

(No Model.)

2 Sheets—Sheet 1.

E. B. HYRE
CAR COUPLING.

No. 503,855.

Patented Aug. 22, 1893.

Fig. 1.

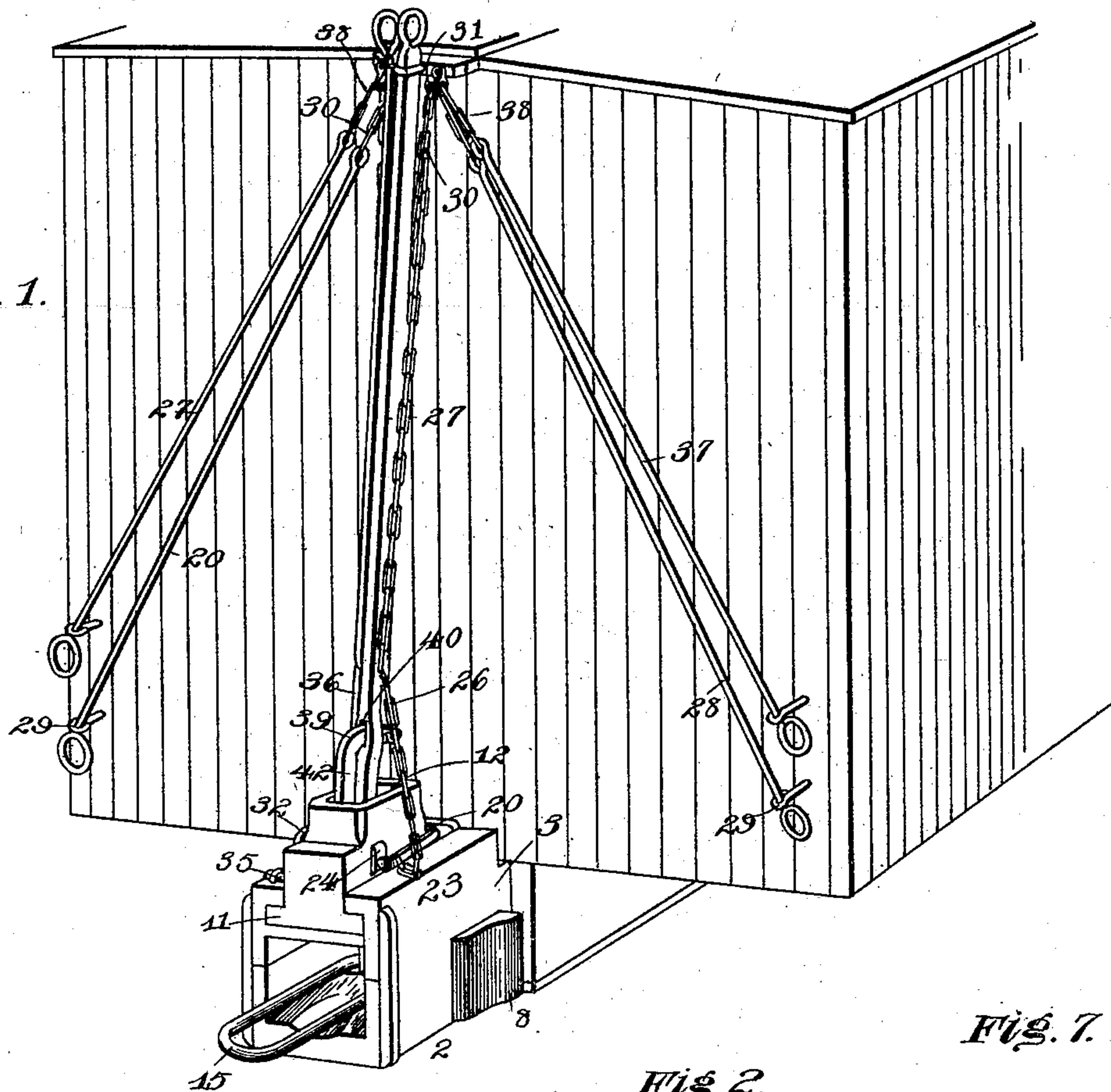


Fig. 2.

