

(No Model.)

G. EKLUND.  
CAR COUPLING.

No. 491,474.

Patented Feb. 7, 1893.

Fig. 1.

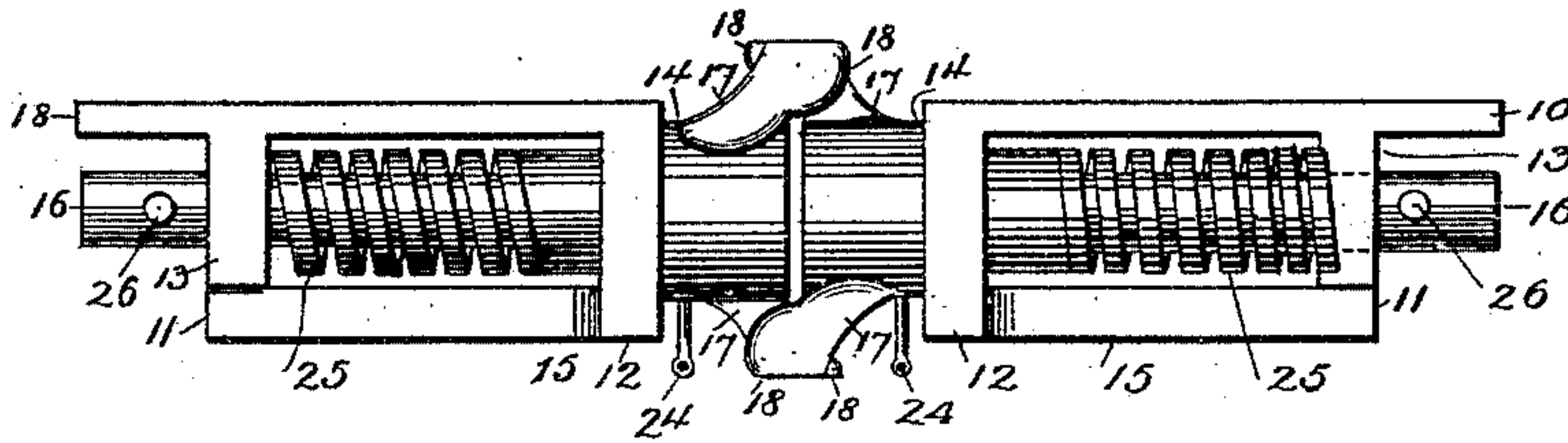


Fig. 2.

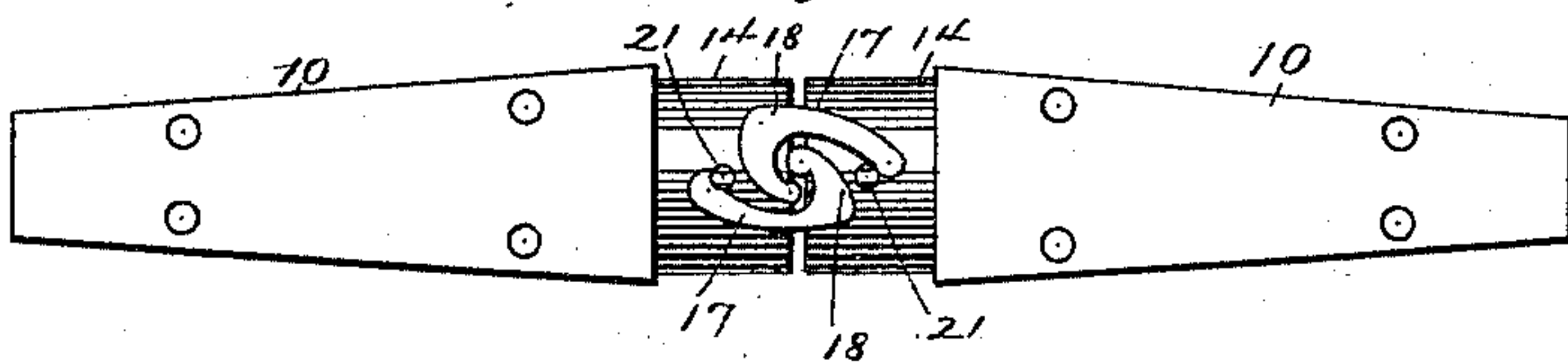


Fig. 3.

