

No. 676,547.

Patented June 18, 1901.

H. H. PONTON.
AUTOMATIC CAR COUPLING.
(Application filed Nov. 9, 1900.)

(No Model.)

Fig. 1.

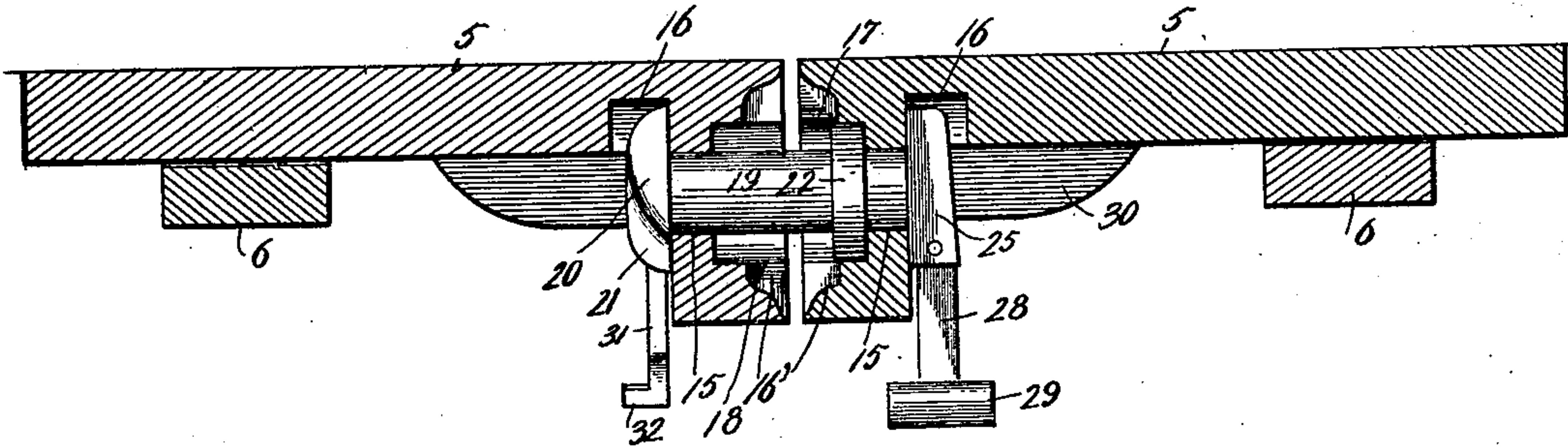


Fig. 2.

