

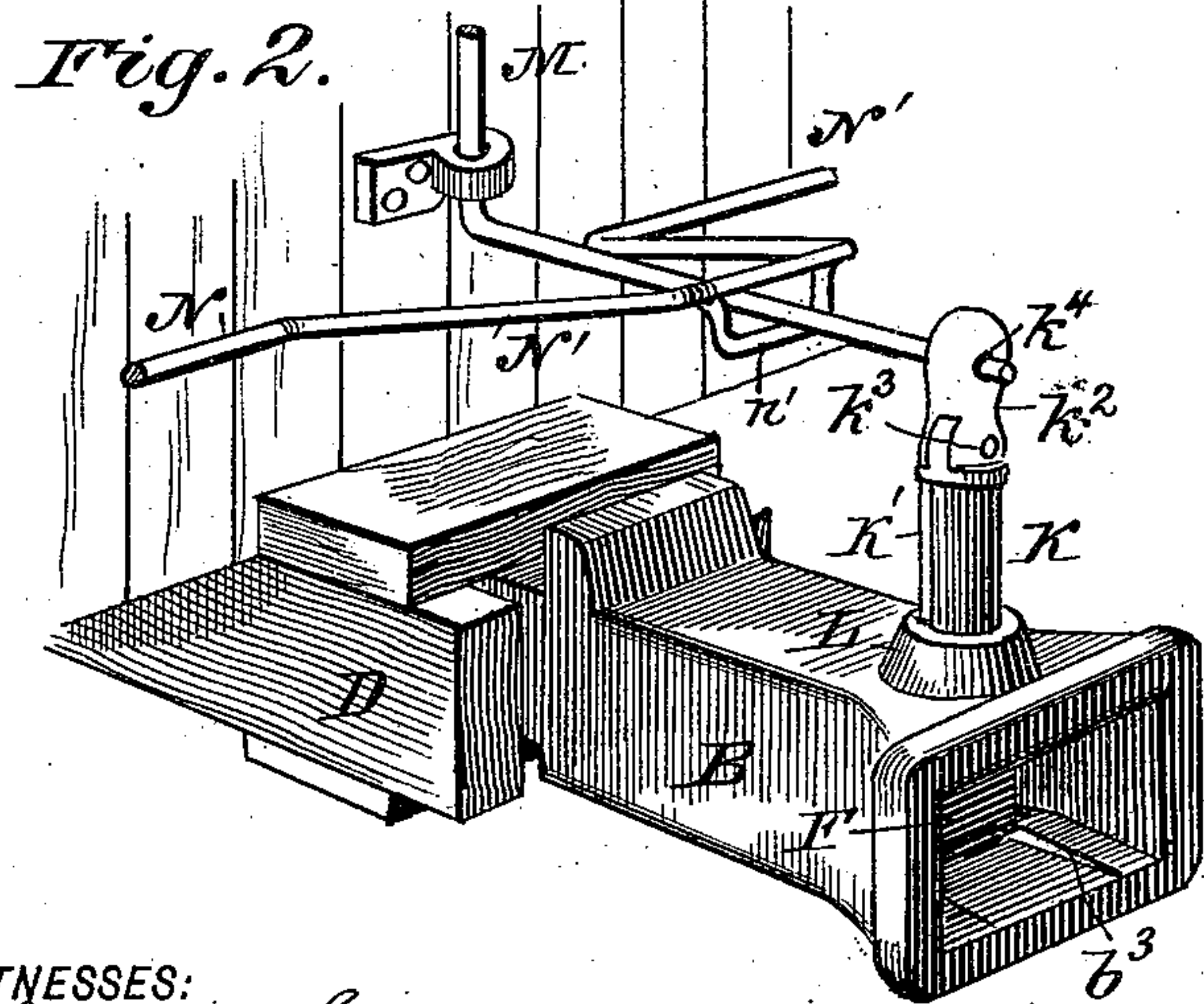
