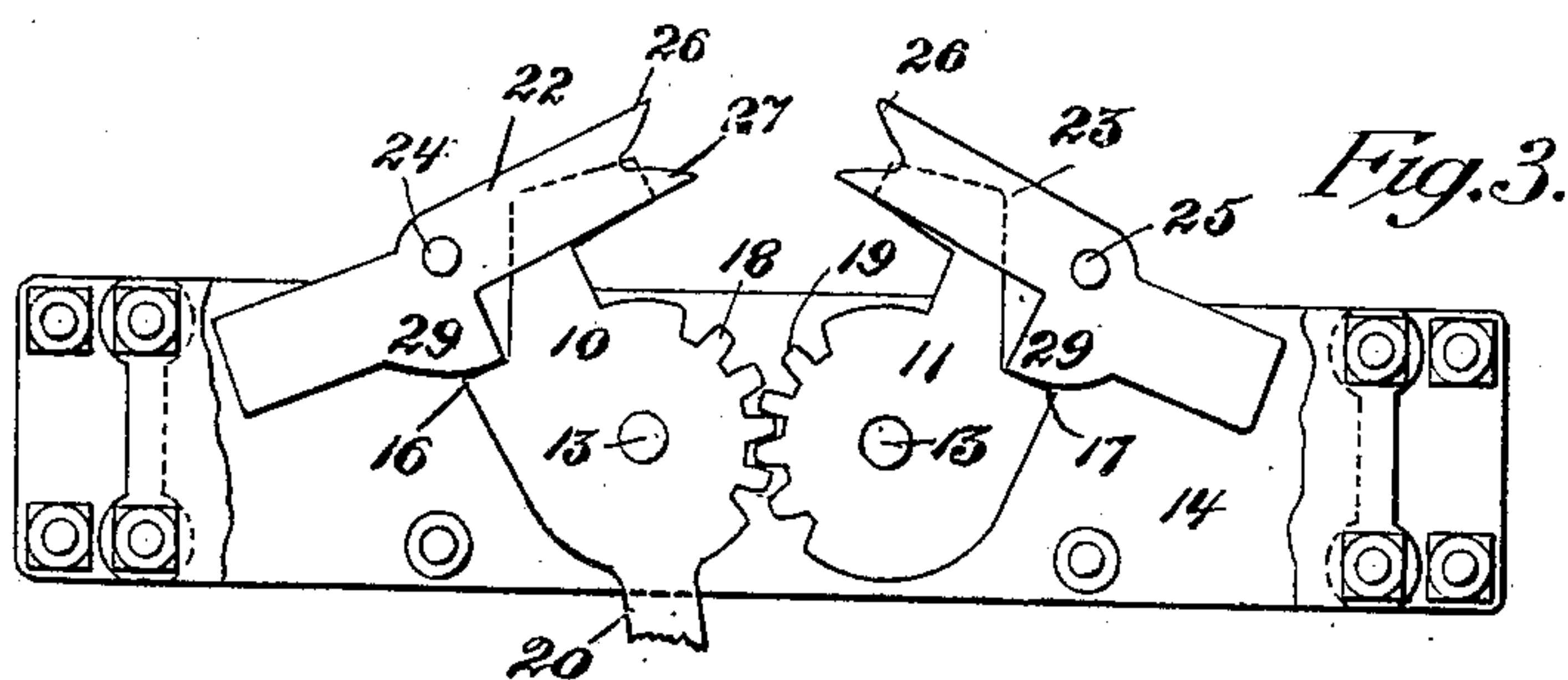
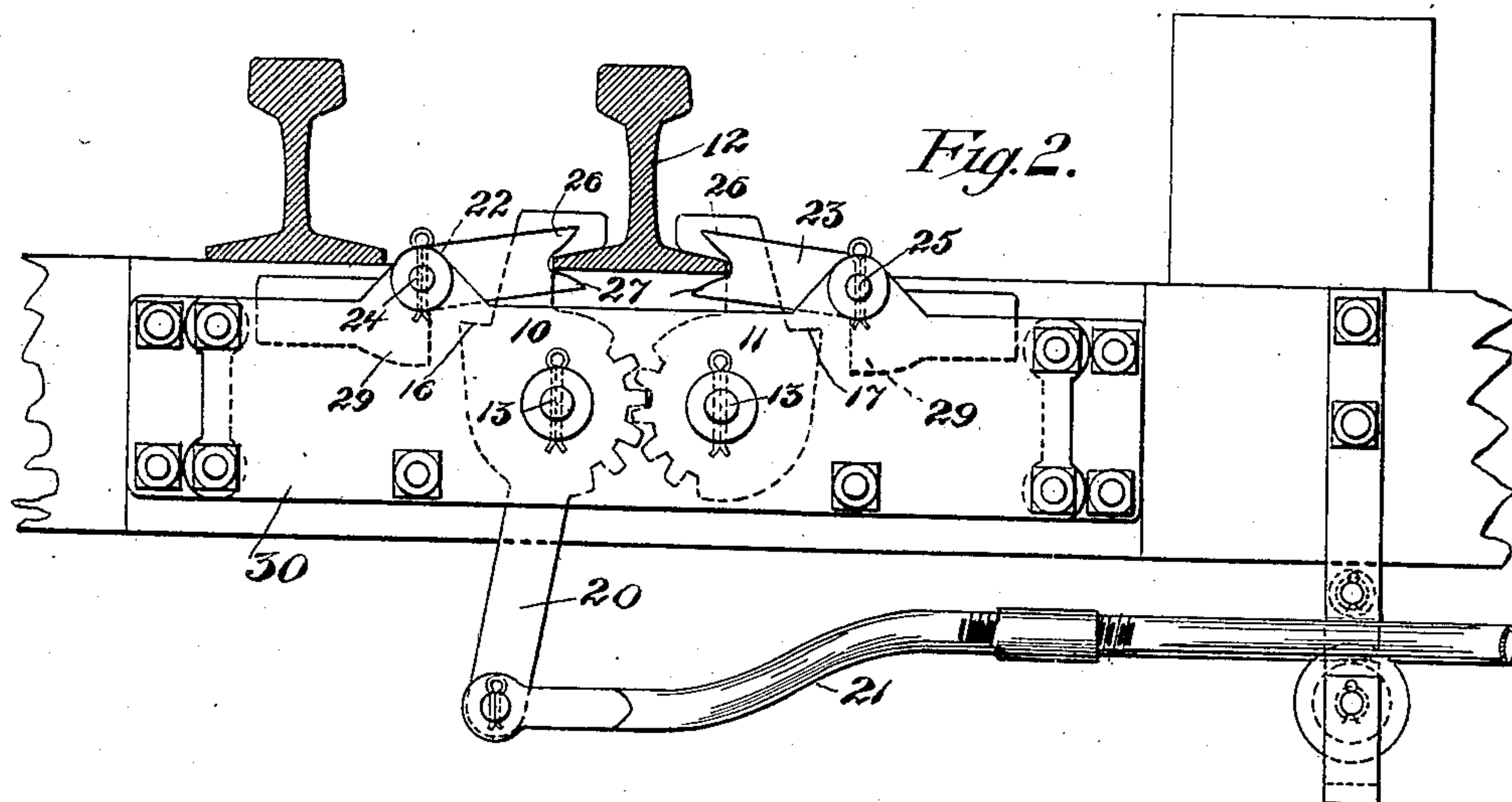
