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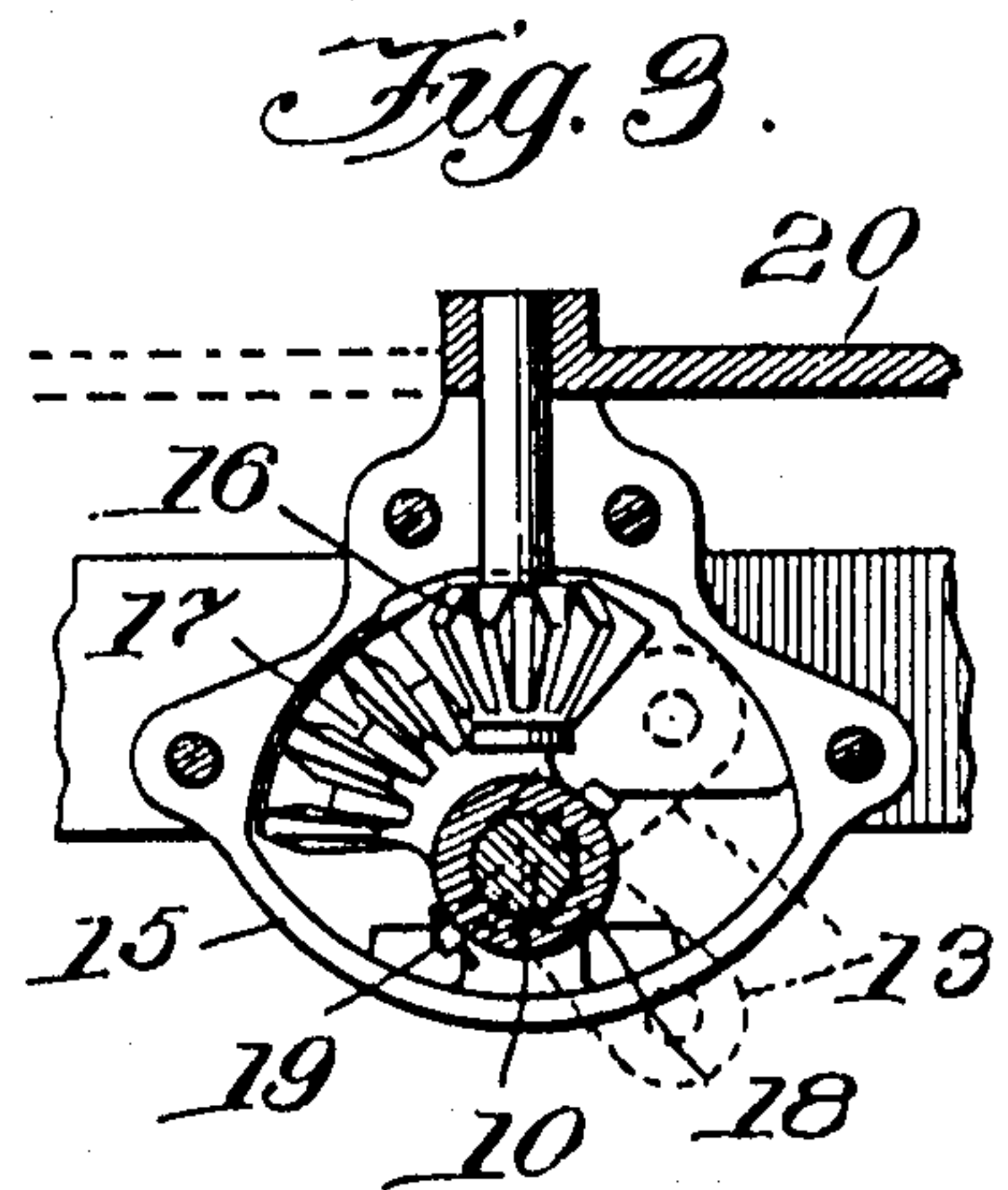
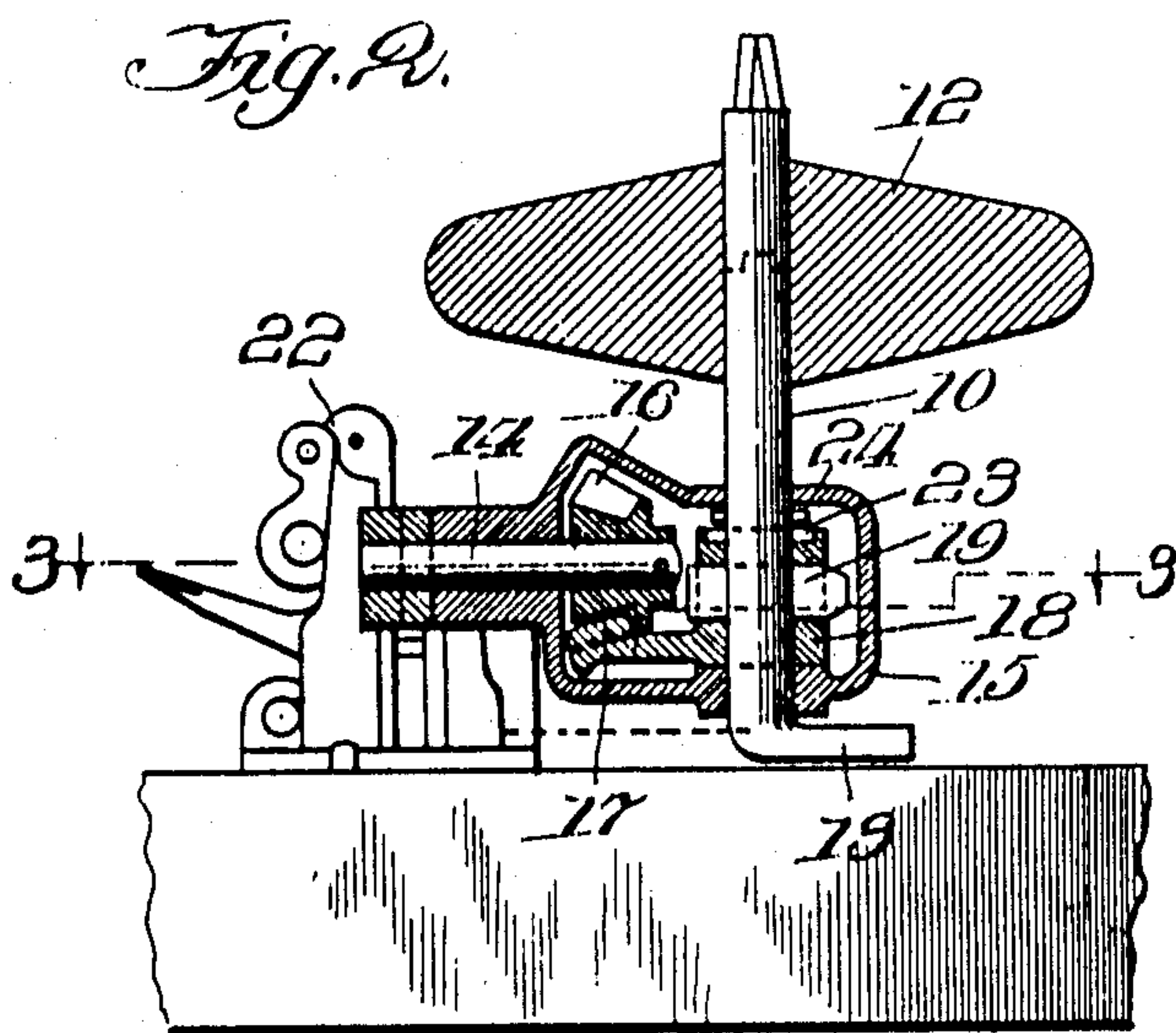