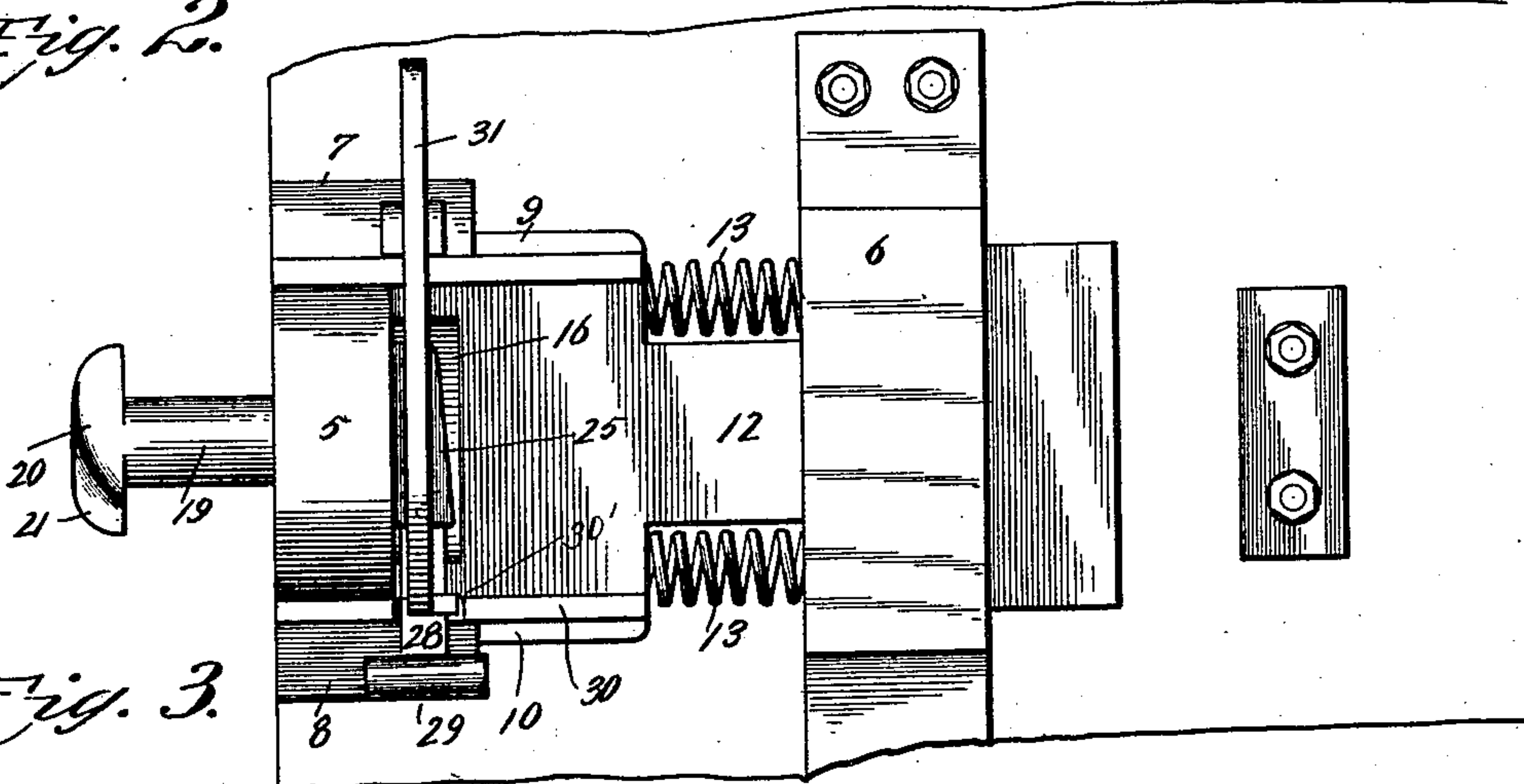


Fig. 3.

