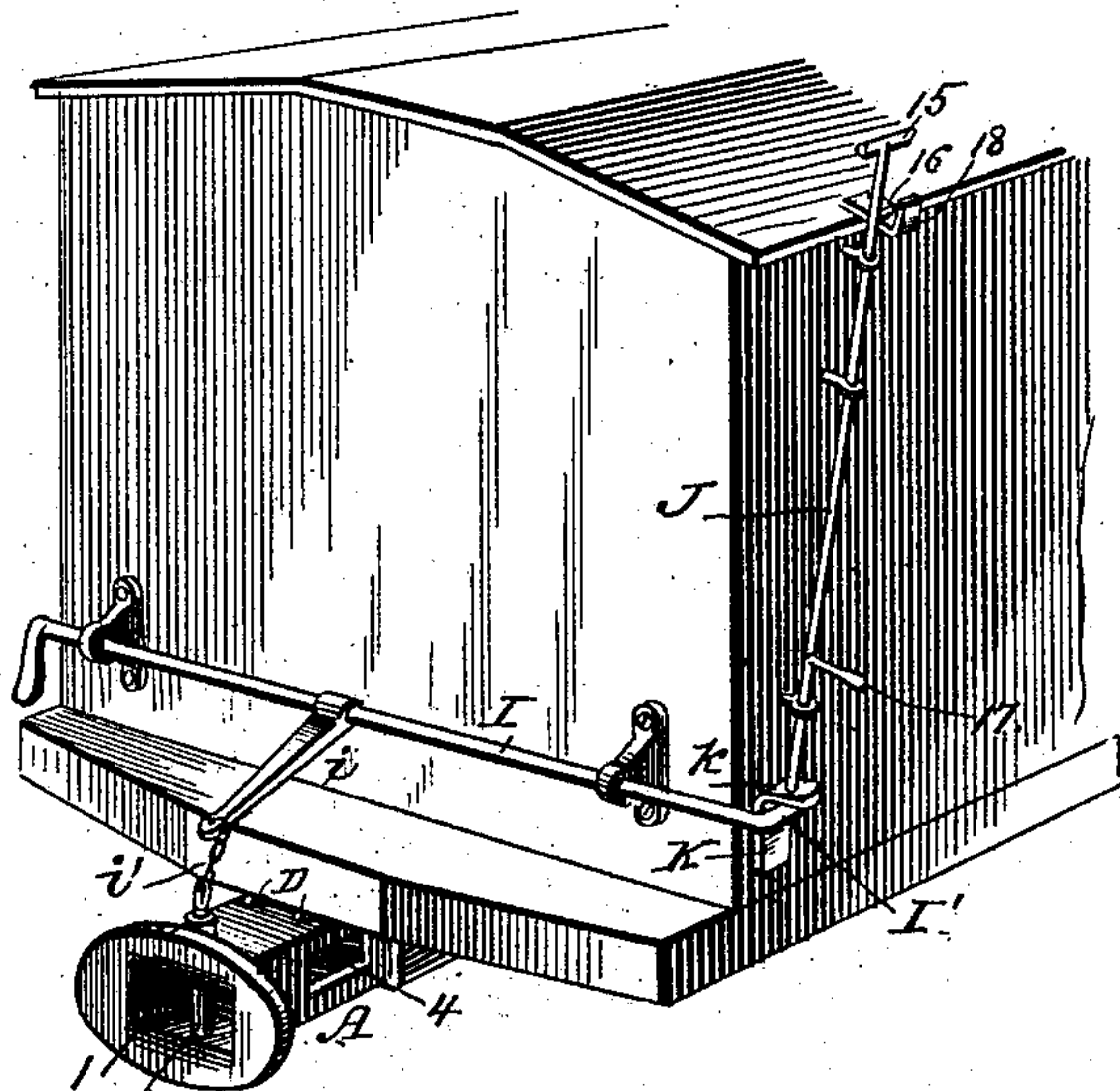


(No Model.)

