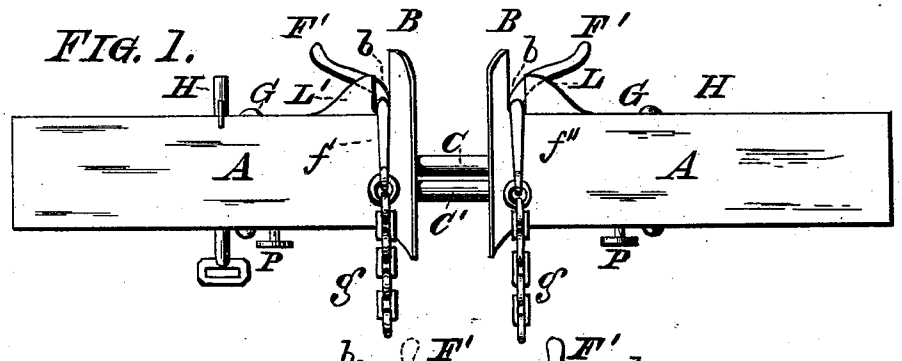
(No Model.) 2 Sheets—Sheet 1.

B. BIRD.

CAR COUPLING.

No. 273,339. Patented Mar. 6, 1883.

FIG. 1.



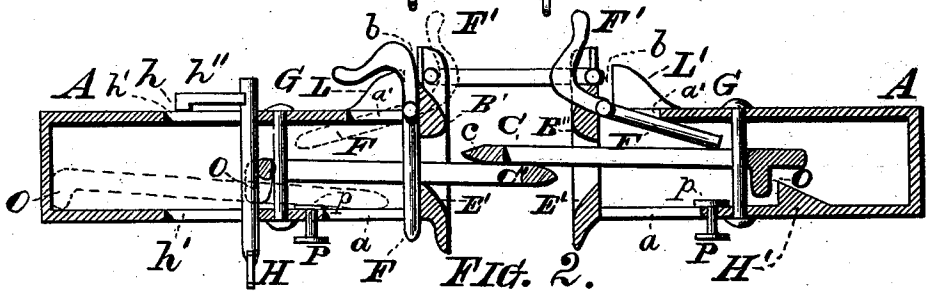
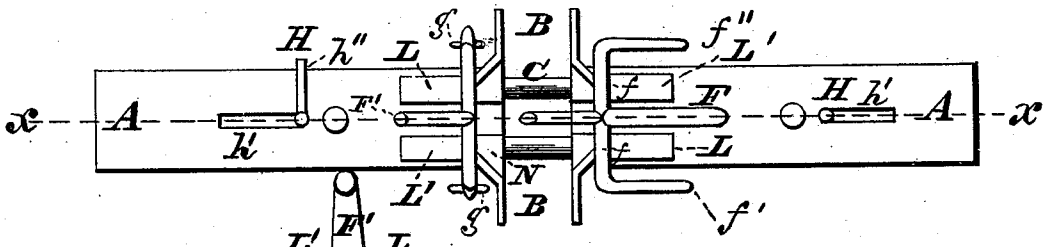


FIG. 2.

FIG. 3.



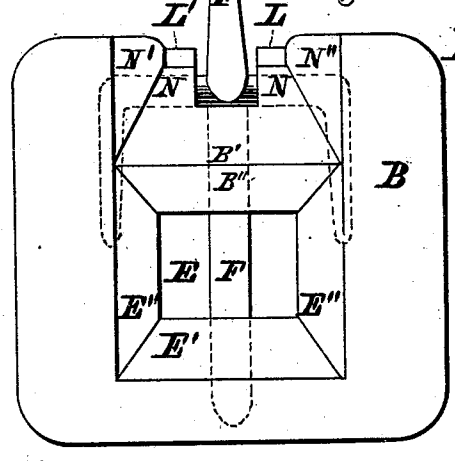


FIG. 4.

FIG. 5.

Witnesses:

Willie O. Stark

Al Stark

Inventor:

Bernard Bird,

by Michael J. Stark,

Attorney.

(No Model.) 2 Sheets—Sheet 2.

