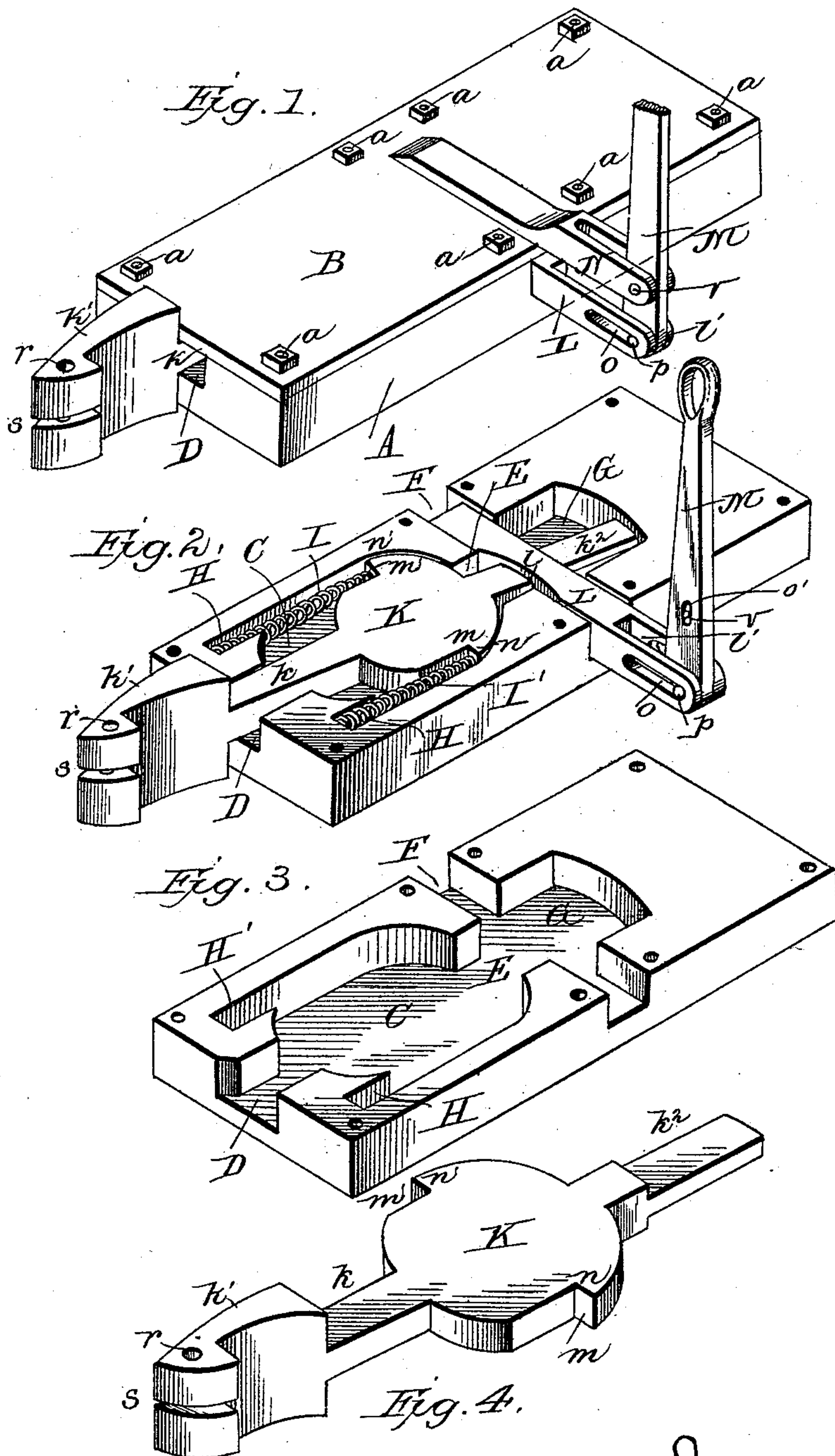


(No Model.)

H. SHWANGER & W. H. HAINES.
CAR COUPLING.

No. 538,029.

Patented Apr. 23, 1895.



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UNITED STATES PATENT OFFICE.

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PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 538,029, dated April 23, 1895.

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To all whom it may concern:

Be it known that we, HEINRIG SHWANGER and WILLIAM H. HAINES, citizens of the United States, residing at Thompsonstown, in the county of Juniata, State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention has relation to car couplings, and more particularly to those known as the twin-jaw class, and the object of the invention is to produce a device of this kind that will be automatic in the act of coupling, and one that at the same time can be safely and expeditiously released without danger to life or limb of the operator; and at the same time being simple and reliable in operation and cheap in construction; and to these ends the novelty consists in the construction, combination and arrangements of parts as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same letters of reference indicate like parts of the invention.

