(No Model.)

2 Sheets—Sheet 1.

A. PAUL.

CAR COUPLING.

No. 409,229. Patented Aug. 20, 1889.

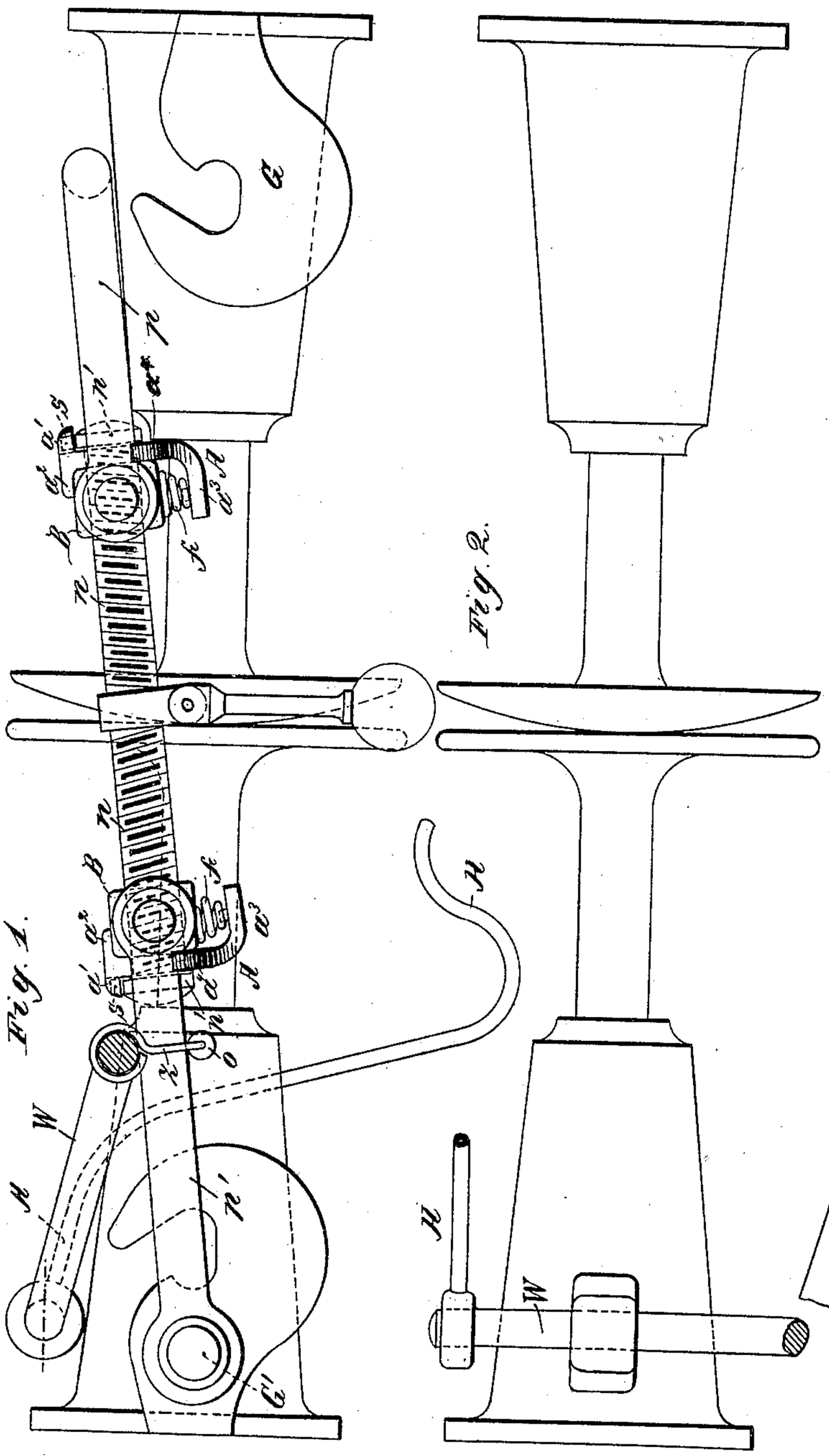

Fig. 1.

Fig. 2.

