(No Model.) 2 Sheets—Sheet 1.

C. B. CUTLER.

CAR COUPLING.

No. 274,569. Patented Mar. 27, 1883.

Fig. 1

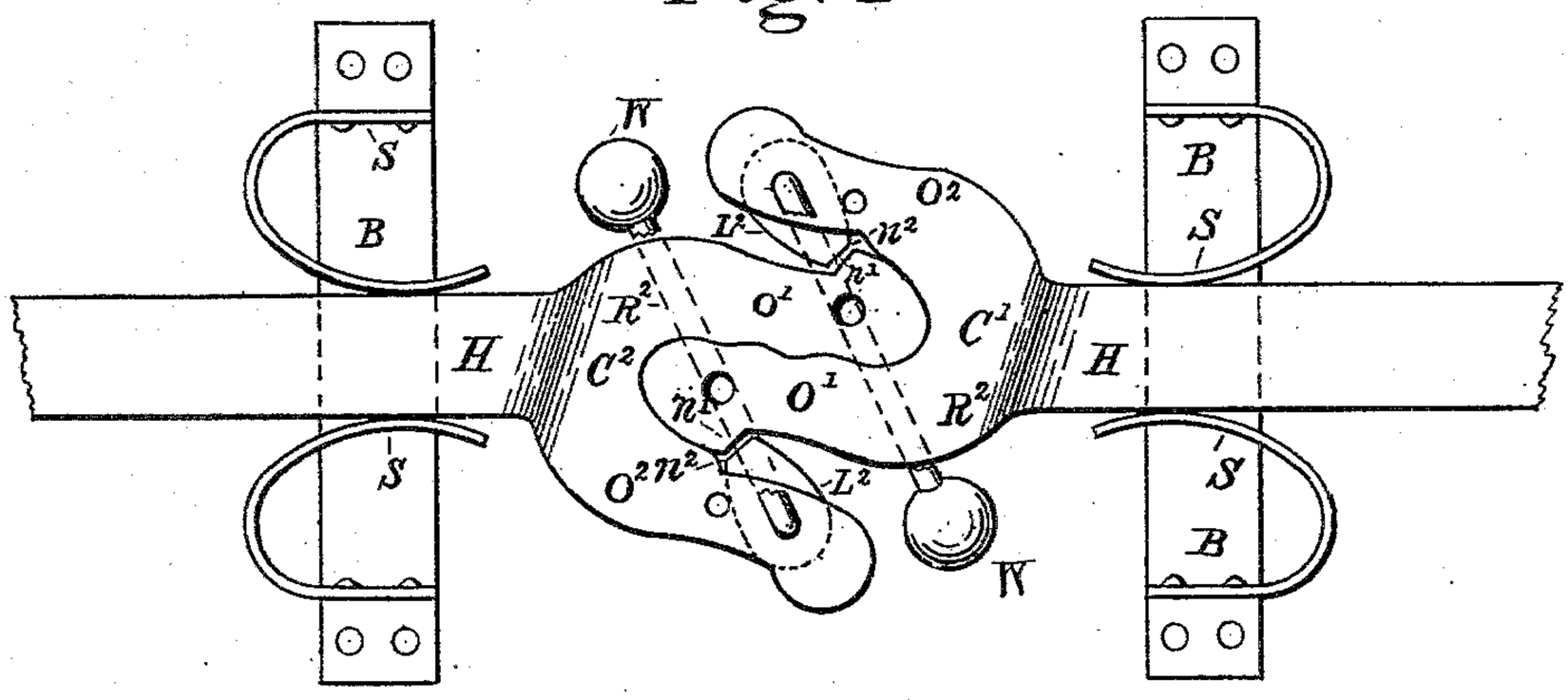


Fig. 2

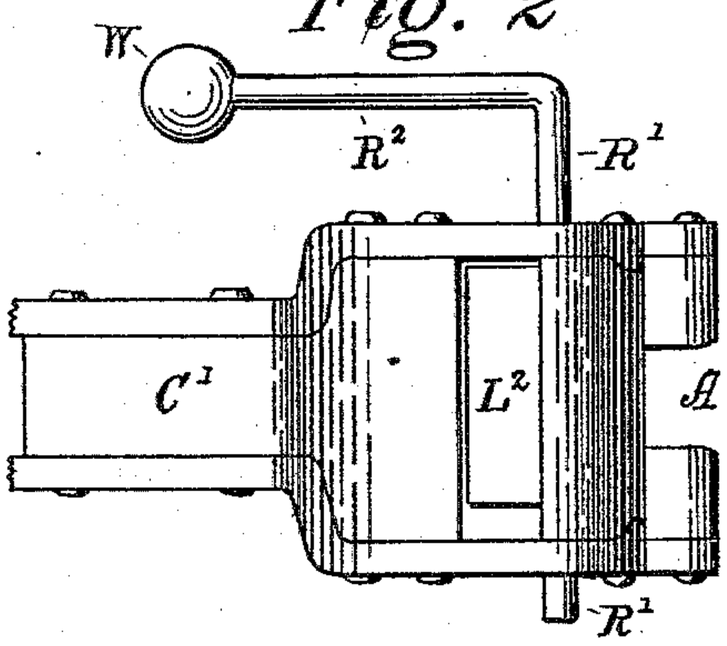


Fig. 3

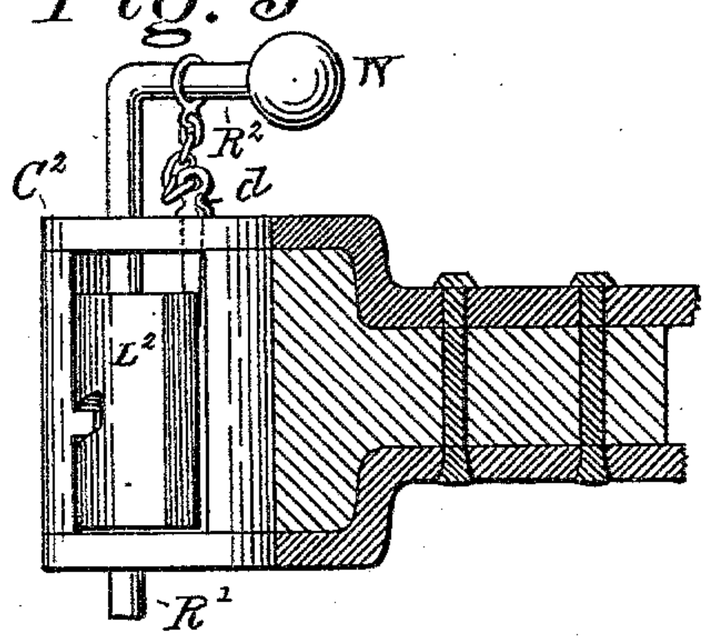