Figure 1 is a perspective view of our improved coupling. Fig. 2 is a similar view taken from the same point, with the top plate or cover removed. Fig. 3 is a similar view from the same point with the cover and working parts removed, and Fig. 4 is a perspective view of the draw-head removed from the draw-bar.

A is the draw-head and is rigidly secured to the under side of the floor at one end of the car so that the lever can be readily reached by hand to operate it.

B is the top or cover and serves to secure the working parts in place in the draw-bar, and it is secured to said bar by suitable bolts *a a*. This draw-bar is provided with an oval shaped recess C, from which radiates forwardly a central longitudinal slot D, and rearwardly a central longitudinal recess E, which bisects a transverse slot F. The slot E is enlarged to form a recess G, extending forward at about its center and on each side

of the periphery of the oval shaped recess C, are two tangential parallel slots *H H'* in each of which are seated one end of the spiral springs I and I', the other ends of said springs projecting into the recess C.

K is the draw-head proper and it consists of a central flat and approximately circular body, having a neck *k* terminating in the jaw *k'* and rearwardly extending arm *k²*; and the circular body is provided with two tangential rectangular recesses *m m'* forming pockets for the springs I I', the ends thereof resting against the shoulders *n n'* of said recesses *m m'*, and when the parts thus described are placed in the draw-bar as shown in Fig. 2, the draw-head K is capable of a limited reciprocating, and at the same time, oscillating movement in said draw-bar.

L is a transverse bar, which slides freely in the slot F, and is provided with a slot *l* through which passes snugly though freely, the arm *k²* of the draw-head K; the end of said arm *k²* extending into the recess G in the draw-bar A, a distance corresponding to the length of the longitudinal movement of said draw-head proper.

M is a lever having a slotted fulcrum mounted on a pin *v* secured in the bifurcated end of an arm N which is secured on top of the cover B, and its lower end extends downward in the slot *l'* in the bar L. The ends of this bar L on each side of the slot *l'*, are provided with longitudinal slots, one of which is shown at *o*, and into which projects the free ends of a pin *p* rigidly secured in the lever M. The extreme end of the jaw *k'* has a slot *s* for the reception of a link which is secured in place by a coupling pin in the hole *r*, when our improved coupling is used with a car provided with a link and pin form.

The parts being assembled as shown in Fig. 2, the tension of the spring I' is greater than that of the spring I, and consequently the tendency is to keep the jaws shut and which is its normal position, and in which position, it is always ready for automatically coupling the cars when they come together, the shock or jar of the act being taken up by the rear circular part of the draw-head K resting against the correspondingly shaped rear end

of the recess C, and in the act of starting the train, the strain on each individual car is first taken up by the springs II', gently until the forward end of the head K rests against the forward end of the recess C, and after the train is in motion and the cars adjust themselves to the equilibrium of motion, the springs adjust themselves to support the load and an easy and regular motion is attained without any jar or jerking.

When it is desired to uncouple the cars it is only necessary to operate the lever to throw the jaws apart, when the cars may be separated.

It will be noticed that the slot o in the bar L is considerably elongated, and there is a similar though shorter elongation of the slot in the fulcrum of the lever M. The objects of these slots are to allow for the play of the draw-head K and the bar L, when the train is in motion and at the same time prevent said motion being communicated to the lever M, which would otherwise jar, rattle and vibrate with every motion of the train.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. In a car-coupling a draw-bar A provided

with an oval shaped recess C, having slots D and E, and tangential pockets H H' connected therewith, the transverse slot F and the recess G, in combination with the draw-head K, circular in form and having integral neck k, jaw k' and arm k², and provided with the recesses m m' and the springs II' and the cross bar L located in the slot F and adapted to operate the draw-head K, both operated by the hand lever M, fulcrumed in the arm N secured to the cover B of the draw-bar A, substantially as shown and described.

2. In a car-coupling of the class described, the draw-bar A, provided with an oval shaped recess C, slots D and E, the transverse slot F, in combination with the draw-head K and the bar L having slots o, said bar L and draw-head K being operated by the lever M having a fulcrum slot o' in which it is mounted in the arm N secured to the cover B, of the draw-bar A, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

HEINRIG SHWANGER.
WILLIAM H. HAINES.

Witnesses:

I. N. GRUBB,
H. C. HEIST.