(No Model.) 2 Sheets—Sheet 1.

T. DAVIES.

CAR COUPLING.

No. 353,208. Patented Nov. 23, 1886.

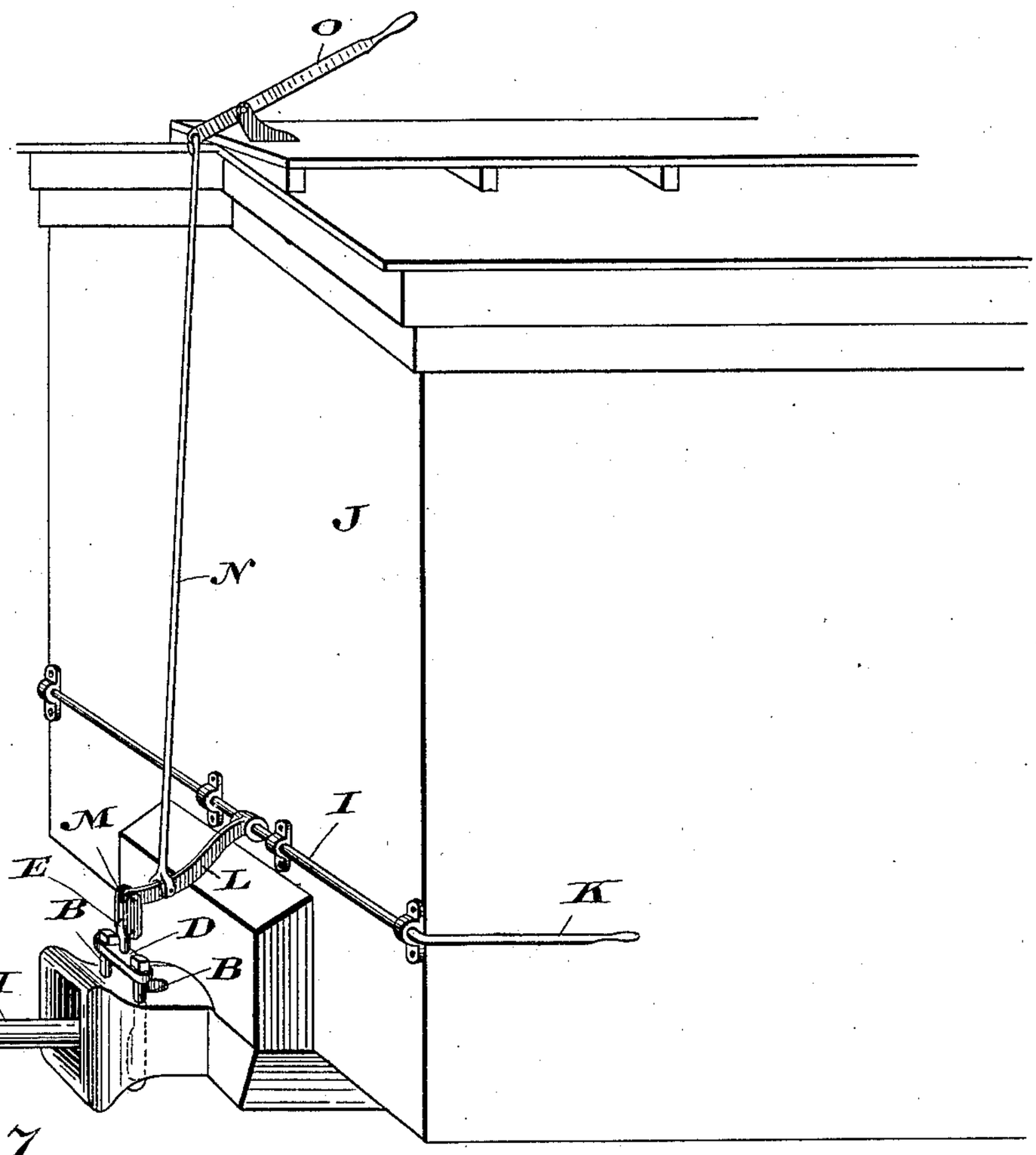

Fig. 1.