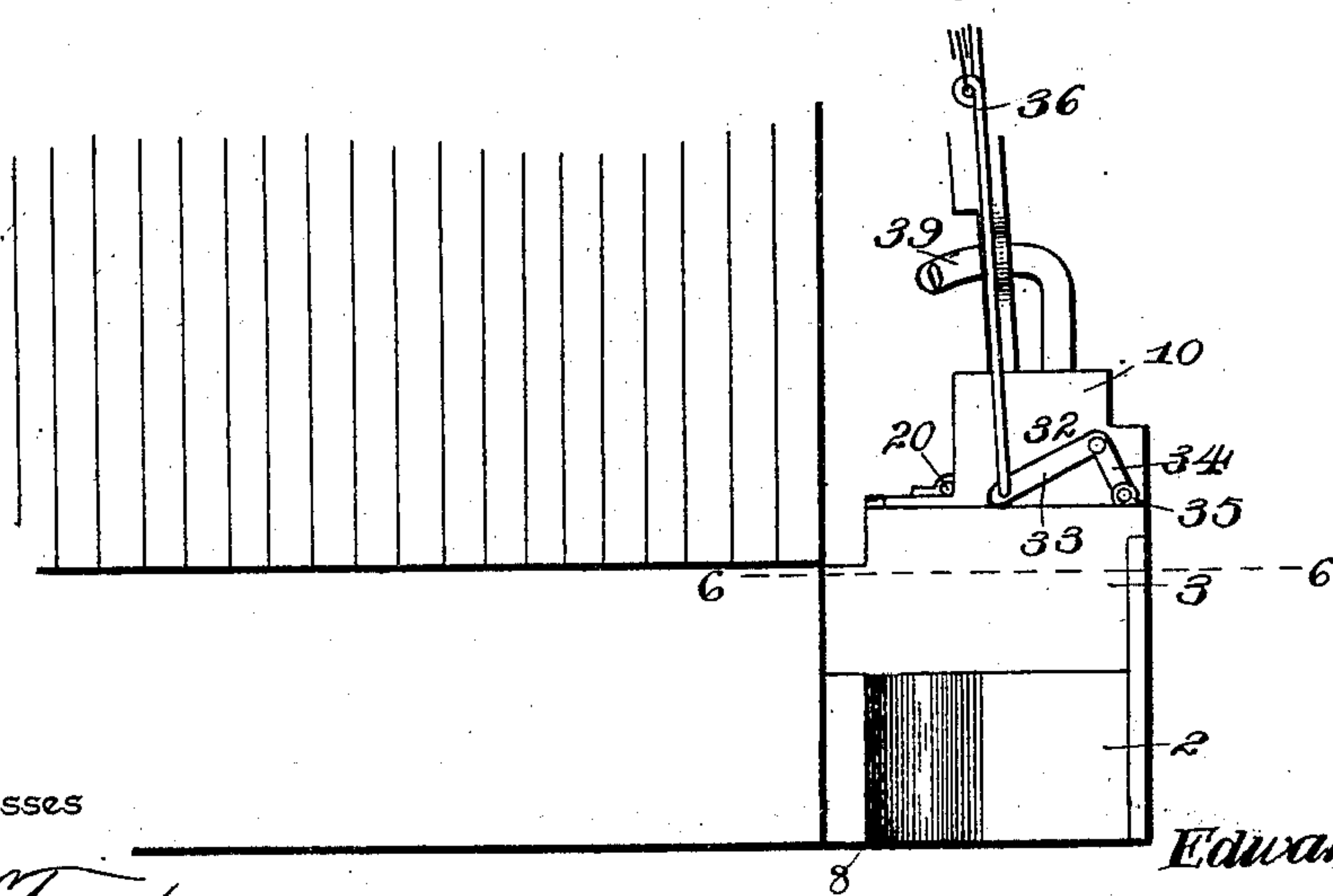
