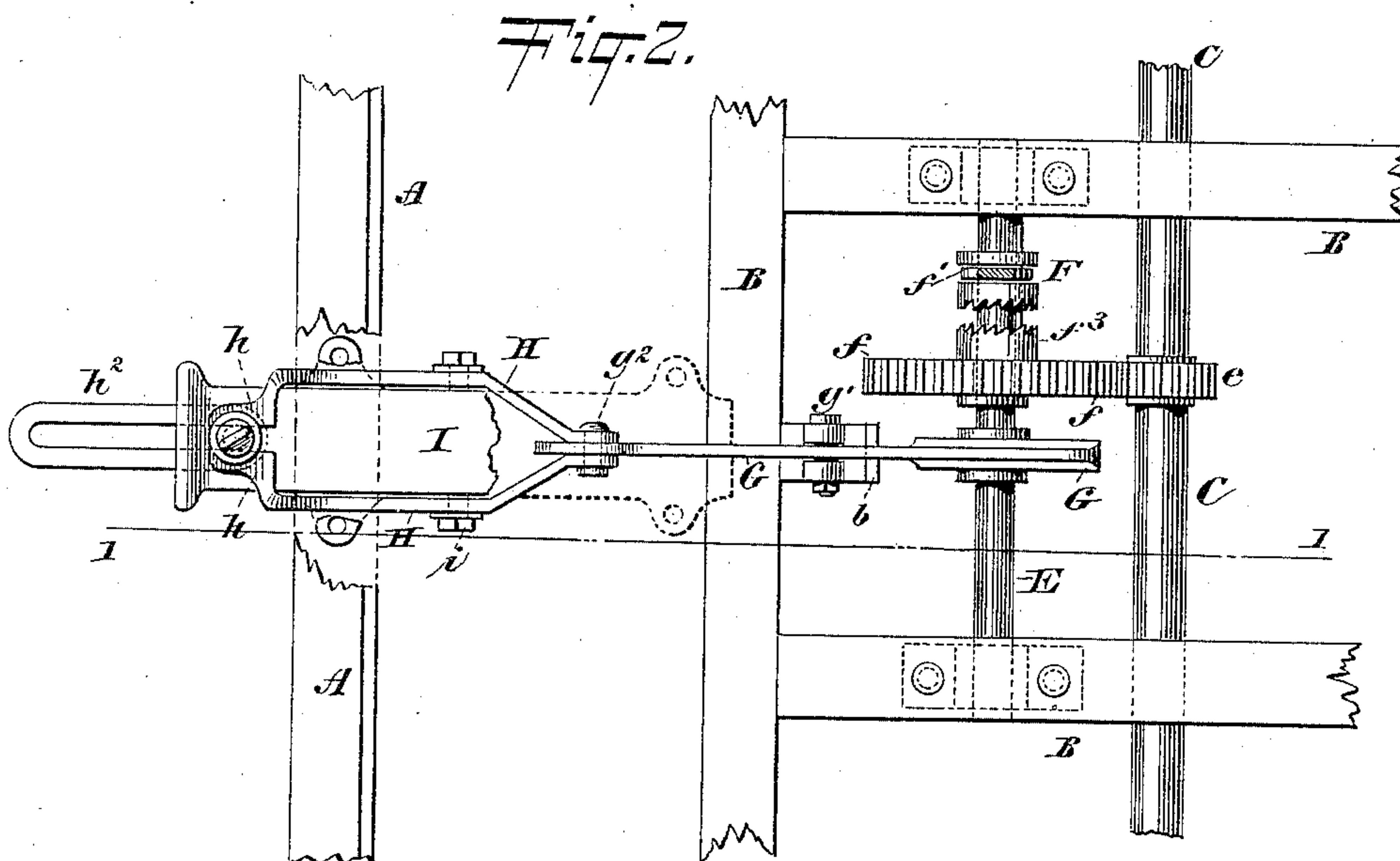