Fig. 4

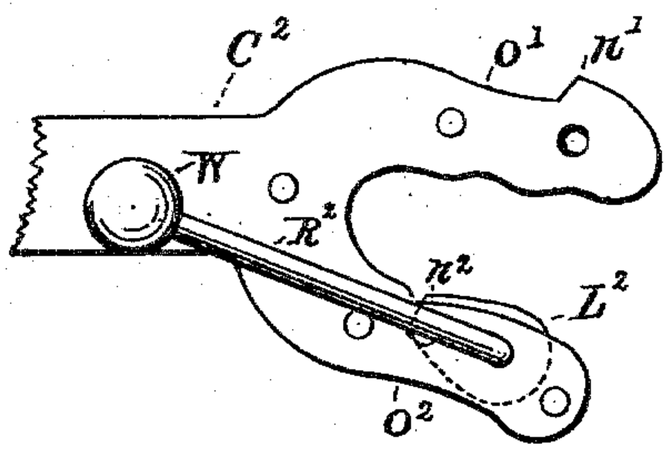
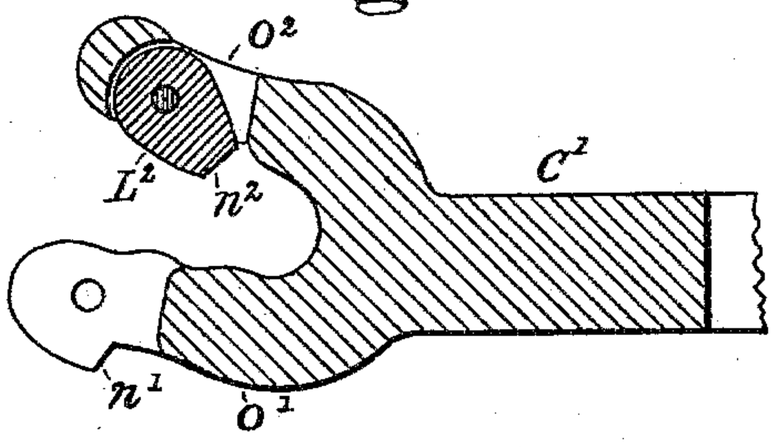


Fig. 5



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(No Model.) 2 Sheets—Sheet 2.

C. B. CUTLER.

CAR COUPLING.

No. 274,569. Patented Mar. 27, 1883.