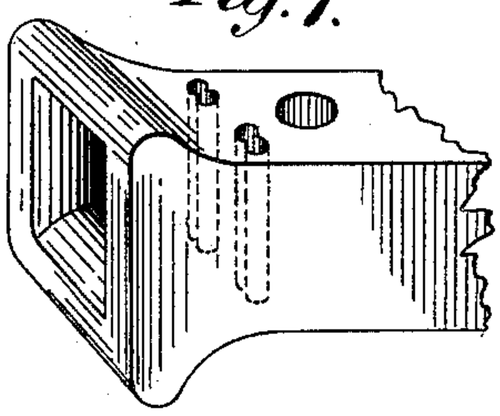

Fig. 7.

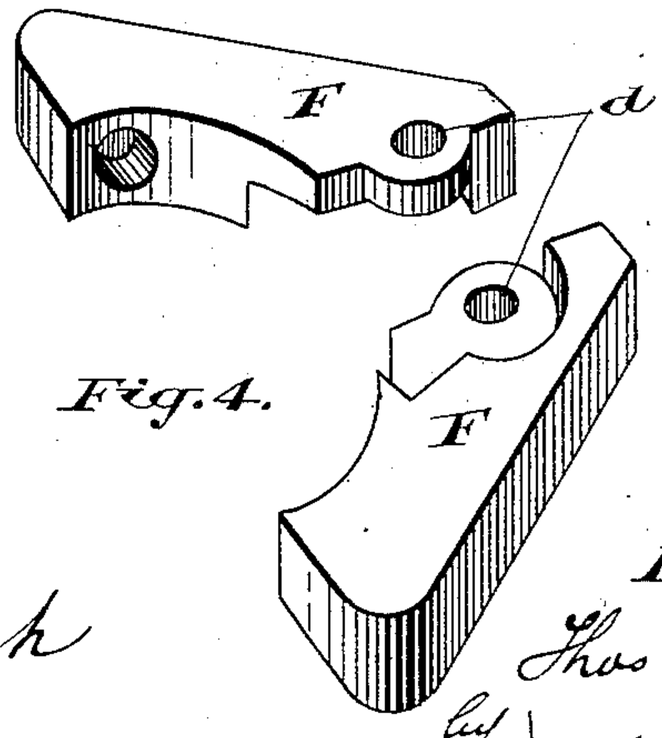

Fig. 4.

Witnesses.
F. B. Fetherstonhaugh
James L. Mayhew

Inventor.
Thos Davies
by Donald C. Ridout & Co
Attys

(No Model.) 2 Sheets—Sheet 2.

T. DAVIES.

CAR COUPLING.

No. 353,208. Patented Nov. 23, 1886.

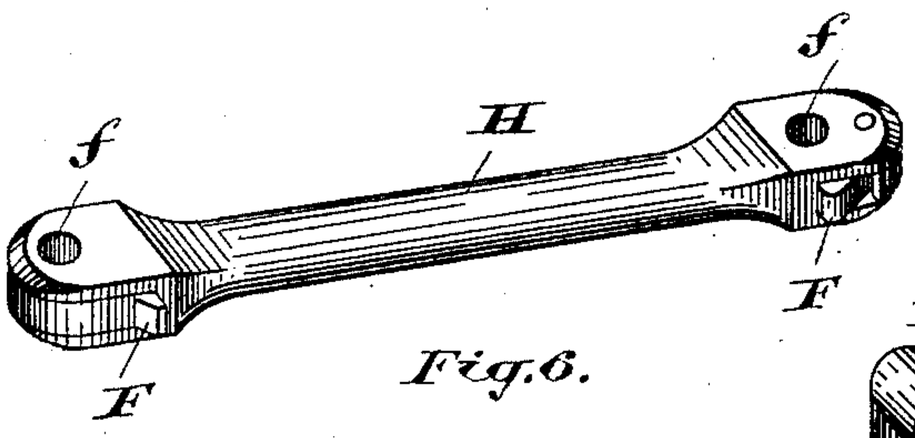

Fig. 6.

