

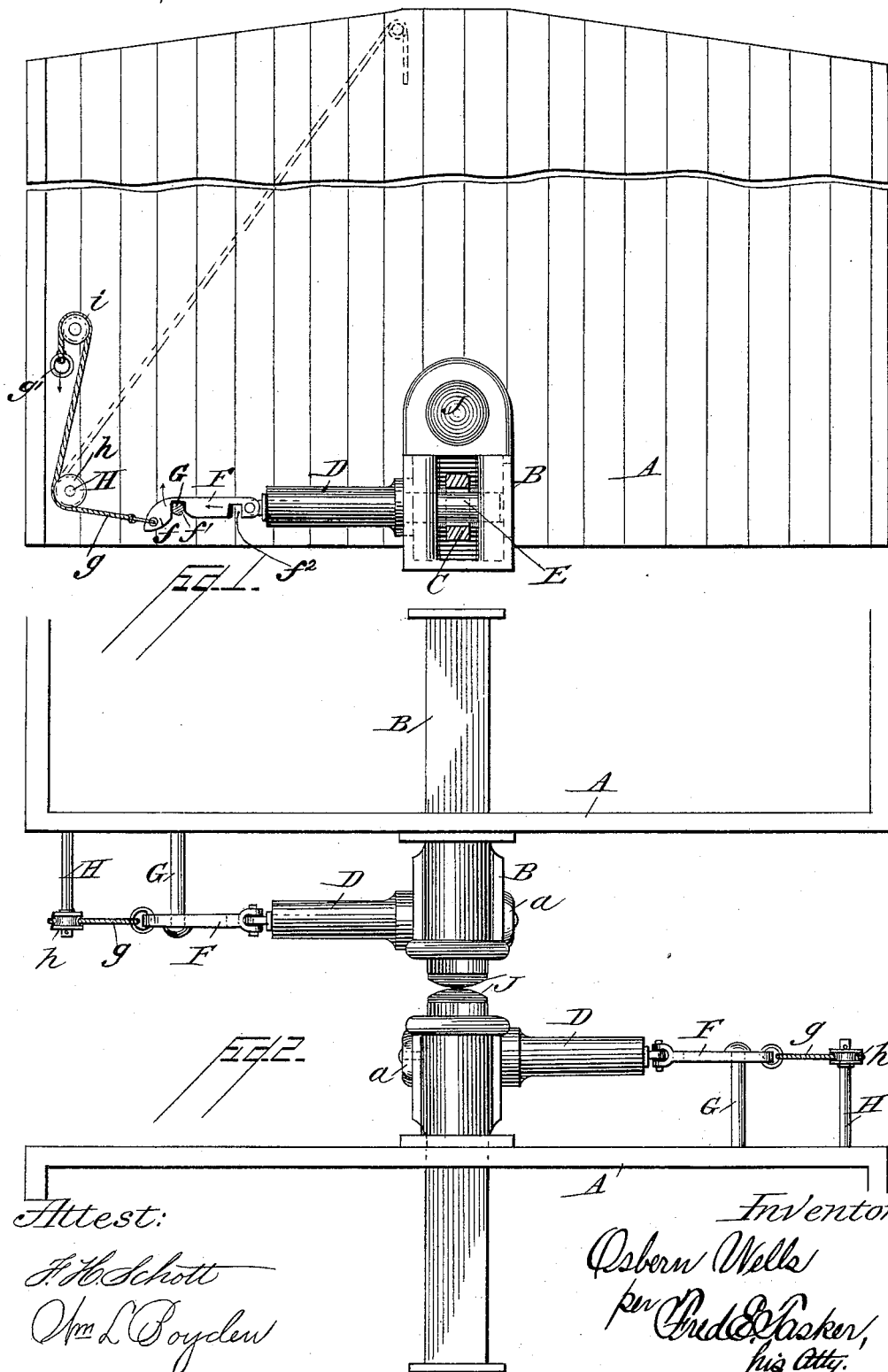
(No Model.)