B. BIRD.

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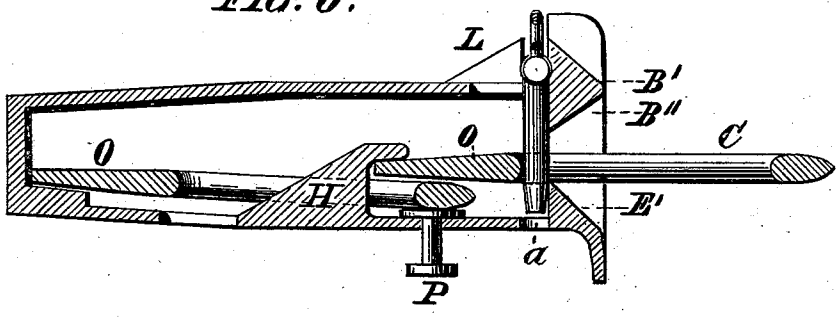
FIG. 6.



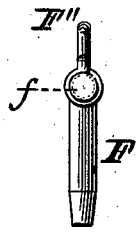


FIG. 7.

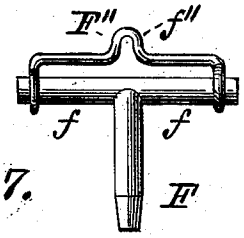
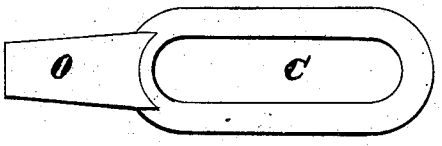


FIG. 8.



Witnesses:
Willie O. Stark
A. Stark.

Inventor:
Bernard Bird,
by Michael J. Stark
Attorney.

UNITED STATES PATENT OFFICE.

BERNARD BIRD, OF BUFFALO, NEW YORK.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 273,339, dated March 6, 1883.

Application filed January 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, BERNARD BIRD, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

My present invention has general reference to improvements in car-couplings; and it consists essentially in the novel and peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings already mentioned, which serve to illustrate my said invention more fully, Figure 1 is a side elevation of my said improved car-coupling. Fig. 2 is a longitudinal sectional elevation of the same in line *x x* of Fig. 3. Fig. 3 is a plan, and Fig. 4 a front elevation. Fig. 5 is a perspective view of my improved coupling-pin. Fig. 6 is a sectional elevation of a draw-bar slightly modified. Fig 7 are detail views of a slightly-modified coupling-pin, and Fig. 8 is a plan of a coupling-link, also modified.

Like parts are designated by corresponding letters of reference in all the figures.

The object of my present invention is the production of an efficient self-coupling for railway freight and other cars.

Heretofore many attempts have been made to construct self-acting car-couplings employing both the link and pin and some form of a hook as a means to establish connection between the various cars.

In constructing a device of the class mentioned there are many obstacles to overcome, most prominent of which are the following: First, the cars of the various railroads are not of uniform height, spur, &c., thus making a coupling for them that will accommodate all these various cars, a device not readily attained; second, in actual use the coupling is exposed to all the climatic influences, and thus subject to being filled with ice and snow, which tend to prevent proper action of the coupler at a time when their efficiency is most needed. These and many other well-known obstacles make the construction of an efficient car-coupling a difficult task, and I believe that I have solved the problem by constructing my car-coupling in the following manner:

A represents a pair of draw-bars, having the usual bumper-heads, B, as clearly shown in the drawings, Fig. 1. These draw-bars I may construct of either cast or wrought iron, it being immaterial by which method of manufacture these parts are produced. When made of cast-iron I prefer to make them hollow or box-shaped; but when forged of wrought-iron they will best be produced in the form of a skeleton. On the top surface of these draw-bars, back of the bumper-heads B, I provide a pair of rearwardly-inclining projections, L L′, leaving between the vertical faces of said projections and the back of the bumper-heads grooves or notches *b*, forming, as it were, bearings for a peculiarly-constructed coupling-pin, F, (see Fig. 5,) hereinafter to be referred to, said coupling-pin F operating, in conjunction with one or a pair of links, C C′, to make connection between the opposite draw-bars, A A′.

Between the inclines L L′ there is a slot-hole, *a′*, and in the bottom of the draw-bars, opposite said slot-hole *a′*, there is a similar slot-hole, *a*, for the passage of the coupling-pin F, as well as to provide for means to allow water to pass through from the interior, which, if allowed to lodge in the interior of the draw-bars, would cause serious troubles in the colder season of the year.