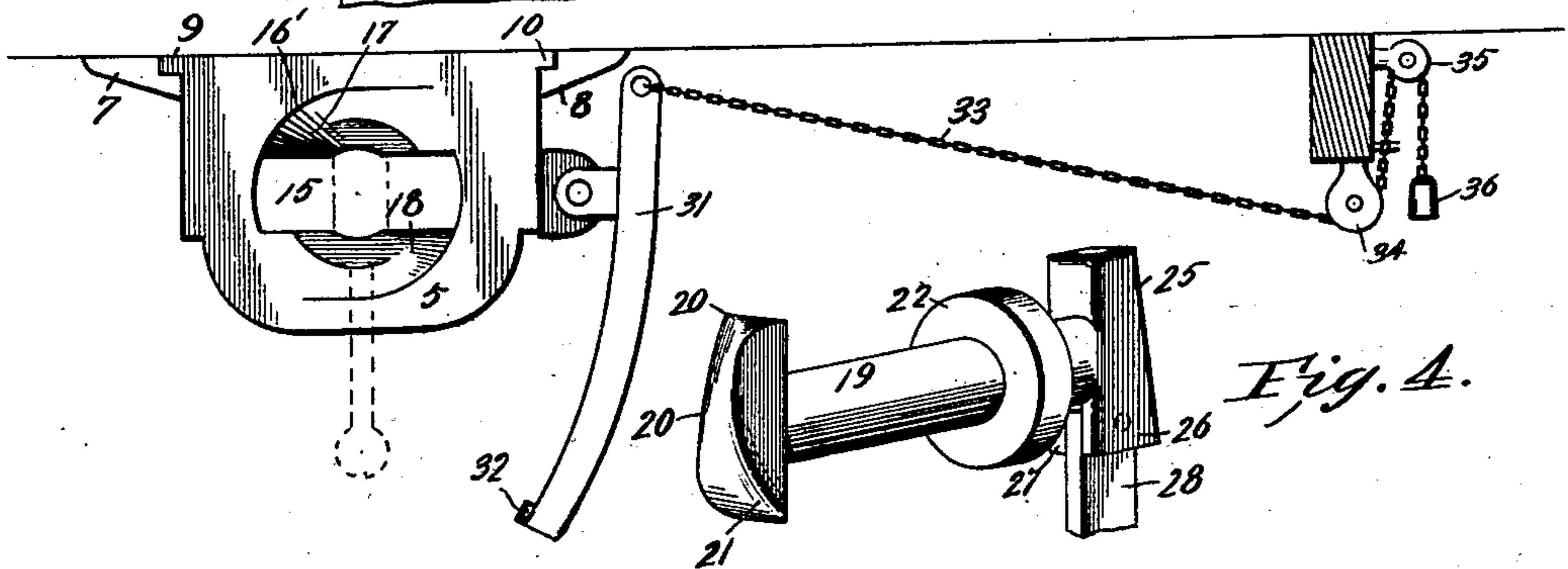


Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

HENRY H. PONTON, OF HOPE, TEXAS, ASSIGNOR OF ONE-HALF TO RICHARD B. THRIFT, OF SAME PLACE.

AUTOMATIC CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 676,547, dated June 18, 1901.

Application filed November 9, 1900. Serial No. 35,974. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. PONTON, a citizen of the United States, residing at Hope, in the county of Lavaca and State of Texas, have invented a new and useful Automatic Car-Coupler, of which the following is a specification.

This invention relates to car-couplers in general, and more particularly to that class wherein the link is automatically engaged with the draw-head of a second car, one object of the invention being to provide a simple and efficient construction wherein the link is carried in the head of the coupler on one car, and when brought into contact with the head of the next car will be automatically moved to its engaging position, a further object of the invention being to provide means for quickly disengaging the link when it is desired to uncouple.

Further objects and advantages of the invention will be evident from the following description:

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a longitudinal section taken through two coöperating draw-bars and their heads and showing in elevation the link in its engaged position. Fig. 2 is a bottom plan view showing a portion of the bottom of a car with its coupler having a link engaged therewith, the link being turned into position to release the draw-head of a coupler on a second car. Fig. 3 is an end view of a draw-head with the link removed and showing the convolute formation of the interior of the head, by means of which the link is rotated to permit automatic engagement thereof with the head. Fig. 4 is a detail perspective view showing the link.

Referring now to the drawings, the coupler at each end of a car comprises a draw-bar 5, which is held in place slidably by means of a strap 6, engaged over the draw-bar, and by means of guide-blocks 7 and 8, having grooves in their adjacent faces, in which are engaged the beads 9 and 10 upon the coupler-head. That portion 12 of the draw-bar between the head and the rear end of the draw-bar is reduced in width and is the portion that is en-

gaged with the strap above referred to, the broadened rear end of the draw-bar acting to limit the forward movement of the bar, while between the rear side of the head and the adjacent face of the strap 6 are disposed helical springs 13, which act to hold the draw-bar yieldably projected to the limit of its forward movement.

The head of the coupler extends downwardly below the body of the draw-bar, and formed therethrough in a direction longitudinally of the draw-bar is a cross-sectionally-rectangular passage 15, the longer dimension of which is horizontal, and in the rear of the head the body of the draw-bar is recessed, as shown at 16, to receive one end of the head of the coupling-link hereinafter described.

In the outer or forward face of the head of the coupler there is formed a circular countersink 16', the diameter of which is somewhat greater than the height of the passage through the head, and at opposite sides of this countersink and concentric therewith are formed curvilinear inclines 17 and 18, the forward ends of which spring from the line of the vertical diameter of the countersink 16', while their rear ends terminate at the upper and lower walls, respectively, of the passage through the head. Thus if a headed bar be brought into contact with these inclines, with the head standing vertical and the bar be pressed rearwardly, the inclines will give a rotary motion to the head and will direct it to pass through the passage through the coupler-head in a horizontal position.

The link that is used in connection with a pair of heads having the construction described consists of a bar 19, having a transverse head 20 at its forward end, the side faces or opposite side faces at opposite ends of the head being beveled, as shown at 20 and 21 in Fig. 4 of the drawings, to engage the inclines 17 and 18 of a coupler-head and facilitate the turning effect of the head upon the link.

