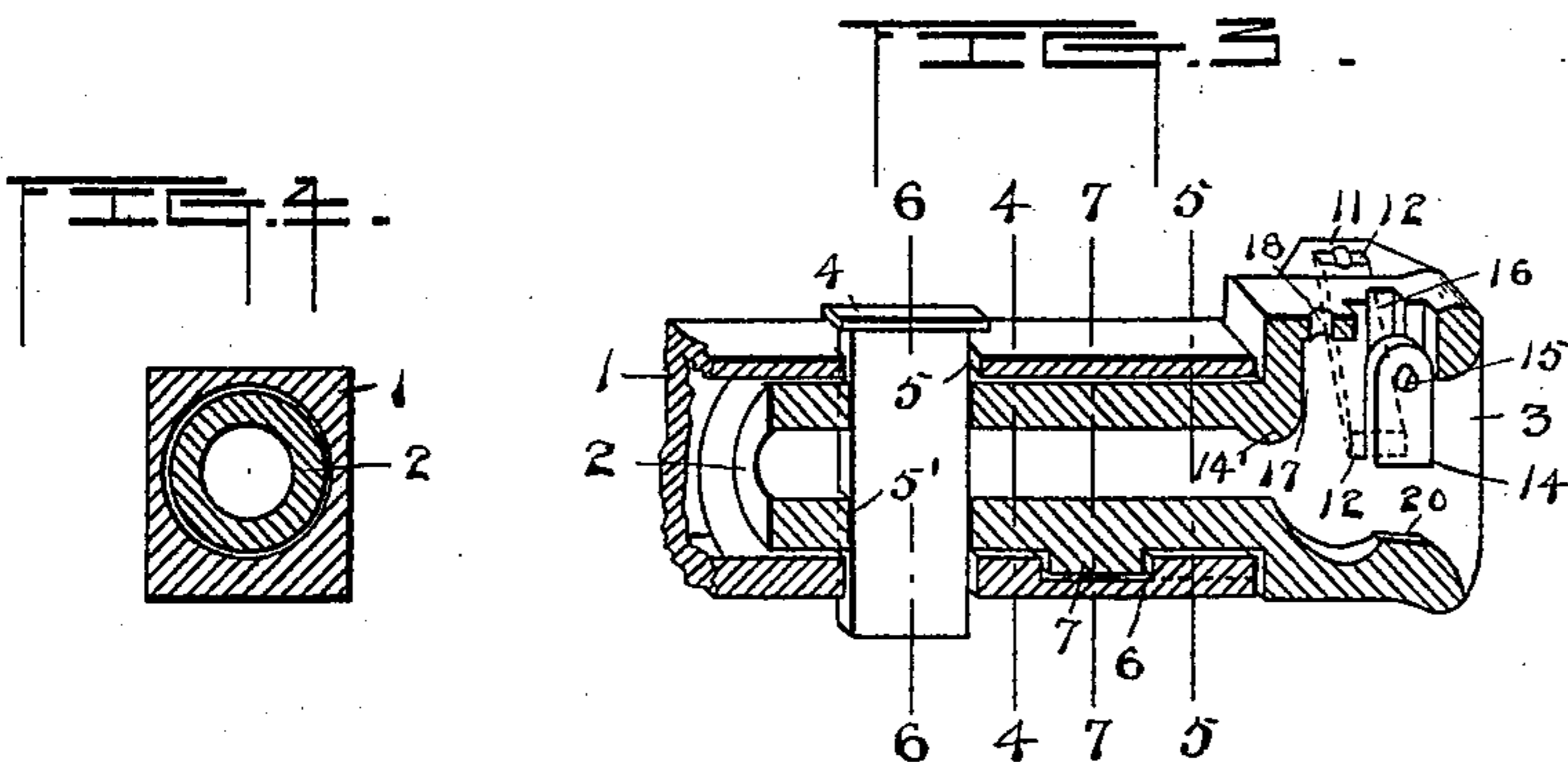