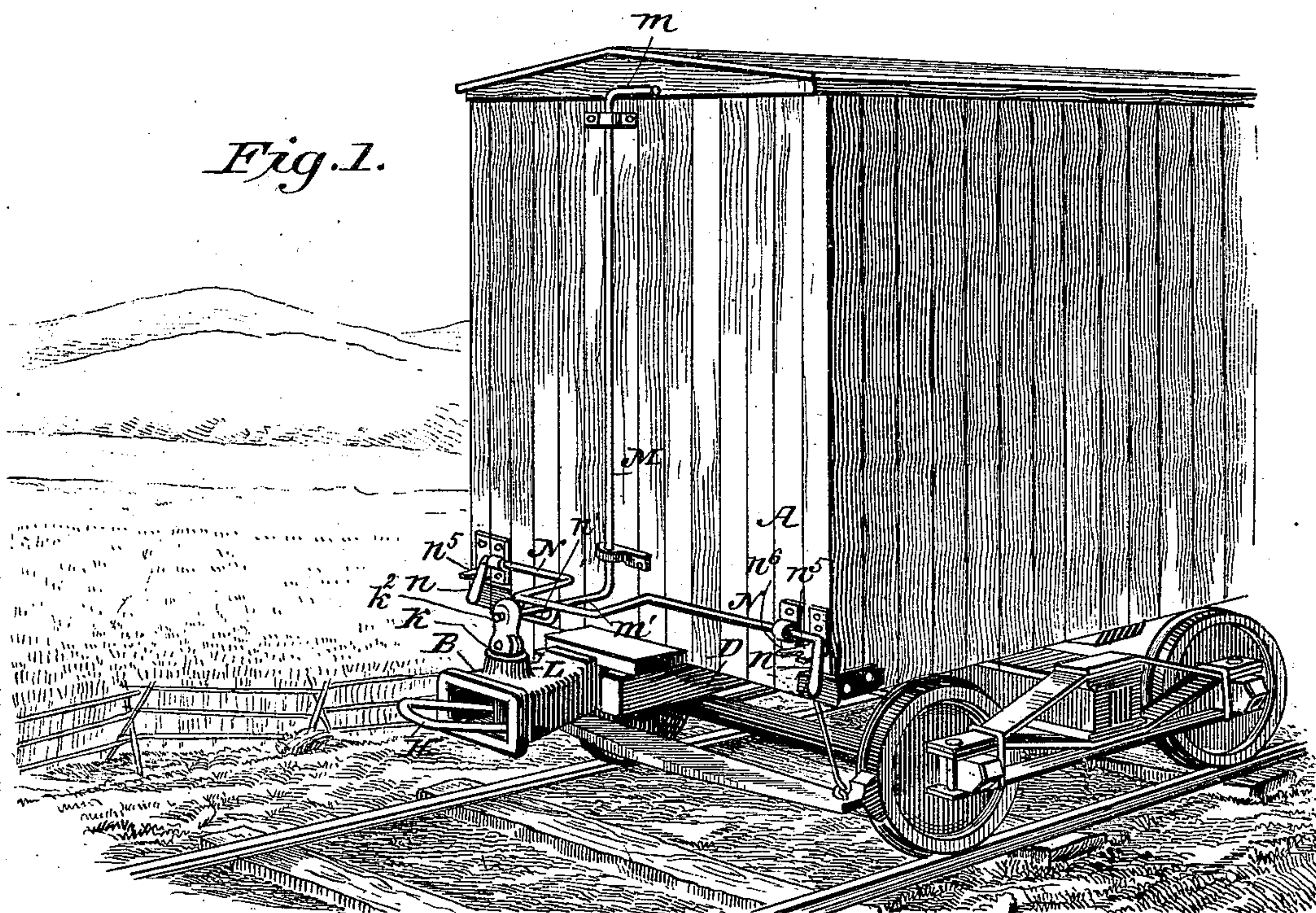
(No Model.)