Fig. 2.

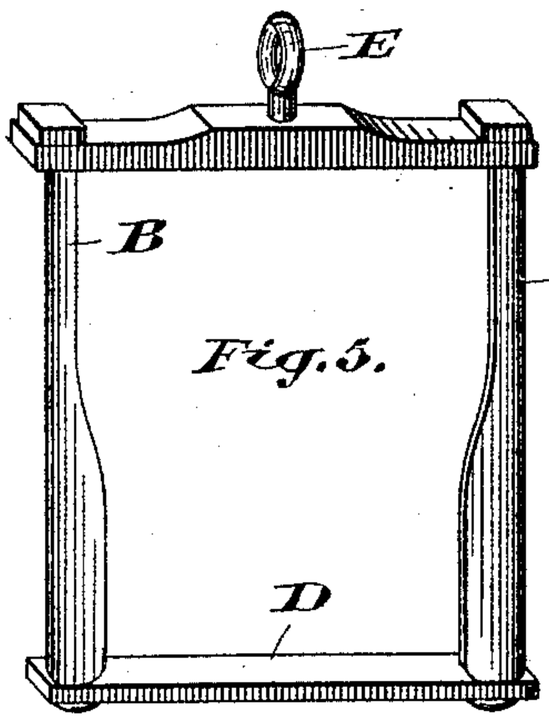

Fig. 5.