Fig. 6

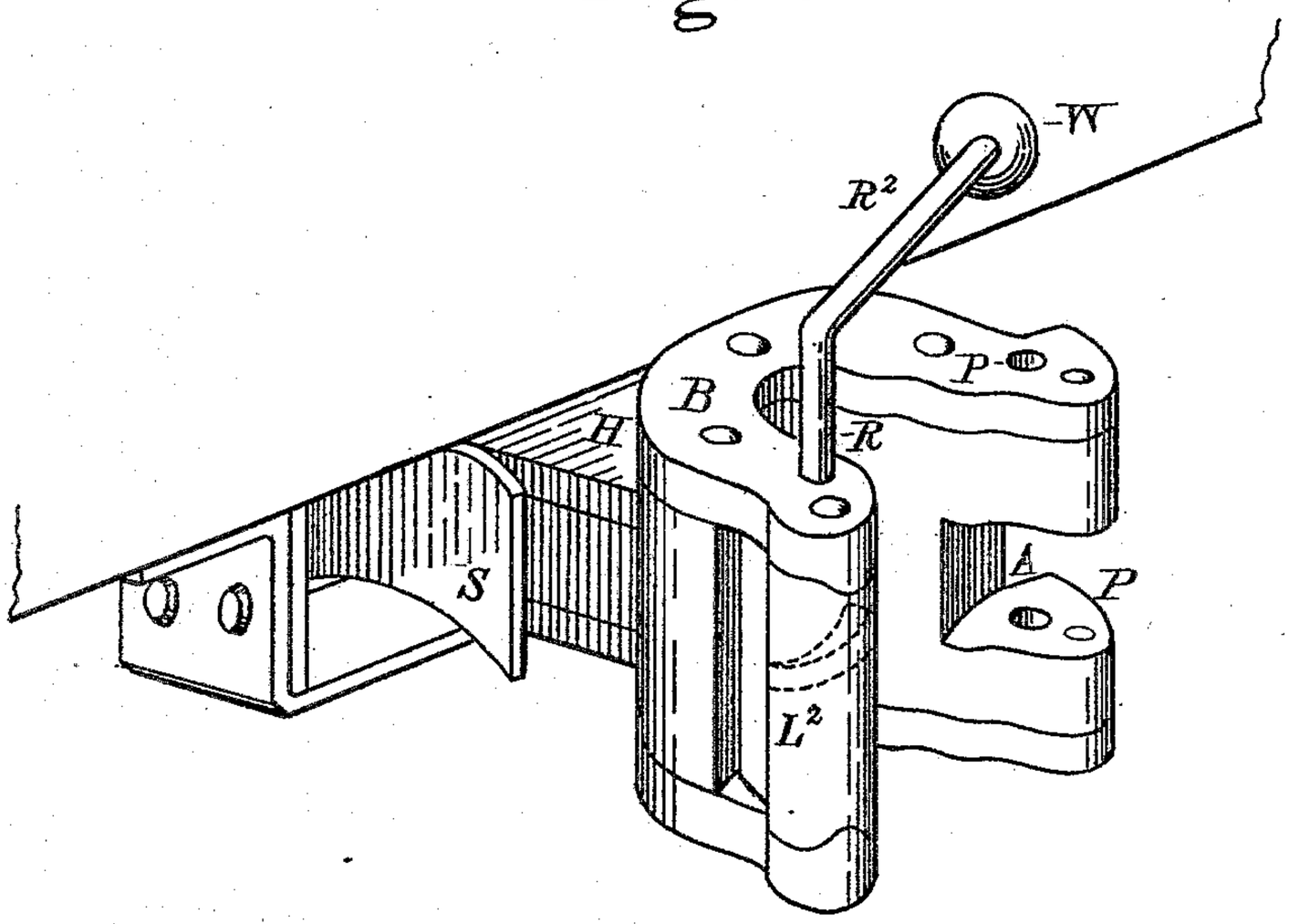


Fig. 7