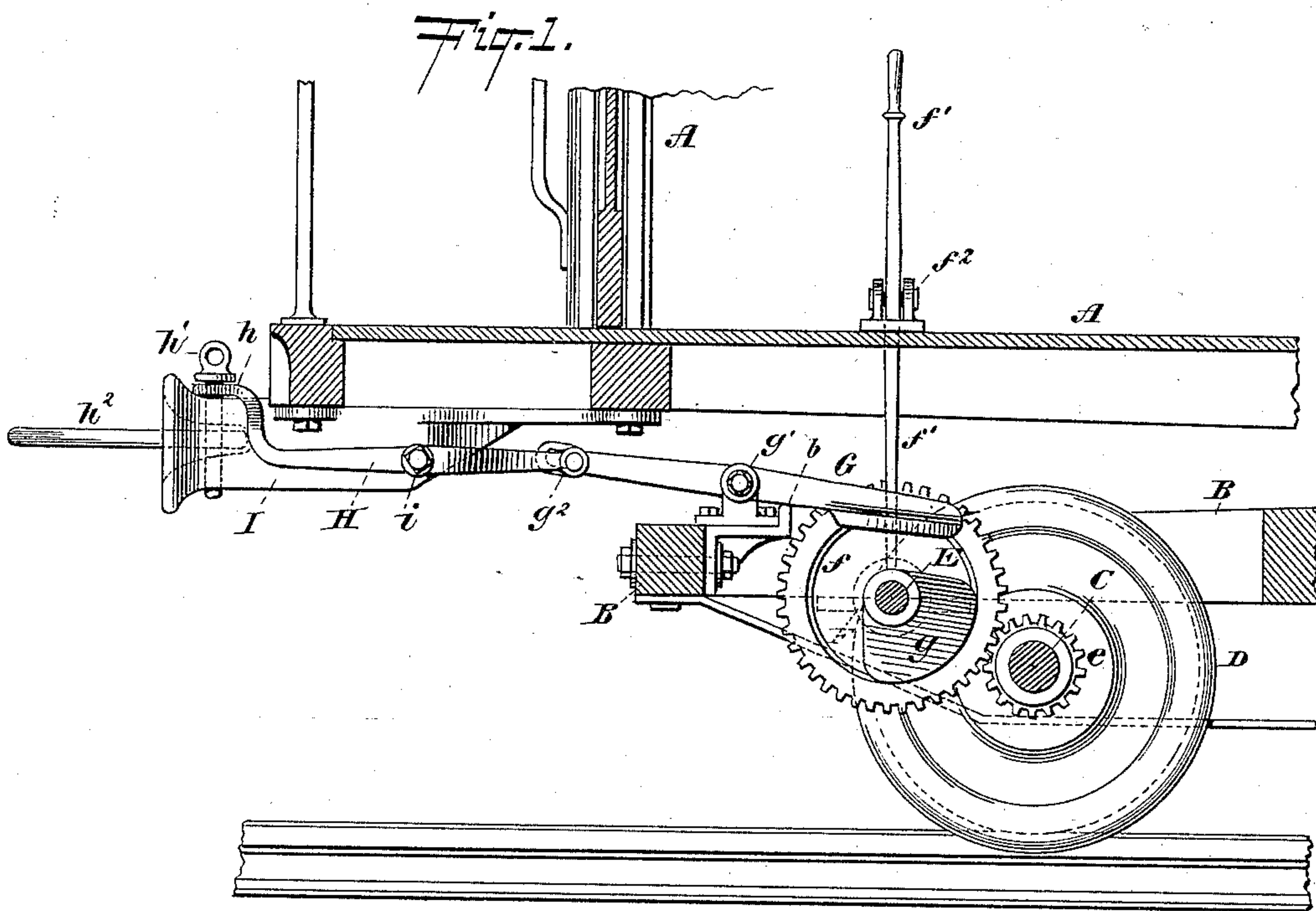


