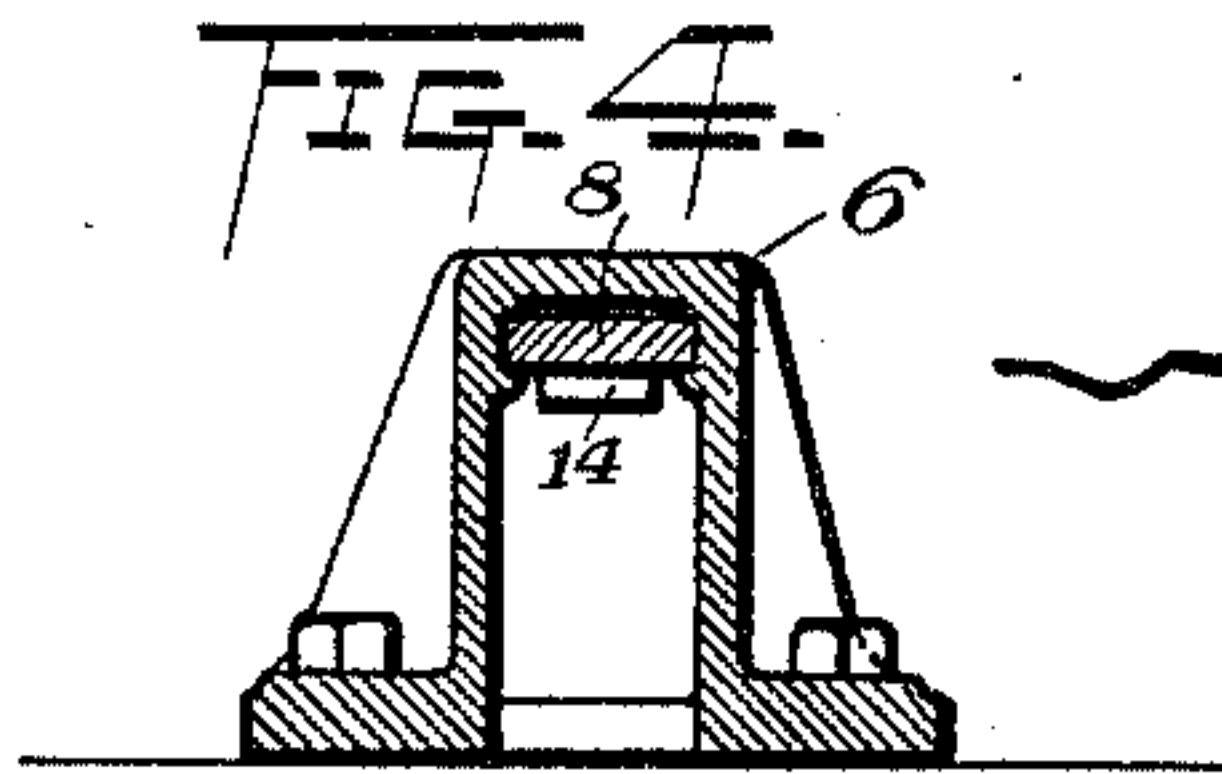