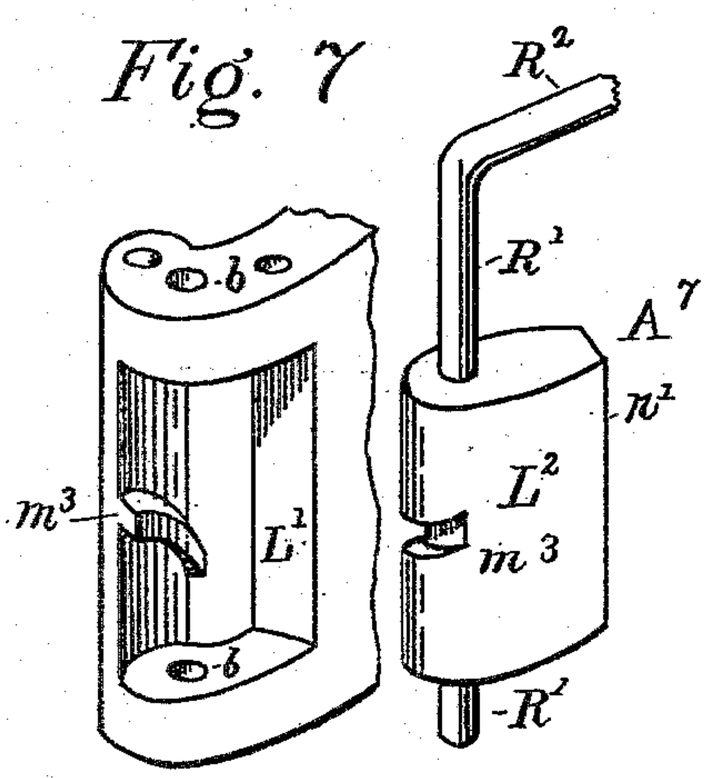
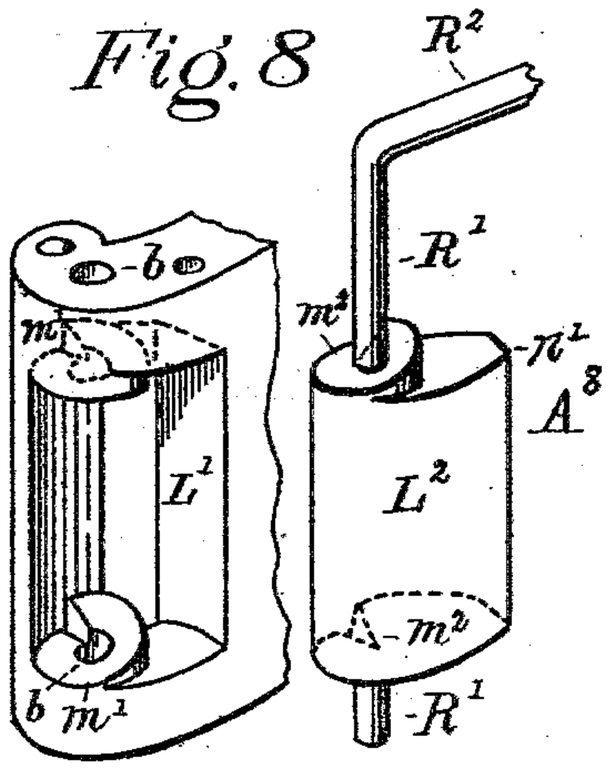


