

(No Model.)

J. C. MITCHELL.

CAR COUPLING.

No. 285,145.

Patented Sept. 18, 1883.

Fig. 1.

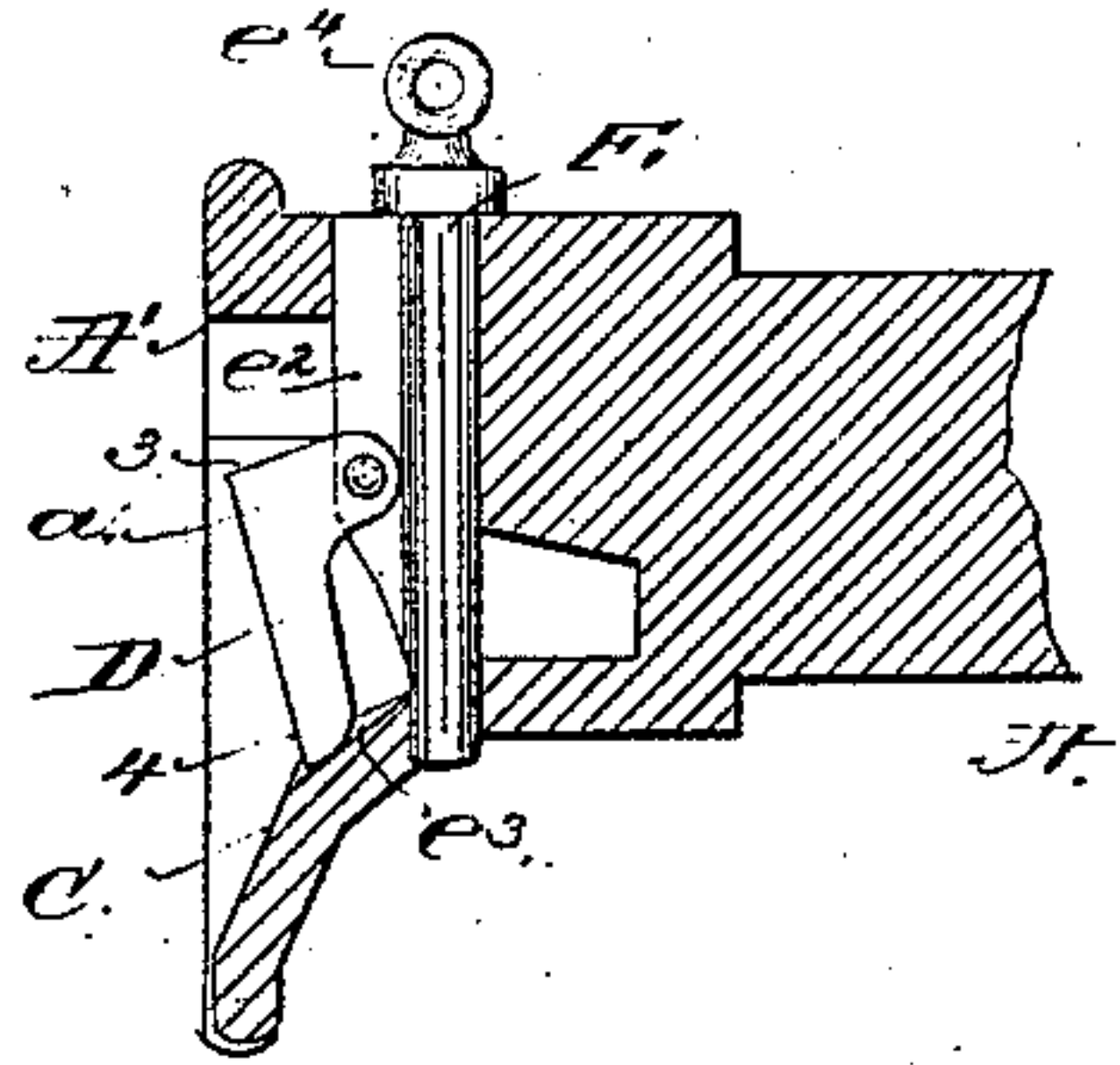


Fig. 2.