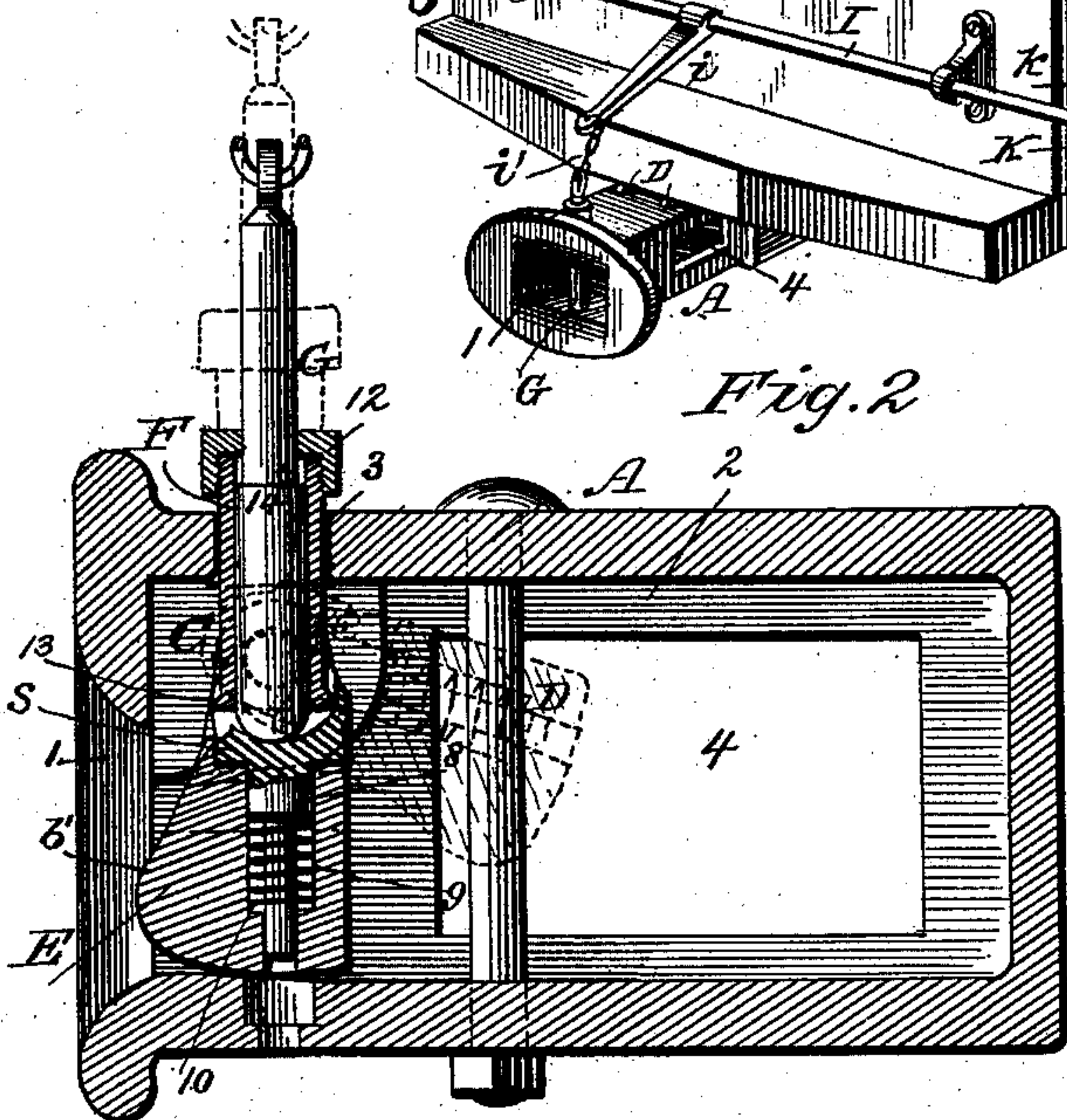
**B. F. LAIRD.**  
**CAR COUPLING.**

No. 357,011.