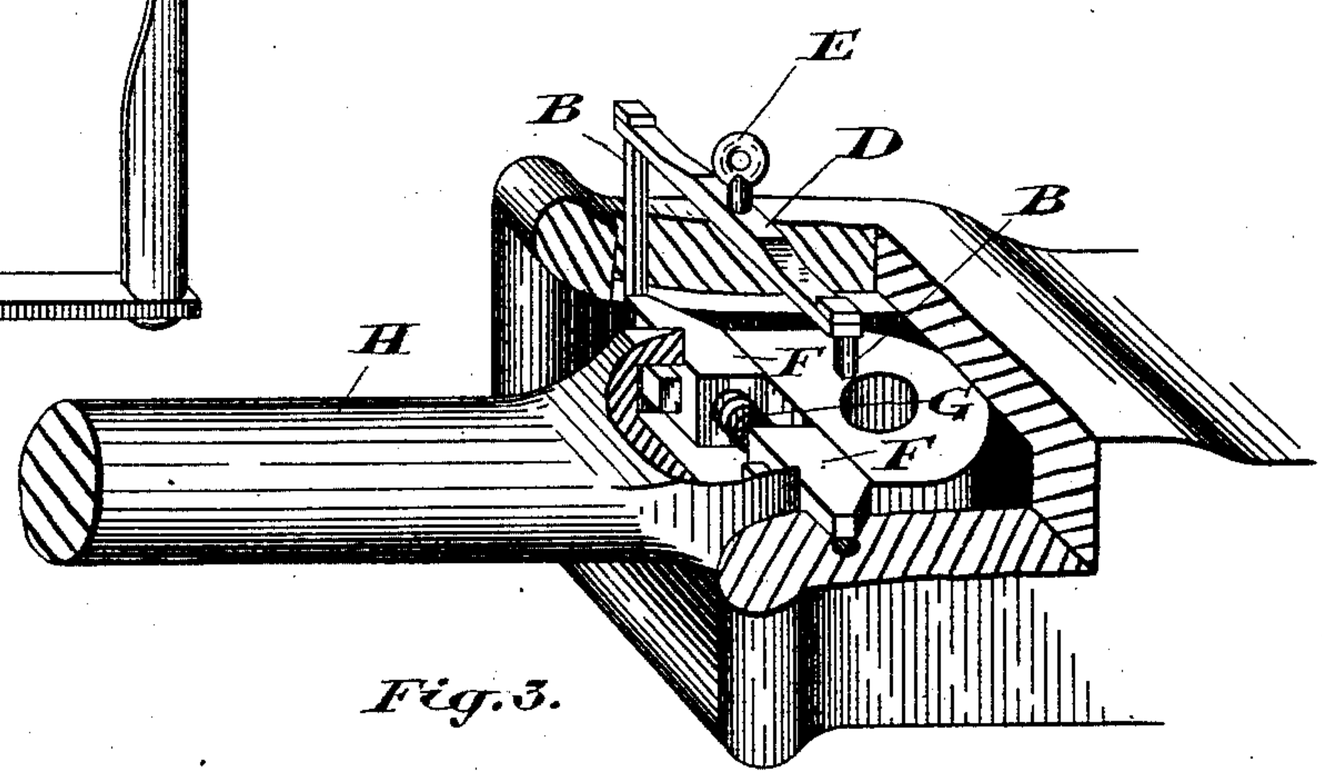

Fig. 3.

Witnesses.

F. B. Fethurstonhaugh

James. E. Maybee

Inventor.

Thos Davies

by Donald. C. Ridout & Co

Attys

UNITED STATES PATENT OFFICE.

THOMAS DAVIES, OF TORONTO, ONTARIO, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 353,208, dated November 23, 1886.

Application filed April 22, 1886. Serial No. 199,796. (No model.)

To all whom it may concern:

Be it known that I, THOMAS DAVIES, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, brewer, have invented an Improved Self-Acting Car-Coupler, of which the following is a specification.

The object of the invention is to design a simple and effective self-acting car-coupler easily applied to an ordinary draw-head, so that the common coupling-pin may be used in connection with or independent of my automatic attachment; and it consists, essentially, of a coupling-bar having a spring-latch at each end designed to engage with notches formed within the draw-head, bars in the draw-head being provided for the purpose of releasing the latch, substantially as and for the purpose hereinafter more particularly explained.

Figure 1 is a perspective end view showing my improved self-acting car-coupler applied to an ordinary box-car. Fig. 2 is an enlarged detail, partially in section, showing a draw-head provided with one form of latch. Fig. 3 is a similar view showing another form of latch. Fig. 4 is a detail of the form of latch shown in Fig. 2. Fig. 5 is a detail of the bar for releasing the latch. Fig. 6 is a detail of my coupling-bar, showing a different form of latch at each end. Fig. 7 represents an ordinary draw-head, showing holes bored in it to receive the releasing-bars.

In the drawings like letters of reference indicate corresponding parts in each figure; but before specifically pointing out the elements involved in my invention I may first explain that I am aware that many inventors have endeavored to devise a self-acting car-coupler applicable to existing forms of draw-heads; but in all of the devices I have personally examined they have either been defective and inoperative through faulty design or they have been so complicated as to render their introduction practically impossible.

In designing my invention I have sought to arrange the parts in the simplest manner possible, and at the same time to make so little change in the draw-head that the ordinary coupling pin and link may be used.

Although, as I have stated, the letters of reference indicating corresponding parts in each figure are the same, it will facilitate matters if I commence my description by referring to the specific figures, and I therefore draw attention first to Fig. 2. In this figure, A represents the draw-head, which may be made in substantially the ordinary way, except that a vertical notch, *a*, on each side of its interior is formed. Behind each of these notches, and extending entirely through the draw-head A, I make a hole, *b*, to receive the bars B. (Shown in detail in Fig. 5.) These bars B are connected at their bottom ends by a plate, C, and by a plate, D, at their upper ends, which plate is provided with an eye, E, or its equivalent, for the purpose hereinafter explained.