Fig. 8



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UNITED STATES PATENT OFFICE.

CLARENCE B. CUTLER, OF SCHODACK, NEW YORK.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 274,569, dated March 27, 1883.

Application filed December 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE B. CUTLER, of the town of Schodack, county of Rensselaer, and State of New York, have invented a new and useful Improvement in Railway-Car Couplers, of which the following is a specification.

My invention relates to railway-car couplers; and, as will hereinafter be more fully described, it consists in the manner of constructing a two-part coupler, each of which half is the oppositely-placed counterpart of the other, and both of which have laterally a U form, which is provided with an interiorly-placed latch, that opens so as to allow one of the sides of each coupler-half to enter between the two sides of the other to interlock, and then closes automatically to secure them in such position.

Accompanying this specification, and forming a part of it, are two plates of drawings, containing eight figures illustrating my invention, and in all of which the same designation of parts by letter reference is used.

Figure 1 is a plan view of the mechanism with the parts connected. Fig. 2 is a side elevation of a separated half of the apparatus. Fig. 3 shows a combined side elevation and vertical section of a separated half of the mechanism; Fig. 4, a plan view of a separated half of the coupler, with the latch shown as open. Fig. 5 illustrates in a combined plan and transverse horizontal section a separated half of the coupler with the latch closed. Fig. 6 is a perspective of the coupler-half attached to the draw-head of the car. Fig. 7 shows a part of the side of the coupler-half turned outwardly to illustrate the latch-chamber, the disconnected and separated latch being indicated in an annex figure, A^7. Fig. 8 shows the same parts that are illustrated at Fig. 7, with the exception that the latch-cams are differently constructed.

The several parts of which each half of the coupler is composed are designated by letter reference, and the operation of the parts described as follows:

The letters C′ and C^2 indicate the two counterparts or halves forming the coupler, each of which, from where attached to the draw-head H, is bifurcated or forked, so as to have the inwardly-curved vertical sides O′ O^2. Within one of these sides of each part there is shown as constructed the latch-chamber L′.

The letter L^2 indicates a vertical latch, which has a hinging-rod, R, secured to it, and *b b* designate bearings for the latter.

R^2 indicates a crank formed on the hinging-rod, which is weighted at W to operate the latch.

Upon the bottom and top of the latch-chamber L, at M′, are indicated spiral cam-surfaces helically formed around the hinging-rod bearings *b b*, and upon the top and bottom of the latch L^2 are constructed the spiral cam-surfaces M^2, and these are also formed helically around the hinging-rod R and made to coincide with the other cam-surfaces, (indicated at M′.)

The letter N^2 designates a latch stop or catch constructed upon the exterior entering side of each coupler-half, and S S indicate springs placed between a downward projection on the draw-head block and the draw-head.