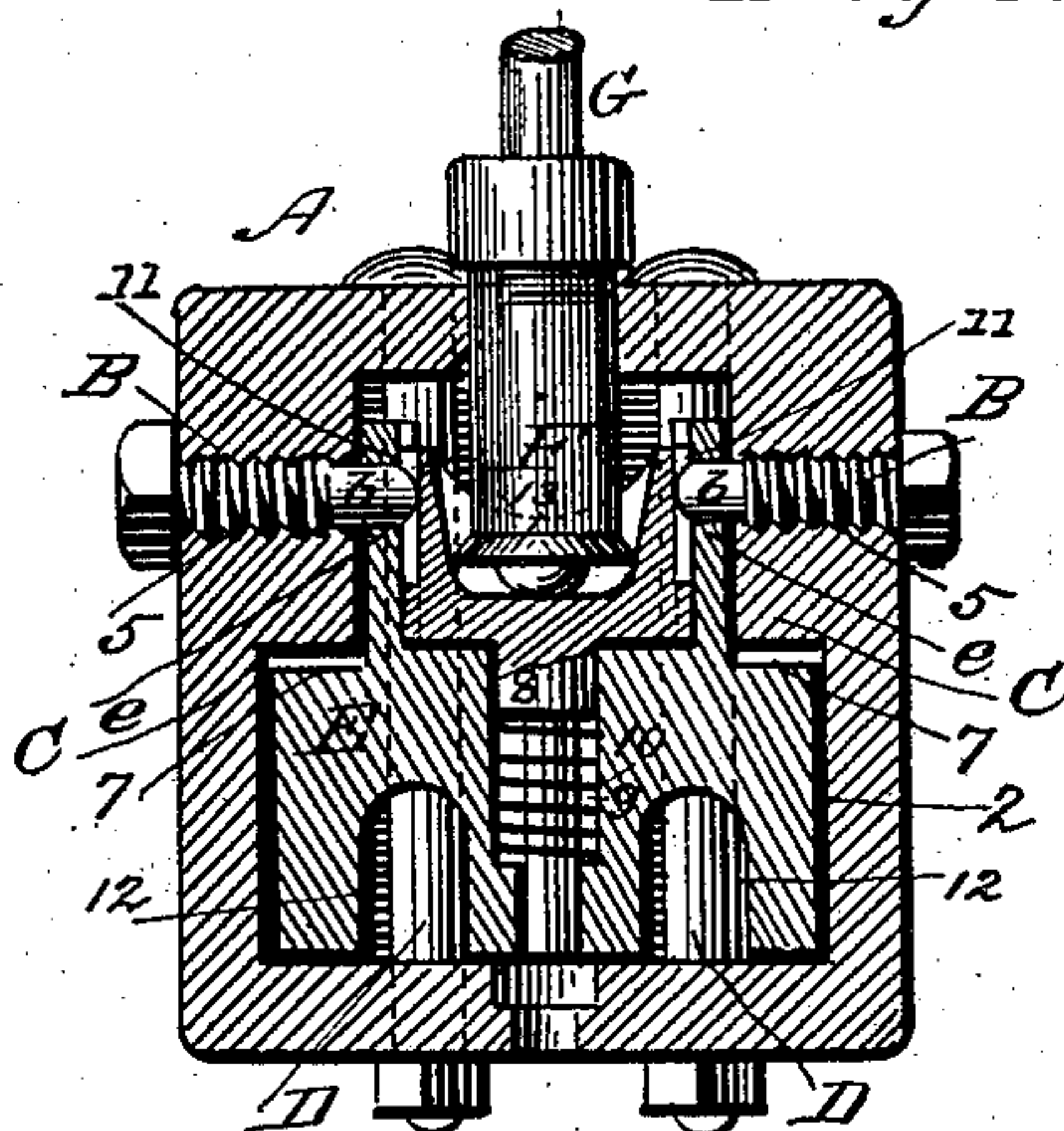
Patented Feb. 1, 1887.