(No Model.)

S. B. WORTMANN.  
DEVICE FOR UNCOUPLING CARS.

No. 453,030.

Patented May 26, 1891.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SIGISMUND B. WORTMANN, OF NEW YORK, N. Y.

## DEVICE FOR UNCOUPLING CARS.

SPECIFICATION forming part of Letters Patent No. 453,030, dated May 26, 1891.

Application filed April 8, 1891. Serial No. 388,100. (No model.)

*To all whom it may concern:*

Be it known that I, SIGISMUND B. WORTMANN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Devices for Uncoupling Cars; 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 present invention relates to improvements in devices for lifting or uncoupling the pin of a railway-car coupling: and the object of the invention is to provide simple means for easily and safely lifting the pin from the top or side of a car to uncouple without requiring the attendant or brakeman to pass between the cars.

With these and other ends in view my invention consists in the combination, with a draw-head and a car-axle, of a shaft suitably supported below the car-body, a loose gear carried by said shaft and normally geared to said axle, a clutch keyed to the shaft and adapted to fasten the loose gear rigidly to said shaft, an operating-lever carrying a shoe adapted to be lifted by a cam or projection on the shaft, and a pin-lifting lever connected to the operating-lever and engaging with the pin of the draw-head to lift the latter from engagement with the link.

My invention further consists in the combination of devices and novel construction of parts hereinafter pointed out and claimed.

To enable others to more readily understand my invention, I have illustrated the same in the accompanying drawings, in which—

Figure 1 is a longitudinal section through an ordinary car-body, truck, and frame, with my improvements in side elevation, the section being taken on the vertical plane indicated by the dotted line 1 1 of Fig. 2. Fig. 2 is a plan view of the improvements with portions of the car body and truck broken away or omitted to more clearly show the operating mechanisms.

Like letters of reference denote corresponding parts in both figures of the drawings, referring to which—

A designates a portion of an ordinary car-body and platform; B, a portion of the front

or rear truck; C, one of the axles of the car suitably journaled in the truck, and D the wheel or wheels carried by the axle. At the end of the car, beneath the platform, is the usual draw-head I, which carries the gravity-pin  $h'$  and is adapted to receive the link  $h^2$ . All of these parts are of the ordinary or any preferred construction familiar to those skilled in the art to which the present invention relates; and I do not restrict myself to this particular form of car and draw-head coupling, but hold myself at liberty to apply the improvements to any kind of car and draw-head which may be deemed expedient or desirable.

In carrying my invention into practice I provide a shaft E, which is journaled in suitable bearings on the truck B, and this shaft carries a loose gear-wheel  $f$ , a cam  $g$ , and a sliding clutch F, which parts are suitably spaced or arranged between the clutch F and the cam or projection  $g$ .

On the axle C, I provide a gear wheel or pinion  $e$ , which is rigidly fastened or secured to the axle, and with this pinion or gear  $e$  meshes the loose gear-wheel  $f$ , which is normally rotated or turned by the gear-pinion  $e$ ; but the shaft E is not rotated by the gears  $e$  until the latter gear  $f$  is engaged with the clutch F. The loose gear-wheel  $f$  is provided with a serrated or toothed hub  $f^3$ , which projects laterally from the same toward the clutch F, and the latter (the clutch) is likewise provided with serrations or teeth, which adapt the clutch to be engaged with the loose gear. The clutch F is rigid with or fastened to the shaft E by a key, spline, or feather, and it is further provided with an annular groove, in which groove fits the bifurcation or forked lower end of a lever  $f'$ , which projects above the platform, or it may extend above the platform to the roof of a car, or it may extend to one side of the car, as may be preferred, to enable the attendant to operate the clutch either from the top of the car, the platform, or the side of the car, and thus obviate the danger of passing between the cars to lift the pin  $h'$  by hand.

On the draw-head or coupling I is pivoted a pin-lifting lever H, which is peculiarly constructed to engage with the pin  $h'$ , and this lever H is operated from the cam  $g$  through



the medium of the operating-lever G, the levers G H extending from the truck B to the draw-head. The lever G is fulcrumed at an intermediate point of its length to the truck-frame, as indicated at  $g'$ , and the rear end of this lever G carries a shoe arranged in the path of the cam or projection  $g$  on the shaft E, the shoe being preferably arranged above the projection or cam, as shown in Fig. 1.

