

No. 773,466.

PATENTED OCT. 25, 1904.

L. BOTTENSTEIN.
CAR COUPLING.

APPLICATION FILED JAN. 26, 1904.

NO MODEL.

2 SHEETS--SHEET 1.

Fig. 1.

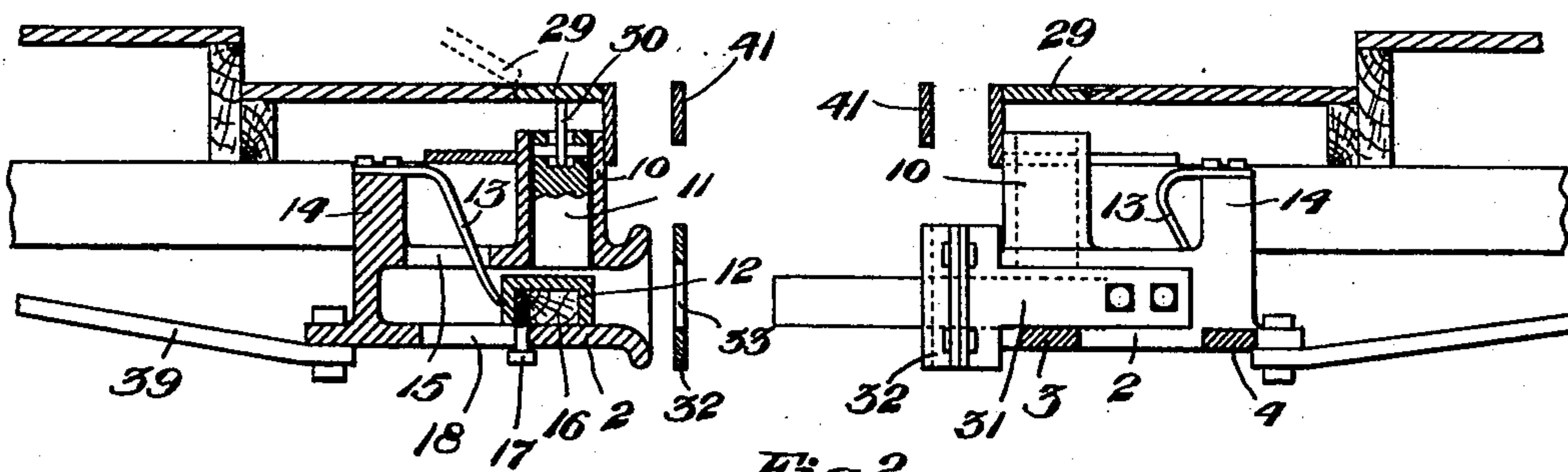
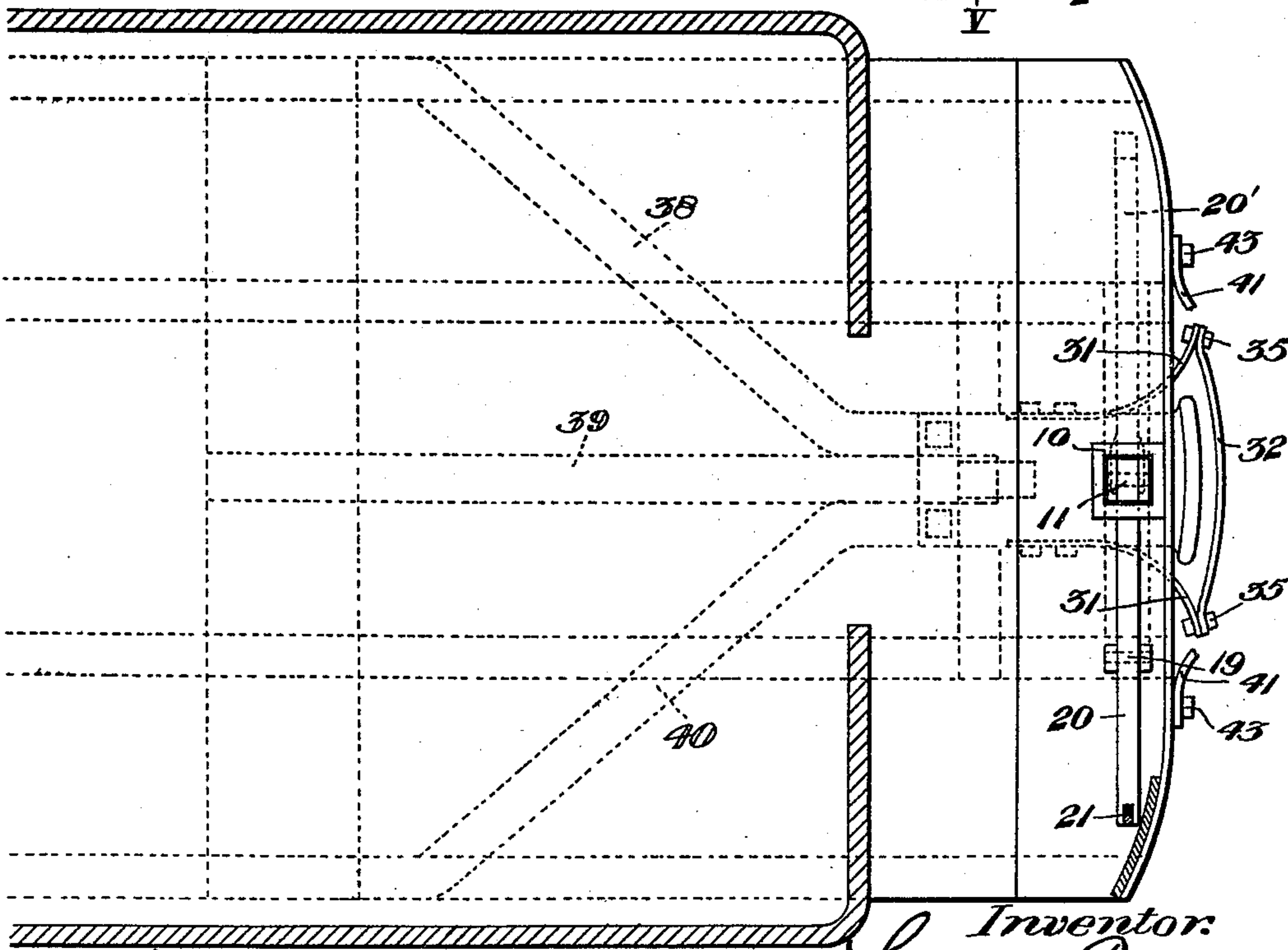
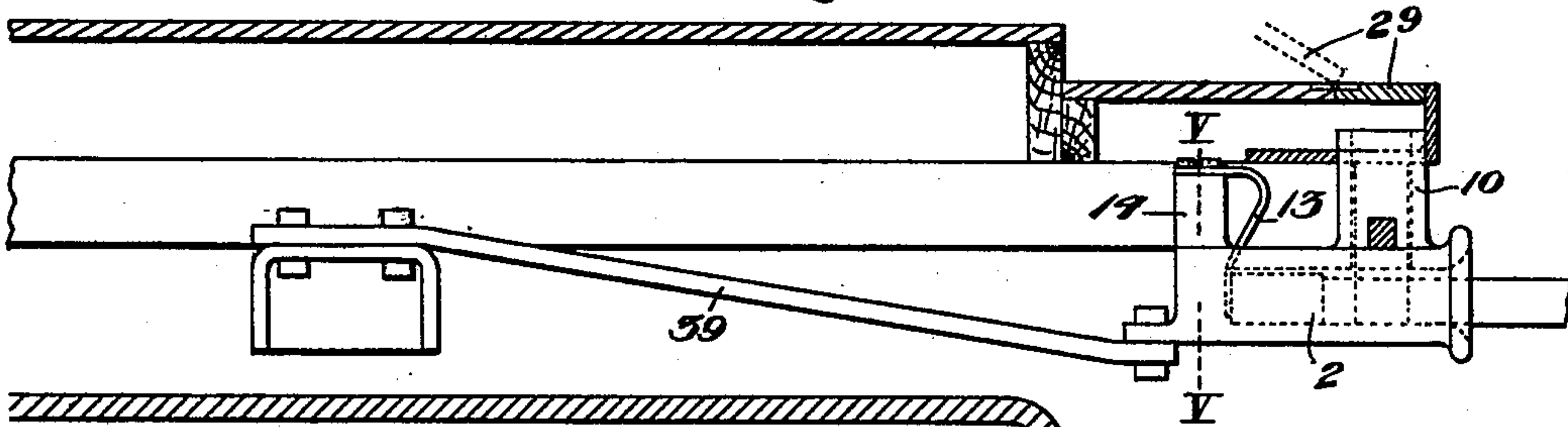


Fig.2.