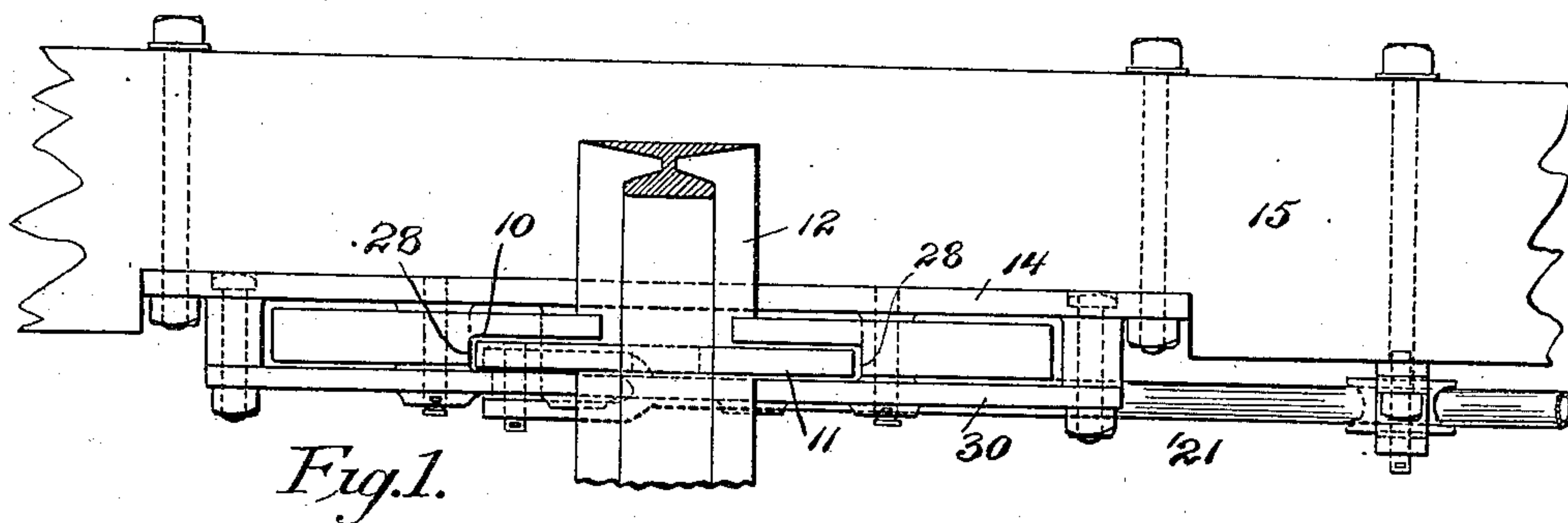


