

(No Model.)

T. E. HALLS.

CAR COUPLING.

No. 379,781.

Patented Mar. 20, 1888.

Fig. 1.

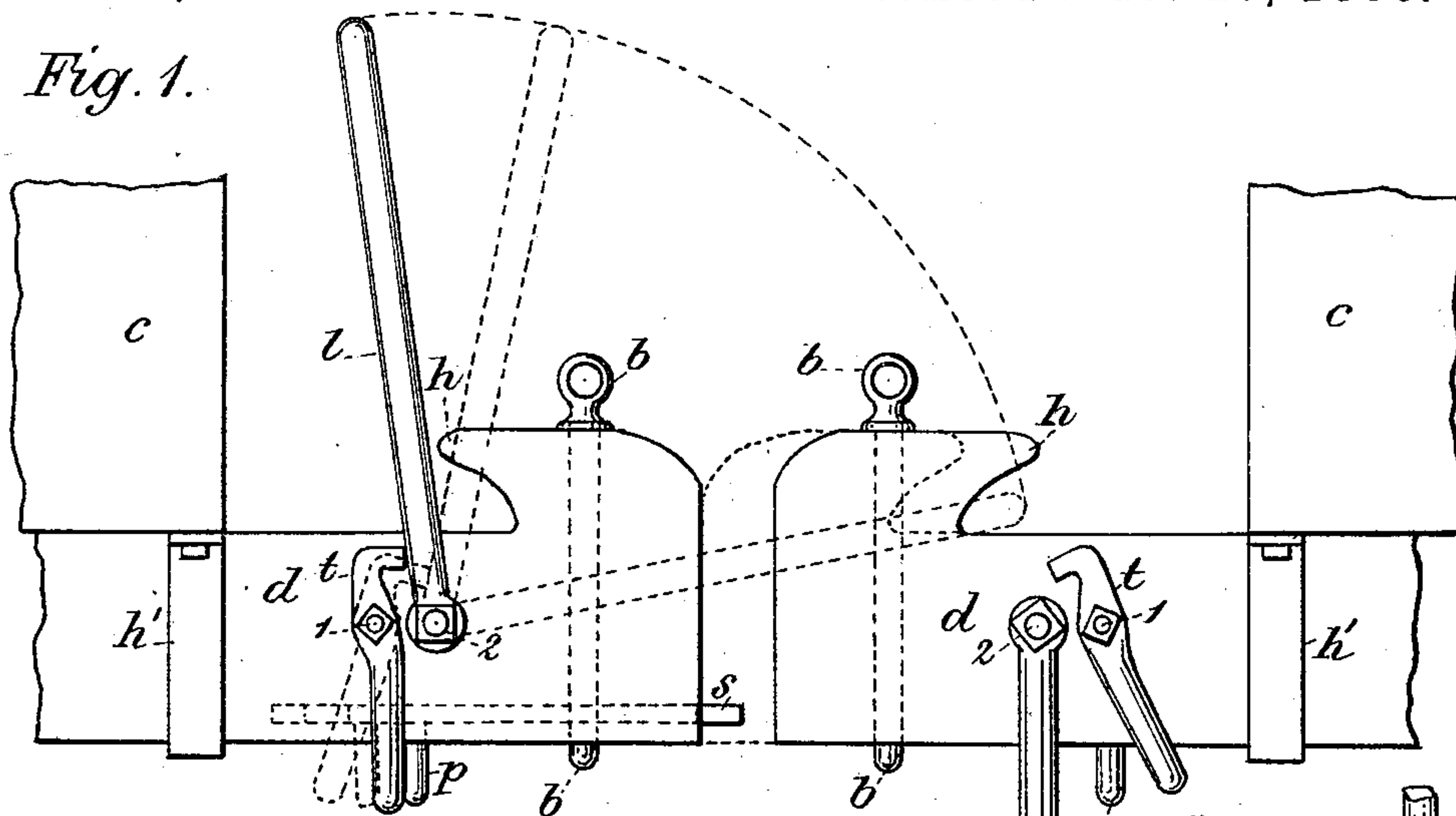


Fig. 2.

