(No Model.)

T. G. BLACKMAN, Jr.

CAR COUPLING.

No. 502,274. Patented Aug. 1, 1893.

Fig. 1.

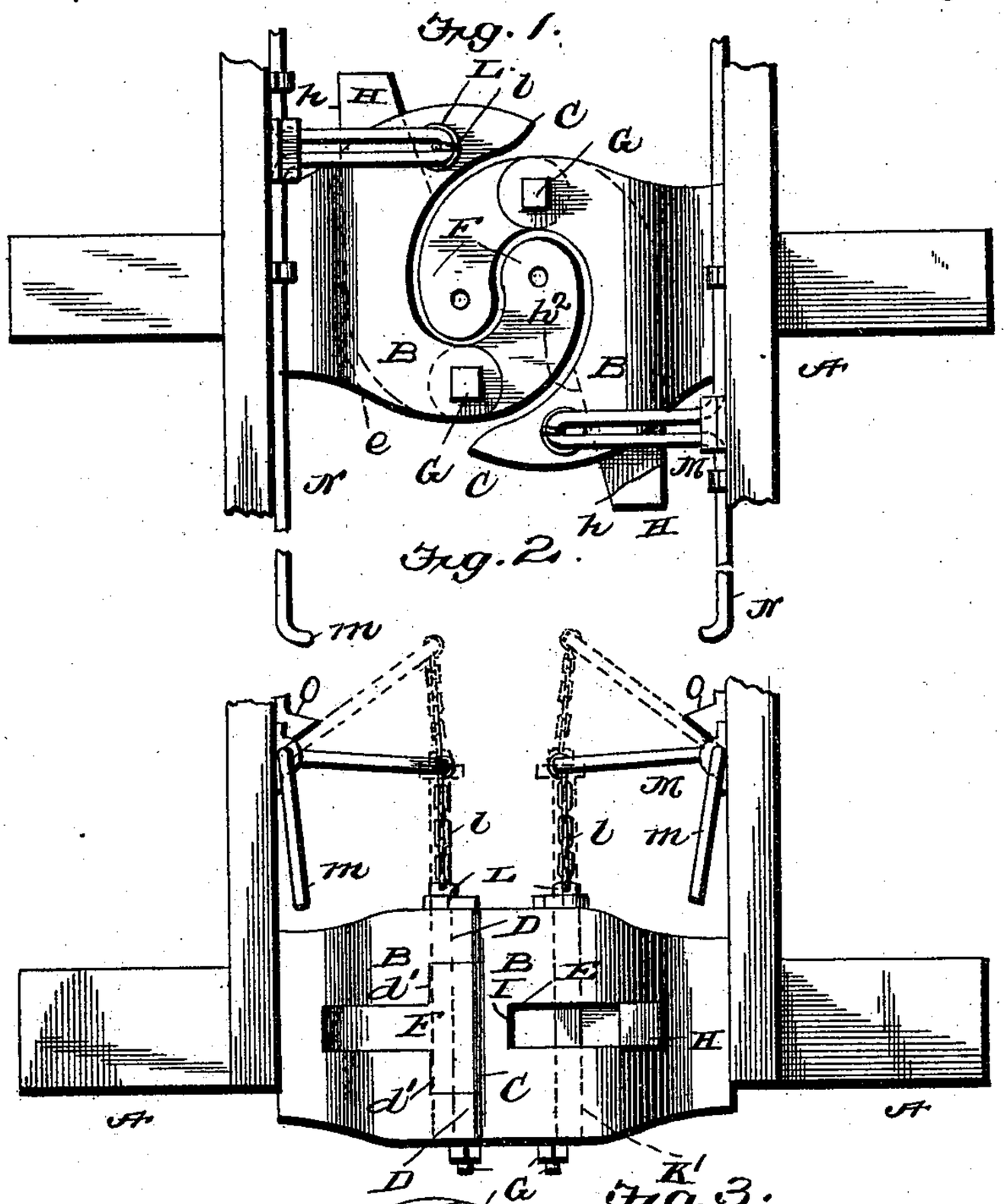
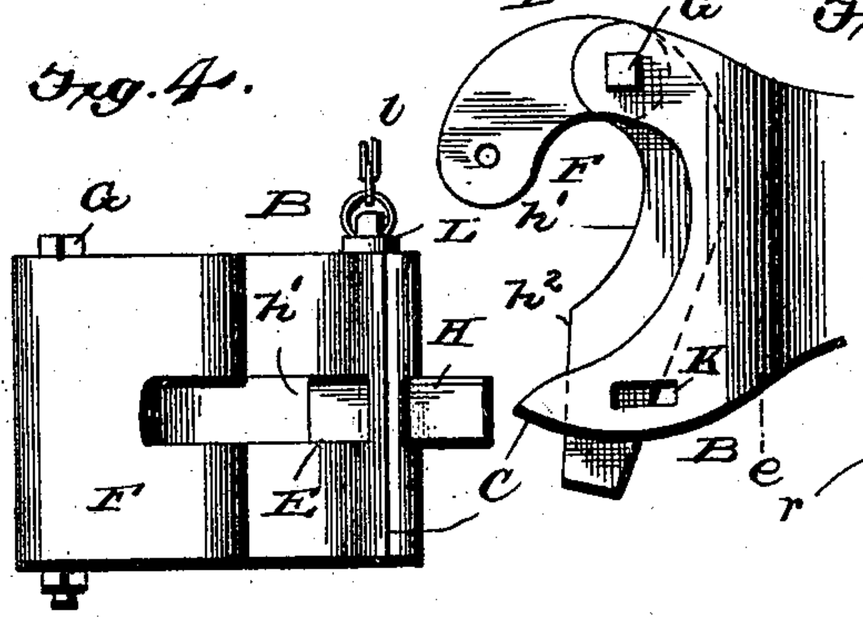


Fig. 2.