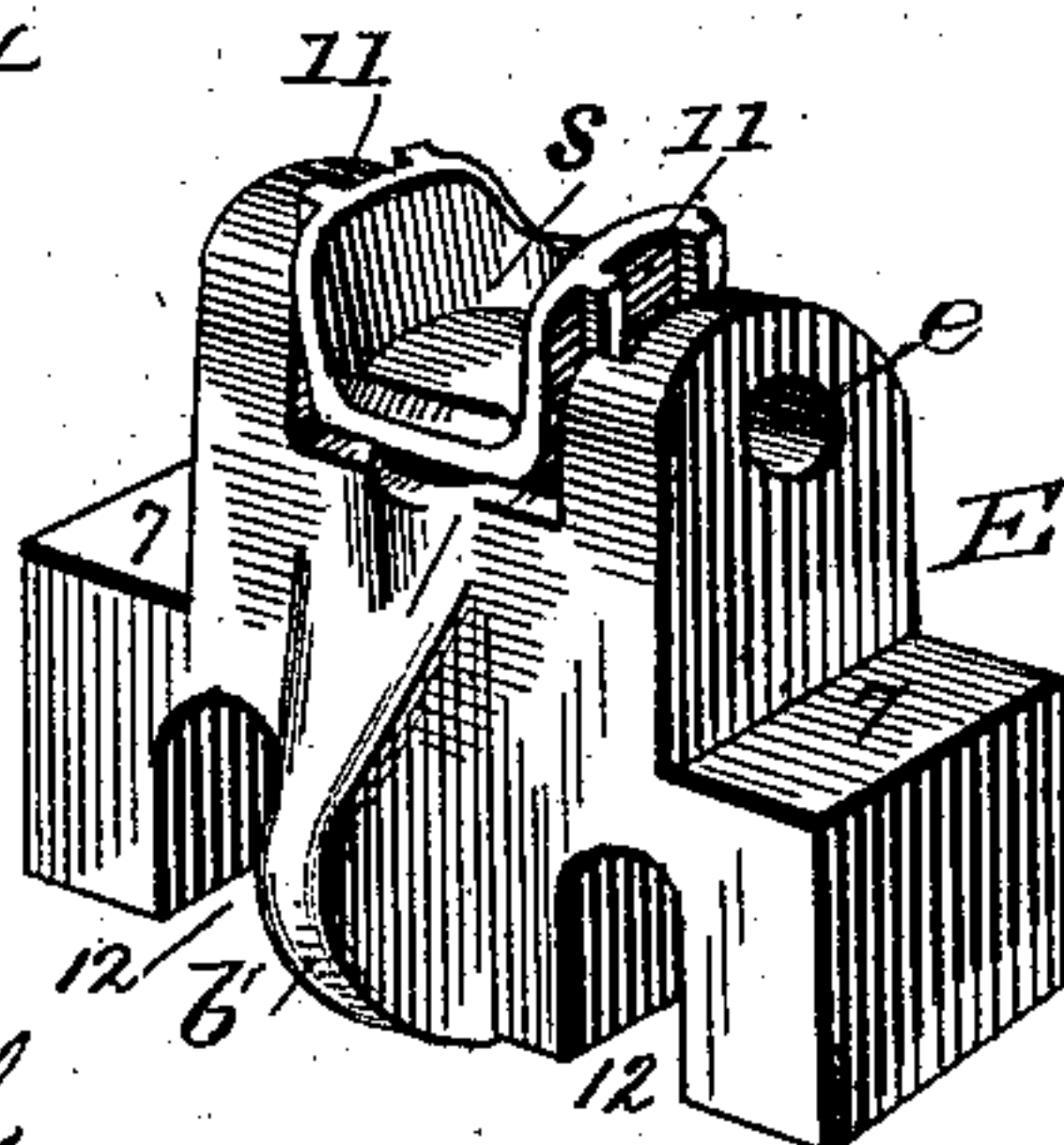
*Fig. 2*



*Fig. 3.*



*Fig. 4*



WITNESSES:

Fred G. Dietrich  
P.B. Surpin.

**INVENTOR:**

INVENTOR:  
R. F. Laird  
BY Munn & Co

**ATTORNEYS.**



# UNITED STATES PATENT OFFICE.

BUSH F. LAIRD, OF OCEAN SPRINGS, MISSISSIPPI.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 357,011, dated February 1, 1887.

Application filed April 24, 1886. Serial No. 200,105. (No model.)

*To all whom it may concern:*

Be it known that I, BUSH F. LAIRD, of Ocean Springs, in the county of Jackson and State of Mississippi, have invented a new and  
5 useful Improvement in Car-Couplings, of which the following is a specification.

My invention is an improved car-coupling; and it consists in certain features of construction and novel combinations of parts, as will  
10 be described.

In the drawings, Figure 1 is a perspective view of my coupling. Fig. 2 is a vertical longitudinal section of the coupling devices. Fig. 3 is a transverse section drawn alongside of  
15 the pins which form pivots for the coupling-pin support. Fig. 4 is a detail view of the pin-support, the elevator being in place.

The draw-head A, except in the particulars hereinafter described, may be of ordinary construction. It has a mouth, 1, leading to its mortise 2, and is provided with a pin-opening,  
20 3, through its top wall. Through its sides, in rear of such pin-opening, are formed openings 4, which facilitate the insertion and removal  
25 of the pin-support, presently described, and threaded openings 5 lead through the sides of the draw-head, for the reception of pins B, the inner ends or points, *b*, of which fit in the side  
30 grooves of the spring-actuated elevator, hereinafter described.

Within the draw-head its walls are formed with shoulders C, which project inward, and are curved in arcs struck from pins B as centers. In rear of such shoulders bolts D extend  
35 between the upper and lower walls of the draw-head, and such bolts serve in use as stops or abutments for the link entering the draw-head.