With the parts thus constructed and arranged, when the latch-catch sides O′ O′ of each part of the coupler enter the U-form spaces between the sides of each half of the mechanism the latches are forced outwardly on their hinged connection by the entering sides, and so that the latches assume the position indicated at Fig. 4. When the vertical catch-surface N^2 has passed the vertical surface N′ of the latch L the latter swings out, so that the vertical surfaces N′ and N^2 engage to lock the coupler, the latches rising on the cam-surfaces M′ M^2 to open and descending by gravity to close along the same.

To facilitate the descent of the latches, and to cause them to close promptly, the end of the crank-arm R^2, formed on the hinging-rod, is weighted, as indicated at W. The coupler thus automatically closed and interlocked is uncoupled by means of the cranks R^2, by which the latches are moved outwardly, so that their vertical surfaces N′ do not engage with the catch-surfaces N^2 on the interlocking and tonguing sides of the coupler parts.

At M^3, Fig. 6, I have shown a cam projection formed on the wall of the latch-chamber L′, and a cam-recess on the latch to receive this cam projection, the same being a modification of my invention.

At A, Fig. 6, there is shown a recess cut from one side of the forked half of the coupler to adapt the same to receive the ordinary link,

and a vertical hole for the pin used with the latter, so that a car which has not my improved coupler can be attached to the latter, if necessary.

At *d*, I have shown a pin which is by a chain and ring conected with the crank R^2, the object of which pin is to key the parts together, the pin passing down, as shown by a dotted line, through the top of the latch-chamber into the top of the latch. This latter feature, though useful in some cases, is not essential to the working of my invention.

In attaching my coupler the ordinary draw-head and draw-head take-up spring are used, and my coupler is attached to the draw-head in any suitable manner. Upon the draw-head block B downward projections *a a* are constructed, to the inner sides of which are attached the springs S S, so that the latter are between such projections and the sides of the draw-head, the purpose of which springs is to regulate the lateral motion of the draw-head.

A two-part coupler thus made connects automatically, and the vertical depth of the attaching latch and catch on the entering and interlocking parts is such that, even though they horizontally lap past one another to some extent when one platform is above the other, they produce a strong and safe connection.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A car-coupler made in two parts, each of which is the counterpart of the other, and each half of which, in combination, is constructed with a U form and vertical sides, a vertically-hinged latch that is within a chamber in one of the vertical sides, which latch has an interior vertically-engaging latch-face, is constructed to turn inwardly and rise on inclined cams to open and descend on said cams by gravity to close, and a vertically-faced latch-catch constructed on the other and opposite side of the coupler-half, substantially as shown and described.

2. The combination, in a two-part car-coupler, each half of which is constructed to have a U form, with vertical sides that are adapted to tongue into each other, of a vertically-hinged and vertically-facing latch made to operate in a latch-chamber formed in one of the vertical sides of each half of the coupler, and constructed to rise on inclined cams and turn inwardly to open, and to turn outwardly from the side and descend by gravity on said cams to close, and a latch-catch constructed exteriorly on each one of the tonguing sides of the two coupler-halves to engage vertically with the aforesaid latches, in the manner and for the purposes herein set forth.

3. The combination, in a two-part car-coupler, each half of which is constructed to have a U form, with vertical sides that are adapted to tongue into each other, of a vertically-hinged and vertically-facing latch made to operate in a latch-chamber formed in one of the vertical sides of each half of the coupler, and constructed to rise on inclined cams, turn inwardly to open, and outwardly from the chamber and inner side of the coupler-half to descend on said cams by gravity to close, and a vertical latch-catch constructed exteriorly on each one of the tonguing sides of the two coupler-halves, to engage vertically with the aforesaid latches of each coupler part, and cranks on the latch-hinging rods, arranged and constructed to operate substantially as herein shown and described.

Signed at Troy, N. Y., this 1st day of December, 1882.

CLARENCE B. CUTLER.

Witnesses:

SUMNER P. HUNT,

CHARLES S. BRINTNALL.