2 Sheets—Sheet 1.

O. WELLS.
CAR COUPLING.

No. 467,327.

Patented Jan. 19, 1892.



Attest:

H. H. Schott
Wm. L. Boyden

Inventor

Osborn Wells
per Fred E. Parker,
his Att'y.

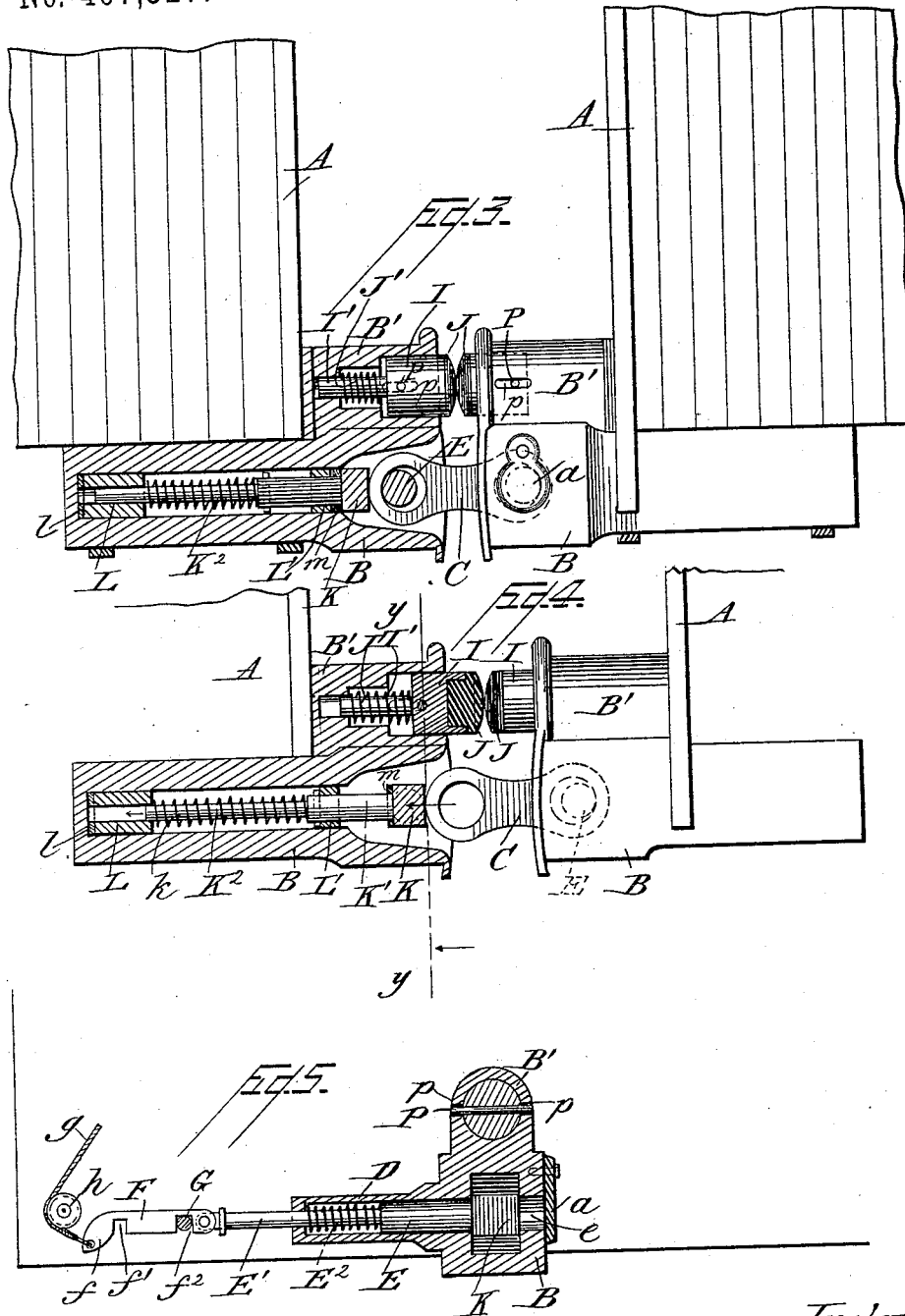
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UNITED STATES PATENT OFFICE.

