

(No Model.)

2 Sheets—Sheet 1.

J. W. T. RILEY.
CAR COUPLING.

No. 582,147.

Patented May 4, 1897.

FIG. 1.

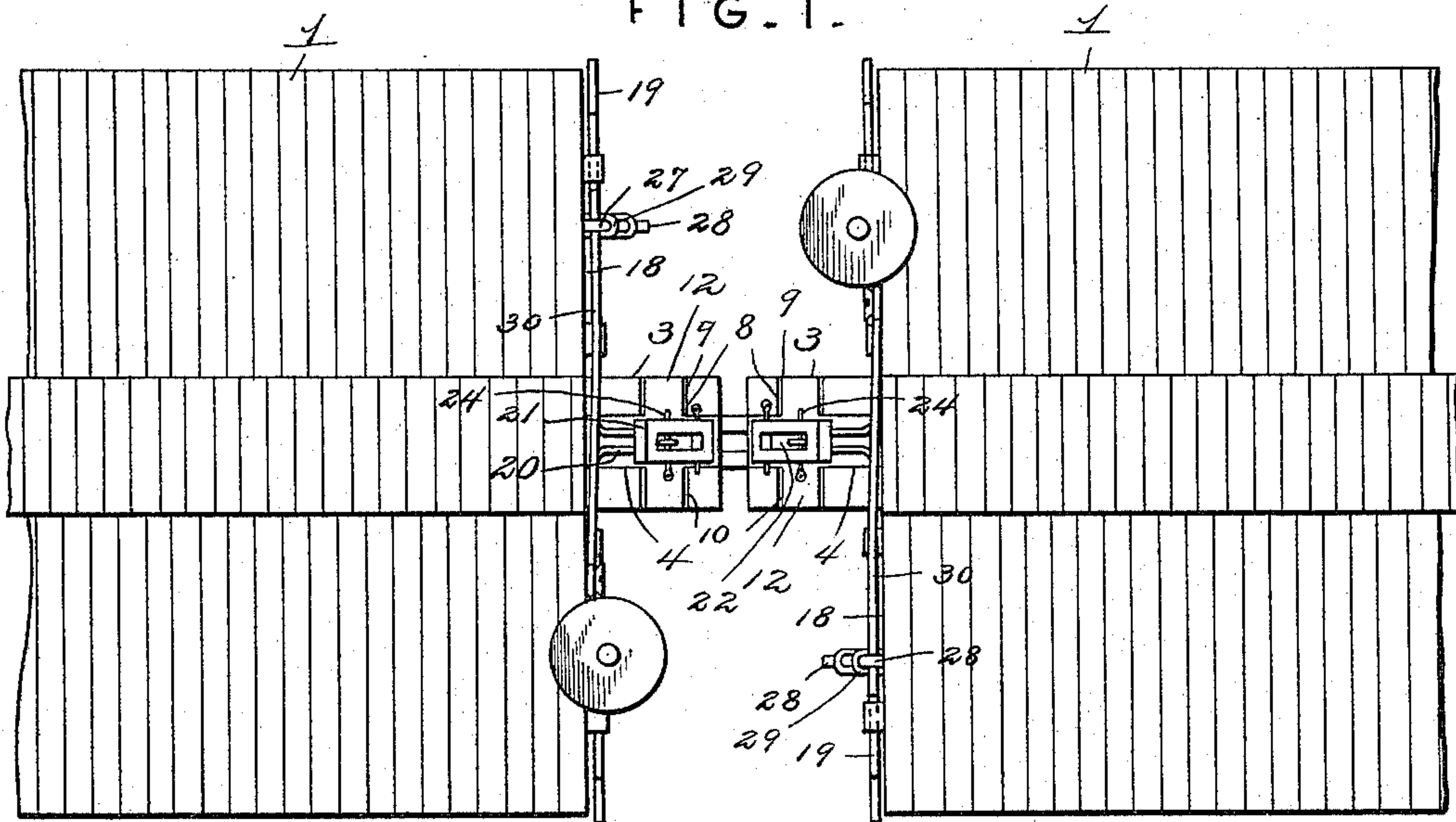
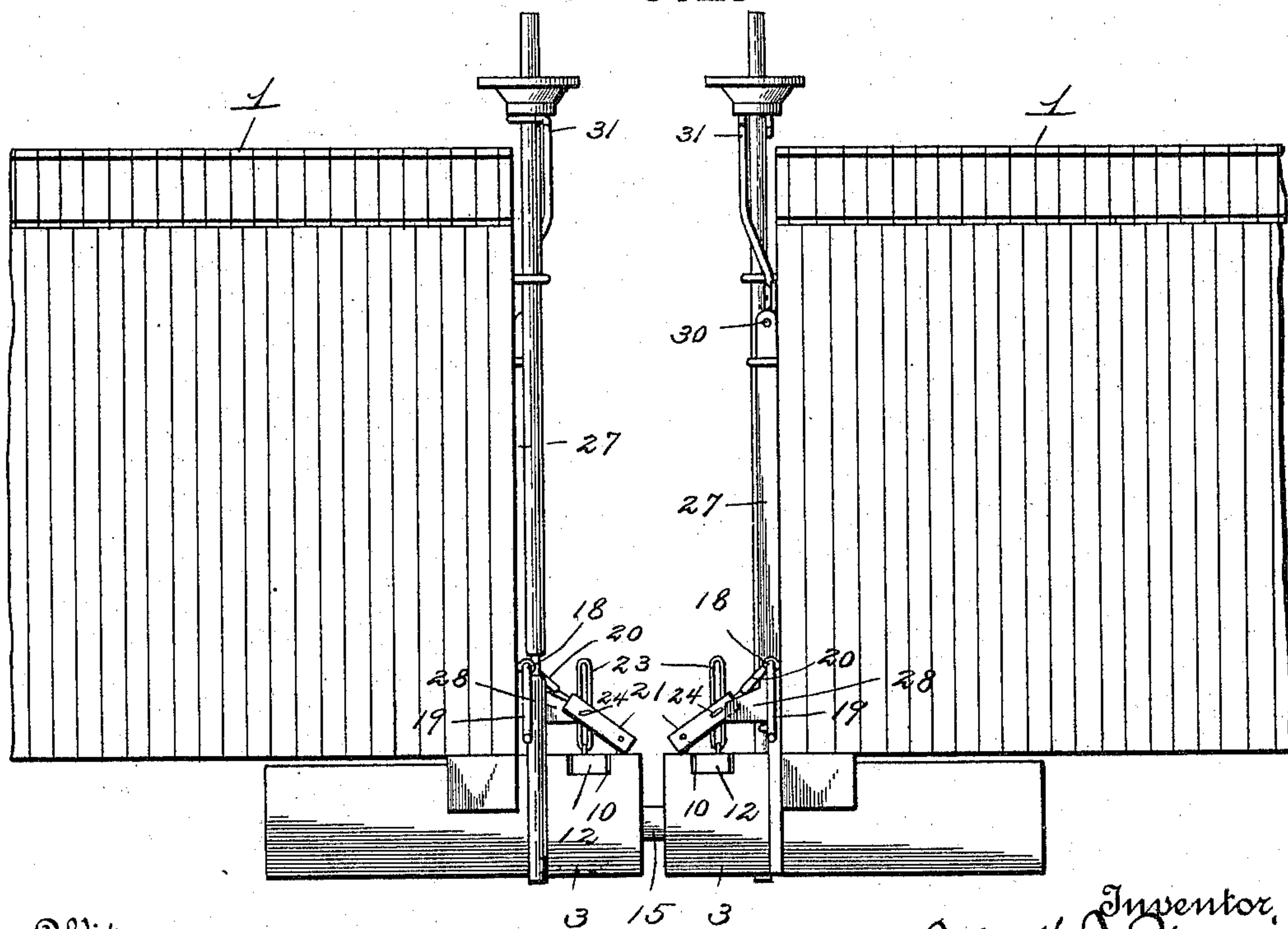