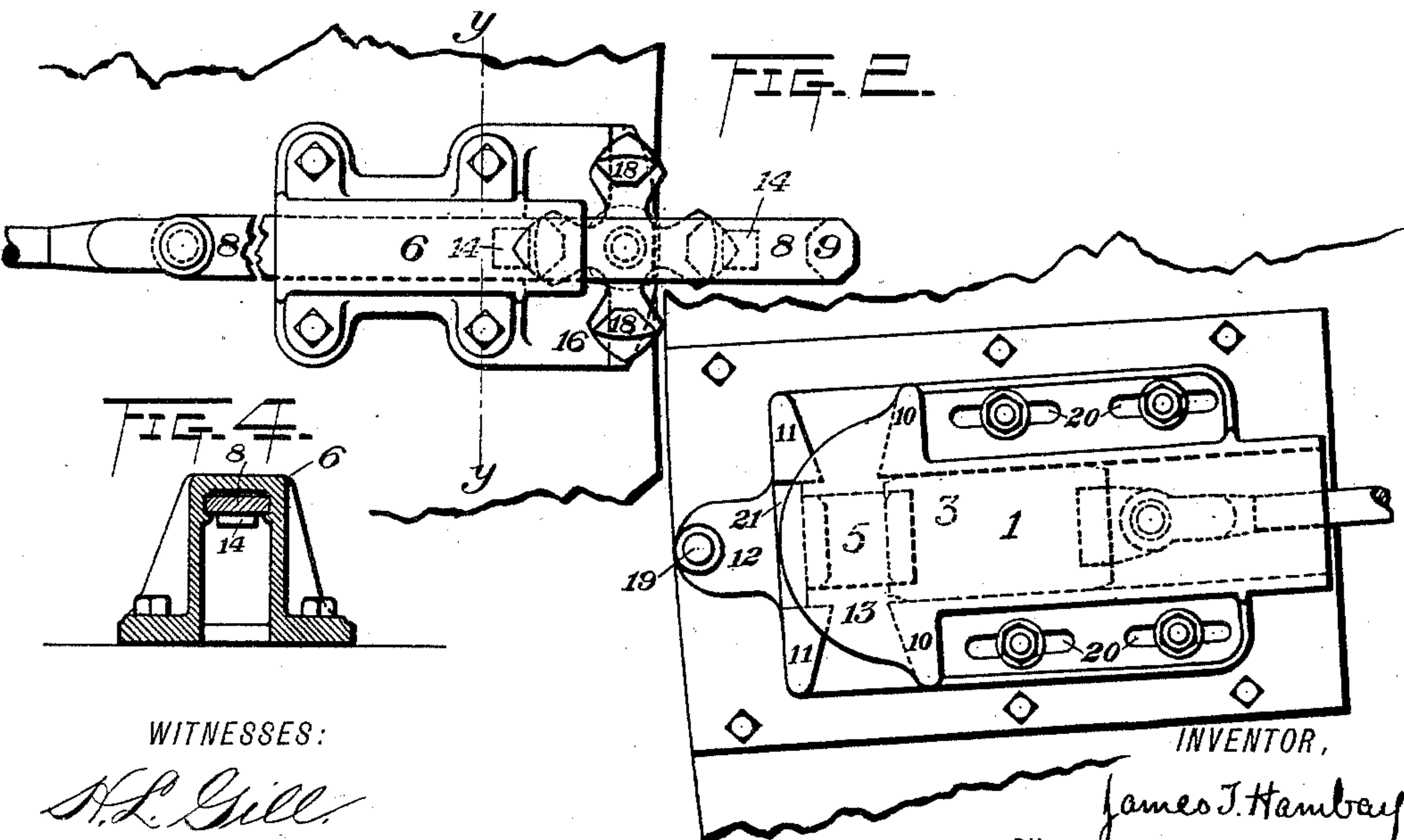
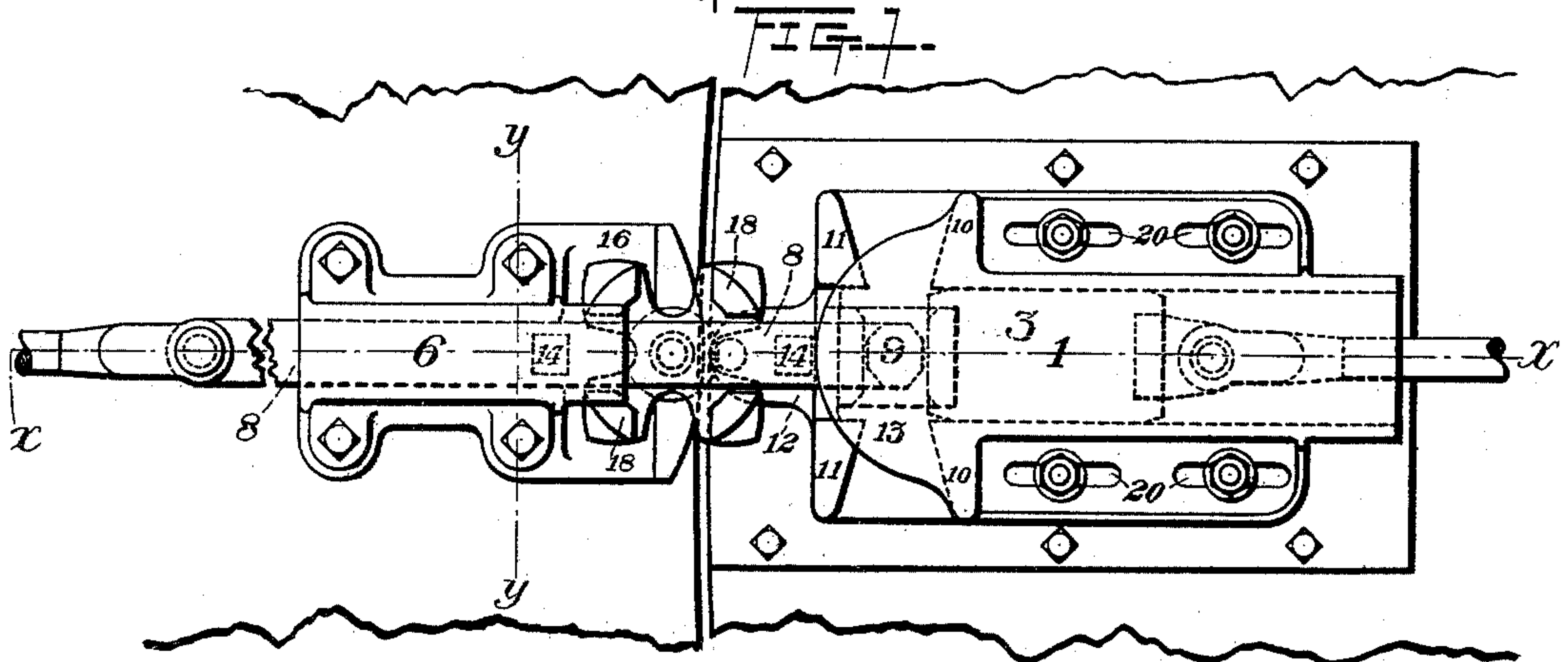