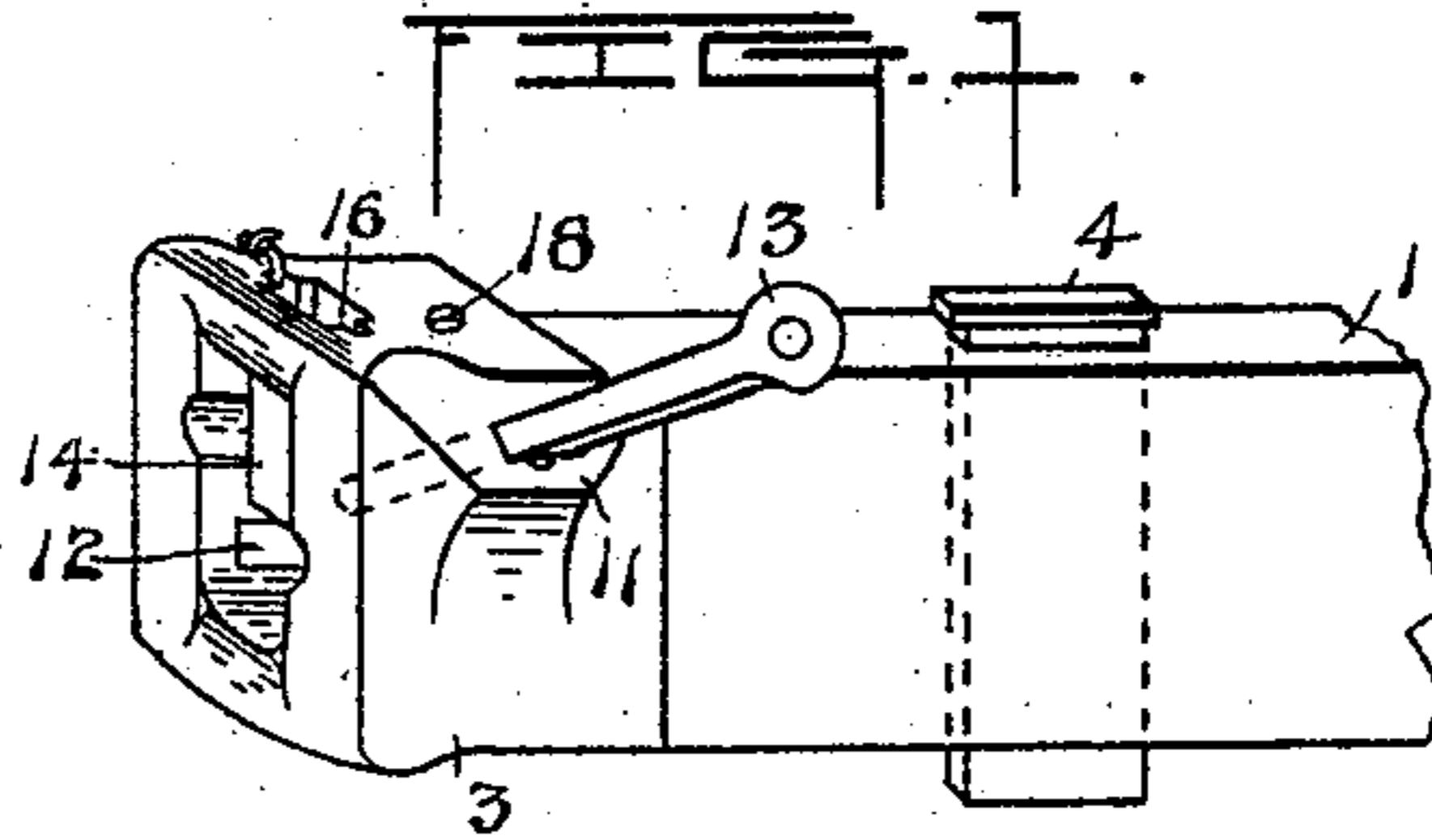