FIG. 2.



Witnesses
Harry L. Amer.
L. M. Graves.

Inventor,
John W. T. Riley.
by John Wedderburn,
Attorney

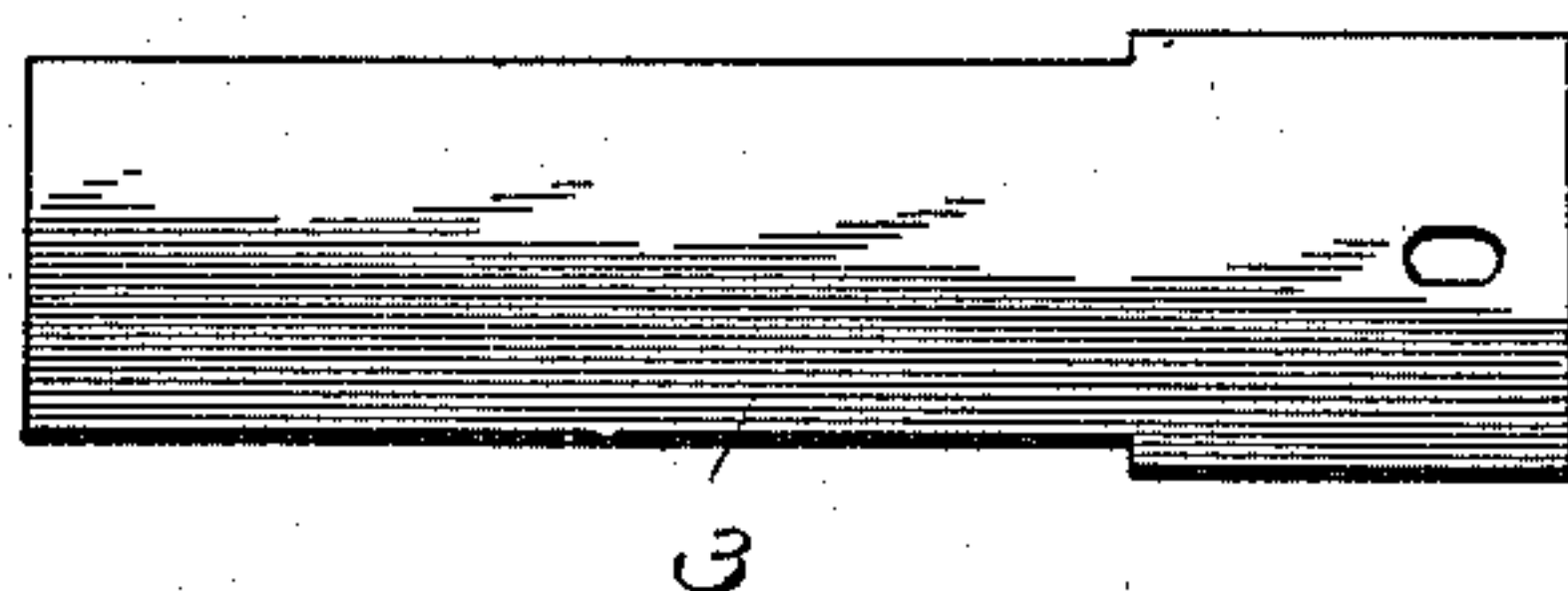