OSBERN WELLS, OF NEWBERRY, SOUTH CAROLINA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 467,327, dated January 19, 1892.

Application filed April 27, 1891. Serial No. 390,650. (No model.)

To all whom it may concern:

Be it known that I, OSBERN WELLS, a citizen of the United States, residing at Newberry, in the county of Newberry and State of South Carolina, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in car-couplers, the object thereof being to provide a simple and effective coupler; and the invention therefore consists in the construction, arrangement, and combination of these several parts, substantially as will be hereinafter described and claimed.

In the annexed drawings, illustrating my invention, Figure 1 is a front elevation of a portion of a car and of my improved coupling mechanism applied in operative position thereon. Fig. 2 is a plan view of the coupler as applied to the adjacent ends of two cars. Fig. 3 is a side elevation of the adjacent end portions of two cars, together with the coupling mechanism arranged on each, the coupling mechanism on one of said car ends being shown in longitudinal section, while the coupling mechanism on the other car end is in elevation, said cars being shown as coupled together. Fig. 4 is a similar view in less detail and shows the coupling devices on the two cars when they are coming into contact with each other for the purpose of effecting a coupling. Fig. 5 is a longitudinal transverse section on the line *y y* of Fig. 4.

Similar letters of reference designate corresponding parts throughout all the different figures of the drawings.

A A designate the end portions of two cars which are provided with my improved coupling device. Inasmuch as my coupler is designed for use with any kind of a car whatever may be its character or purpose, it will be evident that the representations of cars shown in the drawings are given by way of example only.

B designates the draw-head, which is hollow, having an interior longitudinal compartment and having also the usual funnel or bell mouth, which is adapted to receive one end of the coupling-link.

The draw-head B has formed integral therewith, preferably on its upper side, a hollow enlargement, which constitutes an auxiliary head B' and contains a yielding buffer-block I. Said block I is preferably of cylindrical shape and is faced on its outer end with a greater or less piece of rubber or other soft or elastic material J, which is fitted thereinto like a plug, as shown, or is connected thereto in some other suitable or effective way. The buffer-block I is provided, further, with a spindle or stem I', working in a suitable passageway in the part B', said stem I' being surrounded by a coiled spring J', which is tensioned between the block I and some inside part of the enlargement B'. Thus it will be seen that in this way I provide a yielding buffer-block which not only has an elastic outer end, but also a spring-cushion behind it. When the buffer-blocks on two cars come in contact with each other, they have a firm, although yielding, action and prevent any injurious concussion from taking place which might otherwise injure the cars or the parts of the coupler. The buffer-block I is provided with a transverse pin P, (see Fig. 5,) the opposite ends of which project through slots *p p* in the sides of the casing B'. The pin P therefore limits the outward movement of the buffer-block and prevents it from jumping out of its casing under the action of the spring-cushion behind it.