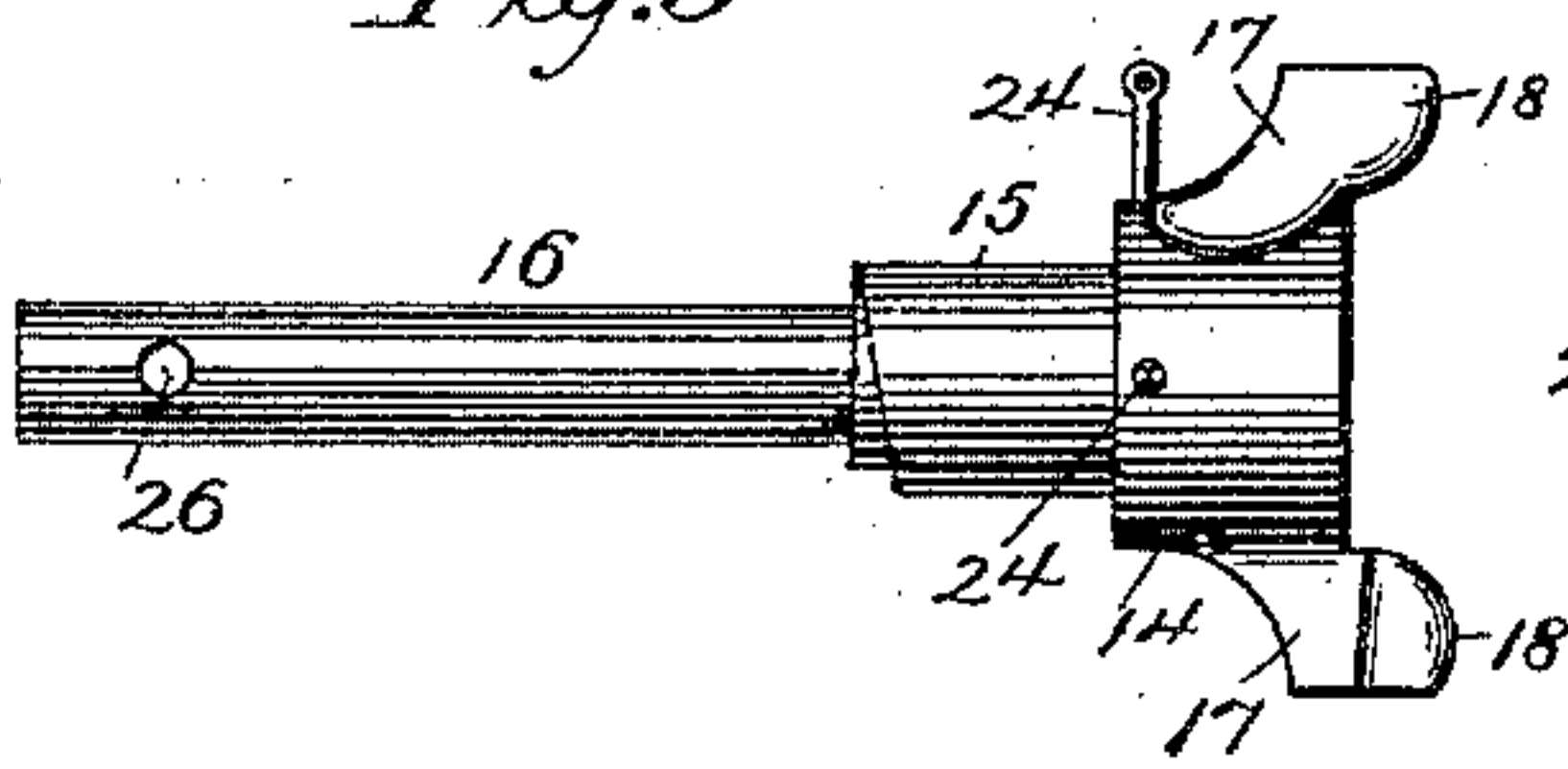


Fig. 4.