Witnesses:
E. V. MacKenzie
Chas. S. S. S. S.

Fig. 3.

Inventor:
Leopold Bottenstein
by *E. M. Clarke*
his Attorney.

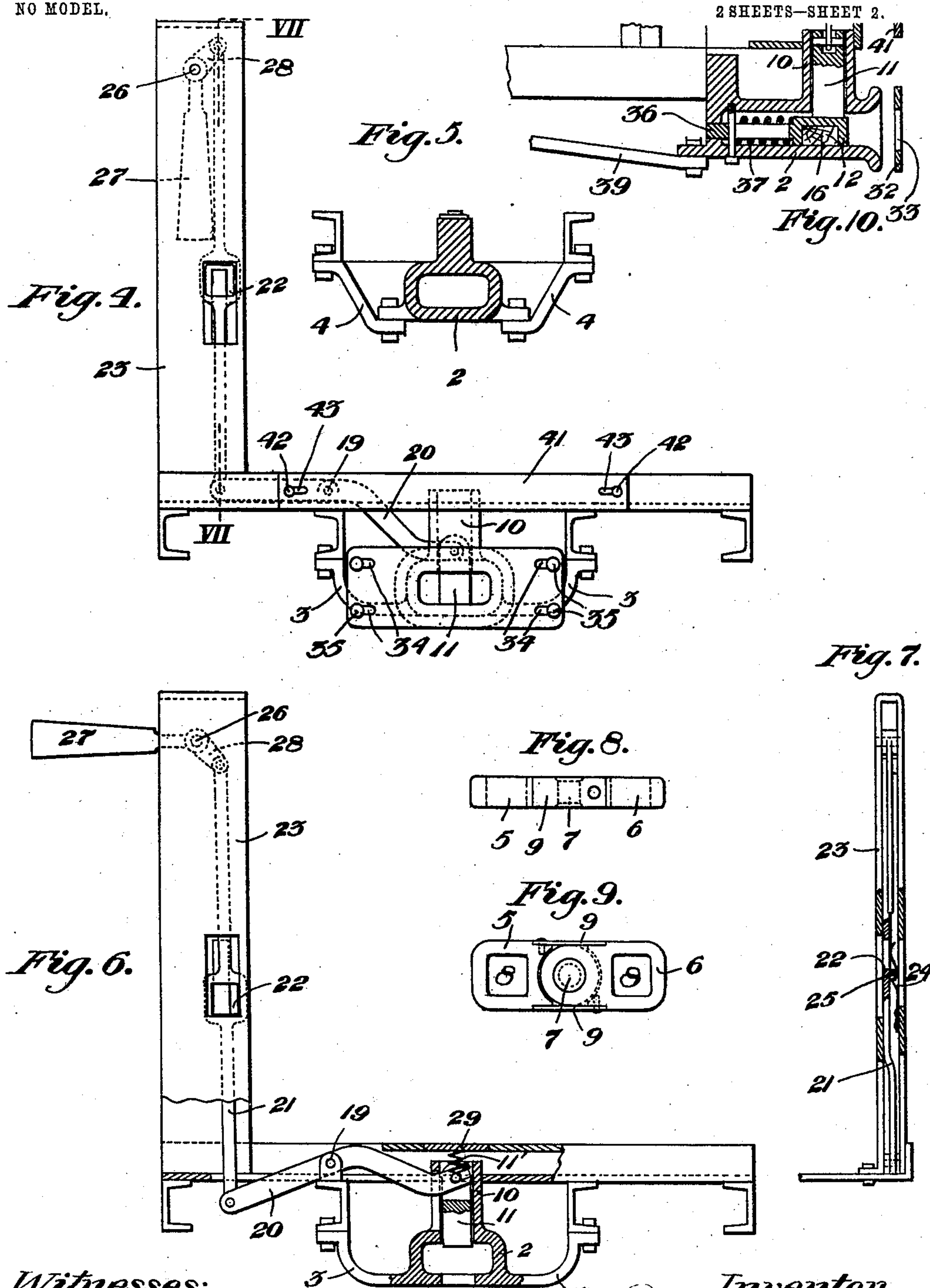
No. 773 466.

PATENTED OCT. 25, 1904.

L. BOTTENSTEIN.
CAR COUPLING.

APPLICATION FILED JAN. 26, 1904.

NO MODEL.