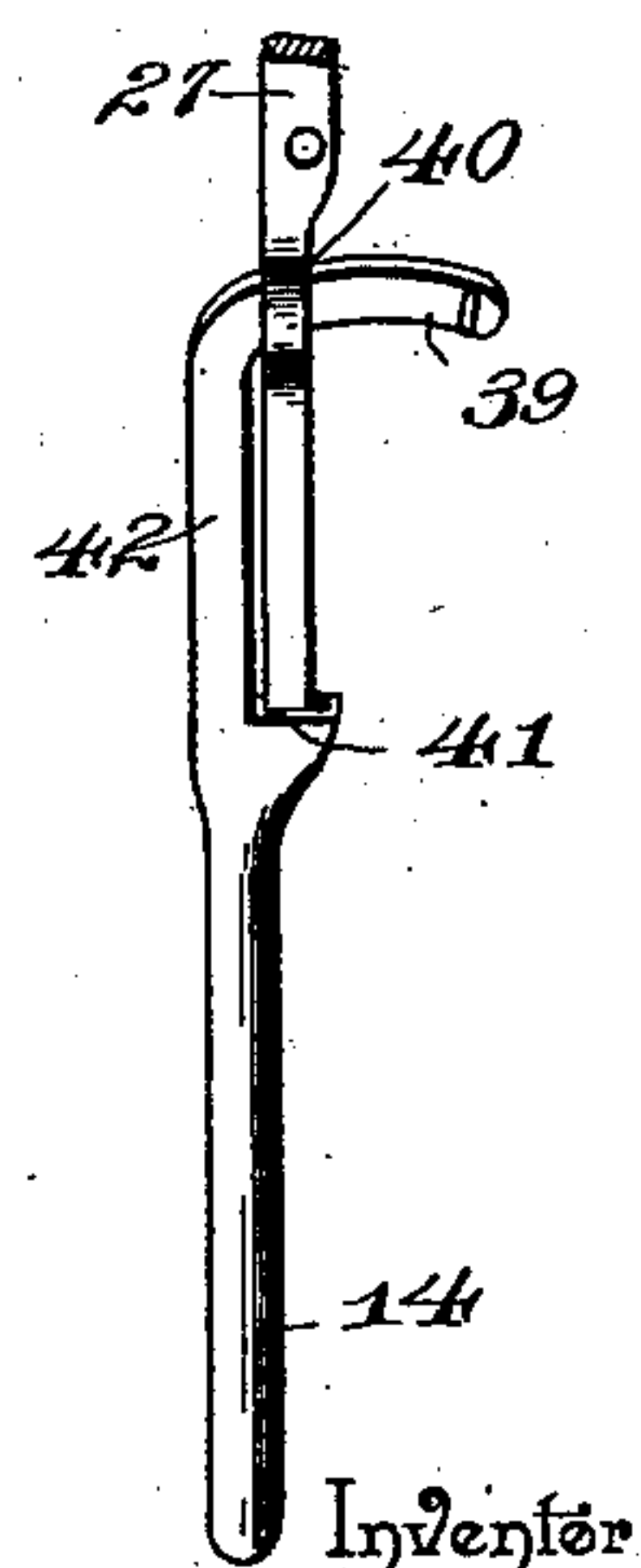