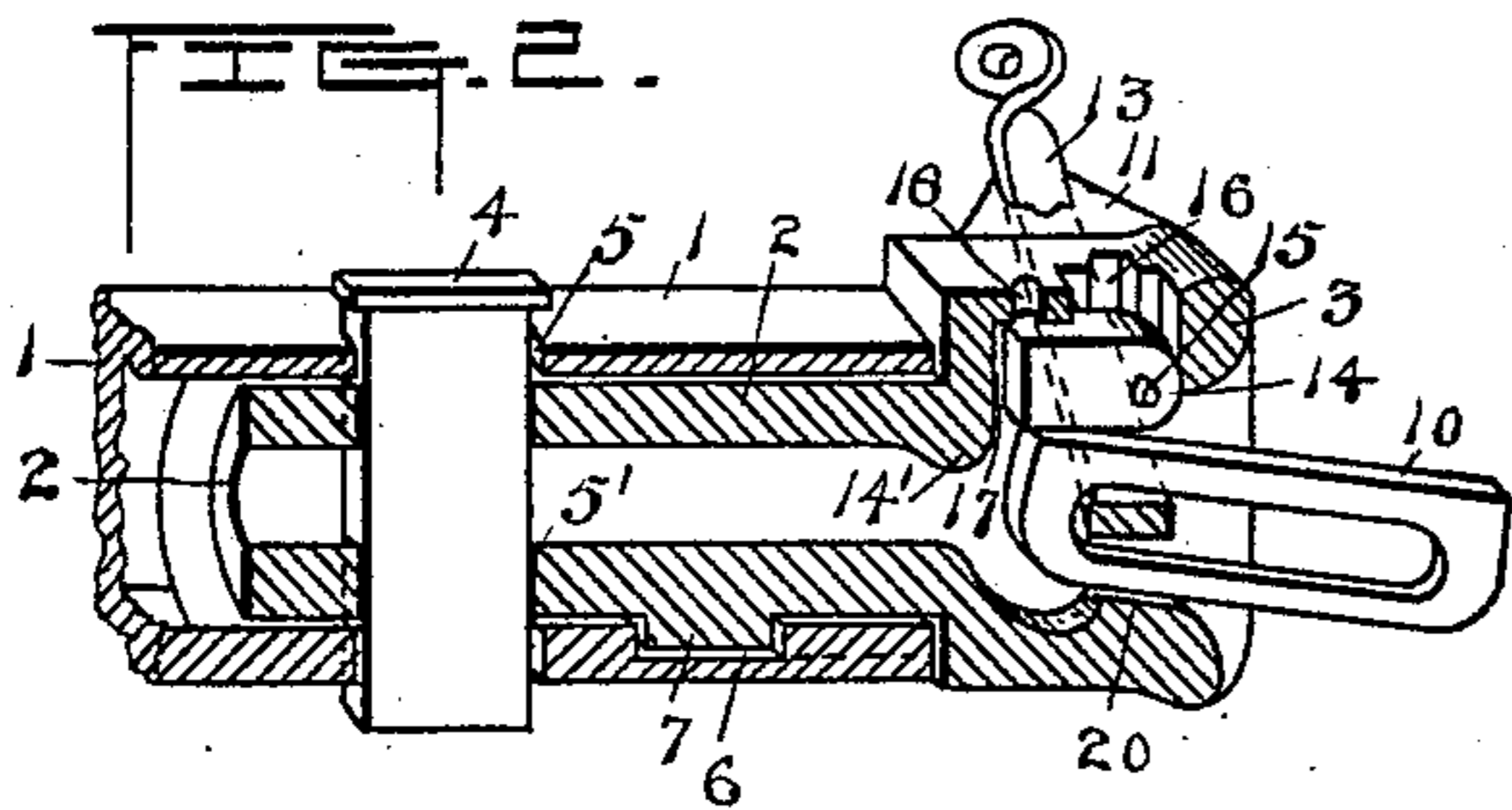