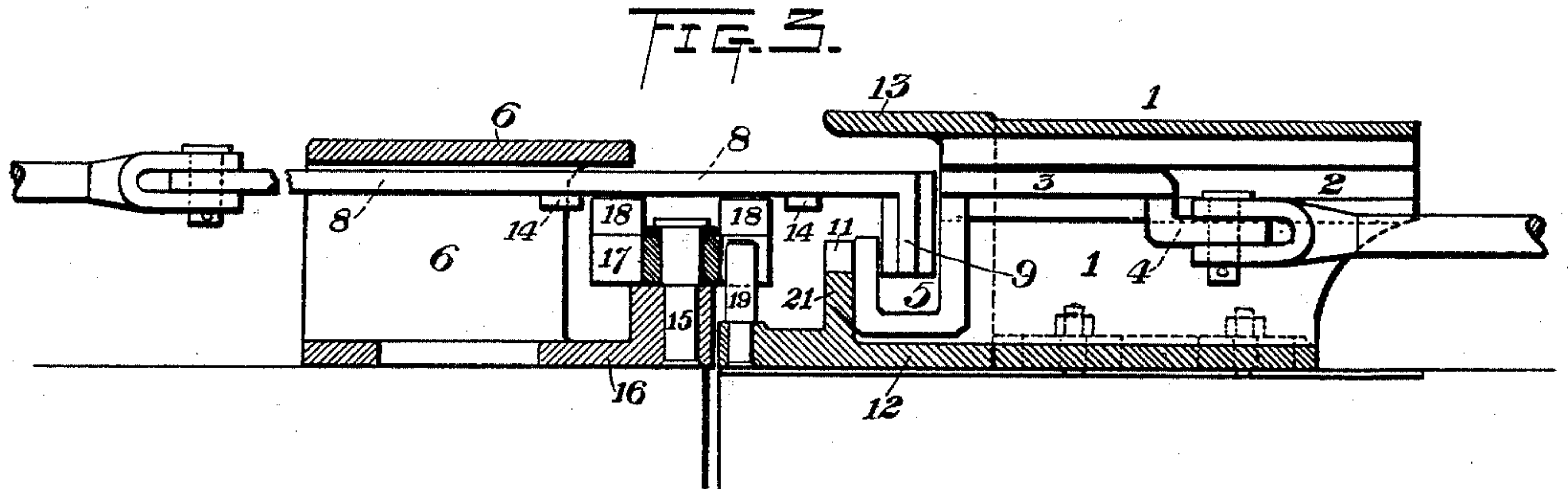