Fig. 7.



Witnesses

Chas. Ford
J. V. Riley

By *his* Attorneys,

Chas. Snow & Co.

Inventor
Edward B. Hyre

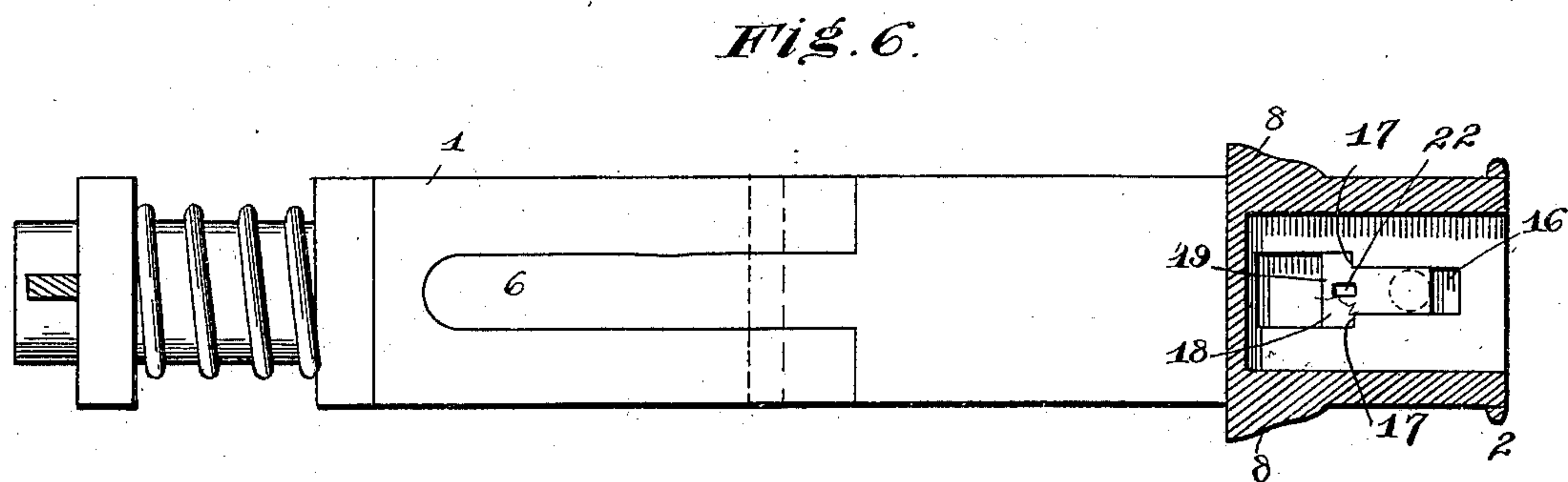
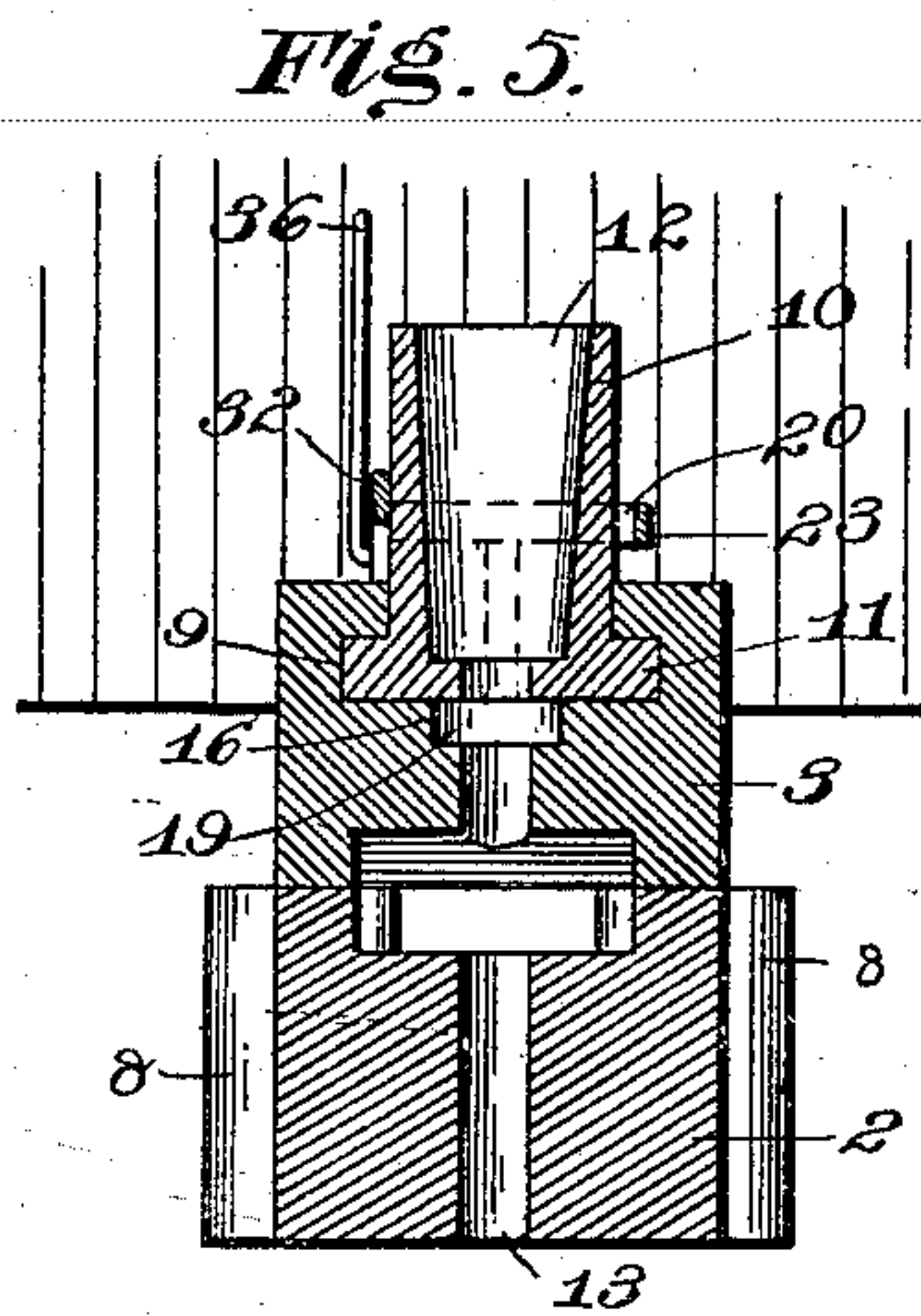
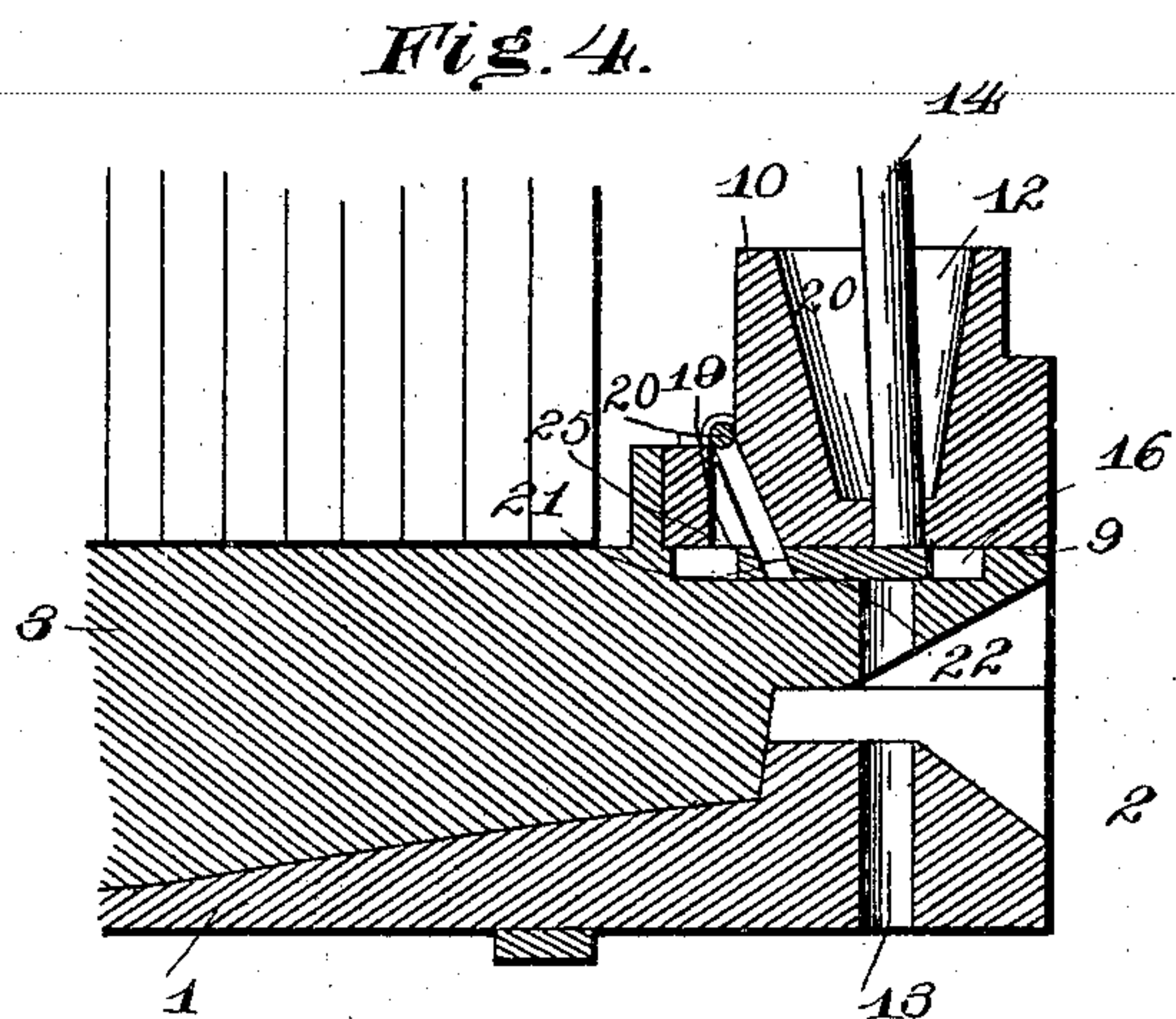