(No Model.)

C. W. DIEDERICH.
CAR COUPLING.

No. 539,359.

Patented May 14, 1895.



Witnesses

Arch. M. Catlin.

H. S. Stone.

Inventor

Charles W. Diederich

By Benj. R. Gordin

Attorney.

UNITED STATES PATENT OFFICE.

CHARLES W. DIEDERICH, OF CONCORD, NEW HAMPSHIRE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 539,359, dated May 14, 1895.

Application filed November 24, 1894. Serial No. 529,852. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. DIEDERICH, a resident of Concord, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Car-Couplers; 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 pertains to make and use the same.

The object of the invention is to improve the construction of that class of car couplers in which the coupling pin is laterally inserted and used with a vertically or approximately vertically edgewise situated link, and at the same time to adapt these devices for coupling drawheads of different heights and various forms, and it consists of the construction hereinafter described and pointed out.

In the accompanying drawings, Figure 1 is an isometric view of the draw-head adapted to receive a vertically edgewise-disposed link. Fig. 2 is a vertical central section. Fig. 3 is a similar view, the coupling link and pin being omitted. Figs. 4, 5, 6, and 7 are transverse sections taken, respectively, on lines 4, 5, 6, and 7 of Fig. 3. Figs. 8 and 9 are sections taken on the same lines as Figs. 6 and 7, respectively, but showing different adjustments of parts. Fig. 10 is a broken front elevation. Fig. 11 is a section similar to that shown in Fig. 10, the parts being differently adjusted. Fig. 12 is a partial vertical section of the draw-head, a twisted link being shown in full lines. Fig. 13 is a similar view with a common link.

The drawhead consists of a part 1 supported under the car in the usual manner and made hollow to receive a partially rotatable part 2 having a rearward cylindrical extension carrying the head proper denoted by 3.

4 indicates a pin or bar passing through and fitting holes 5 in the part 1 and also passing through holes 5' in the part 2 said latter holes being enlarged to permit partial rotation of the part 2 of the drawhead.

6 denotes a recess formed in the floor of the part 1 to receive a boss or rib 7 formed on the exterior of rotatable part 2. The longitudinal extent of these parts is shown in Figs. 2 and 3 and their circumferential dimensions in Figs. 7 and 9. The rotation of the part 2

is limited in either direction by the rib or projection 7 striking an end 8 or 8' of recess 6 as indicated in said figures. The holes 5' are adapted by their relative situation and transverse dimensions to permit the partial rotation of part 2 and to co-operate in limiting said rotation by the walls of the openings, suitably coming in contact with bar 4 as indicated in Figs. 6 and 8.

The stops above described are all attached to the two part draw head and prevent relative endwise motion of the parts. They are therefore always situated in the same planes circumferentially and in the line of engagement.

9 denotes a comparatively narrow channel extending from the recess 6 to the open end of part 1 of the drawhead to provide for the introduction of part 2 having the rib 7. (See Fig. 5.)

10 denotes a link. It has an approximately central opening to admit a coupling pin, and has the exterior edge of one of its members substantially the full length of said link and the similar edge of the other member made shorter and joined to the edge of the longer by curves.

13 is a coupling pin, and 12 an obliquely disposed passage to receive the pin. The upper end of this hole or passage is formed in a laterally situated boss or enlargement 11 adapted both to strengthen the head about the pin hole and to support the pin and also to overbalance the rotatable head and hold it in either of two extreme positions. One of these positions is indicated in Fig. 10 and corresponds to the circumferential situation of parts in other planes. Indicated in Figs. 6 and 7. The other position of the weight or enlargement 11 is shown in Fig. 11 and the corresponding situation of the parts in other planes is represented in Figs. 8 and 9. In each case the rib 7 is held by the action of the weight in stable contact with a shoulder or wall 8 or 8' at the circumferential extremity of recess 6. The weight 11 in either situation resists the rotation of the head though in a readily yielding manner. It prevents the free shaking of the head.

14 denotes a swinging stop suspended by two trunnions 15 loosely seated in recesses 16 in the drawhead. This stop normally pre-

sents its side to the pin, when inserted in a hole 12 and prevents it from entering the mouth of the draw-head before the link is inserted to receive the same. It is automatically swung out of the way by the entrance of the link.

17 denotes a recess under the draw-head roof into which the swinging stop retires when pushed inwardly by the entering link, said stop remaining in contact with and holding down the inner end of the link.

14' denotes a fixed stop depending from the roof of the mouth which stop prevents the link being pushed in too far. The swinging stop 14 may be readily introduced through the roof of the draw-head by simply dropping it into position and it is as easily removed.

To prevent its coming out by accident a bolt (see Fig. 10) may be employed or other means such as wire secured in a hole in the edge of the drawhead by twisting or otherwise may be used. (See Fig. 1.)

18 denotes an opening in the drawhead roof leading into the recess 17 for the purpose of giving access to the swinging stop 14 which will not fall automatically when the head is arranged as indicated in Fig. 11. This arrangement of the head is to receive a link whether twisted as shown in Fig. 12 or straight as in Fig. 13 under a horizontally or approximately horizontally flatwise disposition of its entering end.

To avoid the necessity of completely turning the head from the vertical to a horizontal plane, diagonally opposite recesses 19' may be formed in the mouth to receive a horizontally flatwise disposed link as indicated in Fig. 11.