2 Sheets—Sheet 1.

J. DAVIS.
CAR COUPLING.

No. 555,437.

Patented Feb. 25, 1896.



WITNESSES:
A. E. Dieterich
J. C. Lockett

INVENTOR
James Davis
BY
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ATTORNEYS

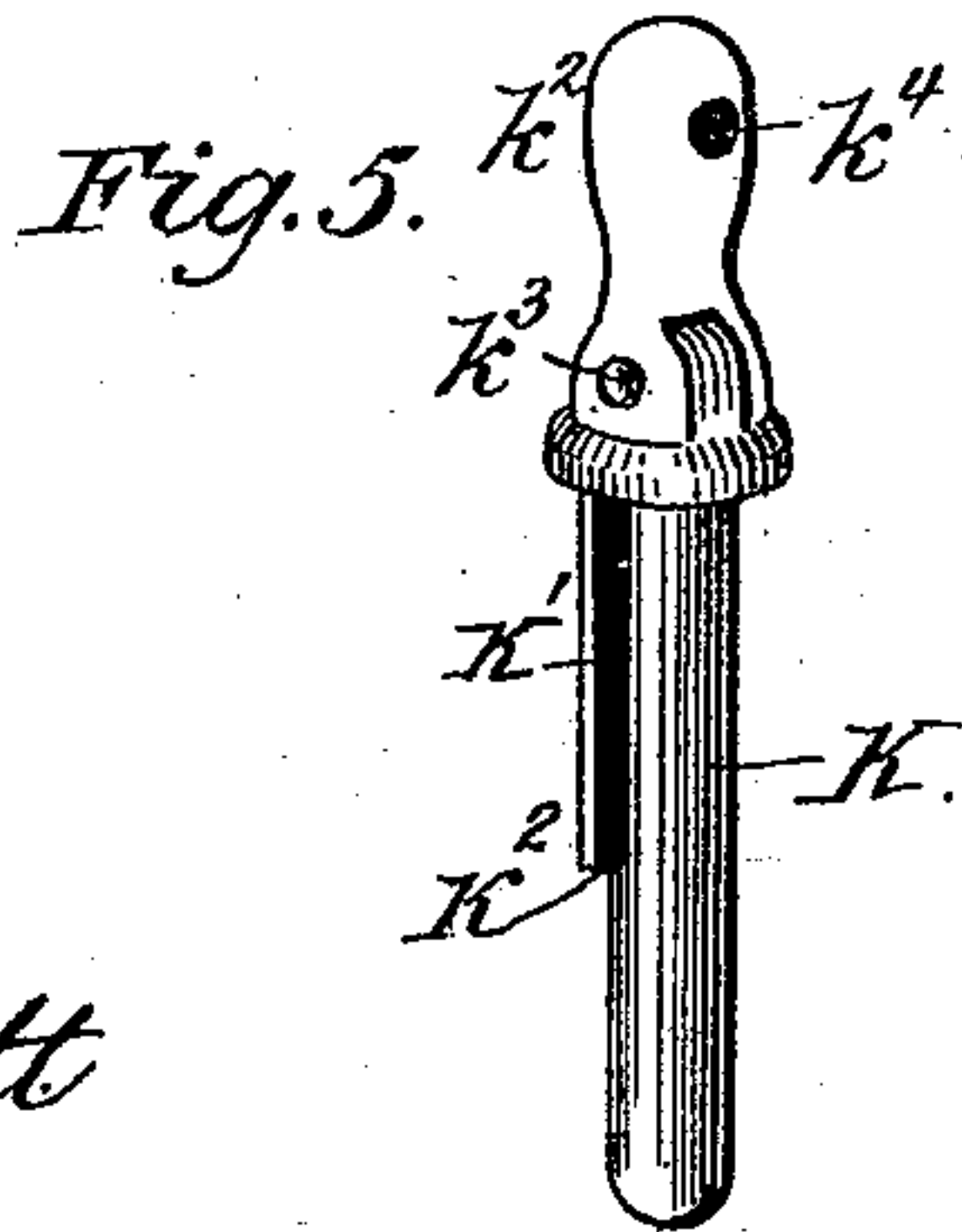
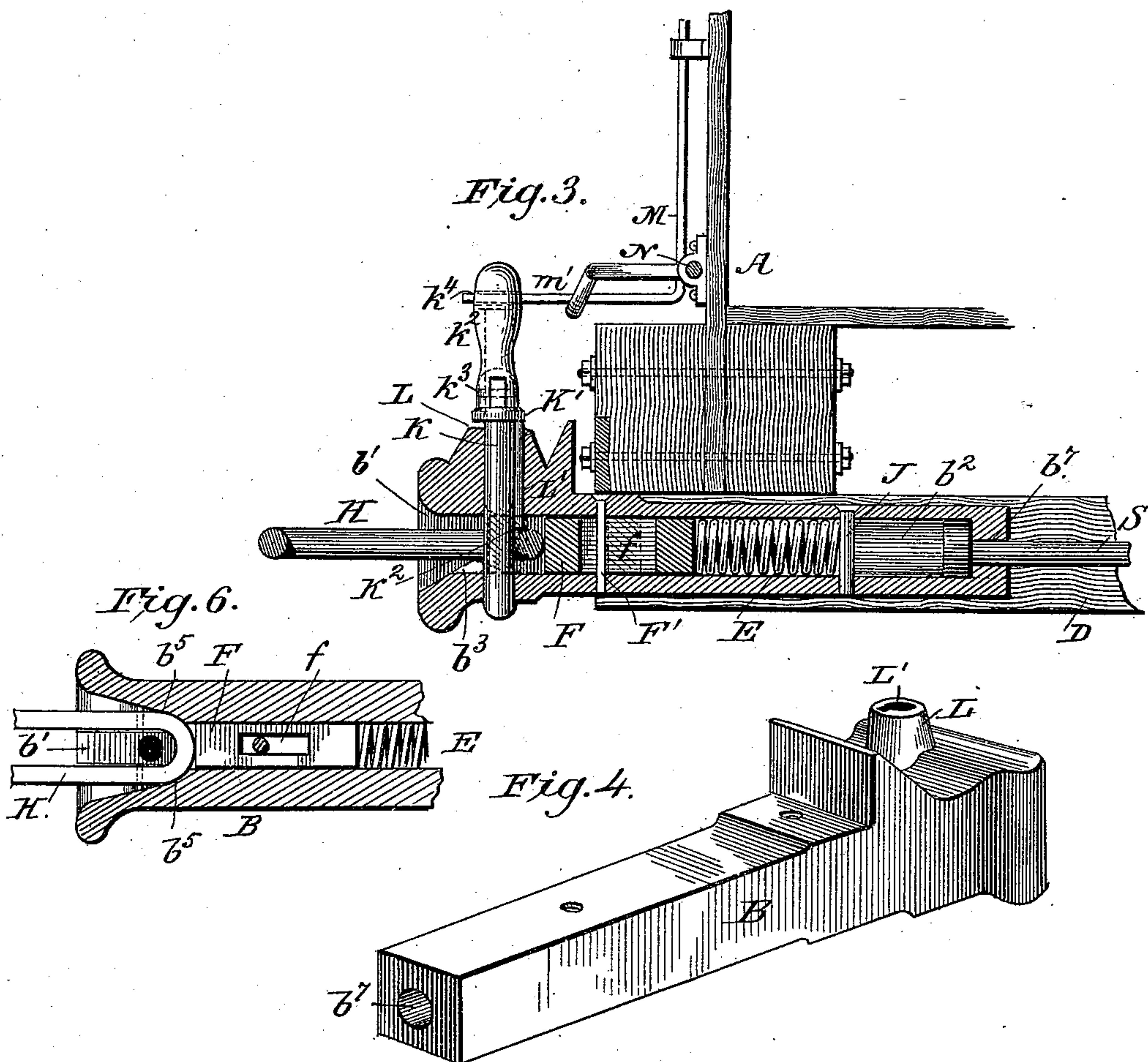
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WITNESSES:
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UNITED STATES PATENT OFFICE.