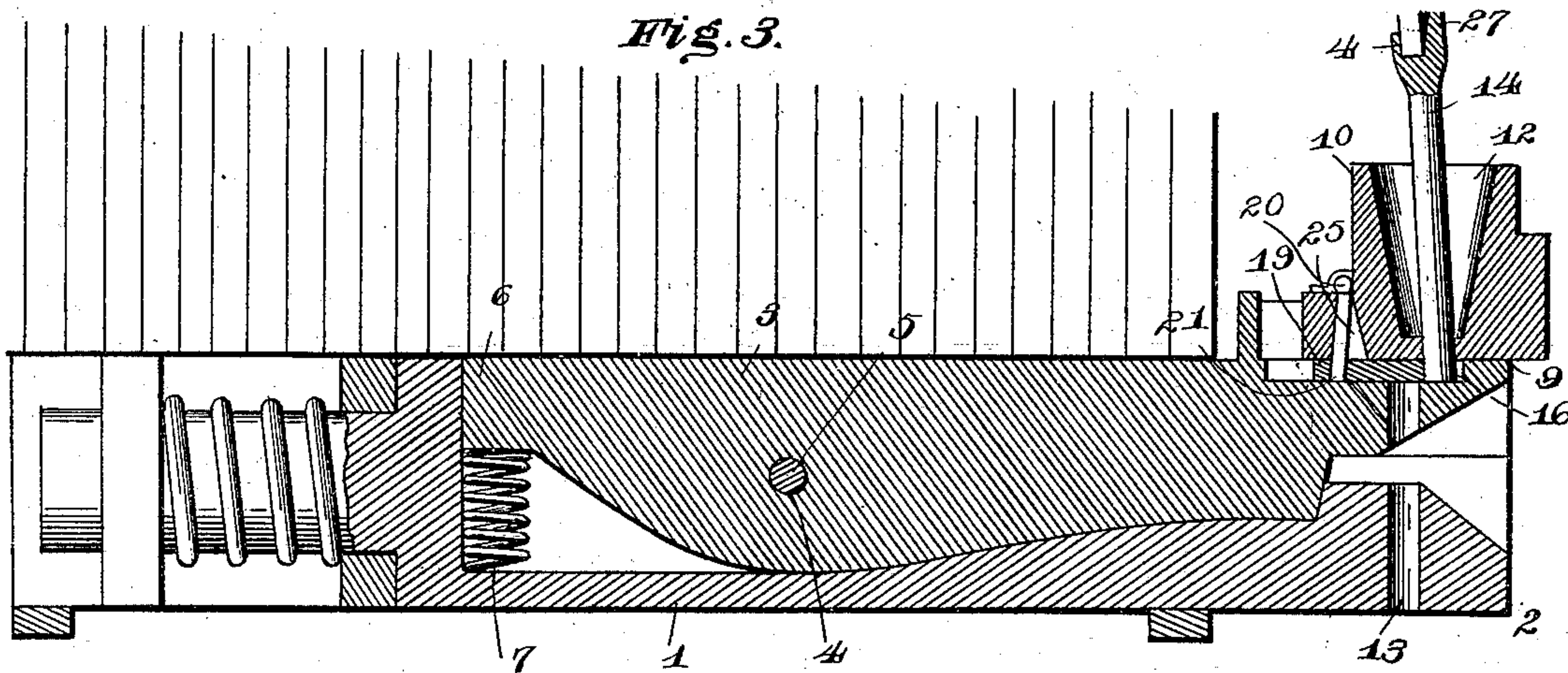
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2 Sheets—Sheet 2.

