

(No Model.)

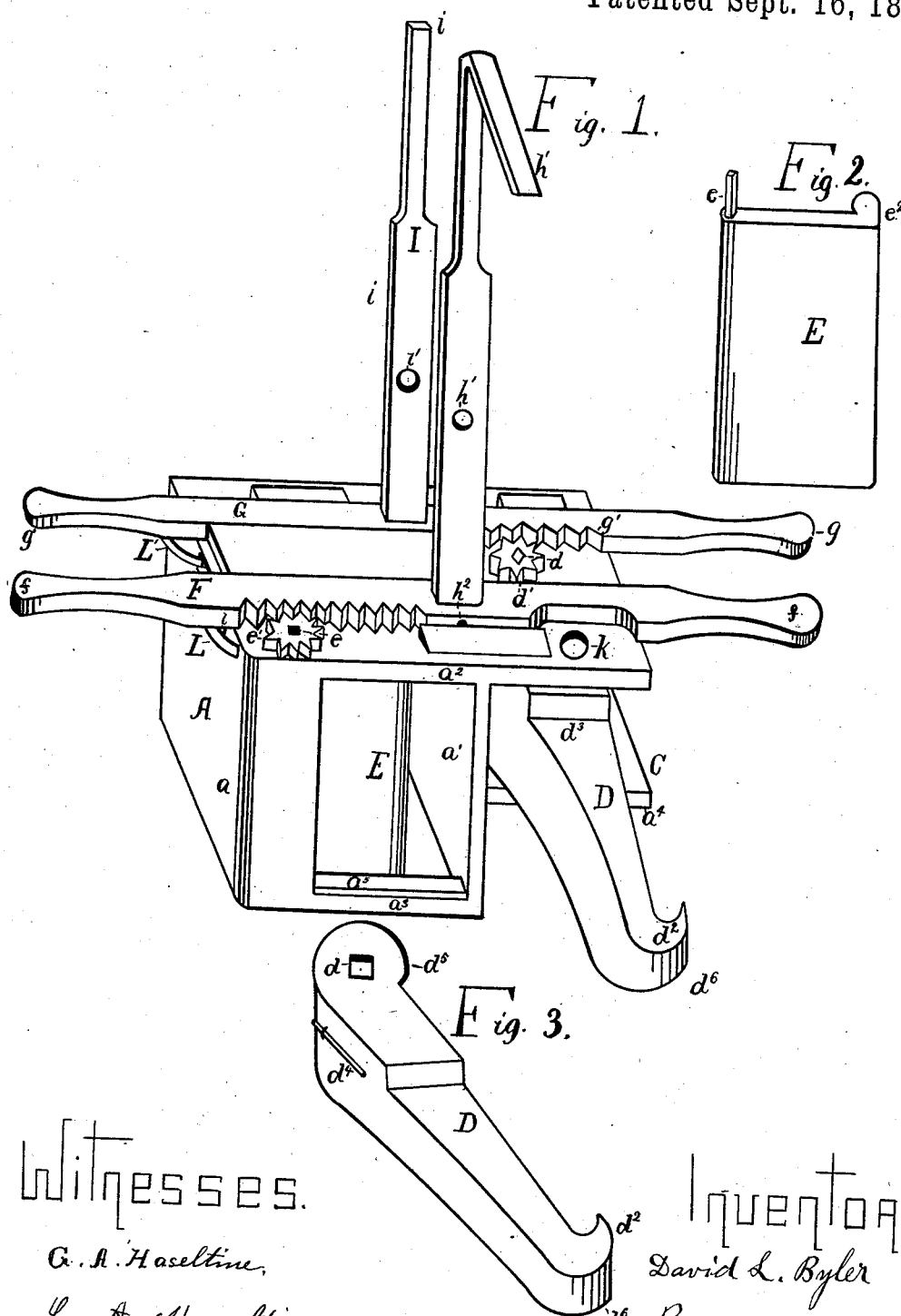
D. L. BYLER.

2 Sheets—Sheet 1.

CAR COUPLING.

No. 305,144.

Patented Sept. 16, 1884.



Witnesses.

G. A. Haseltine,

L. A. Maseltine

Inventor.

David L. Byler

By Seward A. Hazeltine  
Attorney.