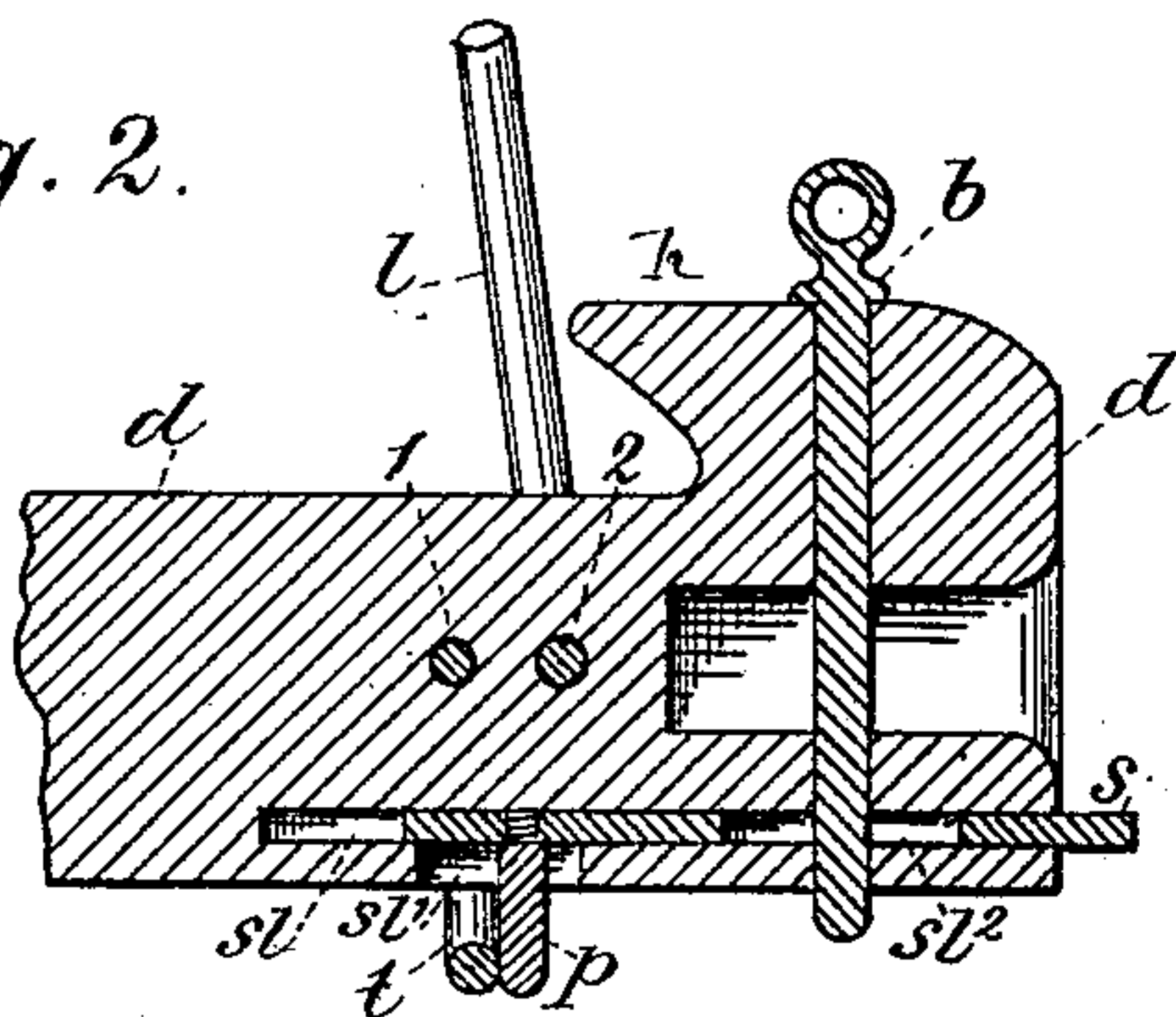


Fig. 3.