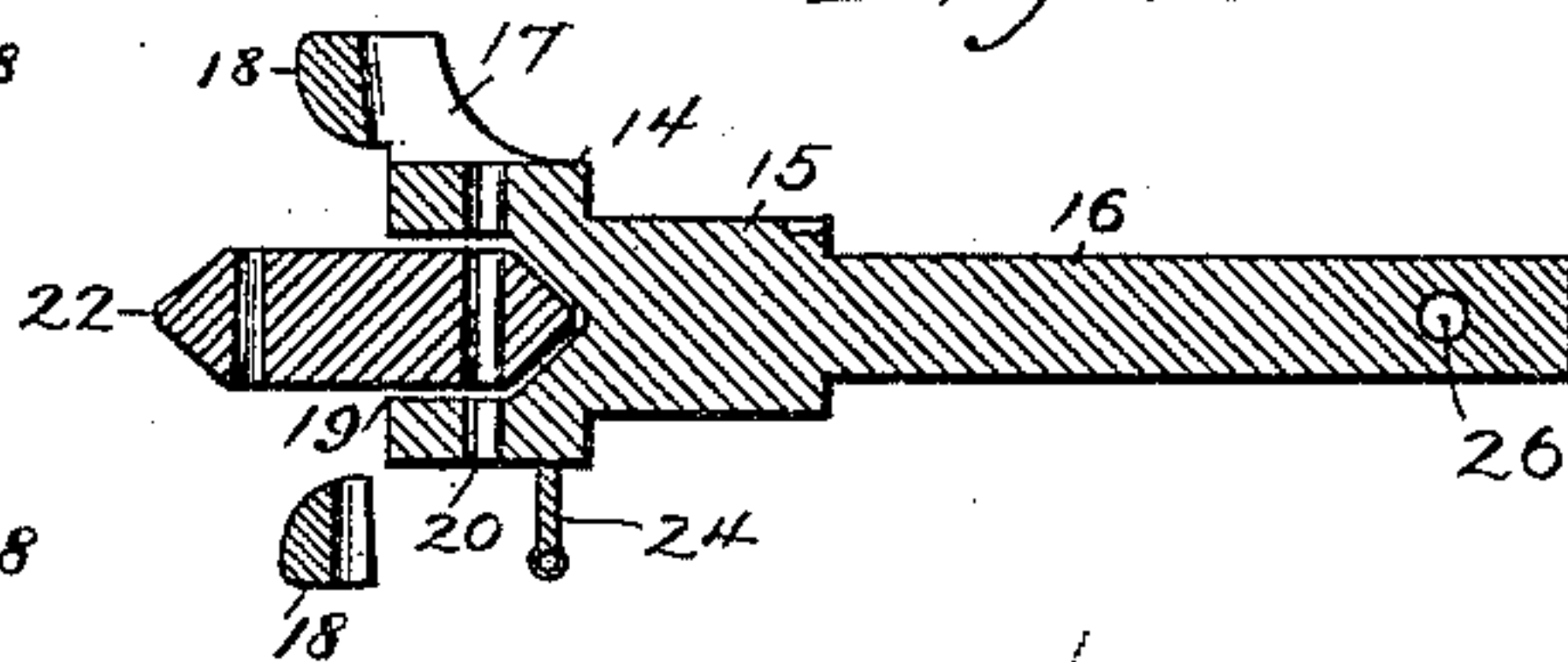
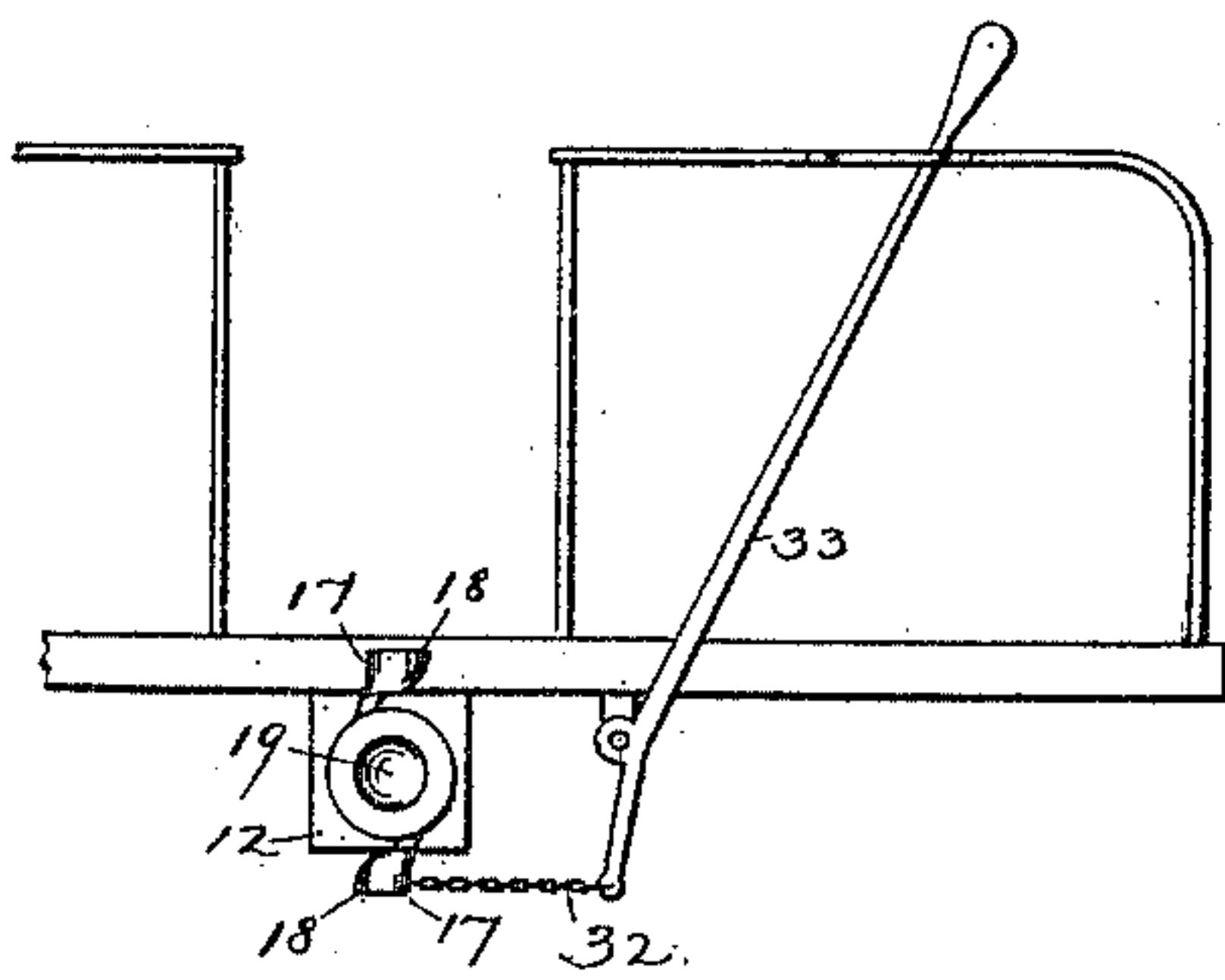