No. 898,252.

PATENTED SEPT. 8, 1908.

C. H. MORRISON.
RAIL LOCK FOR DRAWBRIDGES.
APPLICATION FILED MAY 18, 1908.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES H. MORRISON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE UNION SWITCH & SIGNAL COMPANY, OF SWISSVALE, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

RAIL-LOCK FOR DRAWBRIDGES.

No. 898,252.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed May 18, 1908. Serial No. 433,441.

To all whom it may concern:

Be it known that I, CHARLES H. MORRISON, a citizen of the United States, and a resident of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Rail-Locks for Drawbridges, of which the following is a specification.

This invention relates to rail locks for drawbridges and especially to locks which are moved vertically when the drawbridge is operated.

I will describe a preferred embodiment of my invention and then point out the novel features in claims.

In the accompanying drawing, in which like reference characters indicate like parts in all the figures, Figure 1 is a plan view of a rail lock constructed in accordance with my invention. Fig. 2 is a front view showing the lock in closed position on a rail. Fig. 3 is a similar view showing the lock in open position.

The lock proper consists of two hooks 10 and 11 adapted to engage the flanges of a rail 12. These hooks are pivotally supported, as shown in the drawing, on pins 13 secured to a plate 14, which in turn is bolted or otherwise secured to a support 15, which may be a tie, the end of an abutment, or any other convenient part. Each hook is provided with a shoulder on its rear edge above its pivot, such shoulders being indicated by 16 and 17 respectively. Each hook is also provided on its front edge with a series of teeth concentric with its pivot, which teeth are indicated by 18 and 19 respectively. The teeth of one hook mesh with those of the other hook so that a movement of one hook about its pivot will impart a simultaneous movement to the other hook. One hook, in this case the hook 10, is also provided with a downwardly extending arm 20 to which an operating rod 21 is connected. This rod may extend to any convenient point and be connected to a lever or other actuating device, not shown. In conjunction with the hooks I also provide a pair of dogs 22 and 23 pivoted on pins 24 and 25 secured to the plate 14. The front ends of the dogs are recessed to form two prongs 26 and 27 between which the flanges of the rail will lie when the latter is locked in position. The portion of each dog in front of its pivot is reduced in thickness whereby shoulders 28 are formed, as clearly shown in Fig. 1,

which shoulders oppose the rear edges of the hooks 10 and 11. The front portion of each dog overlaps and lies parallel to the adjacent hook. The rear portions of the dogs are heavier than the front portions and normally tend to throw the latter upward. Each hook is also provided with a downwardly projecting shoulder 29, substantially in line with its pivot, which shoulders, when the lock is open, will engage the shoulders 16 and 17 of the respective hooks and lock said hooks against movement, as shown in Fig. 3.