When the drawhead is to receive a link arranged edgewise in an approximately vertical plane the head itself is inclined slightly in the direction of the side carrying the weight or boss as indicated in Fig. 10, the object of which arrangement is to give effect to the weight and insure the stability of the head. To compensate for this inclination of the head and to sustain a link edgewise in a nearly vertical plane I provide a groove or recess at one side of the mouth.

20 is a table or support for the link operated as indicated in the drawings.

The above described drawhead can be used with either of the three links represented and under either a vertically or horizontally edgewise disposition of the entering end of the link and it can be coupled with a similar head or with drawheads such as are in common use.

The oblong shape of the drawhead mouth or throat and its relatively small width adapt it to support the link vertically edgewise when desired. The recesses 19 and 19' being comparatively small do not materially interfere with this effect.

It is not essential that the part 1 of the drawhead be made to embrace the rounded extremity of the other part as the operation would be substantially the same were part 2 enlarged and made to similarly embrace part 1.

I am aware that swinging stops for coupling pins are not new, and also that such a device has been adapted to serve as a stop for the link and I do not claim broadly such matters.

I do not claim a head having a swinging stop adapted to support the full weight of a coupling pin on its top, and adapted to be pushed aside by an entering link, nor a two-part draw-head having one part weighted as such devices were described prior to my invention. By my improvement the pin when stopped is mainly supported in its bearings in the head and there is but little friction between it and the stop to obstruct the swinging of the latter. Further the transverse dimension or thickness of my stop widthwise of the draw head can be made much less than is required by prior stops which to securely support a pin on their top must have a lateral thickness larger than the pin and larger than the pin passage, thereby unduly weakening the draw head.

By my improvement in the two-part draw-head the rotatable parts are stopped in both directions and are automatically held against the stop in one direction by a weight.

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

1. In combination in a draw head provided with a downwardly inclined passage 12, a vertically edgewise disposed coupling link having an approximately horizontal pin opening, a swinging stop 14 pivoted in the head, and a pin 13 adapted to bear against the side of the stop and be supported in its bearing in the head in position for automatic coupling when the stop is moved by an entering link, substantially as set forth.

2. The draw head having an oblong mouth whose largest dimension is in a vertical plane and has a downwardly inclined lower lip, a transverse coupling pin-passage 12, a link having an approximately central opening to admit a pin from said passage and having an exterior edge of one of its members of substantially the full length of said link and the similar edge of the other member made shorter and joined to the edge of the longer by curves, and a fixed stop 14' depending from the roof of the mouth adapted to engage the rear of the longer member, all substantially as set forth whereby said curved edge of the link is guided into the mouth and whereby the link is held in position for coupling by its longer side.

3. A drawhead consisting of two parts one of which contains the mouth and is rotatable in relation to the other, stops comprising a counterpart situated on each part of the draw-head to limit the extent of rotation in either direction and a weight to resist rotation, said weight tending to maintain the engagement of said stops in either direction, substantially as set forth.

4. A drawhead consisting of two parts one

of which contains the mouth and is rotatable in relation to the other, stops to limit the extent of rotation, and a weight to resist rotation, said weight consisting of a boss perforated to receive a coupling link, substantially as set forth.

5. A rotatable drawhead having a boss or weight and a stop on one side, said weight normally holding the head against the stop and said drawhead having a narrow oblong mouth and provided with the diagonally situated recesses 19 to adapt it to receive a horizontally flat disposed link without being itself turned to an exactly horizontal position, substantially as set forth.

6. A rotatable drawhead having a boss or weight and a stop on one side, said weight normally holding the head against the stop and said drawhead having a narrow oblong mouth and provided with a recess 19' at one

side of the center of the mouth to receive the lower limb of a link to aid in sustaining said link in an edgewise vertical position when the head is tilted sidewise against said stop, substantially as set forth.

7. The drawhead consisting of the part 1 having holes 5, and recess 6 and the rotatable part 2 having holes 5' and rib 7, in combination with bar 4 and the parts having the proportion described whereby the bar and the rib co-operate to limit the rotation of the parts, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES W. DIEDERICH.

Witnesses:

WILLIAM R. WALKER,
GEORGE C. ROY.