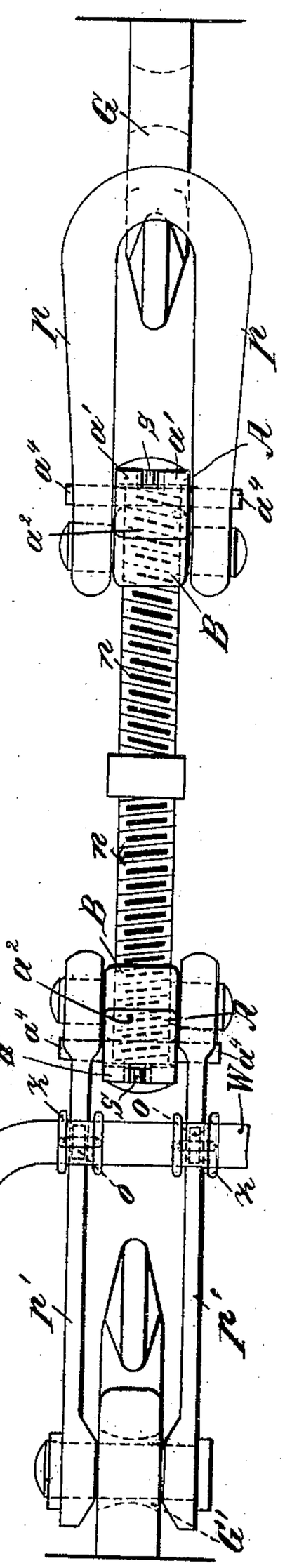

Fig. 3.

Witnesses:
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Inventor:
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by Hubbell & Hubbell
Attys

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

A. PAUL.

CAR COUPLING.

No. 409,229. Patented Aug. 20, 1889.

Fig. 3.

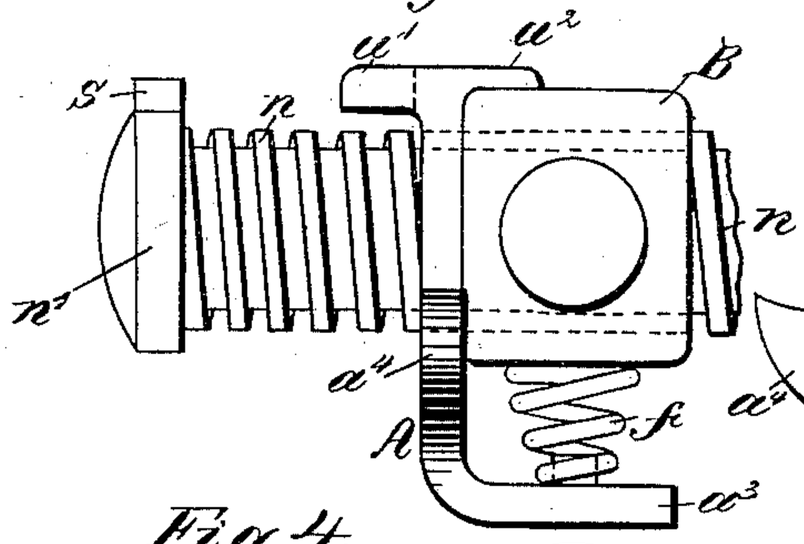


Fig. 2.

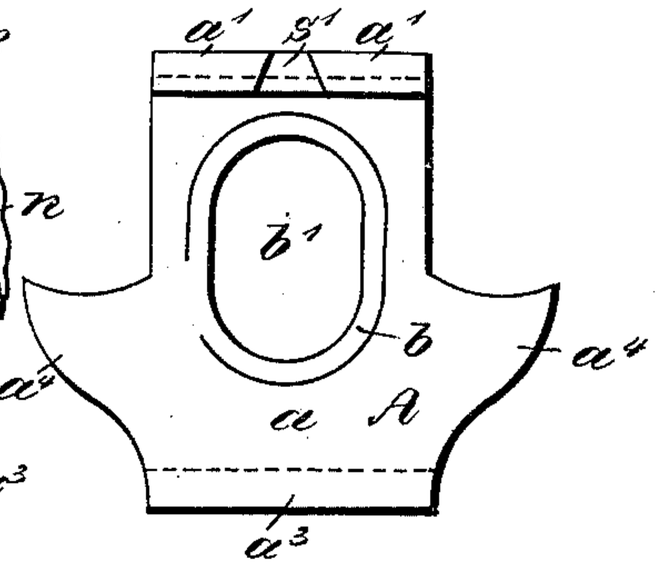


Fig. 4.