Fig. 3.

Fig. 4.



A Fig. 7.

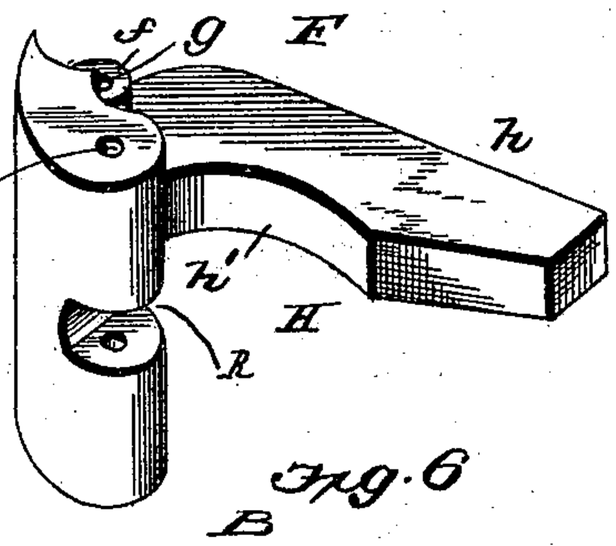


Fig. 5.

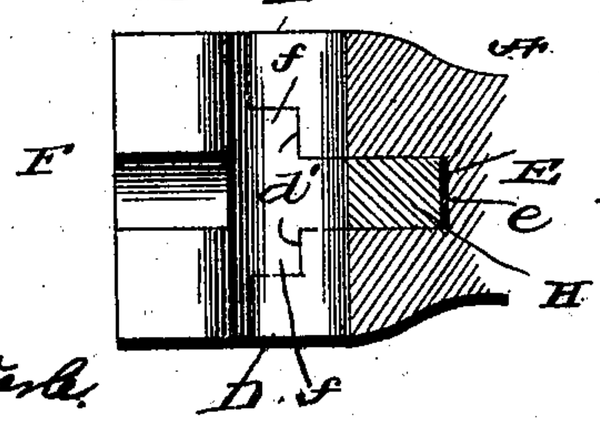
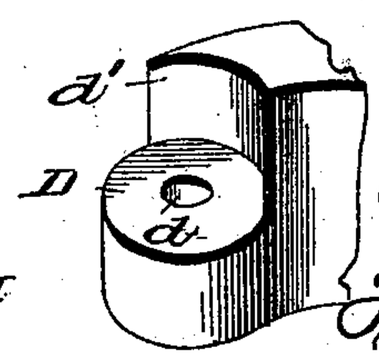


Fig. 6



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS G. BLACKMAN, JR., OF OZARK, ALABAMA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 502,274, dated August 1, 1893.

Application filed December 29, 1892. Serial No. 456,649. (No model.)

To all whom it may concern:

Be it known that I, THOMAS G. BLACKMAN, Jr., a citizen of the United States, residing at Ozark, in the county of Dale and State of Alabama, have invented certain new and useful Improvements in Car-Couplings; and I 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.

My invention relates to certain improvements in car couplings and more particularly to that class of couplings which are generally known as "twin jaws" and in which a draw-head having a curved or substantially concave outer face is used in connection with a pivoted knuckle. In many couplings of this class it frequently happens that unless the cars are brought together with a great degree of force a coupling is not effected as the shank of the knuckle is not driven back far enough to enable the locking mechanism to operate.

The object of my said invention is to produce a coupling of this class which will be certain in its action no matter with what degree of force the cars are brought together, whether the maximum or minimum.

My said invention further consists in certain novelty in the construction, arrangement and combination of the various parts all of which I will now proceed to point out and describe, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of my invention, showing the same coupled. Fig. 2 is a side elevation of the same, dotted lines indicating the position of the locking pins when uncoupled. Fig. 3 is a top plan of one draw-head and coupling device, showing same in position to couple. Fig. 4 is an end view of one draw-head. Fig. 5 is a sectional detail view of a portion of one of the draw-heads; Fig. 6 a perspective view of a portion of the draw-head, and Fig. 7 a perspective of the coupling knuckle.

Referring to said drawings: A indicates a draw-bar of the ordinary construction which may be attached to the cars in any preferred manner.