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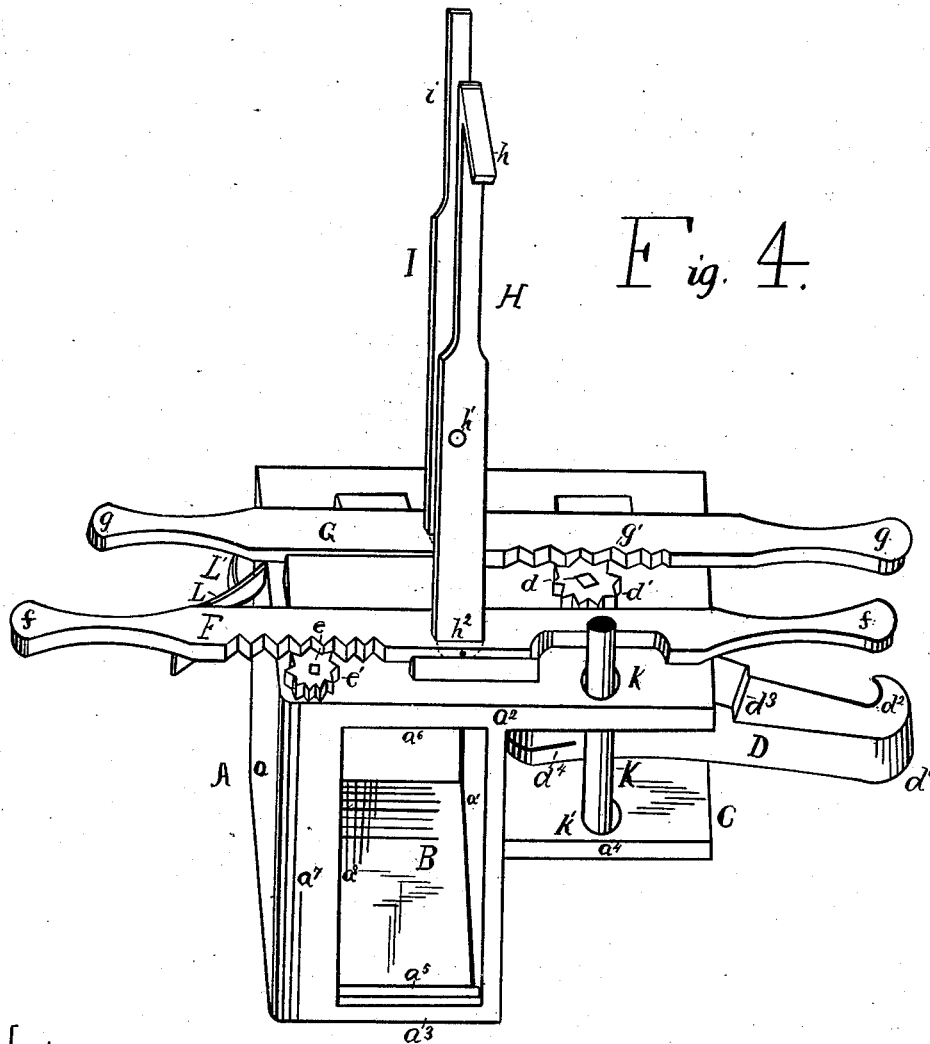
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# UNITED STATES PATENT OFFICE.

DAVID LILLY BYLER, OF APPLETON CITY, MISSOURI.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 305,144, dated September 16, 1884.

Application filed March 7, 1884. (No model.)

### *To all whom it may concern:*

Be it known that I, DAVID L. BYLER, a citizen of the United States, residing at Appleton City, in the county of St. Clair and State of Missouri, have invented certain new and useful Improvements in Automatic Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in car-couplings, the object of which is to provide a simple, strong, and durable device for automatically coupling cars of various heights, loaded or empty, and giving freedom of motion in all directions, and at the same time securing in all cases a horizontal or straight draft through all the cars, and a coupling that is easily and conveniently uncoupled from either side or from the top without going between the cars, and also a coupling adapted to hitching with cars having the ordinary link and pin. These objects I attain by means of the device illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a view in elevation showing the entire device. Figs. 2 and 3 are detailed views. Fig. 4 is a view showing the pin for attaching to a car having a link and pin only.

A represents a draw-head having the openings B and C formed by the walls or sides  $a$ ,  $a'$ ,  $a''$ ,  $a'''$ , and  $a^4$ . In the opening B is placed a pin, E, which is supported by the parts  $a^5$   $a^6$   $a^7$  on three sides, and by bearings extending through the draw-head above and below. This pin has an outer part,  $e^2$ , made rounding, or other equivalent device to strengthen the same and to form a catch for the hook of the opposite draw-head. This pin is made to turn back and forth, and for this purpose it has a small cog-wheel or pinion,  $e'$ , upon the extended part  $e$ . Said wheel may be operated by any suitable attachments, preferably, as shown, by a bar, F, which has cogs to work the pinion, and which extends to and has handles or other suitable device at the sides of the car, so that by pushing from one side or pulling from the other the said pin is forced back into a recess,  $a^8$ , on the inner front end of the side  $a$ . As soon as the rod is released, the pin is forced back to position by weight or gravitation, when

the bar F is supported by the pivoted lever H, or by any suitable means, preferably by a spiral spring, or a spring, L, as shown, to operate upon the pushing-rod.