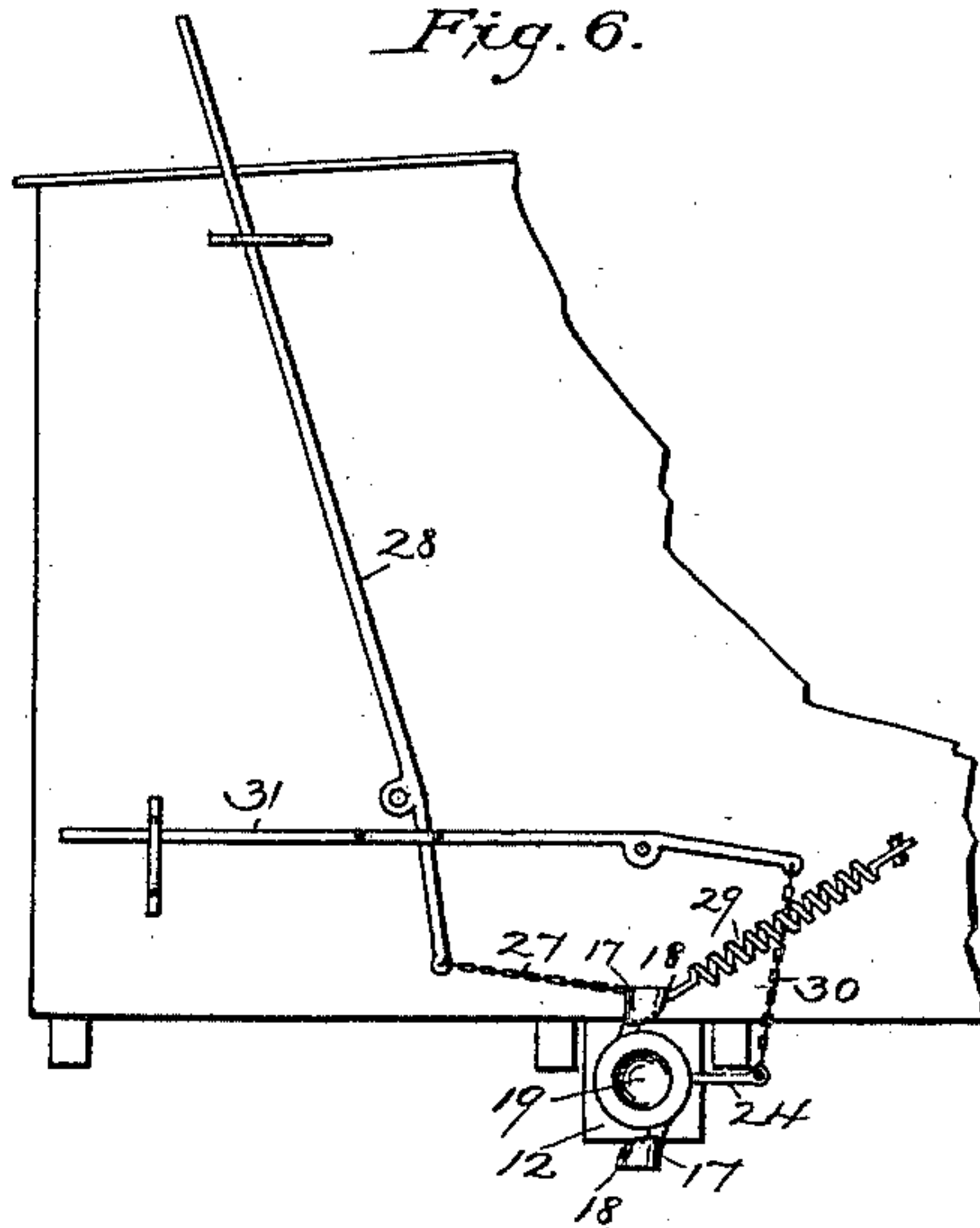