The coupling-links C C′ employed in my car-couplings are somewhat longer than those now usually employed, (though a link of ordinary length can be used in my draw-heads,) and they are designed with a view of their permanent location in the draw-bars. Their forward part is chisel-shaped at *c*, while their rear end has a heel, O, being a downward projection to keep the link at all times in a nearly horizontal position. These links are held within the draw-bars by means of vertical bolts G or rivets and keys H in such a manner that when the keys H are passed behind the heel portion of said links they will be prevented from longitudinal movement, while when the keys are withdrawn the links may be pushed back into the draw-bars to occupy a position indicated

in Fig. 2 in dotted lines, a push-button or other similar device, P, being present to allow the said link being raised high enough to enable an operator to pass his hand into draw-head through the aperture E, Fig. 4, to withdraw the said link from the draw-bar sufficiently to enable its use for making connection, yet preventing its entire withdrawal on account of the presence of the vertical bolts G.

The key H represents the usual door or lock key, it having a beard, h'', and a nose, h, the same as the old-style lock-keys. This key is passed from underneath the draw-head through slotted apertures h', Figs. 2 and 3, and locked in proper position by the nose h'', engaging the side of the draw-bar in a manner readily comprehended, and they may be permanently secured by means of chains (not shown) in any well-known manner.

The opening E in the draw-head has beveled sides E′ E″ B″ to guide the link into the head in the well-known manner; but in my present head there is, in addition to this opening E, another slotted passage, N, having inclined cheeks N′ N″, as shown in Fig. 4. The object of this passage is substantially to lead the coupling-link of the opposite car to the top of the draw-head whenever the coupling-link of such opposite car is too high to enter the opening E in said draw-head, a matter which is often the case. When such a state of affairs exists the link, passing to the top of the draw-head, will make connection with the coupling-pin in the following manner:

The coupling-pin F has near its upper end two lateral projections, f, and its upper end, F′, formed into substantially **S** shape. The ends of the lateral projections are downwardly bent and provided with eyes f'', wherewith engage chains g, (see Fig. 1,) by means of which the pin is kept together with the draw-bar, said chain being secured with its end to any convenient object. The lateral projections f on the coupling-pin F form journals, as it were, for the pin by engagement with the slotted apertures b b, already mentioned. Now, supposing that, as already referred to, one of the links, C, should stand so high up as to make its entry into the aperture E of the opposite head an impossibility, the incline B′ will cause it to rise, and, passing back of the bumper-heads, to engage the **S**-shaped part of the pin, which in this case acts like a hook and allows of a perfect connection being established.

Owing to the introduction of this peculiar coupling-pin, I am enabled, should my links ever become disabled for any cause whatever, to make connection between two opposite draw-heads by simply placing an ordinary link over the **S**-shaped part F′ of these coupling-pins, as illustrated in Fig. 2; or, should, for any reason, my said coupling-pins be disabled, connection by means of my links may always be made by dropping an ordinary pin into the place normally occupied by my pin F.

The operation of this car-coupling, aside from that already described, is so obvious as to be readily understood, and I do, therefore, not enter into a detailed statement thereof.

Instead of providing my draw-head with the key H, I may furnish the same with a catch, H, as shown in Fig. 6, using in connection therewith a link, C, Fig. 8, having a tail, O, to engage said catch, as clearly indicated in Fig. 6. So may I, instead of using the coupling-pin described, adopt one as shown in Fig. 7, where a bail, F″, having a notch, f''', takes the place of the downwardly-hanging arms shown in Fig. 5, with eyes f'', whereby and by a chain or similar device the pin is attached to some object to prevent it from being removed from the coupling.

Having thus fully described my invention, I claim as new and desire to secure to me by Letters Patent of the United States—

1. The car-coupling hereinbefore described, consisting essentially of the draw-head A, having the notched bearings b and a projection, H, within its core, the permanent link C, within the core of said draw-head, having the rear portion, O, adapted to engage underneath said projection H, and the coupling-pin F, having the lateral journals f, engaging said notched bearings b, and provided with a yoke or bail, F″, having the indented portion f'', substantially as described and stated.

2. In car-couplings, the pin F, having the laterally-projecting journals f f, and the bail F″ with the indented portion f'', substantially as specified.

In testimony that I claim the foregoing as my invention I have hereto set my hand in the presence of two subscribing witnesses.

BERNARD BIRD.

Attest:
MICHAEL J. STARK,
JOHN C. DUERR.