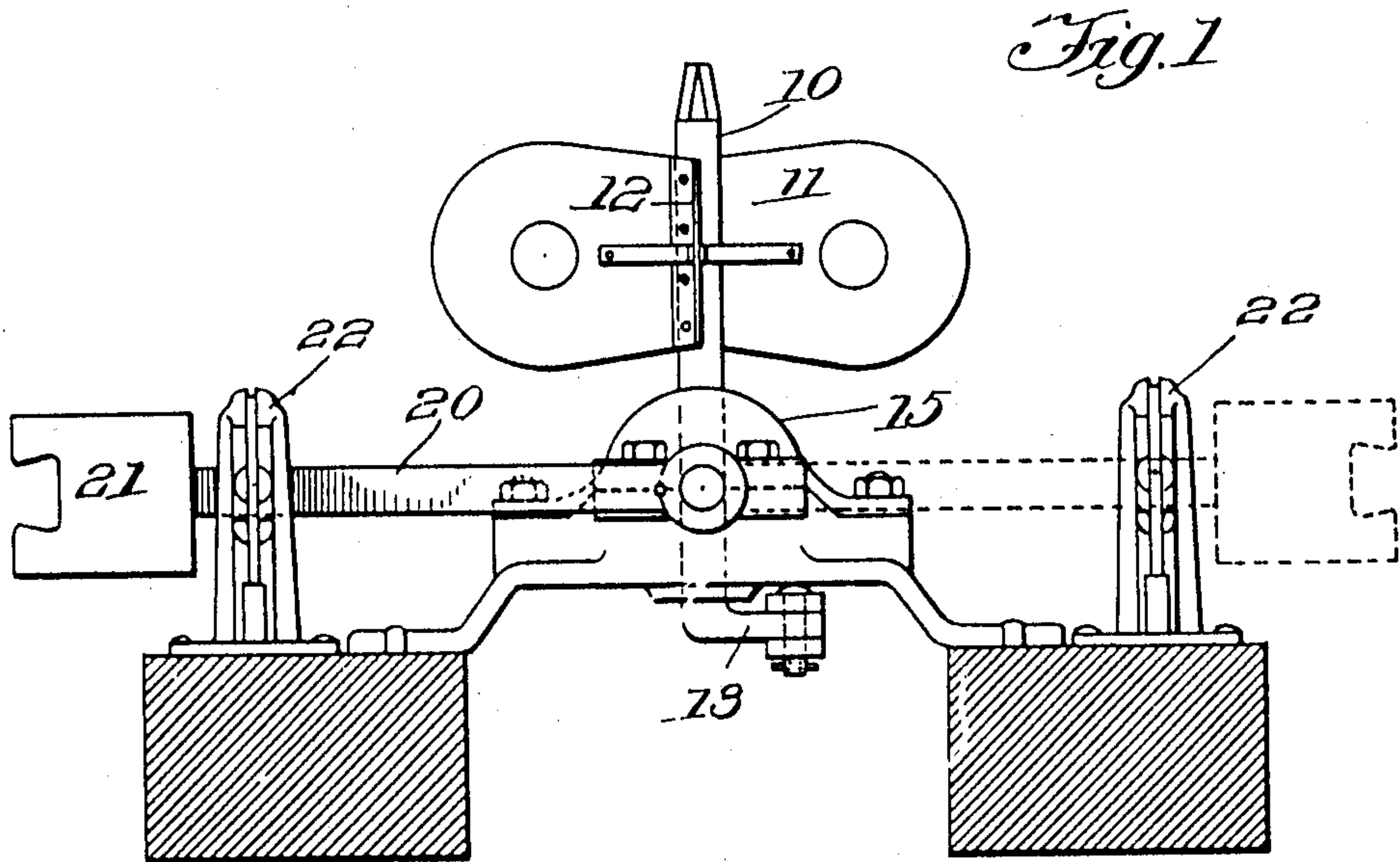
No. 750,800.