Formed upon the bar 19 and adjacent to the rear end thereof is an annular flange 22 of such dimensions as to fit snugly yet rotatably in the countersink of a coupler-head and with the rear end of the link projecting through the passage 15 in the coupler-head.

At the rear end of the link there is formed a retaining-head 25, which is adapted to lie with one end in the recess 16 when the forward head of the link is in its engaged position, and to hold this rear head thus positioned ears 26 and 27 are formed at one end thereof, and between these ears is pivoted the upper end of a hanger 28, having a weight 29 at its lower end, which tends to hold the hanger or pendulum in a vertical position. This pendulum has a pivotal movement only in a common plane with the body of the link and the head. Thus if the link be rotated to cause its heads to lie horizontal—i. e., in their disengaging positions—the pendulum will be correspondingly moved to a horizontal position, and if the link be released the pendulum will rotate it until its heads stand vertical, as shown in Fig. 1 of the drawings. When the link is rotated to the disengaging position, above described, the pendulum engages a recess 30' in the side wall 30 in the rear of the depending portion of the head and prevents withdrawal of the link, it being understood that when the pendulum is swung rearwardly upon its pivot it may be drawn forwardly with the link from the coupler-head.

In practice the coupler at one end of each car is provided with a link, which is positioned as above described, while the coupler at the adjacent end of the next car is without a link, and when two cars are brought together the link of one car engages the head of the coupler of the other car by first striking against the inclines 17 and 18, over which it runs, and through the passage 15, and when the forward head of the link has passed through this passage the weight of the pendulum rotates the link reversely to cause its heads to stand erect or in their engaging positions, it being understood that when the link is rotated into its engaging position it is against the tendency of the pendulum. In order to again rotate the link to cause its heads to lie horizontal and permit disengagement of the forward end of the link with the coupler-head with which it is engaged, a lever 31 is provided, this lever being arc-shaped and having a head 32, formed to engage the pendulum when it is in its depending position, and when the lever is operated its forward end or head moves in a direction to push the pendulum and rotate the link. When the lever is released, the weight of the pendulum causes it to return, while the lever drops by gravity to its lowered position, as shown in Fig. 3. The lever is operated by means of a flexible connection 33, which is passed outwardly and over a pulley 34, after which it is taken upwardly and then outwardly over a second pulley 35, its free end having a weight 36 attached for holding the connection taut. When the connection is drawn, the lever has its inner end swung up-

wardly to operate the link, as above described.

It will thus be seen that there is provided a construction that is simple and efficient in its operation, and it will be understood that in practice various modifications of the specific construction shown may be made and that any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

1. The combination with a coupling-head having an opening to receive the head of a link and a countersink in its outer end communicating with the opening, of a link consisting of a bar having a head at each end adapted for interchangeable engagement with the opening of the coupling-head, and an annular flange upon the bar between the heads thereof and adapted to enter the countersink to receive the shock when cars are coupled.

2. A car-coupler comprising a head having a passage formed therethrough, the lateral dimensions of the passage being unequal, said head having an annular countersink in its front face and curvilinear inclines progressing rotatably of the countersink and exterior thereto from the front face of the head to opposite walls of said passage, a keeper-recess in the rear of the head, a link having laterally-extending heads fixed at its ends, one head having a pendulum pivoted thereto for movement in the common plane of the link and its heads, said link having also an annular flange between its heads, the link being adapted for interchangeable disposal to lie with its heads through the passage and with the opposite face of the flange against the rear of a countersink, the pendulum being adapted to hold the heads vertical and to engage the keeper-recess when swung from its normal position when in the rear of the coupler-head, and a lever disposed for engagement with the pendulum to rotate the link, and engage the pendulum with the keeper-recess to prevent withdrawal of the link.

3. A car-coupler comprising a head having a passage therethrough and a keeper-recess in the rear of the head, and a link having fixed heads at its ends for passage through the passage to lie behind the coupler-head, the head at one end of the link having a pivoted pendulum adapted for movement for withdrawal through the passage with the link and for movement to engage the keeper-recess to hold the pendulum against pivotal movement and prevent withdrawal of the link.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HENRY H. PONTON.

Witnesses:

J. W. ARCHER,
L. W. RIGGS.