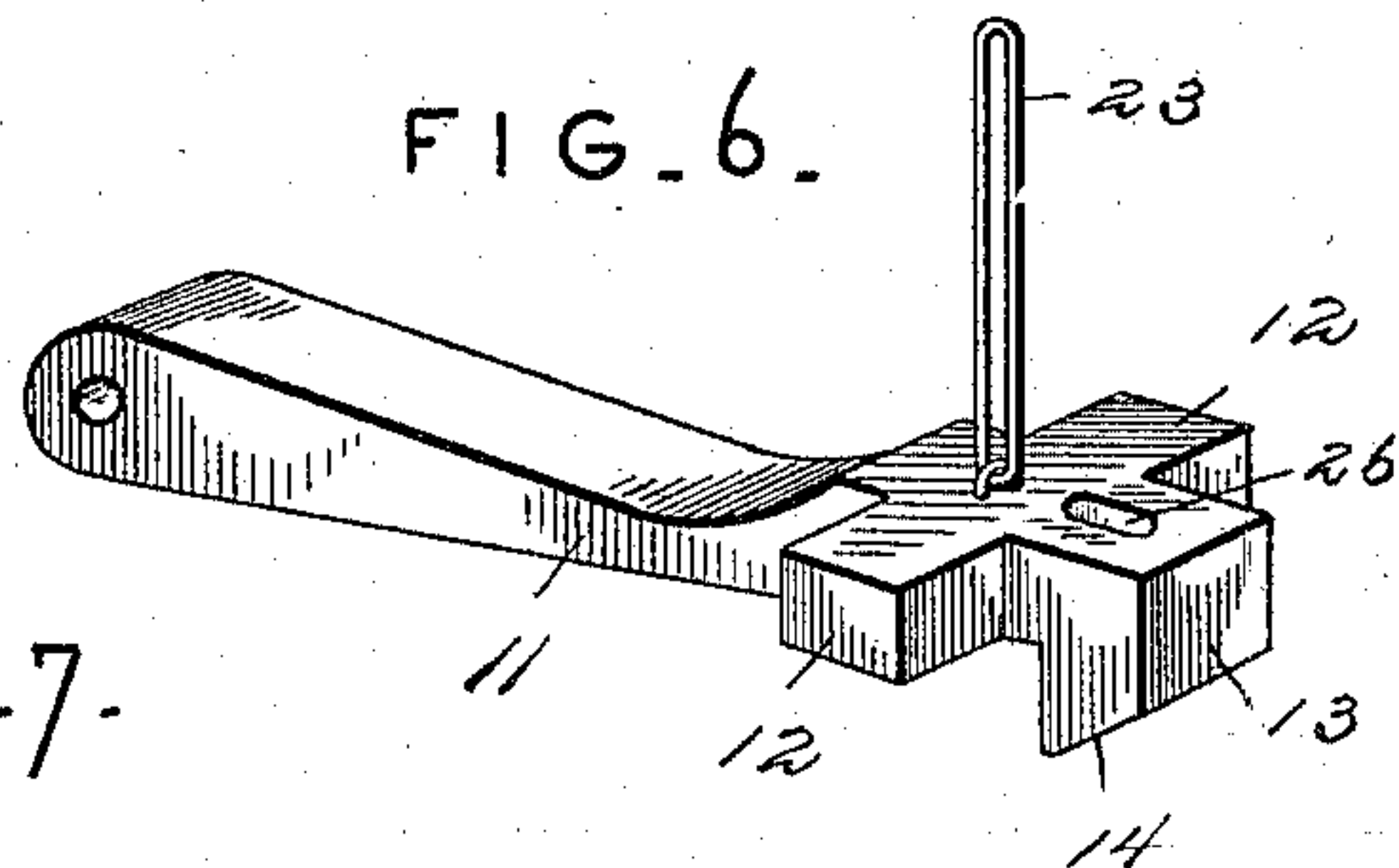
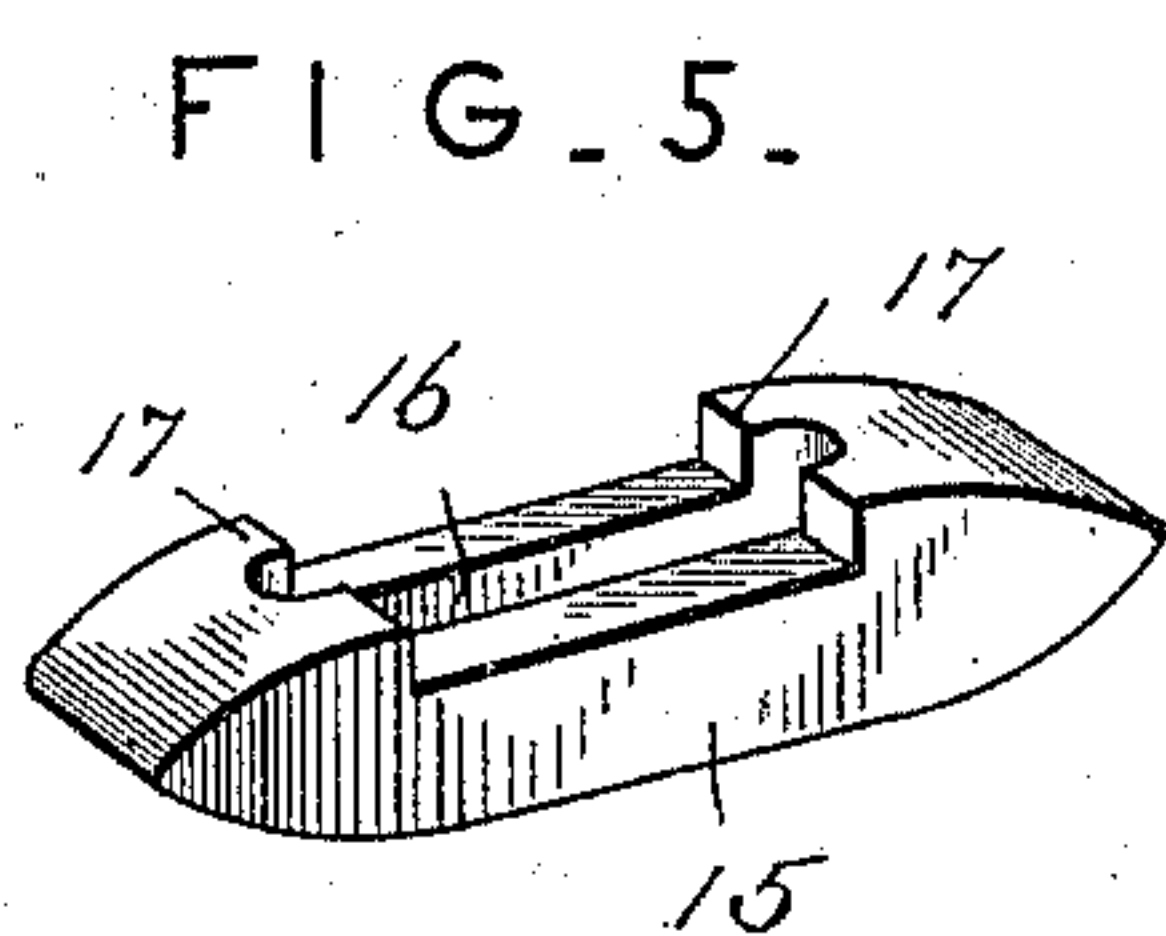