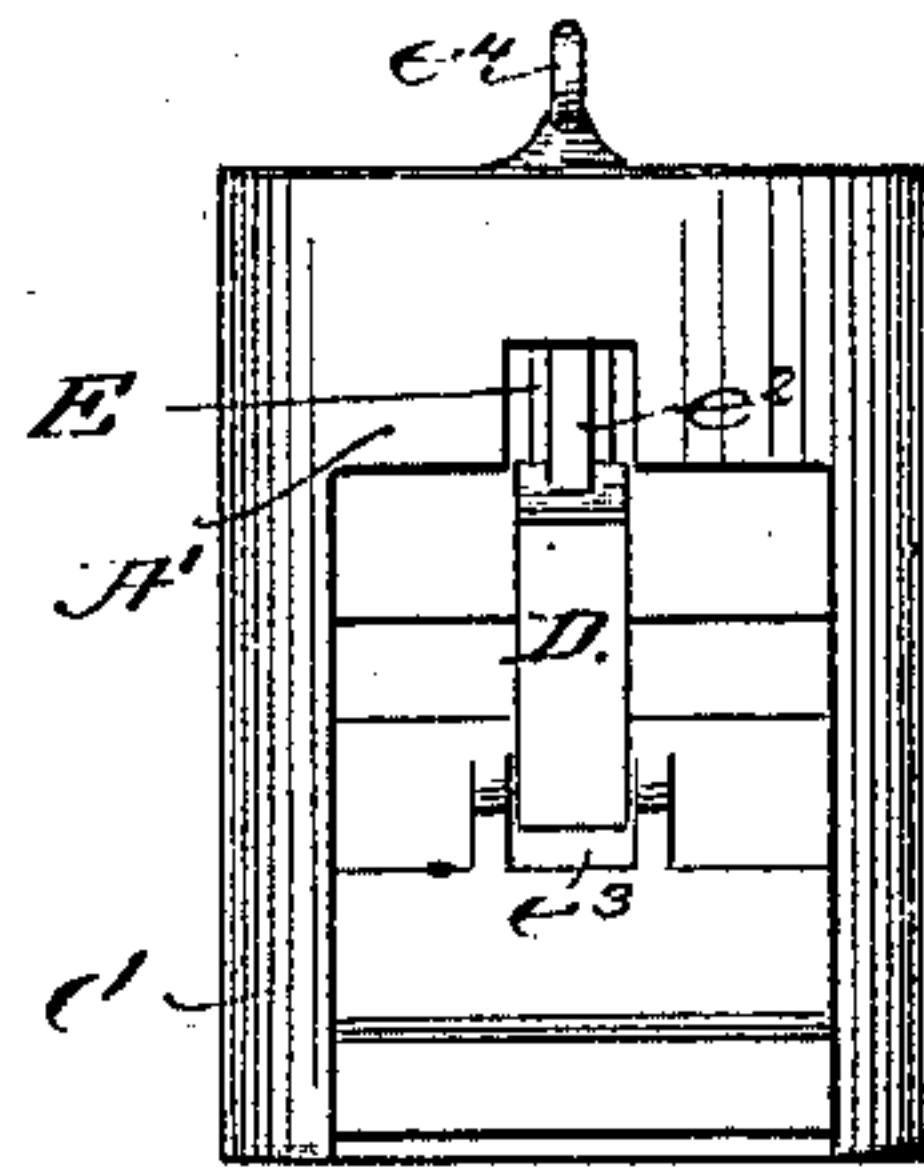
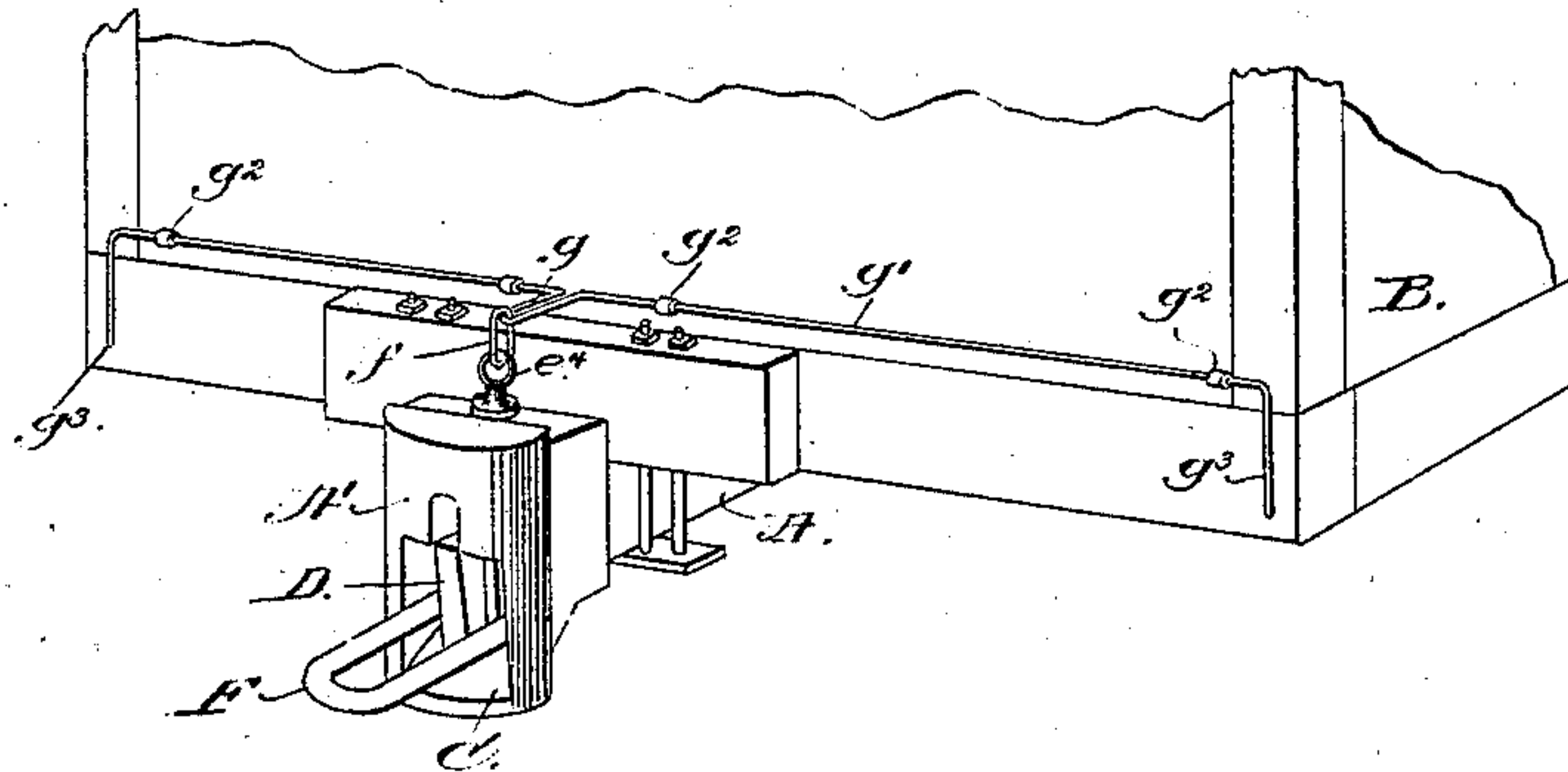