H is a lever pivoted to the end of the car, and having an attachment to the bar F. This lever has a handle,  $h$ , which extends outward, that it may be operated from the other car. Thus the pin E may be moved back for uncoupling the cars from above or from either side. On flat cars the lever H may be made short.

D is a large hook, which may be made of any desired size and width, secured in one side of the draw-head by any suitable means, preferably, as shown, by securing the large end  $d^5$  in the opening C, which may be placed higher or lower, as desired, the other part having a hook,  $d^2$ , made and hung so as to enter the opening B of a similar draw-head on the other car. For this purpose the draw-heads A are all secured to the bottom, the middle, or top of the stem of the car, so as to be the same height from the railway-track when empty, and to provide for cars loaded or empty the front end of the hook D is made narrower vertically than opening B, so that it may be raised and hung so it cannot strike the bottom  $a^3$  of the other draw-head, and low enough to miss the upper side,  $a^2$ , and for this purpose it has a shoulder,  $d^3$ . This hook D is made rounding,  $d^6$ , from left to right to provide for lateral variation, and so that on entering the opening B it will push the pin E back into the recess  $a^8$ , which forms a smooth surface on the inner sides of the opening B, until the hook  $d^2$  passes the pin, which is then thrown out, and completes the coupling, the hook  $d^2$ , clasping the rounded part  $e^2$ , forming a firm and durable coupling, being double one in each head.  $d^4$  is a spring which serves to keep the hook constantly against the pin. It works against the side  $a'$ .

K is an ordinary car-pin for coupling with cars having the link and pin only. For this purpose holes  $k$   $k'$  are made in the head, and the hook D is made to swing to one side, out of the way, as shown in Fig. 4. This hook may be swung to one side by any suitable means, preferably by means similar to that above described for removing the pin in the act of uncoupling. The hook having bearings

$d$  above and below, and a pinion,  $d'$ , it is turned to one side by a bar,  $G$ , having handles  $g$  at the sides, and an attached lever,  $I$ , extending to the top and swiveled on the end of the car. The hook is thrown back into position by the spring  $L'$ , operating upon the bar  $G$ . When the couplings are duplicates of the above, the attachments for moving the hook to one side will be unnecessary. The exposed part of pin  $E$  is much larger than the depth of the hook, so that in cars of different heights the draft is always on a horizontal.

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

1. A draw-head,  $A$ , having an opening,  $B$ , in which is a recess,  $a^s$ , combined with a pin,  $E$ , having a rounded side,  $e^2$ , said draw-head also having an opening,  $C$ , formed to permit the hook  $D$  to swing to one side, and a hole,  $k$ , for receiving a pin,  $K$ , all substantially as shown and described.

2. A pin,  $E$ , combined with a pinion,  $e'$ , and a rod,  $F$ , which has cogs  $f'$  to engage the said pinion, and handles at each side, and an attached lever,  $H$ , which has a handle at the top of the car for removing the said pin without going between the cars, and a spring,  $L$ , for throwing the same back into position, all arranged and constructed substantially as shown and described.

3. The combination of a hook,  $D$ , with a

spring,  $d'$ , a pinion,  $d'$ , a bar,  $G$ , having cogs  $g'$  to engage the said pinion, and handles at the sides, and an attached lever,  $I$ , which has a handle at the top of the car, and a spring,  $L'$ , all substantially as shown and described, for the purpose set forth.

4. A draw-head,  $A$ , having an opening,  $B$ , in which is a recess,  $a^s$ , to receive a pin,  $E$ , and an opening,  $C$ , in combination with a hook,  $D$ , having a shoulder,  $d^2$ , and spring  $d'$ , and with a device for operating the said pin and hook composed of pinions  $e'$   $d'$ , a rod,  $F$ , and bar  $G$ , having cogs  $f'$   $g'$ ; and levers  $H$   $I$ , all substantially as and for the purpose set forth.

5. A device for operating a swinging pin,  $E$ , composed of a pinion,  $e'$ , and a rod,  $F$ , having cogs  $f'$ , said rod being suspended by an attached pivoted lever,  $H$ , and having a spring,  $L$ , combined with a draw-head,  $A$ , having an opening,  $B$ , in which is a recess,  $a^s$ , and an opening,  $C$ , having a hook,  $D$ , which has a spring,  $d'$ , and a device composed of a pinion,  $d'$ , and a bar,  $G$ , having cogs  $g'$ , and an attached pivoted lever,  $I$ , and a spring,  $L'$ , all substantially as shown and described, for the purpose set forth.

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

DAVID LILLY BYLER.

Witnesses:

J. R. BAUGH,  
G. W. QUICK.