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Witnesses

C. Ford
N. Riley

Inventor

Edward B. Hyre

By *his* Attorneys,

C. Snow & Co.

UNITED STATES PATENT OFFICE.

EDWARD B. HYRE, OF RED KNOB, WEST VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 503,855, dated August 22, 1893.

Application filed February 25, 1893. Serial No. 463,740. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. HYRE, a citizen of the United States, residing at Red Knob, in the county of Roane and State of West Virginia, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car couplings.

The objects of the present invention are to improve the construction of car couplings, to provide a simple and comparatively inexpensive one which will couple automatically with draw-heads at different elevations, and which may be readily uncoupled and set for coupling from either side and top of a car and without going between cars.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a perspective view of a car coupling constructed in accordance with this invention. Fig. 2 is an elevation of the draw-head. Fig. 3 is a longitudinal sectional view, showing the position of the parts when the pin is set for coupling. Fig. 4 is a similar view showing the coupling pin elevated preparatory to setting for coupling. Fig. 5 is a transverse sectional view. Fig. 6 is a horizontal sectional view on line 6—6 of Fig. 2. Fig. 7 is a detail view of the coupling pin.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a draw-bar having a draw-head 2 and provided on its upper side or top with a hinged section 3, pivoted at 4 by a transverse pin 5 and provided with a rearwardly extending shank 6, beneath which is arranged a spiral spring 7. The draw-head has laterally extending stop-flanges or shoulders 8, and is provided at the top of the upper section 3 with a horizontal way 9, which receives a pin supporting and carrying slide 10 and which is open at the front to permit the slide 10 to project beyond the draw-head when moved forward. The slide has opposite longitudinal flanges 11 to fit in the grooves of said way 9, and is provided with a vertical cavity 12,

which is open at the bottom and which is adapted to register with a coupling pin perforation 13 of the draw-head to permit a coupling pin 14 to drop to engage a link 15.

In the bottom of the ways 9 is a recess 16 receiving a sliding plate, and having its rear portion enlarged to form stop shoulders 17 to be engaged by lateral projections 18 of the sliding plate 19 to limit the forward movement of the plate. The plate is adapted to support the coupling pin in an elevated position, and when the coupling pin is raised the plate is moved forward under the coupling pin to cover the perforation, by means of a rock-shaft 20, which is journaled at the back of the slide and is provided with a depending arm 21 to engage a socket opening 22 of the plate, and with a forwardly extending spring arm 23 having its front end bent inward and pointed to engage a boss 24 to hold the plate positively beneath the coupling pin. The depending arm is arranged in a tapering slot 25 of the slide; and the resilient or spring arm 23 is loosely connected by a chain 26 with a bar 27, which is connected with the coupling pin. The bar 27 extends upward from the coupling pin to the top of the car, to which the coupling is applied, and terminates in a handle to enable the coupling pin to be lifted from the top of the car; and the coupling pin is lifted from the sides of the car by inclined rods 28 arranged in guides 29 and having attached to their upper ends chains 30, which pass through blocks 31 and are attached to the bar 27 and thereby connected with the coupling pin. The chain 26 has sufficient slack when the coupling pin is lowered to permit the coupling pin to be raised above the sliding plate 19 before the rock-shaft is turned to advance the plate to a position beneath the coupling pin.

When it is desired to set a coupling pin for automatic coupling, after it is raised and is supported by the plate 19 as described, the slide 10 is moved forward by a bell-crank lever 32 to carry the coupling pin forward beyond the plate 19, and to cause the slide to project beyond the front of the draw-head, whereby when cars come together for coupling the slide will be moved inward from its extended position and will carry with it the coupling pin, which is in front of the plate

19, and will move the coupling pin rearward until it drops into the coupling pin perforation and engages the link. The bell-crank lever 32 is substantially horizontally disposed with its angle at the top and with one arm 33, which is longer than the other extending rearward, and its other arm 34 extending downward and provided with a laterally and outwardly extending journal arranged in a bearing 35 of the draw-head. The rear end of the bell-crank lever is connected to a lifting rod 36 which extends upward to the top of the car and terminates in a handle; and in order to enable the coupling pin to be set for automatic coupling from either side of the car rods 37 and chains 38 are provided and are mounted on the end of the car similar to the rods and chains 28 and 30.

In order to enable the coupling pin to yield readily in its connection with the vertical bar 27 to the movements of the slide, it has its upper end provided with an inwardly curved arm 39, which is arranged in an opening 40 of the bar 27, and it is provided with a socket 41 to receive the lower end of the bar 27. The socket is arranged at the top of the coupling pin proper at the rear or inner side thereof, and the curved arm extends inward from an extension or vertical arm 42 of the coupling pin.