PATENTED FEB. 2, 1904.

R. L. BROWN.
SWITCH STAND.

APPLICATION FILED NOV. 16, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

RUDOLPH L. BROWN, OF CHICAGO, ILLINOIS.

SWITCH-STAND.

SPECIFICATION forming part of Letters Patent No. 750,800, dated February 2, 1904.

Application filed November 16, 1903. Serial No. 181,432. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH L. BROWN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Switch-Stands, of which the following is a specification.

This invention relates to novel improvements in switch-stands, and to illustrate the same I have shown it embodied in a ground-throw switch-stand in the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a central sectional view, and Fig. 3 is a part-sectional view on the line 3 3 of Fig. 2.

Switch-stands and switch-points are often broken or otherwise injured by the flanges of the wheels of engines and cars engaging and forcing the points while the switch is locked through neglect to properly throw the switch. This injury is sometimes done by an engine or car running out from a siding onto a main track while the switch is set for a clear main track and sometimes by an engine or car traveling on the main track while the switch is set for a siding. The result of forcing the switch-points in this manner is that one or both of the points are bent or broken or the switch-stand itself is broken and rendered inoperative. The cost of repairing the switch-points is considerable, and the cost of repairing a broken stand may also be considerable, as the stand generally has to be entirely replaced. In addition to this a great deal of trouble and annoyance is caused to traffic when the switch is thus rendered inoperative. Furthermore, it sometimes happens that no attention is paid to the switch after it is thus broken and the target is permitted to show a clear main track, whereas the points may be bent or broken in a manner which will cause derailment of a train on the main track and possible destruction of the train and loss of life. It is my object, therefore, to prevent accident of this kind and provide a switch-stand with a breakable part which will permit the switch-points to be forced while the switch is locked and which can be easily and quickly replaced at very low cost. Another object is to cause the target to be operated whenever

the switch-points are moved, so that if the points are forced, as described, the target will be turned to show the danger-signal; and a further object is to automatically lock the switch and the stand with the danger-signal exposed after the points have been thus forced.

In the drawings like numerals of reference indicate corresponding parts in the several figures.

10 designates a target-staff carrying a clear-signal 11 and a danger-signal 12, of any suitable character. This staff has its lower end 13 connected with the switch-rod and switch-points in the manner commonly employed or in any other suitable manner. A rock-shaft 14 is mounted in the housing 15, and it carries a bevel-gear 16, which meshes with the toothed segment 17, carried by a collar 18 on the staff. This collar is fastened to the staff by a breakable key 19, which passes transversely through the collar and the staff. A lever 20 is fastened to the rock-shaft 14 and carries a weight 21 at its outer end, and this lever may be locked in either of its positions by latches 22 of any suitable construction. The collar is provided with recesses 23 at its upper end to receive the locking-lugs 24 on the staff for the purpose of locking the collar and the staff together after the key has been broken.

The key is made of sufficient strength to lock the collar on the staff for throwing the switch under ordinary conditions when the lever is thrown to shift the switch-points in the proper and usual manner; but if force is applied to one of the switch-points while the lever is locked, as by an engine running out from a siding, the key will break without injuring any of the other parts of the stand to permit the switch-points to be shifted by the flange of the wheels and the staff to be turned to show a danger-signal on the main track. The key affords a support for the staff; but when the key is broken and the staff is turned into the position shown in Fig. 2 it will fall by gravity, and the lugs 24 will lodge in the recesses or sockets 23 to lock the target and the switch in fixed position until the key has been replaced. It will be readily understood that the key is a comparatively inexpensive

article and can be easily and quickly replaced when broken. By this means I avoid permanent or serious damage to the stand and greatly reduce the expense of repairing a stand which has been injured in this manner and entirely avoid the greater expense and trouble of replacing bent or broken points. Furthermore, it will be observed that the target is operated with the points, so that when the switch has been forced in this manner the danger-signal will be properly exposed to prevent another train from running into the broken switch. This is an important feature of the invention, as it will prevent many accidents and very great loss of life which now frequently result from failure to properly operate the switch and accidents caused by forcing switches, as described. It will be further observed that the switch cannot be surreptitiously forced by inserting a pick or other implement between a point and the adjacent rail, because in such event the target, which is operated with the points, will show the danger-signal, and thus cause the train to be stopped before reaching the switch.

Without limiting myself to the exact construction and arrangement of parts herein shown and described, what I claim, and desire to secure by Letters Patent, is--

30 1. A switch-stand comprising a target-staff connected with the switch-points, means for

operating said staff, and a breakable key between the staff and said operating means.

2. A switch-stand comprising a target-staff connected with the switch-points, a collar on said staff, a segment carried by said collar, a gear meshing with teeth on said segment, means for operating the gear, and a breakable key passing transversely through the gear and collar to lock said parts together.

3. A switch-stand comprising a target-staff, a collar on said staff carrying a toothed segment, a gear meshing with said segment, means for operating the gear, means for fastening the staff and collar together, and locking-lugs on said staff adapted to enter recesses in the collar when the fastening means are removed.

4. A switch-stand comprising a target connected with the switch-points, means for operating said target, means for locking said operating means, and a breakable connection between the target and said operating means adapted to permit the target to be thrown to correspond with the position of the switch-points when the latter are moved while said target-operating means remain locked.

RUDOLPH L. BROWN.

Witnesses:

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