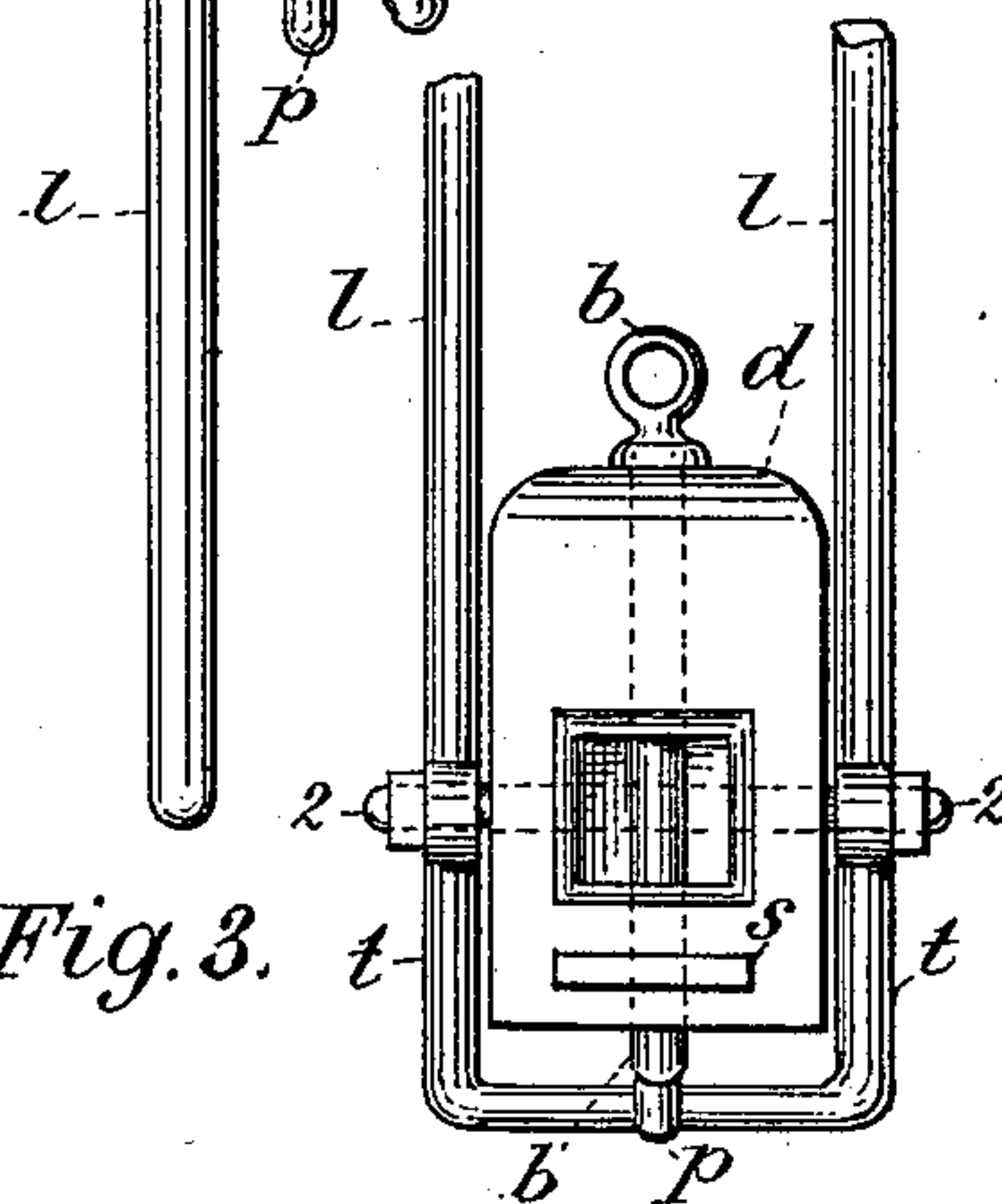
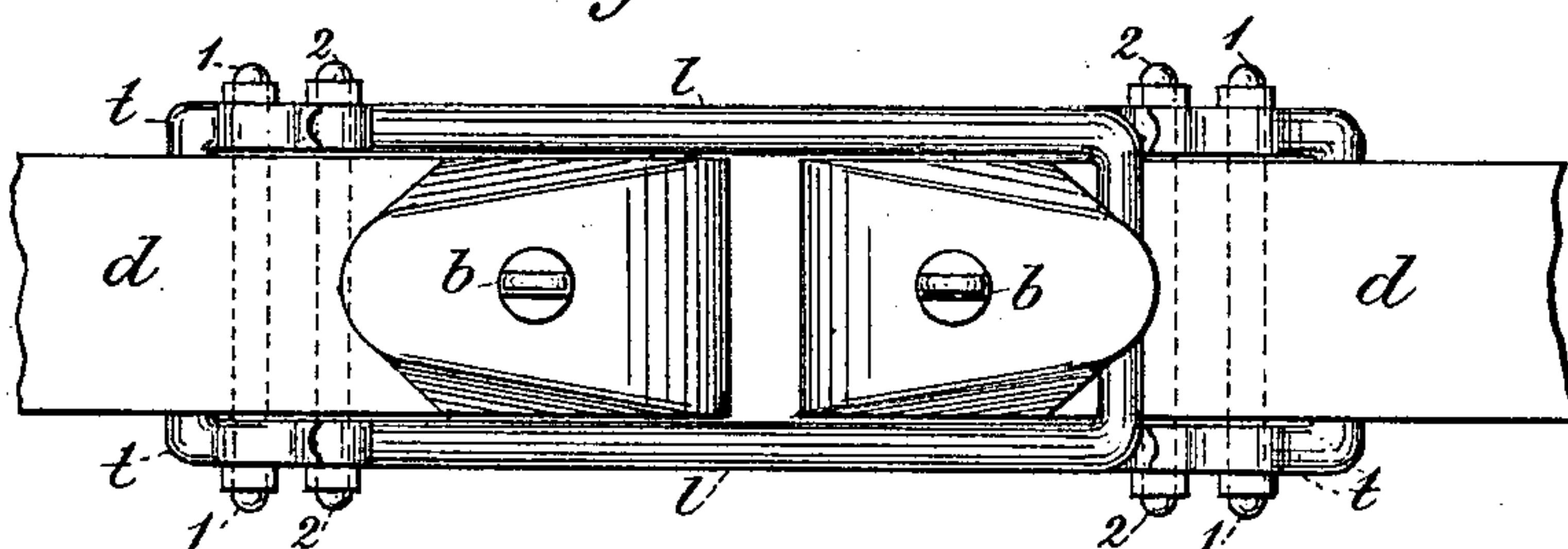


