

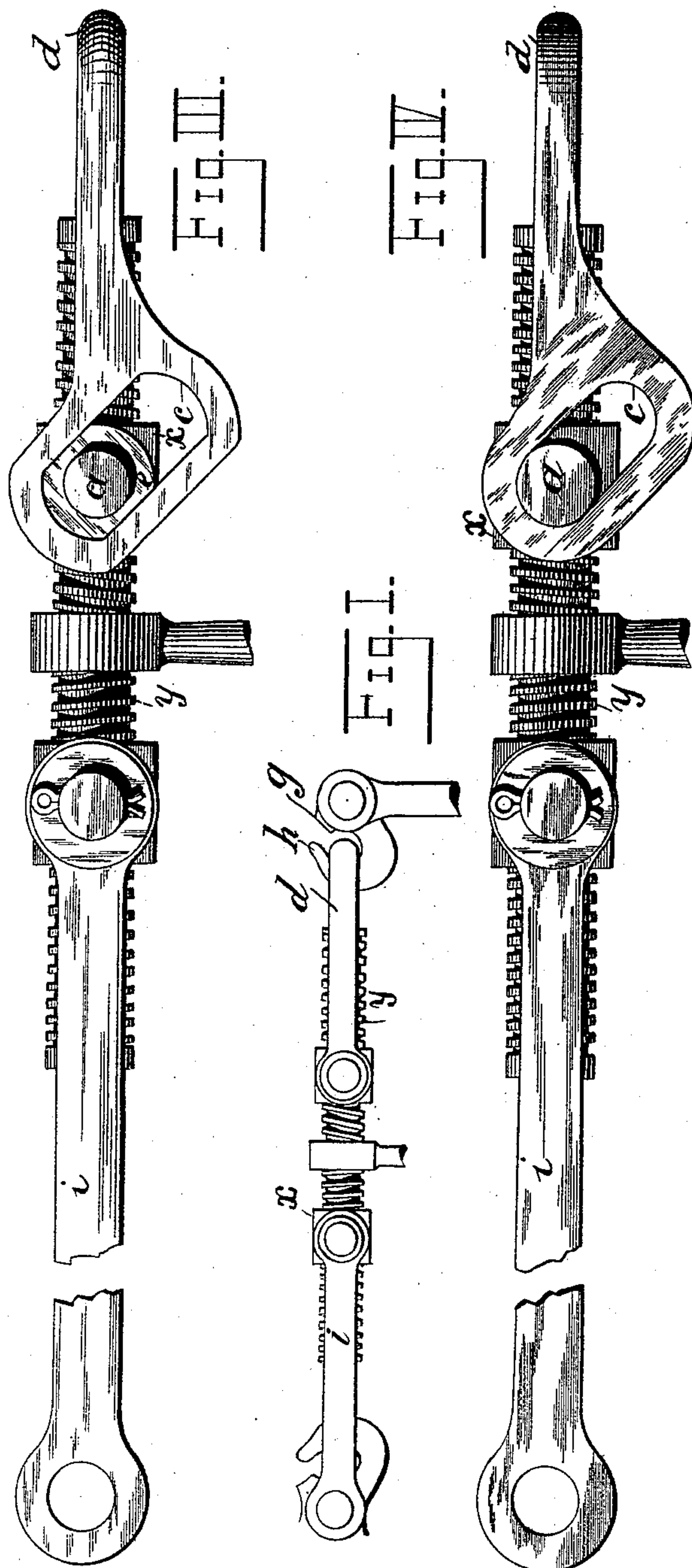
(No Model.)

2 Sheets—Sheet 1.

E. GRUND.
CAR COUPLING.

No. 486,375.

Patented Nov. 15, 1892.



Witnesses:-

Geo. B. Crane

Henry S. Rohrer,

Inverfor

Ernst Grund.

By Knight Bros.
Attorneys

(No Model.)

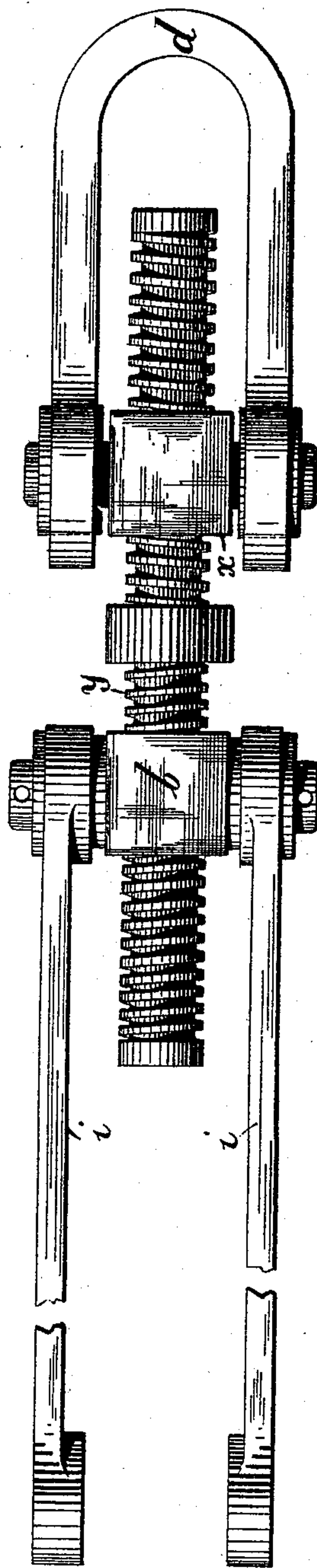
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Fig. II.