JAMES DAVIS, OF GREENVILLE, ASSIGNOR TO THE ALABAMA CAR AND EQUIPMENT COMPANY, OF MONTGOMERY, ALABAMA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 555,437, dated February 25, 1896.

Application filed June 19, 1895. Serial No. 553,374. (No model.)

To all whom it may concern:

Be it known that I, JAMES DAVIS, residing at Greenville, in the county of Butler and State of Alabama, have invented a new and Improved Automatic Car-Coupler, of which the following is a specification.

My invention relates to certain improvements in that class of car-couplers having uncoupling devices operated from the sides or top of the car; and it primarily has for its object to provide a coupler of this kind of a very simple and economical construction which will positively couple automatically with the opposing couplers of the same or different heights and in which the uncoupling devices are arranged so they can be quickly and conveniently manipulated.

Another object of my invention is to provide a peculiarly-constructed coupling-pin and uncoupling devices therefor so arranged that the said uncoupling devices will serve by their weight to press the pin down onto the link to hold it to its elevated or adjusted positions.

Another object of my invention is to provide coupling-pin-elevating devices therefor so connected with the pin that the pin can be readily removed from the draw-head without disconnecting the elevating mechanism.

With other objects in view, which will hereinafter be referred to, the invention consists in such peculiar and novel arrangement of parts, such as will be first described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the end of a railway-car with my improved coupling devices applied, the pin and the pin-lifting devices being shown to a coupled position. Fig. 2 is a detail perspective view showing the pin and the pin-elevating devices in their uncoupled position. Fig. 3 is a longitudinal section of my improved coupler, the pin being in a coupled position. Fig. 4 is a perspective view of the draw bar and head detached, and Fig. 5 is a perspective view of the coupling-pin. Fig. 6 is a detail horizontal section of the draw-head.

Referring to the accompanying drawings, in which same letters of reference represent

like parts in all the figures, A indicates the car-body, and B the draw-bar, which is practically of the ordinary shape, as will be seen by reference to Fig. 4, it being held in the longitudinal timbers D in the usual manner. The link-mortise b' of the said draw-bar terminates in the rear in a longitudinal recess b^2 , which extends the entire length of such bar, the end terminating in an aperture b^7 of a reduced diameter, through which passes the shank of the draw-bolt S, which in practice has the usual buffer-spring devices connected therewith. The base of the front end of the link-mortise b' has inclines b^3 , one at each side, which form ledges or pivot-points which form a fulcrum for the link H, whereby it can be adjusted so as to project at different heights to couple with opposing draw-heads of different heights. The upper face of the draw-head has a conical enlargement L, provided with the upper pin-aperture, l , the rear wall of which has a groove L' , as most clearly shown in Fig. 4.

K indicates the pin, which, as will be seen by reference to Figs. 3 and 5, has a projecting rib K' , which extends down on one side of the pin and terminates in a rest or shoulder K^2 , the purpose of which will presently appear.

To provide for a free and positive movement of the pin, I provide uncoupling devices adapted to be operated from the sides or top of the car, which will serve, when raised, to pull the pin in a direct vertical line and when dropped to press down on the pin and force the pin, through the medium of the rib K' and shoulder K^2 , to hold the link elevated. For this purpose I preferably employ devices like those shown most clearly in Figs. 1 and 2, by reference to which it will be seen such devices comprise a lift-rod M, held for vertical movement in the brackets on the end of the car and having a handle m disposed near the top of the car, and an outwardly-extending horizontal member m' , which connects with the pin and serves when elevated to uncouple such pin. As the said member m' is practically a rigid arm and as it is frequently necessary to use new pins, I form the pin in my construction of coupling devices with a pivotal eye member k^2 , which is connected to the coupling-pin by the pin k^3 , such eye portion

having an aperture k^4 to receive the end of the lift member m' . By this construction when it is desired to use a new pin it is only necessary to remove the pivot-pin k^3 and
 5 spring the arm m' a little to one side, which allows for ready pulling out of the coupling-pin. Furthermore, by providing a pivotal connection between the pin and the member m' a more free and easy movement of the pin
 10 is attained. The lift member m' is also adapted to be elevated from the sides of the car by means of a rock-shaft N journaled on the end of the car, which has crank-handles n n at the opposite ends, and a central forwardly-extending bail portion N' which has a loop member n' , as clearly shown in Figs. 1 and 2.