It will be seen that the car coupling is positive and reliable in operation that it will couple automatically and that it may be readily uncoupled and set for automatic coupling from either side or top of a car without necessitating going between cars.

I desire it to be understood that changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

The front of the drawhead is provided at the bottom of the link cavity with an inclined or beveled portion to enable a link at different elevations to readily enter the draw-head.

The particular construction of the draw-head enables it to yield readily to the link and to assist in springing the link back to a level position when uncoupled from the adjacent car.

What I claim is—

1. In a car coupling, the combination of a draw-head having a coupling pin perforation, a coupling pin, a sliding plate mounted in the draw-head and adapted to extend across the coupling pin perforation when the coupling pin is elevated to support the latter, a rock-shaft mounted on the draw-head and provided with a depending arm connected with the sliding plate to actuate the same, said rock-shaft having another arm loosely connected with the coupling pin, whereby when the latter is elevated the rock-shaft will be turned, substantially as described.

2. In a car coupling, the combination of a draw-head having a coupling pin perforation, a coupling pin, a sliding plate mounted in the

draw-head and adapted to extend across the coupling pin perforation when the coupling pin is raised to support the latter, and a rock-shaft provided with a depending arm to engage and actuate the sliding plate, and having a forwardly extending resilient arm provided at its outer end with an inwardly extending portion and loosely connected with the coupling pin, substantially as and for the purpose described.

3. In a car coupling, the combination of a draw-head having a coupling pin perforation and provided in its top with a way, a slide mounted in the way and provided with a cavity arranged vertically and extending through it, a sliding plate mounted in the draw-head and arranged beneath the slide, a coupling pin, a rock-shaft journaled on the slide and having one arm engaging the sliding plate and another arm loosely connected with the coupling pin, and means for advancing the slide when the coupling pin is elevated, substantially as described.

4. In a car coupling, the combination of a draw-head having a coupling pin perforation, a slide mounted on the draw-head and provided with a vertical cavity, a sliding plate arranged beneath the slide, a coupling pin, a rock-shaft mounted on the slide and having a depending arm to engage the sliding plate and provided with a forwardly extending arm loosely connected with the coupling pin, a bell-crank lever pivoted at its angle to the slide and having one arm journaled on the draw-head, and means for actuating the other arm of the lever, substantially as described.

5. In a car coupling, the combination of a draw-head having a coupling pin perforation, a slide mounted on the draw-head and having a vertical cavity, a sliding plate arranged beneath the slide, a coupling pin, a rock-shaft mounted on the slide and having a depending arm engaging the sliding plate and provided with a forwardly extending arm loosely connected with the coupling pin, a bell-crank lever pivoted at its angle to the slide and having one arm journaled on the draw-head, and rods and chains mounted on the end of a car and arranged at opposite sides thereof and at the top and connected with the coupling pin and with the bell-crank lever, substantially as described.

6. In a car coupling, the combination of a draw-head provided at its top with a way and having in the bottom thereof a recess with its rear portion enlarged to form stop shoulders, a slide mounted in the way, a sliding plate arranged in the recess and having lateral projections to engage the stop shoulders, a rock-shaft mounted on the slide and engaging the sliding plate, a bell-crank lever pivoted to the slide and having one arm journaled on the draw-head, a coupling pin, and means for turning the rock-shaft and actuating the lever, substantially as described.

7. In a car coupling, the combination of a draw-head having a coupling pin perforation,

a slide mounted on the draw-head and provided at one side with a boss, a sliding plate arranged beneath the slide, a rock-shaft journaled on the slide and having one arm engaging the sliding plate and provided with a forwardly extending resilient arm having its outer end bent inward to engage the boss, substantially as and for the purpose set forth.

8. In a car coupling, the combination of a draw-head having a coupling pin perforation, a slide mounted on the draw-head and having a coupling pin cavity, a coupling pin provided at its upper end with an inwardly extending

curved arm and having between its ends a socket, and an upwardly extending bar having its lower end arranged in the socket and provided between its ends with an opening receiving the curved arm, substantially as described.

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

EDWARD B. HYRE.

Witnesses:

M. F. LEWELLEN,
R. L. MCKINLEY.