The device operates as follows: Assuming the parts to be in the position indicated in Fig. 2, by pulling the operating rod 21 to the right the hooks 10 and 11 will be moved out of engagement with the flanges of the rail and the latter may then be moved upwardly since the dogs 22 and 23 will offer no resistance but will turn on their pivots until the rail has passed clear of the prongs 26, and if the rail has not positively moved the dogs sufficiently to cause the shoulders 29 to engage the shoulders 16 and 17 any further movement necessary for this purpose will be effected by the heavier rear portions of the dogs. The parts will then be in the position shown in Fig. 3, and the hooks 10 and 11 cannot be moved toward each other until the shoulders 29 are moved away from the shoulders 16 and 17. When the rail is again lowered the flanges will first engage the prongs 27 and as it descends will turn the dogs on their pivots and move the shoulders 29 out of engagement with the shoulders 16 and 17 which will leave the hooks 10 and 11 free to be operated. The parts will be so adjusted that until the rail is down in proper position, or nearly so, the shoulders 16 and 17 will not be able to pass the shoulders 29, and as all the locks at one end of the bridge will be connected to one operating rod all the rails must be down in their proper position before the rod can be operated. As the lock is not positively connected to the rail the latter is free to expand or contract without affecting the lock. Preferably a front plate 30 will be secured to the back plate 14 and the dogs and hooks will be supported between these two plates.

I do not restrict my invention to the precise details of construction illustrated and described. Thus the two hooks may be geared together for simultaneous movement otherwise than as shown. It is not essential

to have two locking dogs, since one would be sufficient so long as the hooks are geared together to move simultaneously.

Having described my invention, I claim:

5 1. In a rail lock for lift rails, a pair of hooks pivotally supported to engage the flanges of a rail, said hooks having intermeshing teeth concentric with their respective pivots, and an operating rod connected to one of said
10 hooks.

2. In a rail lock for lift rails, a pair of hooks pivotally supported to engage the flanges of a rail, said hooks having intermeshing teeth concentric with their respective pivots, an
15 arm projecting from one of said hooks, and an operating rod connected to said arm.

3. In a rail lock for lift rails, a pair of hooks pivotally supported to engage the flanges of a rail, one of said hooks having a shoulder on
20 its outer edge, means for moving said hooks simultaneously into or out of engagement with the flanges, and a pivoted dog having a shoulder to engage the shoulder on the hook when the lock is open, said dog being mov-
25 able by the rail.

4. In a rail lock for lift rails, a pair of hooks pivotally supported to engage the flanges of a rail, said hooks being geared together to move simultaneously into or out of engage-
30 ment with said flanges, and a reciprocating rod for operating said hooks.

5. In a rail lock for lift rails, a pair of hooks pivotally supported to engage the flanges of a rail; said hooks being geared together to move simultaneously into or out of engage- 35 ment with said flanges and each being provided with a shoulder on its outer edge, a reciprocating rod for operating the hooks, and a pair of pivoted dogs each having a shoulder to engage the shoulder of its respective hook, 40 when the lock is open, said dogs being movable by the rail.

6. A rail lock for lift rails, comprising a plate adapted for attachment to a support, a pair of hooks pivoted on said plate in position 45 to engage the flanges of a rail, said hooks being geared together for movement into or out of engagement with said flanges, each hook having a shoulder on its rear edge, and a pair of dogs pivoted on the said plate to co- 50 operate with the respective hooks, each dog having a shoulder to engage the shoulder of its respective hook when the lock is open and said dogs being movable by the movement of a rail. 55

In testimony whereof I have signed my name to this specification in the presence of two subscribed witnesses.

CHAS. H. MORRISON.

Witnesses:

ALICE B. DRIVER,

ARTHUR W. CHAMBERS.