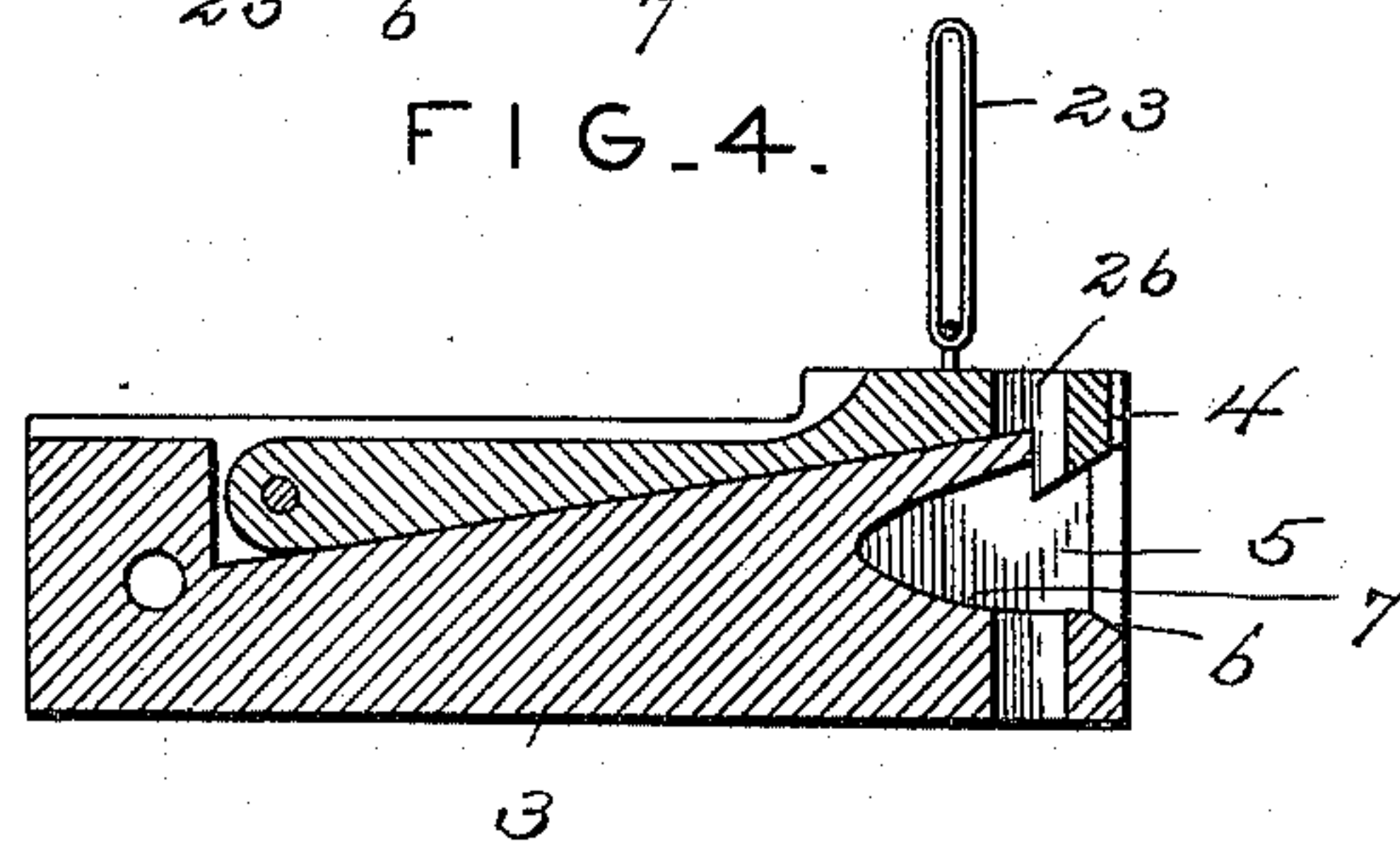
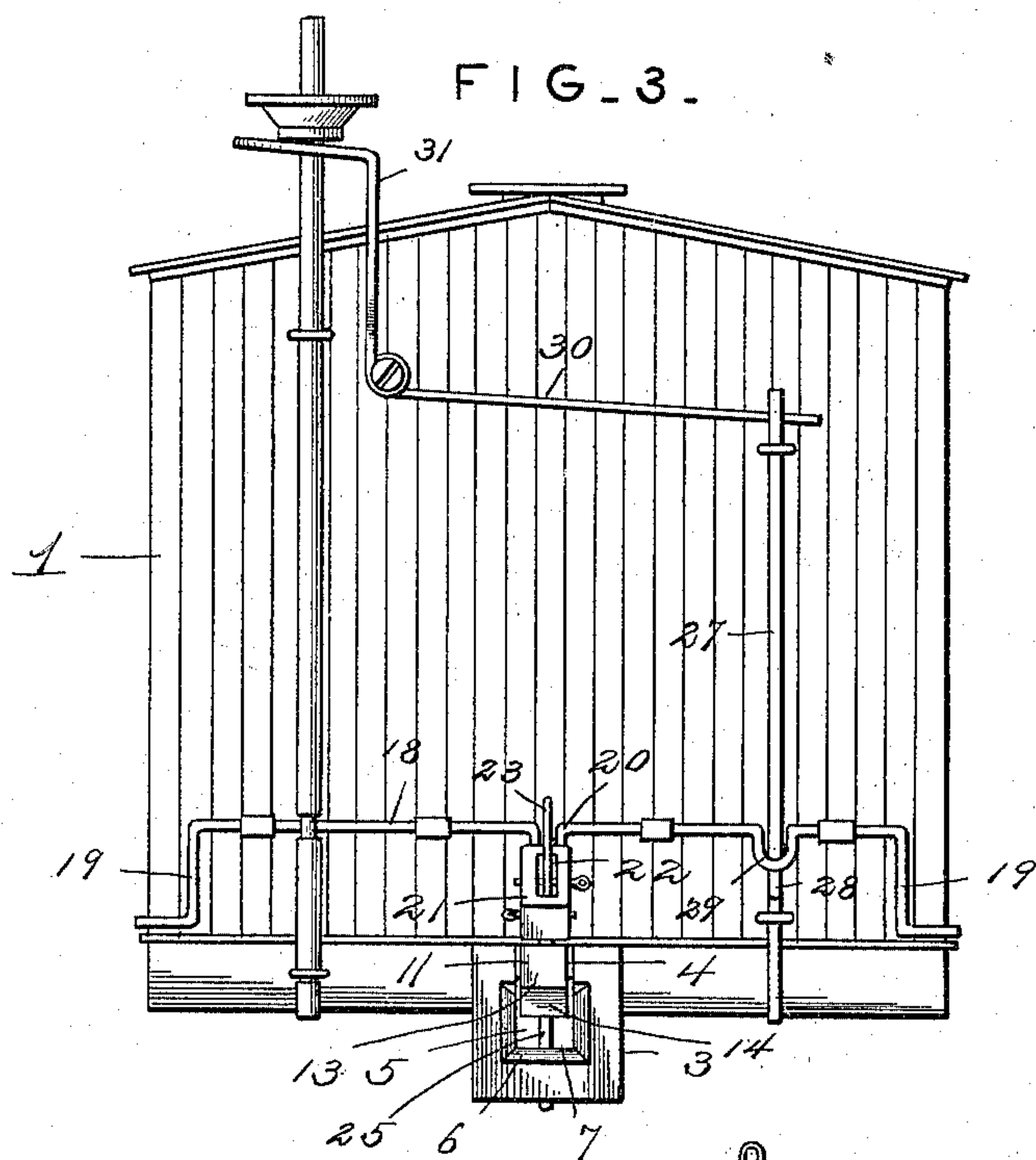
(No Model.)