The pin E, which I employ in my improved coupler, is preferably arranged in a horizontal position, although it may occupy any other position desired. On the side of the draw-head B is a lateral tubular extension D, having its outer end perforated, said tubular extension containing the pin E, which has a stem E', which projects through the outer perforated end of the tubular extension D, said stem E' being enveloped within the tubular extension with a coiled spring E², which is tensioned between the pin E and the inner end of the extension D, the tendency of said spring being to keep the pin in position across the mouth of the draw-head. On the side of the draw-head opposite to where the lateral extension D is located is an ordinary pin-hole or perforation *e*, which is designed to receive the end of the pin E when the latter is in its normal position. This pin-hole *e* is normally

covered by means of a pivoted cover *a*. When this cover is closed, pin E cannot be withdrawn from the draw-head. When it is desired at any time to remove the pin from its position within the draw-head, the cover *a* will be opened and the pin withdrawn through the pin-hole *e*. It will thus be manifest that the pin E, arranged in the manner which I have just described, is adapted to be adjusted horizontally, so as to lie across the mouth of the draw-head or be removed from that position. When it lies across the mouth of the draw-head, it will be in engagement with the coupling-link. When it is removed from that position and caused to occupy the position shown in Fig. 5, it will be in readiness to swing into engagement with the coupling-link whenever the support which holds the pin in this position is removed. The outer projecting end of the stem or spindle *E'* has pivoted thereto one end of a latch or notched lever *F*, said lever being provided with two notches or indentations *f'* and *f''* (although there may be any number of these notches which is found best) and having its outer end *f* bent downward. To the end *f* is connected the end of a cord, rope, cable, or other operating device *g*, which passes around a grooved pulley *h*, supported on the horizontal arm *H*, fixed in the end of the car. The cord or operating device thence runs upward around a pulley *i*, mounted on the side of the car, or it may run outward to the top of the car, as shown in Fig. 1. The end of the rope *g* is provided with a ring *g'*, adapted to be grasped for the purpose of operating the rope. Thus it will be seen that the end of said rope may be accessible either from the side or the top of the car. The purpose of manipulating the rope *g* is to lift the latch-lever *F*. The notches or indentations of said latch-lever are adapted to come into engagement with the horizontal arm *G*, fixed in the end of the car. In Fig. 1 we see the notch *f'* in engagement with the arm *G*. In Fig. 5 we see the notch *f''* in engagement with said arm. The notch *f''* engages the arm *G* when the pin has been drawn sidewise, so as to clear the mouth of the draw-head and permit free entry of the link, and the engagement of the notch *f''* with the arm *G* holds the pin in this position and prevents it from returning, which it would otherwise do under the action of the spring *E''*. When the pin E lies across the mouth of the draw-head in engagement with the link, as shown in Fig. 3, then the notch *f'* is in engagement with the arm *G*, and this engagement assists in keeping the pin E in engagement with the link and preventing any possibility of disengagement of these parts. The notch *f'* and arm *G* therefore constitute a supplementary device to the action of the spring *E''* in keeping pin E in engagement with link C. It will be noted that by simply pulling upon the cord *g* the latch *F* can be lifted sufficiently to disengage either of its notches from the arms *G*.

K denotes the head of the pin-supporting block or draw-bar, which moves back and forth within the draw-head and serves to receive against its outer face the end of the link when the latter enters the mouth of the draw-head for the purpose of coupling. It also holds the pin E in the position shown in Fig. 5—that is to say, it may have the function of so holding the pin E, although when the latch *F* is employed no great pressure will be thrown upon the head K. The head K is provided with a round portion *K'*, which moves within the circular bearing in the end *L'* of a stationary block fixed in any suitable manner within the draw-head, the other end *L* of said stationary block being provided with a passage-way which receives the end of a stem or spindle *K''*, which is formed integral with the round portion *K'*, although of considerably less diameter, the spindle *K''* being enveloped by a spring *k*, which is tensioned between the bearing *L* and the end of the round portion *K'*. Behind the stationary part *L* is a washer *l*, which may be of greater or less size and made of any suitable or desirable material. It may be of considerable size and made of rubber or other flexible substance, so as to form a rear cushion, which will make the action of the parts yielding and easy. On the round portion *K'* are one or more washers *m*, located close up against the head K. By regulating the size and number of these washers the extent of movement of the head K as regards the part *L'* may be governed.