Fig. 4.



WITNESSES.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 379,781, dated March 20, 1888.

Application filed December 16, 1887. Serial No. 258,128. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. HALLS, of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

My invention relates to the construction of devices for automatically coupling cars, provision also being made for the use of the ordinary link-coupler, and will be understood from the following description.

In the drawings, Figure 1 represents a side view of my device ready for coupling, a part of each car-frame being shown, the movement of the link and other parts being indicated in the dotted lines. Fig. 2 is a longitudinal section through the draw-head, showing the interior construction and arrangement. Fig. 3 is a front end view of the draw-head with the link thrown up. Fig. 4 is a top view of two draw-heads coupled together with the link in position.

In detail, *c* is a car; *h'*, a hanger through which the rear portion of the draw-bar *d* extends, fastened in the usual manner. The draw-head has a hook, *h*, formed upon its top, having a base of unusual width and depth for greater strength. Through the draw-head and in front of this hook the ordinary pin, *b*, passes, to be used with an ordinary link-coupling, and the draw-head is provided with an ordinary mouth, *m*, to receive such a link. Below the mouth of the draw-head is a slide moving in a slot, *sl*, such slide having a slot, *sl'*, to permit the movement thereof without striking the pin *b*. In this slide and near its inner end is screwed a pin, *p*, which passes through a slot, *sl'*, formed in the bottom of the draw-head.

l is a link which swings upon a bolt, 2, journaled in the sides of the draw-head behind the hook. On one end of this bolt is a nut which holds the parts in place.

t is a trip swinging upon a bolt, 1, journaled in the draw-head behind the link-bolt, and the arms of this trip are channeled out at the top, as shown in Fig. 4, forming a concave which is adapted to receive the link *l* when thrown back against such trip. This trip ex-