(No Model.)

J. T. HAMBAY.  
COUPLING FOR SIGNAL RODS.

No. 393,557.

Patented Nov. 27, 1888.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JAMES T. HAMBAY, OF WILKINSBURG, PENNSYLVANIA.

## COUPLING FOR SIGNAL-RODS.

SPECIFICATION forming part of Letters Patent No. 393,557, dated November 27, 1888.

Application filed July 3, 1888. Serial No. 278,961. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES T. HAMBAY, a citizen of the United States, residing at Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Couplings for Signal-Rods, of which improvement the following is a specification.

The invention described herein relates to certain improvements in couplings or connections for signal-operating or other rods where the same pass over draw-bridges or other structures, and where it is necessary or desirable to temporarily break the continuity of the rod; and said invention has for its object a construction of coupling wherein the parts forming the same may be automatically disconnected and connected by the bridge or other structure carrying the rod; and it is a further object of said invention to provide for the locking of the signal-rod so as to prevent the signal being shifted to "safety" while the bridge or other structure is out of normal position.

In general terms, the invention consists in the construction and combination of mechanical devices or elements, all as more fully hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of my improved coupler, showing the parts connected while the bridge is in a closed or normal position. Fig. 2 is a similar view showing the position of the parts when the bridge is slightly open. Fig. 3 is a longitudinal vertical section on the line *x x*, Fig. 1; and Fig. 4 is a transverse section on the line *y y*, Fig. 1.

In the practice of my invention I secure upon the bridge, at the ends thereof, a box-like casting, 1, having suitable guide slots or grooves, 2, formed in its inner walls, near the top thereof, as clearly shown in Fig. 3, for the reception of the plate 3, forming a part of the coupling, said plate being provided at its rear end with a lug or projection, 4, for connection with the signal-rod. At its front end the plate 3 is provided with a downwardly-projecting hook, 5, as shown in Fig. 3, adapted to engage the other part or member of the coupling, as will be hereinafter described. In

order to provide for the necessary movements of the hook 5 in shifting the signal, the sides of the box 1 are made sufficiently high and the guide slots or grooves 2 are so located as to permit of the hook moving freely back and forth in said box. On the stationary or shore abutment of the bridge, and in line with the box 1 when the bridge is in normal or closed position, I secure another box-like casting, 6, provided with guide grooves or slots for the reception of the plate 8, which is provided at its rear end with suitable means for connection to the signal-rod and at its front end with a depending lug or projection, 9, adapted, when the bridge is in a closed position, to engage the hook 5. In order to insure the engagement of the lug 9 with the hook 5 as the bridge swings into a closed position, I provide guide-wings 10 and 11, the former extending out from the sides of the box 1, at the front end thereof, and the latter being formed on an extension, 12, of the bottom of the box 1, the inner walls of these wings converging toward each other until the distance between them on each side of the hook 5 is equal to the width of the engaging mouth or notch of said hook, so as to insure the engagement of the two members of the coupling. The hook 5 is made sufficiently wide to permit of a slight amount of lateral play of the lug 9 without any disengagement of said parts, and any vertical uncoupling is prevented by a horizontal extension, 13, on the top of the box, as shown in Fig. 3.