10 The pin-lifting lever is bifurcated or composed of two parts, so as to embrace or straddle the draw-head at  $z$ . The forward end of the pin-lifting lever is bent upward and inward to form the pin-supports  $h$ , which take

15 beneath a shoulder or head on the gravity-pin  $h$ . The rear end of the lever H is connected to the forward end of the operating-lever G by a pin-and-slot connection  $g^2$ . (See Fig. 1.)

20 This being the construction of my improved pin-lifting device for car-couplers, the operation is as follows: The loose gear-wheel  $f$  being free from engagement with the clutch F, it turns freely on the shaft E by reason of its

25 engagement with the rigid spur-wheel  $e$  on the axle; but the shaft F does not turn. Hence the cam or projection  $g$  remains out of contact with the shoe on the operating-lever G, and the pin  $h'$  is lowered to engage the link fitted

30 in the draw-head. To lift the pin  $h'$  and thus uncouple the cars, the attendant has only to shift or move the lever  $f'$ , which operates to throw the clutch F into engagement with the loose gear-wheel, thus making the gear  $f$  rigid

35 with the shaft E and causing the latter to be rotated by motion imparted thereto direct from the axle C. As the shaft E is turned, the cam or projection  $g$  strikes the shoe of the lever G, which has its front end depressed

40 and operates upon the lever H to lift the forward end of said lever H, thus raising the pin-support  $h$  and elevating the pin  $h'$  out of engagement with the link in the draw-head. The operator can shift the lever at the de-

45 sired moment to lift the pin and is enabled to uncouple the cars with entire safety, as he is not compelled to go between the cars.

Changes in the form and proportion of parts and details of construction of the mechanism herein shown and described as an em-

50 bodiment of my invention can be made without departing from the principle or sacrificing the advantages thereof, and I therefore reserve the right to make such modification as falls

55 within the scope of my invention.

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

1. The combination, with a draw-head and an axle, of a shaft having a loose gear-wheel 60 geared to said axle, a clutch carried by said shaft and adapted to engage the gear-wheel, a pin-lifting device, and mechanism operated by the shaft to operate the pin-lifting device, substantially as described. 65

2. The combination, with a draw-head and an axle, of a shaft carrying a cam or projection, a pin-lifting lever, and an operating-lever adapted to be operated by the cam or projection to lift the pin-support, substan- 70 tially as described.

3. The combination, with a draw-head, of a pivoted pin-support engaging the pin in said draw-head, a shaft having a cam or projection thereon, and a lever connected to the pin- 75 support and arranged within the path of said cam or projection, substantially as described.

4. The combination, with a draw-head, of a pivoted pin-support fitted to the pin, a shaft having a cam, a lever connected to the pin- 80 support and adapted to be operated by the cam, and mechanism for clutching the shaft to one of the axles of the car, substantially as described.

5. The combination, with a draw-head, of a 85 pivoted pin-support fitted to the pin, a shaft having a cam, a lever connected to the pin-support and having a shoe arranged in the path of the cam, a gear-wheel loose on the shaft and geared to an axle, and a clutch, also 90 carried by the shaft, substantially as described.

6. The combination, with a draw-head, of a pin-lifting lever H, pivoted to the draw-head and having the supports  $h$  engaging with the 95 pin, a shaft having the cam or projection, the lever G, connected to the lever H and having a shoe in the path of the cam, a gear  $e$ , rigid with an axle, another gear loosely fitted on the shaft to mesh with the gear  $e$  and having 100 the serrated hub, and the clutch keyed to the shaft and adapted to be shifted by a hand-lever to engage the loose gear on said shaft, substantially as described.

In testimony whereof I affix my signature in 105 presence of two witnesses.

SIGISMUND B. WORTMANN.

Witnesses:

HENRY E. COOPER,  
H. I. BERNHARD.