tends down below and encircles the bottom part of the draw-head in the shape of a stirrup, as shown in Fig. 3, and, when the link is thrown up in position, presses against the upper arms of the trip *t*, which throws the lower or stirrup portion of this trip forward against the pin *p*, as shown in Fig. 1. The action of the link and trip upon each other are reciprocal. For instance, when the link is in the position shown in Fig. 1, if the car at the right hand be coming toward the car at the left hand, the end of its draw-head striking against the projecting end of the slide *s*, then, without any jar or bumping, this slide will be pushed in, the pin *p* will strike against the stirrup of the trip *t*, forcing the upper arms of this trip forward against the link, which is thereby thrown down, its upper end describing an arc of a circle, as indicated in the dotted lines in Fig. 1, and the link will fall over upon the hook *h* of the approaching car, thus automatically coupling the cars together. Conversely when the brakeman lifts the link *l* to uncouple the car and throws it back in position against the arms of the trip, as shown in Fig. 1, the back of the link will press the arms backward and throw the stirrup end of the trip forward against the pin *p* in the slide *s*, and this slide will be pushed out in position beyond the face of the draw-head, so that it will again be ready for operation. In other words, the pushing in of the slide *s* through the trip *t* serves to throw the link *l* over and couple the cars together, and the throwing of the link back against the trip operates to push the trip out in proper position to be again acted upon by an approaching car.

If it is desired to couple a car having this device with one having the ordinary draw-head, all that is necessary to do is to throw the link over the end of the draw-head and let it drop down beneath, as shown at the right hand in Fig. 1, so that cars having my device attached can be used for both kinds of coupling. The action of my device in coupling is therefore automatic and requires nothing more than that the cars be brought together so that one draw-head may strike against the slide moving in the lower part of the other and the work is done.

If the link or the bolt upon which it swings

should break, and the bolt is the much more easily broken of the two, by unscrewing the nut upon such bolt the parts may be removed and others put in their places without any delay, for these parts are always carried upon the train.

Draw-heads having hooks formed on their upper ends are common; but as a general rule the pins are placed behind these hooks and the hooks are made with too narrow a base to lock the brake if under great strain. I extend my hook to the rear, forming a broader base and allowing the pin to pass through in front of the hook, and the draw-head is not weakened by this, as the pin is always left in place when my automatic car-coupling is used to fill the opening in the draw-head, and the base is made broad and strong enough to sustain any pull that may be brought upon it. However, my slide-and-trip arrangement can be used as well where the pin is placed behind the hook, and I do not limit myself to either form of the arrangement of the pin and the hook.

What I claim as my invention, and desire to secure by Letters Patent, is the following, to wit:

1. A car-coupler comprising a draw-head having a hook formed on the top thereof, a link swinging upon a bolt having bearings in the sides of the draw-head below such hook, a trip swinging upon bearings on a bolt journaled in the sides of the draw-head behind the pivotal bolt of the link, and a slide moving in a slot formed in the lower part of the draw-head and carrying a pin, such slide actuated by the movement of the trip against the pin, all combined substantially as described.

2. In a car-coupler, a draw-head having a hook formed upon the top thereof whose lip extends to the rear of the opening to receive an ordinary coupling-pin, and a link pivoted in such draw-head behind such hook and resting, when thrown up, against the forward-extending arms of a trip pivoted also in such draw-

head behind such link, the lower end of the trip formed into a stirrup, swinging upon its pivotal bolt beneath the draw-head, and normally in contact with a pin connected to a slide moving in a slot formed in the lower part of the draw-head, such slide thrown out by the forward movement of the lower part of the trip and thrown inward by contact with the draw-head attached to the opposite car, whereby the link is thrown down in position over the hook of the draw-head of such car, substantially as shown and described.

3. A car-coupler comprising, in combination, a draw-head having a mouth to receive an ordinary link, an opening to receive an ordinary coupling-pin, a hook formed upon the top of such draw-head whose lip projects to the rear of such coupling-pin, and a link pivoted in such draw-head and actuated by means of a slide moving in a slot formed in the base of the draw-head, and having a projection which is adapted to strike against the lower part of a trip pivoted in the draw-head behind the link, substantially as shown and described.

4. A car-coupler comprising a draw-head having a hook formed on the top thereof, a link pivoted in its sides, a trip pivoted behind such link, and a slide moving in a slot formed in such draw-head and carrying a pin for operating the trip, whereby the link is thrown down in position for coupling with a similar draw-head, all combined substantially as described.

5. A car-coupler comprising a draw-head with a hook formed on its top, a link mounted on a bolt having bearings in the sides of the draw-head, and a trip carried in the draw-head behind such link and operated by a slide moving in a slot in the lower part of such draw-head, all combined substantially as described.

In witness whereof I have hereunto set my hand this 8th day of December, 1887.

T. E. HALLS.

Witnesses:

C. P. JACOBS,

E. B. GRIFFITH.