2 Sheets—Sheet 2

J. W. T. RILEY.
CAR COUPLING.

No. 582,147.

Patented May 4, 1897.



Witnesses
Harry L. Amer.
L. M. Graves.

Inventor,
John W. T. Riley.
By John Wedderburn
Attorney

UNITED STATES PATENT OFFICE.

JOHN WILLIAM THOMAS RILEY, OF CLAUDVILLE, MISSISSIPPI, ASSIGNOR
OF ONE-HALF TO JOHN BOLTON, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 582,147, dated May 4, 1897.

Application filed July 21, 1896. Serial No. 600,041. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILLIAM THOMAS RILEY, a citizen of the United States, residing at Claudville, in the county of Prentiss and State of Mississippi, have invented certain new and useful Improvements in Car-Couplings; 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 appertains to make and use the same.

My invention relates to certain new and useful improvements in car-couplers, the object of the same being to provide a coupler which can be operated from the side of the car or from the roof.

Another object of the invention is to provide a coupler in which any kind of a coupling-link may be used, which is automatically thrown into operation by the abutment of two draw-heads, and which is otherwise simple in construction and effective in operation.

The invention consists of a draw-head having a longitudinal recess in its upper surface and a recess with beveled edges in its outer end, a trip-lever or trigger pivoted in the recess on the top of said draw-head having a downwardly-extending shoulder at its front end and outwardly-extending arms engaging shoulders on the upper surface of said draw-head, a coupling-link having a longitudinal slot therein for receiving the coupling-pin, pointed at each end and formed with shoulders at points near its outer end, which are engaged by the shoulder on said trip-lever or trigger, a rock-shaft pivoted to the front of the car, a link connecting the central crank-arm of said shaft with said trip-lever or trigger, a coupling-pin also pivoted in said crank-arm, extending through the slot in said trip-lever, a vertically-reciprocating bar on the front of said car, having a projection thereon which engages a crank or eccentric portion of said rock-shaft, and a foot-lever fulcrumed in the front of the car and engaging the upper end of said vertical rod, the other arm of which projects slightly above the top of the car.

The invention also consists in other details of construction and combinations of parts,

which will be hereinafter more fully described and claimed.

In the drawings forming part of this specification, Figure 1 represents a plan view of two adjacent cars with my improved coupling apparatus applied thereto. Fig. 2 is a side elevation of the same. Fig. 3 is an elevation of the front of one of said cars. Fig. 4 is a vertical longitudinal section through the draw-head of one of said cars. Fig. 5 is a detail perspective view of the coupling-link. Fig. 6 is a similar view of the trip-lever or trigger. Fig. 7 is a bottom plan view of one of the draw-heads detached.

Like reference-numerals indicate like parts in the different views.

In the drawings I have illustrated two cars 1 1, each mounted upon suitable wheels and provided with my improved coupling device. The draw-head 3 on each of the cars 1 is formed with a longitudinal recess 4 in its upper surface and with a recess 5 in its outer end, which has beveled edges 6, as clearly shown. Between the recess 4 and the recess 5 a ledge 7 is formed for a purpose which will hereinafter appear. A transverse slot or recess 8 is formed along the forward end of the top of the draw-head 3, forming shoulders 9 10 on each side thereof. Pivoted to the draw-head 3 at its rear end and fitting within the recess 4 is a trip-lever or trigger 11, formed with arms 12 12, which fit between the shoulders 9 10 within the recess 8, and with a downwardly-projecting lip or flange 13, having a beveled face 14, which projects down into the recess 5 just in advance of the ledge 7. Adapted to fit within the recess 5 and be engaged by the lip or flange 13 on the trip-lever or trigger 11 is a coupling-link 15, having a longitudinal slot 16 therein and formed with wedge-shaped or pointed ends and with shoulders 17 17.

Mounted in suitable bearings on the front of each of the cars 1 is a rock-shaft 18, having handles 19 19 at each end, by means of which said shaft may be turned from the side of the car. At the center of the shaft 18 is formed a crank-arm 20, to which is attached a block 21, having a slot 22 therein, in which fits a link 23, which is held in place, with a

wide degree of lost motion, by means of a pin 24, extending laterally through said block. The lower end of the link 23 is attached to the upper side of the trip-lever or trigger 11. Pivotal-
 5 mounted in the forward end of the block 21 is a coupling-pin 25, which projects downwardly through a slot or opening 26 in the forward end of the trip-lever or trigger 11 and is adapted to engage the longitudinal
 10 slot 16 in the coupling-link 15. The said pin is also adapted to rest upon the ledge 7 just after the trigger 11 has been raised to uncouple the cars and be held in such position until the draw-heads of two adjacent cars are
 15 brought into contact one with the other.

Mounted in suitable guides on the front of each of the cars 1 is a vertically-reciprocable rod or bar 27, having a lug or projection 28 thereon, which is adapted to engage, when
 20 said bar is elevated, the crank-arm or eccentric portion 29 of the rock-shaft 18. To the upper end of this rod or bar 27 is pivoted a lever 30, which is fulcrumed to the front of the car 1 and is provided with an inwardly-
 25 extending arm 31, which projects slightly above the top of the car 1. By this means said lever may be depressed, the rod or bar 27 elevated, the rock-shaft 18 turned, the trigger or trip-lever 11 raised, and the cars
 30 uncoupled from the top of one of said cars.