F are two wings, formed as shown in Fig. 4, and jointed together, as therein indicated, by a bolt passing through the hole *d*.

G is a spiral spring placed between the wings E, so as to force them outwardly. The form of joint between them, as indicated in Figs. 2 and 4, prevents the spring G from throwing them apart farther than is necessary to make them act as a spring-latch, which they constitute, as indicated in Fig. 2, where they are shown attached to the end of the coupling-bar H, which, supposing its other end is carried in a draw-head of another car, will, when its car is brought toward the next car, enter the latter's draw-head. The spring-catch formed by the wings F compresses, so as to enter the draw-head, until they reach the notches *a*, when, by the action of the spring G, they enter the said notches and securely hold the bar H within the draw-head, as shown, and they will remain securely connected until the bars B are raised, so that their enlarged beveled edges *e* come in contact with the wings F and push them out of the notches *a*, thereby permitting the coupling-bar H to be withdrawn, when the bars B are permitted to drop down into their initial position.

In Fig. 3 I show an equivalent form of latch. In this figure the wings F are not pivoted as in Fig. 2, but are simply placed in grooves made in the head of the bar H, and are held apart by the spring G.

In Fig. 6 the bar H is shown with one end having a latch like that shown in Fig. 2, and its other end with a latch like that shown in Fig. 3. I do not intend that each bar will be made with two kinds of latches, as indicated; but I merely show the two forms to explain

that both forms are embraced in the one invention.

In Fig. 1 I show a simple form of raising the bars B for the purpose of releasing the coupling-bar H. In the arrangement shown in this figure a horizontal bar, I, is suitably journaled on the end of the car J, and has a crank-handle, K, at each end. An arm, L, is fastened to the bar I, and is connected to the eye E by means of a link, M. Thus, by pressing on either of the crank-handles K, the bars B may be raised, so as to release the coupling-bar H, as before described, and this is accomplished without the necessity of going between the cars.

With the view of enabling the uncoupling to be effected from the roof of the car, I connect the arm L by the rod N to the lever O, pivoted on the top of the car. It will thus be seen that the uncoupling of my automatic car-coupler may be effected either from the roof or the side of the car.

On reference to Fig. 6 it will be seen that each end of the coupling-bar H has a hole, *f*, through it, which hole is intended to receive the ordinary coupling-pin should it be desired to use one in addition to the latch described.

As the hole through the draw-head to the coupling-pin employed in it will be the same as is now commonly used, it will be seen that my draw-head may be used either in connection with my automatic attachment or with an ordinary coupling link and pin.

It will be understood that the coupling-bar H may be bent for the purpose of enabling two cars of unequal height to be coupled, and this may be effected without hurting the working of the end, which may be reversed, if necessary.

Fig. 7 suggests the facility with which an ordinary draw-head may be altered for my invention, it being merely necessary to bore two holes and cut two notches on the inside of the head.

What I claim as my invention is—

1. The coupling-bar H, having wings F applied to its end or ends and actuated by a spring, G, in combination with the bars B, having beveled edges *e*, and fitted into holes *b* behind the notches *a*, substantially as and for the purpose specified.

2. The coupling-bar H, having wings F applied to its end or ends and actuated by a spring, G, in combination with the bars B, having beveled edges *e*, and fitted into holes *b* behind the notches *a*, the arm L, connected at one end to the bars B and at its other end to the horizontal bar I, having crank-handles K formed on its ends, and the rod N, connecting the arm L to the pivoted lever O, the whole being arranged substantially as and for the purpose specified.

3. The bars B, having beveled edges *e*, and fitted into the holes *b* behind the notches *a*, in combination with the plates C and D, connecting the bars B together, so that the latter shall work in conjunction with each other.

Toronto, April 15, 1886.

THOS. DAVIES.

In presence of—

CHARLES C. BALDWIN,

CHARLES H. RICHES.