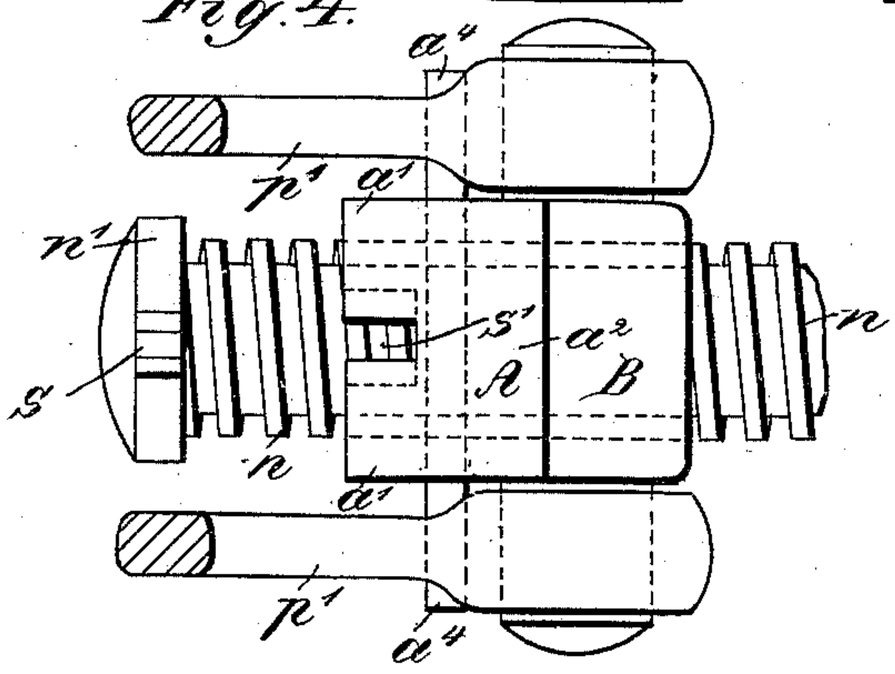


Fig. 5.

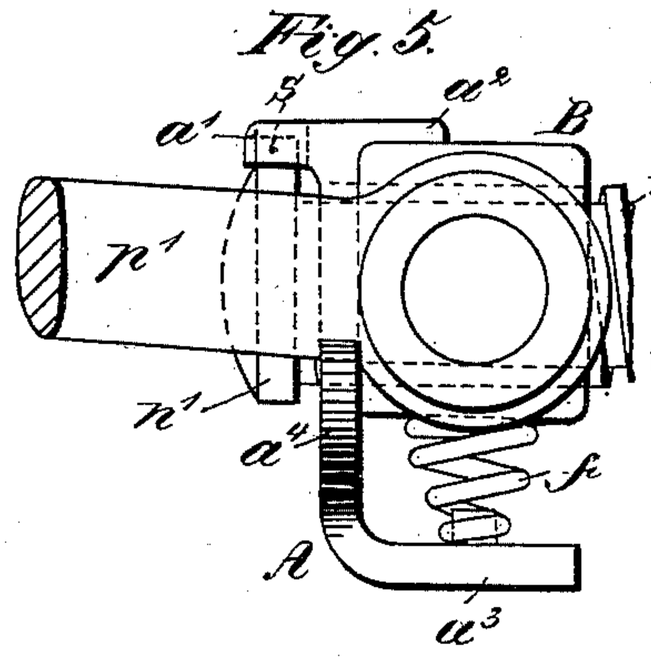
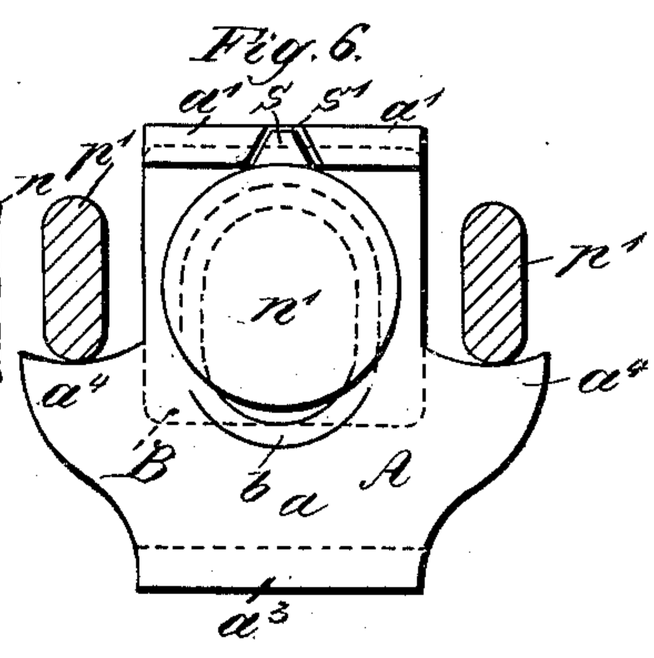


Fig. 6.



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atty

UNITED STATES PATENT OFFICE.

ALBERT PAUL, OF BERLIN, GERMANY, ASSIGNOR OF TWO-THIRDS TO SIMON EHRENWERTH, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 409,229, dated August 20, 1889.