In my improved car-coupler I use any desirable kind of coupling-link—such, for instance, as the flat link C, having the two circular openings, as shown. By referring to Fig. 3, we will see the position of the several parts of the couplers on two cars after the coupling together thereof has been effected. In Fig. 4 we will see the position of the parts when the two cars are coming together for the purpose of coupling. In this latter figure the buffers have already met and are pressing easily upon each other, while the link has just struck the head K and is beginning to push the same inwardly. The result of the continued pressure of the link C upon the head K will be to thrust the head K inwardly into the position shown in Fig. 3, and thus will remove it from its position opposite to the pin E. Then the operator by laying hold of the cord *g* can disengage the latch and allow the pin E to shoot through the adjoining hole in the link, and thus the pin and link become firmly engaged. It will be found that the action of the buffers which are in contact with each other will be of considerable importance in the practical use of the coupler, inasmuch as this action will impart a certain rigidity and firmness to the coupling connection and make the movement and relative action of all the parts easy and prevent undue jarring or oscillation which might take place from a too great looseness in the several connections. The pressure of the two buffers upon each other will serve

to keep the link tight and firm in its position, and therefore we are to look upon the buffer feature as one of importance in the combination.

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

1. In a car-coupler, the combination, with the draw-head, of a lateral tubular extension, 10 a spring-provided pin within said extension, a pin-supporting block within the draw-head, and a coupling-link, substantially as described.

2. In a car-coupler, the combination, with a 15 draw-head having a lateral tubular extension, of a spring-provided coupling-pin within said extension, a latch on the outer end of said coupling-link and an operating-cord connected to the latch, a spring-provided pin- 20 supporting block within the draw-head, and a suitable coupling-link, all combined substantially as described.

3. The combination, in a car-coupler, with a 25 draw-head and an auxiliary buffer-block, of the lateral tubular extension on the draw-head, a spring-provided pin within said extension, a spring-provided pin-supporting block within the draw-head, a latch on the outer end, the spindle, the pin, the cord for operating said 30 latch, and a coupling-link, substantially as described.

4. In a car-coupler, the combination, with the draw-head having the lateral tubular extension D, of the pin E, having the spindle E' 35 surrounded by the spring E², the adjoining pin-hole *e* in the draw-head, and the cover *a* for said hole, substantially as described.

5. In a car-coupler, the combination, with the draw-head B, having the lateral tubular ex- 40 tension D, of the coupling-pin E therein, hav-

ing the stem E' and the spring E², the latch F, having the notches *f'* and *f*², said latch being pivoted to the end of the spindle E', the arm or pin G, adapted to be engaged by the 45 notches of the latch, and the cord *g*, connected to the outer end of the latch, substantially as described.

6. The combination, with the draw-head B, having a buffer-chamber B', of a yielding buffer-block I in said buffer-chamber, the lateral 50 tubular extension D on said buffer-block, a spring-provided coupling-pin E within said extension, a spring-provided pin-supporting block K within the draw-head, a latch F, having notches *f'* and *f*², said latch being pivoted 55 to the spindle of the coupling-pin, an operating-cord *g*, passing around suitable pulleys and connected to the end of said latch, and a suitable coupling-link, all substantially as described. 60

7. The combination, in a car-coupler, of the draw-head B, having a buffer-block chamber B', a buffer-block I, having a yielding face J and a spindle I', provided with spring J', a 65 spring-provided pin-supporting block K within the draw-head, a lateral tubular extension D on the draw-head, a coupling-pin E within said extension, having a spindle E' enveloped by spring E², a pivoted cover *a* for the pin-hole *e*, which is adapted to be entered 70 by the pin E, a latch F, pivoted to the end of the spindle of the coupling-pin, and an operating-cord for disengaging said latch, all arranged substantially as described.

In testimony whereof I affix my signature in 75 presence of two witnesses.

OSBERN WELLS.

Witnesses:

GEO. L. CLARK,
WM. L. BOYDEN.