Fig. 5.



Witnesses:  
F. A. Murphy.  
L. G. Sueddick

Fig. 6.



Inventor:  
Gustaf Eklund  
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# UNITED STATES PATENT OFFICE.

GUSTAF EKLUND, OF DAVENPORT, IOWA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 491,474, dated February 7, 1893.

Application filed October 15, 1891. Serial No. 408,834. (No model.)

### *To all whom it may concern:*

Be it known that I, GUSTAF EKLUND, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented a new and useful Car-Coupler, of which the following is a specification.

My invention relates to car couplers which may be automatically coupled together, and the objects of my invention are; first to provide the outer ends of the draw heads with coupling hooks; second to arrange the draw heads so each may be partially rotated in opposite directions when thrust endwise together and the hooks of opposite couplers caused to pass each other; third to provide torsional springs acting upon the draw heads to rotate the same inwardly and retain them in their normal position, so the hooks of opposite draw heads are grasped together after the forward ends of such hooks have passed each other; and, fourth, to provide the outer ends of the draw heads with a central longitudinal recess, adapted to receive and retain one end of a guide bar, and the opposite end of such guide bar arranged to enter the recess in the opposite draw head, when such draw heads are thrust together endwise, and means for retaining said guide bar in such opposite recess and cause it to act as an additional coupling between such draw heads. I accomplish these objects by the mechanism illustrated in the accompanying drawings in which—

Figure 1 is a side view of two draw heads coupled, such draw heads being supported in frames; Fig. 2 is a top or plan view of the same; Fig. 3 is a side view of a draw head removed from the frame; Fig. 4 is a longitudinal vertical section of the same, with the guide bar shown in the recess of such draw head; Fig. 5 is a sectional view of the end of a box of a freight car, with my coupler attached, and the means for operating the same; and Fig. 6 is a sectional view of the end of a platform of a passenger car with my coupler attached and means for operating the same.