The operation of my improved coupler is as follows: The normal position of the trigger or trip-lever 11 is down, with the projecting lip 13 partially closing the recess 5 in the end
 35 of the draw-head 3 and with the coupling-pin 25 resting upon the ledge 7 on the top of said draw-head. The abutment of two draw-heads will force the coupling-link 15 into the recess 5 and elevate the forward end of the trip-lever
 40 11, which, afterward returning to its normal position, locks said coupling-link in place by the engagement of the lip 13 with one of the shoulders 17 of said link. At the same time the coupling-pin 25 is jarred from its position
 45 on the ledge 7 and the same falls down through the slot or opening 26 in the forward end of the trip-lever or trigger 11 and through the slot 16 in the coupling-link 15. The two adjacent cars are thereby securely coupled to-
 50 gether.

To uncouple the cars, it is merely necessary to turn the rock-shaft 18. This may be done from the side of the car by turning the crank-handle 19 or may be operated from the top of
 55 the car by depressing the lever 30. When the latter is done, the vertical reciprocating rod or bar 27 is raised and the lug or projection 28 thereon is brought into engagement with the crank portion 29 of the rock-shaft 18, turning the latter in its bearing. When this is
 60 done, the block 21 on the crank 20 is raised, lifting the coupling-pin 25 and raising the trip-lever or trigger 11 through the link 23. When in this position, the cars are free to be
 65 separated. Upon the quick return of the trip-lever 11 to its normal position the coupling-pin 25 is brought into engagement with

the ledge 7 and held therein until it is jarred from its position by the abutment of two adjacent cars.

From the foregoing description it will be seen that I do not depend upon any of the pivotal connections of my device for the effective operation thereof. For example, should the coupling-pin become broken for
 75 any reason the cars will be held in coupled position by the engagement of the lip or projection 13 with the shoulders 17 of the coupling-pin 15. Furthermore, should the pivot at the rear end of the trip-lever 11 become
 80 broken the said trip-lever is prevented from detachment from the draw-head 3 by the engagement of the arms 12 with the shoulders 10 on said draw-bar.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is--

1. In a car-coupler, the combination with the draw-head of a car, having a recess in the forward end thereof, of a trigger or trip-lever
 90 pivoted to said draw-head and fitting within a recess in the upper surface thereof, a lip or projection having a beveled edge on the front end of said trip-lever extending down to and partially closing the recess in the forward end
 95 of said draw-head, a rock-shaft mounted upon the front of the car, having operating-handles upon the outer ends thereof, a crank-arm at the middle of said rock-shaft, a link connecting said crank-arm with said trigger or trip-
 100 lever, a vertically-reciprocating rod or bar mounted on the front of said car, having a lug or projection thereon which is adapted to engage a crank-arm or eccentric portion of said rock-shaft and a lever fulcrumed in the
 105 front end of said car, one arm of which is pivotally attached to said bar and the other arm of which projects above the top of the car, substantially as and for the purpose set forth.

2. In a car-coupler, the combination with
 110 the draw-head of a car, having a recess with beveled edges in the forward end thereof, a lateral recess on the upper face of said draw-head forming shoulders and a ledge just above the recess in the forward end of the draw-
 115 head, of a trigger or trip-lever pivoted to said draw-head and fitting a longitudinal recess in the upper surface thereof, arms upon said trip-lever engaged by the shoulders on said draw-head, a lip or projection on the forward
 120 end of said trip-lever having beveled edges extending down and partially closing the recess in the forward end of said draw-head, a coupling-link having a longitudinal slot therein and shoulders formed thereon adapted to
 125 fit within a recess at the end of said draw-head, a rock-shaft mounted in bearings on the front of said car, means for turning said rock-shaft, a crank-arm at the middle of said rock-shaft, a block secured thereto having a
 130 slot therein, a link attached at one end to said trip-lever, fitting within said slot and held in place therein by a pin passing laterally through said block and a coupling-pin

pivoted in the forward end of said block, projecting through a slot or recess in the forward end of said trip-lever, the said coupling-pin being adapted to rest upon the ledge on
5 the upper surface of said draw-head when the car is in coupling position, and to project down through the slot in said link when the car is in coupled position.

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

JOHN WILLIAM THOMAS RILEY.

Witnesses:

G. A. STENNETT,
W. B. PETTIT.