In order to prevent any shifting of the signal when the bridge is open, I form stops or blocks 14 on the under side of the plate 8, and on a pin, 15, secured in an extension, 16, of the bottom of the box 6, is mounted a star-shaped block, 17, the wings or rays of said block being provided with lugs 18, projecting up into the plane of movement of the blocks 14 on the plate 8, the distance between two adjacent rays or wings being a little greater than the distance between the blocks 14.

When the bridge is closed, as shown in Fig. 1, the block 17 is so held by a pin, 19, on the extension 12 from the box 1, engaging a notch between adjacent wings of said block, that the plate 8 can be shifted as desired; but when the bridge is moved from its normal position the pin 19 rotates the block 17, so as to bring two



diametrically-arranged lugs, 18, between the stops or blocks 14 on the plate 8, thereby locking said plate and the signal connected thereto against accidental displacement.

5 In order to compensate for the expansion of the bridge under changes in temperature, the box 1 is provided with slots 20, through which its securing-bolts pass, thereby permitting, when the parts of the coupling are in engagement, of the bridge moving under the box, the latter being held against movement in one direction by the abutting ends of the extensions 12 and 16 and in the opposite direction by the engagement of the hook 5 with a wall, 15 21, connecting the guide-wings 11, as shown in Fig. 3.

It will be readily understood from the above that my improved coupling will also serve as a lock to prevent any movement of the bridge 20 until the signal is at "danger," the signal being so connected to the signal-rod that the movement of the latter to set the signal to "safety" draws the plate 8 into the box 1, and such a movement of the rod as will return the 25 signal to "danger" is necessary in order to bring the parts of the coupling into a position to permit of their being disengaged.

Care should be taken that the blocks or stops 14 on the plate 8 are so arranged with reference to the distance between the outside edge 30 of diametrically-arranged lugs 18 as to permit of a certain amount of movement of the plate when the lug or projection 9 engages one of the guide-wings 10 or 11 as the bridge swings 35 into position.

I claim herein as my invention—

1. A signal-rod having, in combination, a laterally-movable section provided with an open-sided hook, a section stationary as against lateral 40 movement and provided with a lug or projection, and wings for guiding the lug into engagement with the hook, substantially as set forth.

2. The combination of a swinging bridge, a guide-box adjustable thereon, a signal-rod section 45 mounted in said box and provided with an open-sided hook, a guide-box mounted on the shore abutment, and a section of signal-rods mounted in said box and provided with a lug or projection, said boxes being provided with 50 horizontal extensions, substantially as set forth.

3. The combination of a laterally-movable guide-box having a horizontally-extended top, a signal-rod section arranged in said box and provided with an open-sided hook, a stationary 55 guide-box, and a signal-rod section arranged in said box and provided with a lug or projection adapted to engage said hook, substantially as set forth.

4. The combination of a movable signal-rod 60 section provided with an open-sided hook, a signal-rod section movable longitudinally but not laterally and provided with a lug or projection for engagement with said hook, and a lock operated simultaneously with the lateral 65 movement of the hooked section for locking the other section as against longitudinal movement, substantially as set forth.

5. The combination of a movable signal-rod section provided with an open-sided hook, a 70 pin movable with said rod, a signal-rod section movable in a longitudinal direction and provided with a lug or projection for engagement with said hook, stops arranged on said section, and a movable block provided with lugs for 75 engaging the stops and operated by the movable pin, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JAMES T. HAMBAY.

Witnesses:

W. B. CORWIN,  
DARWIN S. WOLCOTT.