Witnesses:
E. V. Mackenzie
Chas. L. Spley

3
Inventor:
Leopold Bottenstein
by C. M. Clarke
his Attorney.

UNITED STATES PATENT OFFICE.

LEOPOLD BOTTENSTEIN, OF PITTSBURG, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 773,466, dated October 25, 1904.

Application filed January 26, 1904. Serial No. 190,751. (No model.)

To all whom it may concern:

Be it known that I, LEOPOLD BOTTENSTEIN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification, reference being had therein to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents two of my improved car-couplers, one being provided with a coupling-link, the other coupler being shown in section and ready to receive the link. Fig. 2 is a similar view of one of the couplers, showing its attachment to the framework of the car. Fig. 3 is a plan view. Fig. 4 is an end view showing the coupling-pin lowered. Fig. 5 is a sectional detail view indicated by the line V V of Fig. 2. Fig. 6 is a view similar to Fig. 4, the draw-head being in section, showing the coupling-pin raised. Fig. 7 is a vertical sectional view showing the coupling-pin lever and signal-shifting connections. Figs. 8 and 9 are views in elevation and plan of the coupling-link. Fig. 10 is a detail view of a modified construction of block.

My invention refers to improvements in car-couplers; and it has for its objects to provide a simple, reliable, automatic coupler which may be coupled with another similar one or with the ordinary coupling-link. It is designed to be used in combination with my new style of buffer and to operate in connection with an indicating-signal which will always show the condition of the coupler. It embodies material improvements and new features, being similar in operation to the coupler for which I filed an application on October 15, 1903, Serial No. 177,168.

The device is so constructed as to insure certainty of operation and prevent accidental uncoupling, while meeting the various conditions and requirements usual with this class of apparatus. It is entirely automatic in its action and designed to entirely avoid the danger of accident or injury.

Referring to the drawings, 2 is the draw-head, which is provided at the front portion with laterally-extending arms 3, either inte-

gral or secured to the head, and also secured at each side to the framework of the car. Similar arms 4, connected with the coupler-head and the framework, rigidly hold and secure the head farther back, and by these connections a firm mounting is provided, so that the coupler becomes strongly incorporated with the car-framing. The coupler-head is provided with the usual link-cavity adapted to receive the link, which is preferably a jointed link consisting of two sections 5 6, pivotally connected at 7, each section having a coupling-pin opening 8. Springs 9 are secured alternately to the side of each end and press against the adjoining side of the other section, thereby tending to keep the parts of the link in alinement. The pivotal connection at the middle permits deflection to right or left, as in turning curves. The coupling-link fits neatly in the draw-head cavity, so as to permit free movement and prevent it from turning.

The draw-head is provided with an upwardly-extending frame or housing 10, in which at the front end is mounted a vertically-movable locking pin or bolt 11, adapted to fall by gravity through the inner end of the link when the under support for the pin is removed by the advancing link. This under support consists of a sliding block 12, adapted to be depressed backwardly by the link in the operation of coupling to the position shown in Fig. 2 and to be thrown outwardly by a spring 13, secured to a post 14 or other suitable portion of the draw-head and extending downwardly through a slot 15. The block 12 is preferably provided with a bearing-filler 16, of wood or other suitable light material, and its movement is limited by a bolt or pin 17, extending through slot 18. This also prevents its loss or removal. A spring 11' is provided above the coupling-pin 11 to assist in throwing it down. In the act of coupling the link first strikes against the sliding block and presses it back from underneath the coupling-pin and against its spring 13. This spring thus acts as a cushion and greatly assists in reducing and absorbing the shock of coupling.

Pivoted at 19 is a lever 20, one end of which engages the coupling-pin 11, as clearly shown,

while the other end extends outwardly and is connected to the lower end of a shifting-bar 21, provided with a handle 22. The shifting-bar is preferably mounted in an upright framing 23, which may conveniently form a part of or be incorporated with the vestibule of the car.

24 is a spring secured in the framing and having a locking-lug adapted to engage under a projection 25 of the bar 21 and extending above and beyond the hand-opening. This spring normally holds the shifting-bar up and prevents the raising of the coupling-pin, while the spring may be thrust in by the hand, releasing the bar and allowing it to be thrown down to raise the pin 11, as in Fig. 6.

Pivoted at 26, in the upper end of frame 23, is a semaphore-signal 27, having a short crank-arm 28, attached to the upper end of bar 21, so that the signal will always indicate whether the pin is raised or not.