Application filed November 22, 1888. Serial No. 291,614. (No model.) Patented in England November 7, 1888, No. 16,137; in France November 12, 1888, No. 194,053; in Belgium November 13, 1888, No. 83,924; in Switzerland November 15, 1888, No. 36, and in Italy November 20, 1888, No. 24,439.

To all whom it may concern:

Be it known that I, ALBERT PAUL, a subject of the King of Prussia, German Emperor, and a resident of Berlin, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Car-Couplings, (for which I have received Letters Patent in England, No. 16,137, November 7, 1888; France, No. 194,053, November 12, 1888; Belgium, No. 83,924, November 13, 1888; Italy, No. 24,439, November 20, 1888; Switzerland, No. 36, November 15, 1888,) of which the following is a full and clear specification.

My invention relates to improvements in car-couplings for railway carriages and wagons, and has for its purpose the hooking and unhooking of the same from outside, thus avoiding the necessity and danger of going between the carriages when making up a train or shunting. In order to achieve this, I hold the links and screw firmly in a line and raise the whole up into a horizontal position by a lever from the outside, and when the next carriage is backed up the end link of the coupling falls into the coupling-hook.

In order to make my invention more clear, I refer to the accompanying drawings, which form part of this present application, and in which similar letters denote similar parts throughout the different figures.

Figure 1 is a side view of my improved car-coupling raised into the horizontal position ready to be coupled to the next carriage. Fig. 2 is a top view of Fig. 1. Fig. 3 is a detail view of the mechanism used for holding the links in a straight line with the screw. Fig. 4 is a top view of Fig. 3. Fig. 5 is a side view of the holding mechanism with the screw fully screwed out. Fig. 6 is an end view of Fig. 5. Fig. 7 is a detail view of the carrier A.

The coupling itself is of the usual form—that is, a right and left hand screw working in nuts, to which the links are fastened. On the nuts B B, in which the screw works, are fitted the carriers A A, Figs. 3 and 7. These carriers are provided with arms a^4 a^4, in which the links p' p' and p p lie, and also with a wing b, which fits into the thread of the screw n. The carriers are fitted to the outside of the nuts, in order to allow of the nuts being brought close together, so that the coupling may be screwed up as close as possible. There is a notch s' cut in the flange a' of the carrier, which catches on the projection s on the end n' of the screw when the coupling is screwed out, thus preventing the screw being turned beyond a certain position. When the links p p p' p' are separated from each other by turning the screw n, the projection s comes into the notch s' and passes on, on account of the notch being beveled, and the carrier rises by the compression of the spring f. For this reason the hole b' in the carrier is made oval. When the collar n' has advanced near enough to the nuts, when the projection s again catches in the notch s', the screw is prevented from turning any farther, as the flange n' jams itself hard up against the nut. This occurs at both ends of the coupling. The spring f further serves to hold the flange a^2 of the carrier down on the top of the nut, in order to prevent the nut from canting when the carrier is lifted by the projection s.

When the turning of the links is prevented, the whole coupling can be lifted by the lever arrangement H W, the lever W being jointed to the link p' by the hook z v, and the carriages coupled together at any time from the outside.

The hooks z z lie in the cranked part of the shaft W, the shaft W being journaled to the wagon in any suitable way. The shaft W is turned by means of the hand-lever H and has a double motion—one a rotary and the other horizontal. First it must lift the coupling up, and then the loose end of the coupling must be brought to one side in order to allow the link p to pass the hook G. This is allowed by making the hole G′ conical from both sides. When the carriages are coupled, the coupling can be tightened in the ordinary way by turning the screw n. By the opposite movement of the lever H and shaft W the carriages can be uncoupled.

Having now described my invention, what I claim, and desire to secure by Letters Patent in the United States, is—

1. In car-couplings, the combination of an

ordinary car-coupling with shaft W, hand-lever H, and carriers A A, substantially and for the purpose as described.

2. In car-couplings, the combination of links $p' p' p p$, screw n, with projection s, nuts B B, carriers A A, with slots $s' s'$, springs $f f$, and links $z z$, with rollers $o o$, substantially and for the purpose as described.

3. In car-couplings, the combination of the carriers A A, having the arms $a^4 a^4$, flanges $a' a^2 a^3$, the flange a' having a slot s', nuts B B, springs $f f$, right and left hand screw n, with the heads n', having the projections $s s$, links $p p' p'$, cranked shaft W, hand-lever H, and lifting-links $z z$, which carry the rollers $o o$, substantially and for the purpose as described.

In witness whereof I hereunto set my hand in presence of two witnesses.

ALBERT PAUL.

Witnesses:
B. ROI,
THEODOR HEESE.