Similar figures of reference refer to similar parts throughout the several views.

The frame supporting the draw head consists of the upper plate 10, the lower plate 11, the same being connected by means of a front end piece 12 and the rear end piece 13, such end pieces being perforated in horizontal line

to receive the draw head as illustrated in Fig. 1 by the dotted lines. The draw head consists of the cylindrical front end 14, the cylindrical neck 15 at the rear thereof, and the cylindrical stem 16 extending from the rear end of said neck. The exterior of the cylindrical front end 14 is provided with radial extensions 17 extending slightly forward and terminating in laterally curved hooks 18, there being preferably two hooks on each front end 14, the hooks being curved in opposite directions. The cylindrical front end 14 is centrally and longitudinally recessed as at 19 for the reception of the guide bar, and such front end is also vertically perforated as at 20 for the reception of a coupler pin 21. A short guide bar 22 is formed so as to enter such recessed part in the front end of the draw head, and the same is also perforated vertically near each end as at 23 to permit the passage of said coupler pin. The exterior of the cylindrical front end 14 of the draw head is provided with one or more pins 24 for the purpose of partially rotating the draw head as will be hereinafter explained.

The coil spring 25 surrounds the stem 16 of the draw head, one end of such spring being secured to the rear end piece 13 of the frame, and the opposite end being secured to the neck 15 of the draw head. The draw head may be secured in the frame by a pin 26 passing through a perforation in the stem 16 or in any other suitable manner.

When my coupler is used upon a box freight car I prefer to provide the front end of the draw head with two pins 24 as illustrated in Figs. 3 and 5, such pins being substantially at right angles to each other. In such case the vertical pin is connected by a chain 27 to a vertical lever 28 hinged to the end of such car, the lever extending to the top or roof of the car so it may be operated therefrom. The end of a coil spring 29 is also secured to the vertical pin extending in an opposite direction from said chain 27 and its opposite end being secured to the end of said car. The horizontal pin is connected by a chain 30 to a horizontal lever 31 hinged to the end of such car and extending to the side thereof. It will be seen that by means of either of these levers the draw head may be sufficiently rotated to disengage the hooks of abutting draw heads from



each other. When my coupler is used upon a passenger car I prefer to use a single pin 24 in the front end of the draw head as illustrated in Figs. 1 and 6. In such case the pin  
5 is connected by a chain 32 to a lever 33 hinged to the front of the platform, whereby the draw head may be partially rotated as previously stated. It will be observed that the coil spring  
10 25 acts as a torsional spring in this that it permits the draw head to be rotated from its normal condition, as for instance when two couplers are forcibly thrust endwise against each other, the contact of the oval exterior  
15 hooks of the respective draw heads against each, causes the draw heads to partially rotate, but after the hooks have passed each other as illustrated in Figs. 1 and 2, the force of the  
20 springs 25 cause the draw heads to rotate sufficiently in the opposite direction to regain their normal position and cause the hooks to grasp each other and thus forming a coupling between the draw heads. It will also be observed that the springs constitute a suitable  
25 cushion for sustaining the shock occasioned by the abutting together of the draw heads, and also the power for thereafter forcing the draw heads forward in their respective frames to their normal position. The frames may be

attached to the car body in any suitable manner. 30

From the description given persons skilled in the art will understand the construction and operation of my car couplers.

What I claim as new and desire to secure by Letters Patent is— 35

In a car coupler, the combination of a frame, longitudinally supporting the draw head, the draw head supported therein and adapted to be partially rotated, the radial extensions upon the forward exterior part of the  
40 draw head, the lateral hooks extending in opposite directions from such extensions, the central longitudinal recess in the front end of such draw head, the guide bar in such recess and means for securing the same in position, 45  
the spiral spring surrounding the stem of such draw head, secured at one end to such draw head and at the other end to said frame, and means for rotating the draw head in a direction opposite to the line of force exerted upon  
50 said draw head by said spiral spring, substantially as described.

GUSTAF EKLUND.

Witnesses:

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P. A. EKLUND.