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES C. MITCHELL, OF LANCASTER, N. H., ASSIGNOR OF TWO-THIRDS TO
JAMES A. SMITH AND ALDEN R. TINKHAM, BOTH OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 285,145, dated September 18, 1883.

Application filed June 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. MITCHELL, of Lancaster, county of Coos, State of New Hampshire, have invented an Improvement in Car-Couplings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention is an improvement on United States Letters Patent No. 259,647, granted to me June 13, 1882, and has for its object to simplify the construction of the same and increase the strength and durability of the parts.

In this invention the web or spline is arranged at the front side of the link-pin, instead of at the rear side thereof, as in the said patent, and is extended down along the said pin to a point opposite which the link acts on the said pin, thereby enabling the said web or spline to receive and resist a large part of the strain exerted by the link on the link-pin when the train is being moved, which is not the case when the web or spline is at the rear side of the link-pin, and the strain exerted on the latter is from the rear toward the front side of the said pin. In my present invention I have changed the shape of the elevating-pawl, making it shorter and lighter, and have pivoted it upon the web or spline referred to, instead of upon a small lug at the front side of the link-pin. I have also devised a simple form of rock-shaft by which to operate the link-pin by hand.

Figure 1 is a vertical central longitudinal section taken through the head of a draw-bar embodying my invention, the link-pin and elevating-pawl being in elevation; Fig. 2, a front elevation of the head of a draw-bar, showing my improved link-pin and elevating-pawl; and Fig. 3 is a perspective view, showing one of my improved car-couplings and operative parts as attached to a railway-car.