Witnesses.
Geo. C. Kruse.
Harry B. Parker.

Inventor:
Emil Grund.
By Knight Bros.
Attorneys

UNITED STATES PATENT OFFICE.

EMIL GRUND, OF COLOGNE, GERMANY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 486,375, dated November 15, 1892.

Application filed April 22, 1892. Serial No. 430,231. (No model.)

To all whom it may concern:

Be it known that I, EMIL GRUND, a subject of the Emperor of Germany, residing at Nippes, near Cologne, in the Kingdom of Prussia and German Empire, have invented a new and useful Improvement in Railway-Car Couplings, of which the following specification, taken in connection with the accompanying drawings, is a full, clear, and exact description, such as will enable those skilled in the art to make and use the same.

My invention relates to an improvement upon the screw-coupling now in use by the Railway Union Association, by means of which the frequent damage to the couplings is avoided.

In the accompanying drawings, Figure I represents in side elevation the common form of screw-coupling now in use. Fig. II is a plan view of one form of my improved coupling. Fig. III is a side elevation of the same. Fig. IV is a side elevation of a slight modification.

The common form of screw-coupling now in use (shown in Fig. I) is liable to frequent distortions and breakages in its different parts, which render it unserviceable. This result is due to the frequent and severe concussions to which the cars are subjected while being coupled or braked in stopping and going downgrade.

Referring to Fig. I, when the brake is put on or during the coupling when two cars collide the pulling-hook *h*, which is hung from the car, catches with its upper part *g* against the end of the coupling-loop *d*, which is swiveled to the screw-nut *x*, adjustably mounted on the coupling-screw *y*. With a slight concussion the coupling operates very well; but if the concussion is rapid and violent, as is generally the case, the coupling in a state of tension will be held horizontal and will give a direct thrust to the links in the line of motion of the cars, and the whole force of the concussion is borne by the screw, coupling-loops, and hooks, and if the blow is sufficiently strong they become bent and otherwise permanently injured.

The above serious objection is entirely overcome by my improved construction.

Referring to Figs. II, III, and IV, *y* is the coupling-screw, and *x* are the screw-nuts mounted on the screw and formed with trunnions *a* for supporting the coupling-loops. *d* are the coupling-loops, which (instead of being formed with the simple swivel-eyes, as in the common form of coupling) are formed with inclined slots *c*, fitting over the trunnions *a* and secured in place, so that the trunnions can slide backward and forward therein. The inclined slots *c* can be formed in both of the coupling-loops *d* and *i*, if preferred. The form shown in Fig. III differs from the form shown in Fig. IV in having the bearing-blocks *e* mounted on the trunnions *a* and sliding in the slots *c*.

The operation of my improved construction is as follows: When the cars collide in the act of braking or coupling, the outer part of the hook engages the end of the coupling-loop and presses against it with a pressure corresponding to the force of the concussion, which causes the trunnions of the screw-nuts to slide in the inclined slots of the loops and move the parts of the coupling from their previous horizontal position, so that the direct thrust in a horizontal direction is avoided and further pressure cannot be effected except in an oblique direction, and hence the buffers alone bear the brunt of the concussion.

My improvement not only prevents the bending and injuring of the coupling, but prevents the automatic unhooking of the loop from the hook at the time of concussion.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In a car-coupler, the combination of a coupling pin or screw, a coupling-loop formed with inclined slots engaging suitable projections carried by the pin or screw, and a hook adapted to engage the loop, as set forth.

2. In a car-coupler, the combination of the coupling-hook, the coupling link or screw, the nut carried by the pin or screw and formed with trunnions, and the coupling-loop formed

with inclined slots in its ends, which engage the trunnions, substantially as set forth.

3. In a car-coupler, the combination of the hook, the coupling-screw, the screw-nut carried by the screw and formed with trunnions, bearing-blocks mounted on the trunnions, a coupling-loop formed with inclined slots which engage said bearing-blocks, and a suit-

able coupling-hook adapted to engage the loop, substantially as set forth. 10

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

EMIL GRUND.

Witnesses:

FRITZ MÜLLER,

H. ALLEN MAXWELL.