The handles n n of the rod N are so projected that when the pin is down to a coupled
 20 position they will project out at an angle, as shown in Fig. 1, to permit of a further rocking of the shaft to depress the pin, as will presently more fully appear.

To hold the side-uncoupling devices to
 25 their uncoupled position, I arrange the rock-shaft N so that it can be shifted in its bearings to bring one or both of its handles in line with brackets n^5 n^5 having seats or forks n^6 n^6 on which the said handles can be seated,
 30 it being obvious that when held on such brackets n^5 n^5 the uncoupling devices cannot be operated by any jar or jolting action of the car-body or draw-head.

F indicates a pin-rest in the nature of a
 35 spring-pressed plunger-block movable in the recess b^2 , the construction of which is best illustrated in Fig. 3, by reference to which it will be seen such plunger-block has an elongated vertical slot f , through which passes the
 40 retaining or stop bolt F' which limits the forward thrust of the said block.

E indicates the plunger-block spring, which bears at one end against the back end of such block and at the other it seats against a bolt
 45 J, passed transversely through the draw-bar near the rear ends, as shown.

The block F is normally pressed forward to project under the pin-aperture L' and forms a rest for the pin, as will be manifestly clear
 50 by reference to Fig. 3. (See dotted lines.)

To insure a positive coupling action the recess b^2 is made of considerably less width than the link-mortise proper, as shown clearly in Fig. 6, so as to provide a solid abutment b^5
 55 in the link-mortise, which receives the impact force of the link during the coupling ac-

tion and serves to protect the pin-rest block and spring E from too great a shock when the draw-heads come together.

The manner in which my improved coupling devices operate is best explained as follows: Assuming the coupling-pin to be in an uncoupled position—that is, elevated and resting on the plunger-block, as indicated by dotted lines in Fig. 3—and the shaft N held free
 65 to rock in its bearings, now as the link from the opposing draw-head enters the link-mortise b' it will force the pin-rest F back and free the pin, which then through its own weight and the weight of the uncoupling devices,
 70 which bear thereon, will fall through the link to a coupled position, with its shoulder K^2 resting on the inner end of the link, as shown in Fig. 2. To adjust the link so as to elevate it to couple with a draw-head having a higher
 75 mouth, it is only necessary to press down on either of the handle members n , which will cause the arm m' to apply additional pressure on the pin and thereby rock the link so as to project its front end to the height desired.
 80

From the foregoing description taken in connection with the drawings it is thought the advantages of my improved coupler will appear. It will be observed the draw-head is of a very simple and inexpensive construction
 85 and of such a nature that it can be applied to any of the styles of cars now in use.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—
 90

1. The combination with the draw-head and pin of the vertically-movable lift member, the rock-shaft, shiftable sidewise, said rock-shaft having a bail member, and a guide-loop on said bail, and the brackets having notches in
 95 which to lock the handles of the rock-shaft substantially as shown and described.

2. The combination with the draw-head, having a fulcrum-point for the link in advance of the pin-apertures, the link, and the
 100 pin K having a shoulder K^2 adapted to seat on the inner end of the link, of the vertically-movable lift member m' having a member extended to near the top of the car, the rock-shaft N, having a bail member N' , connected
 105 with the lift member m' and having handle members n , n , all arranged substantially as shown and described.

JAMES DAVIS.

Witnesses:

A. T. HINSEN,
 W. M. BLOUNT.