The draw-bar A, applied in suitable guides under the car-body B, has a head, A', provided with an upwardly-inclined floor or plane, C, against which, as in the said patent, the entering end of the link F rides as the latter is being pushed into the draw-head to be entered by the link-pin, as in the said patent.

The head A' is provided with a suitable hole to receive the link-pin E, of usual size, but

provided at its front side with a web or spline, e^2 . The web or spline e^2 , besides preventing the rotation of the link-pin, also, by its arrangement at the front of the said pin, (the pulling strain therein when starting a car and drawing the same being outward toward the open head of the draw-bar,) acts to so stiffen and strengthen the pin that the latter cannot be bent or broken, as is apt to be the case with a link-pin having the web or spline at its rear side. This web or spline also serves to receive the pivot a , which holds the upper end of the pin-elevating pawl D, the face of which is inclined, as shown at Fig. 1, and the lower end of which is shown as placed in a shallow groove, e^3 , in the head A', so that the said pawl cannot be struck and moved laterally with relation to the width of the draw-head. This groove e^3 is made shallow as it approaches and vanishes at the hole which receives the lower end of the link-pin, as is the case when the end of the link F strikes the inclined front edge of the elevating-pawl D, and, acting thereon, effects the lifting of the said pawl and the link-pin with which it is connected, for the passage under both of them of the said link, the link-pin thereafter dropping by its own gravity into the said link.

The eye at the upper end of the link-pin receives a short link, f , that is joined with the arm g of a rock-shaft, g' , supported in suitable bearings, g^2 , and having other arms, g^3 , which, engaged by the operator, may be used to turn the said rock-shaft and lift the link-pin.

By shortening the elevating-pawl and bringing its inclined front face nearer the center line of the link-pin than in the said patent, I am enabled to secure a more direct lift of the said pin, thereby reducing strain thereon when the latter is being lifted by the link F. The upper corner, 3, of the pawl D, close to the pivot a , is most remote from the center of the link-pin, and the front of the said pawl is inclined downward and backward from the corner 3 to the extreme end 4 of the said pawl, as in Fig. 1, and the link D, when it strikes the said pawl, is compelled to move it backward with its lower end substantially in contact with the link-pin before the link can possibly pass under the said pawl, the link-pin and pawl thus moving upward in unison, whereas with

a pawl shaped as shown in the said patent the link might lift and pass under it if the other end of the pawl were not held down or the pawl were not made very heavy.

5 I do not broadly claim a link-pin provided with a web or spline, as I am aware that a link-pin has been provided at its rear side with a web; but in no case has the said web extended along the said pin, so as to stiffen it
10 immediately at the point of contact of the link with the said pin. If the web were placed at the rear side of the pin and extended sufficiently low for the link to come against it, then the web would be easily broken out; but
15 by placing the web at the front side, the link does not act directly upon it; hence the location of the web at the front side of the pin is a matter of importance.

I do not broadly claim a crank-shaft for
20 lifting the link-pin, as such a device is common in numerous car-couplings.

I claim—

1. The draw-bar having the head and the link-pin, combined with the elevating-pawl,
25 pivoted at its upper end upon the link-pin, and resting at its lower end upon the inclined plane of the head, the said pawl having its face inclined downward and backward from the corner 3 to its lower end, whereby the link,
30 when striking the inclined face of the pawl, is

prevented from passing under the pawl without also lifting the link-pin in unison with it, substantially as described.

2. The draw-bar, its head, and a lifting-pawl adapted to lift the link-pin, combined
35 with a link-pin provided at its front side with a web or spline to a point opposite where the link bears against the said pin, as shown, to strengthen the same in the direction of the greatest strain thereon, substantially as de-
40 scribed.

3. The draw-bar, its head provided with the groove *e*², and the link-pin, combined with the elevating-pawl, to operate, all substantially as
45 described.

4. The draw-bar, its head provided with the inclined plane, and the link-pin, provided with a spline at its front side and extended thereon to a point opposite where the link
50 meets the link-pin, and the elevating-pawl D, pivoted upon the said pin, combined with the rock-shaft, having arms *g g*³, by which to lift the said pin, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two sub-
55 scribing witnesses.

JAMES C. MITCHELL.

Witnesses:

F. D. HUTCHINS,
PORTUS L. LOCKE.