If desired, a supplemental lever 20' may also be extended out to the other side of the car and be provided with a shifting-bar and signal, thus providing operating and signaling means at each side of the car. The signal always shows whether the pin has been raised either intentionally or by accident.

If for any reason it is desired to lift the coupling-pin by hand, a small trap-door 29 may be provided in the floor immediately above the coupling-pin, which may have a ring 30, by which it may be raised by hand.

For the purpose of providing means for buffing and absorbing the shock of impact in coupling I have provided curved spring-bars 31, secured to each side of the draw-head and deflected outwardly at the front.

32 is a front spring-plate, preferably bowed outwardly and having an opening 33 for the entering link. This constitutes the buffer-plate, and it is secured by slots 34 and bolts or rivets 35 to the spring-bars 31, so that as it flattens under pressure it may elongate and have free play, while at the same time the pressure will be transmitted back to spring-bars 31. By this construction when two couplers come together the shock of the blow will be absorbed and minimized. By this construction when two cars come together the buffers make the first contact and are pressed back against the draw-head gradually, thus fully taking up the force and greatly easing the operation and obviating the usual shock. This feature is one of great importance and contributes greatly to the value of my invention. It is very light and cheap, simple in construction, and not liable to get out of order, while being very easily made and put on. To assist in easing the shock and prevent friction when the cars are in motion, I provide spring-buffers 41, secured by bolts 42, passing through slots 43 into the front edge of the platform.

When the coupling-pin is raised, the spring

13 will thrust block 12 outwardly underneath the coupling-pin 11, and the block will there remain until pushed backwardly by the incoming link, so that the coupling-pin will thus be maintained in a raised position, when the device is ready for coupling.

If desired, the block 12 may be provided with a rearwardly-extending stem 36 and a surrounding coiled spring 37, by which it will be thrown forward, as shown in Fig. 10.

The draw-head is also secured to the car-framing by bars 38, 39, and 40, secured to the back portion of the draw-head and to various portions of the framework, as shown in Fig. 3, the bars 38 and 40 extending outwardly at each side. By this arrangement the pulling power is transmitted to the car and the draw-head is further braced and strengthened. It will be seen that the draw-head is of good size, as is also the interior cavity, so that it may be used as a buffer to absorb the shock of coupling while giving easy access to the approaching link of the other coupler.

Having described my invention, what I claim is—

1. The combination of a draw-head, a vertically-movable coupling-pin, a laterally-mounted pivoted lever connected with the coupling-pin, a depressing-spring therefor, a sliding supporting-block, and a spring adapted to move the block underneath the pin, substantially as set forth.

2. A car-coupling consisting of a draw-head, a vertically-movable coupling-pin therein, a pivoted lever connected with the coupling-pin, a sliding supporting-block, a spring adapted to move the block underneath the pin, and a signal device connected with the lever, substantially as set forth.

3. A car-coupling consisting of a draw-head, a vertically-movable coupling-pin therein, a pivoted lever connected with the coupling-pin, a sliding supporting-block, a spring adapted to move the block underneath the pin, and a shifting bar connected with the lever, with a spring-locking device therefor, substantially as set forth.

4. A car-coupling consisting of a draw-head, a vertically-movable coupling-pin therein, a pivoted lever connected with the coupling-pin, a sliding supporting-block, a spring adapted to move the block underneath the pin, a shifting-bar connected with the lever, a spring locking device therefor, and a signal connected with the shifting-bar, substantially as set forth.

5. The combination of a draw-head, a vertically-movable coupling-pin, a laterally-mounted pivoted lever connected with the coupling-pin, and adapted to be connected with a signal device, a sliding supporting-block, and a spring adapted to move the block underneath the pin, substantially as set forth.

6. In a car-coupler, the combination of a draw-head, provided with a vertically-movable

coupling-pin, a lever therefor, a spring-actuated sliding block, and a coupling-link consisting of two portions pivotally connected at the middle and provided with closed terminal eyes, substantially as set forth.

7. In a car-coupler, the combination of a draw-head provided with a vertically-movable coupling-pin, a lever therefor, a sliding block, a spring therefor, and a coupling-link, with laterally and backwardly extending arms connecting the draw-head with the car-framing, substantially as set forth.

8. In combination with the draw-head of a car-coupler, a coupling-link consisting of two portions pivotally connected at the middle and a spring secured to each of said portions and bearing against the other portion, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

LEOPOLD BOTTENSTEIN.

Witnesses:

O. J. MEADOFF,
JAMES McC. MILLER.