B is a draw head preferably formed integral with the draw bar, but which may be formed separately and secured to said draw bar. Said draw head has a curved or substantially concave outer face which terminates on one side in a beveled extension C, the opposite side being provided with upper and lower projecting lugs D, D, having bolt holes *d*, *d*, registering vertically with each other. Said draw head is further provided with curved bearing surfaces *d'*, *d'*, for the axis of the knuckle hereinafter described. Between the bearing surfaces and extending transversely through the draw head is a horizontal slot E, having a straight bearing surface *e*, extending at right angles to the longitudinal center line of the draw bar. Said slot continues also nearly to the end of the beveled extension C.

F is a curved coupling knuckle, having the curved shoulders *f*, which engage the bearing surfaces *e'*, *e'*, the knuckle being pivoted to the draw head by a bolt G passing through the bolt holes *d*, in the lugs D, and through a bolt hole *g*, in the shoulder *f*.

H is the shank of the knuckle formed integral therewith and being located within the slot E. Said shank is substantially parallel with the knuckle and is formed with a straight rear side *h*, adapted to engage the straight bearing surface *e*, of the slot E, when the coupling is effected, and is also provided with a curved outer side or face *h'* adapted to be engaged by the outer face of the knuckle of the coupling on the adjacent car and be forced back within the slot E as the cars are being coupled. When coupled the outer curved face of the shank conforms to and is flush with the outer curved concave face of the draw head. At the end of the curved face *h'*, the shank is cut away in a straight line as at h^2, and the outward movement of said shank and knuckle is limited by said cut away portion of the shank engaging a stop or the end I, of the slot in the beveled extension of the draw head. Said shank projects through the horizontal slot E in the opposite side of the draw head from the pivotal point of the knuckle.

In the beveled extension of the draw head I form a vertical hole or aperture K in the portion above the transverse slot and in the lower portion of said extension a similar hole K', registering vertically with the upper hole, said holes being substantially opposite the

pivotal point of the knuckle in a line taken at right angles to the draw bar. The lower hole is preferably longer than the upper or may be beveled at its rear end.

L is a gravitating locking pin mounted in the upper hole K. Said pin is connected by a flexible connection *l*, such as a chain with a lever M, formed integral with a transverse rod N, mounted on the end of the platform and provided with handles *m*, at each end of said lever or on each side of the car.

The letters O, O, indicate stops which are secured to the front of the platform, and which limit the upward movement of the levers M so as to prevent the locking pins from being drawn out of their seats when the cars are uncoupled. When said cars are uncoupled the shank of the coupling knuckle projects beyond the face of the draw head and the coupling pin rests upon the top of said shank. When the shanks are forced back within the slot in the draw head the pin drops from the shank and its lower end engages the hole *k'* and holds the shank and knuckle in a coupled position.

R are horizontal slots formed in the outer ends of the knuckles and *r* are vertical pin holes by means of which the coupling can be used with a car provided with an ordinary link and pin coupling.

The operation of my invention will be readily understood from the above description. When the cars are uncoupled and the draw heads separated the coupling knuckles will be in the position shown in Fig. 3 of the drawings, their shanks projecting beyond the faces of the draw heads and the locking pins resting upon said shanks as shown in dotted lines in Fig. 2. When the draw heads come together the outer ends of the coupling knuckles pass each other, engage the shanks and force the same back into the slots in said draw heads until the outer curved face of the shank is substantially flush with the outer face of the draw head and releasing the gravitating coupling pins which fall and engage the lower holes K' and lock the shanks and their knuckles in a coupled position. It will be readily seen that the cars are thus automatically coupled and the coupling positively effected without regard to the degree of force with which said cars are brought together, it merely being necessary to force the shanks back sufficiently to release the gravitating locking pins. To uncouple the levers are used to withdraw the locking pins, and as the cars are drawn apart the knuckles are released from each other, the shanks assuming the position heretofore described.

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

1. In a twin jaw car coupling the combination with a draw head having a concave outer face and a transverse horizontal slot therein of a curved coupling knuckle pivoted to said draw head and provided with a shank located in the transverse slot and having a curved outer face conforming to the concave face of the drawhead and adapted when coupled to be flush with said face and a gravitating locking pin mounted in the draw head and adapted to engage the shank and hold the same in a locked position, substantially as shown and described.

2. In a twin jaw car coupling the combination with a draw head having a concave outer face and a transverse horizontal slot having a rear straight bearing surface, of a curved coupling knuckle pivoted to the draw head and provided with a shank located in the transverse slot and having a curved outer face conforming to the concave face of the draw head and a rear straight side adapted to engage the straight bearing surface of the transverse slot, and a gravitating coupling pin mounted in the draw head, all constructed, arranged and operating, substantially as shown and described.

3. In a twin jaw car coupling the combination with the draw head B having a concave outer face and transverse horizontal slot E having a rear straight bearing surface *e* and stops I. of a curved coupling knuckle F having a shank H located in the transverse slot and having the straight rear side *h* and outer curved face *h'* conforming to the concave face of the draw head, and a gravitating coupling pin L mounted in the draw head and adapted to engage the shank and hold the same coupled, all constructed, arranged and operating, substantially as shown and described.

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

THOMAS G. BLACKMAN, JR.

Witnesses:
C. BERNARD WERLE,
S. BRASHEARS.