The pin-support E is pivoted at *e* upon the  
40 bolts B, and has a portion, S, which in the normal position of the support rests immediately under the pin-opening 3, and supports the pin in position for coupling with a link entering the draw-head. This support E is  
45 formed on its front face with an oval or rounded portion, *b'*, fitted to be struck by the link, and at its sides the support has shoulders 7, which move against the shoulders C of the draw-head, such shoulders 7 and C serving as guides to  
50 steady the movement of the swinging support E. The portion S, which forms a rest for the

pin, is by preference formed separate from the body of the support, and is given a tension outward therefrom. In the construction shown the rest S has a flange or rib extended up from  
55 its sides and rear edge, and is provided with a depending stem, 8, which enters a socket, 9, in the body of the support and is encircled by a spring, 10, by which the elevator or rest S is pressed normally outward. In its sides the  
60 rest has grooves 11 opening out of its upper edge. The points *b* of screws B enter these grooves and prevent the rest from being forced out of the body of the support, while they permit a limited movement of said rest, as will be  
65 seen.

The support has slots 12 cut from its lower edge to fit over the bolts D when the support is swung back. A sleeve or cylinder, F, is placed  
70 and movable vertically in the pin-opening 3, and the pin G moves through such cylinder, as shown. At its upper end the cylinder has a cap, 12, screwed onto it, and it is provided at its lower end with an outwardly-projected annular flange, 13. This cap 12 and flange 13  
75 bear, respectively, above and below the top wall of the draw-head and hold the cylinder from being moved so far up or down as to effect its detachment from the draw-head.

The pin G is movable vertically in the sleeve,  
80 and has an upwardly-facing shoulder, 14, which engages the top plate of cap 12 and prevents the pin from being drawn up out of the sleeve, and enables the elevation of the sleeve by the uplifting of the pin, as will be  
85 seen.

The pin may have a head or ring at its upper end, to prevent its falling through the sleeve; or the pin may fit at its lower end into a socket in the base wall of the draw-head.  
90

Manifestly, instead of enlarging the lower portion of the pin, as shown, it might be made of a uniform diameter and a sleeve be fixed on it in proper position to form the shoulder, as desired. When the pin is supported on the  
95 rest and a link enters the draw-head, the support E is swung back and the pin G and cylinder F fall of gravity in front of the rest of the support E, the pin passing through the link and securing the same. The support now, by  
100 its gravity, presses forward against the sleeve F, the pressure being borne by such sleeve



and not affecting the free movement of the pin to uncouple when such result is desired. When the pin is withdrawn, it engages and elevates the sleeve. It will be seen, therefore, that the sleeve constitutes a guard which interposes itself between the support and the pin when the latter is lowered.

When coupled, and the cars are jammed together, the links in the draw-head will force the rear ends of the supports upward, and the elevator will press forward against the sleeve. Now, if the pin be raised, the elevator will press forward under it and hold the pin up. Then the draw-heads will be uncoupled when draft is exerted on one or the other of the cars to which they are attached.

To elevate the pin a shaft, I, having a crank, *i*, connected by chain *i'* with the pin, may be journaled to the car, as shown in Fig. 1. By turning this shaft the pin may be raised or it may be lowered into coupled position, as desired.

In the use of my invention it is not necessary for an operator to go between the cars to effect either a coupling or uncoupling of same.

In order to operate the shaft I from the top of the car, I secure a rod, J, in suitable guides to the side of the car, so it may be moved vertically. This rod has a hand-hold, 15, a short arm, 16, and a handle-rod, 17, arranged as shown. The hand-hold is above the top of the car, and the arm 16 is arranged to engage the catch 18 on the car. A carrier, K, has a hook, *k*, at its upper end, and it is swiveled to the lower end of the rod J, its hook *k* being adapted to engage and depress the arm I' of shaft I in the movements of rod J. When the rod J is raised and turned so its arm 16 will engage catch 18, as shown in Fig. 1, the rod J will have no effect on shaft I, but the weight of arm *i* and the end crank opposite crank I' will turn the shaft I to the position shown in Fig. 1. To uncouple, the rod J should be raised so its arm 16 can be turned clear of the catch 18 on the car, when, by turning the rod J to clear arm 16 of catch 18, the rod may be depressed to operate arm I' to turn shaft, and so elevate the pin. When freed from catch 18, the weight of rod J will turn shaft I sufficiently to draw the chain taut, when a depression of rod J will uncouple.

Having thus described my invention, what I claim as new is—

1. The combination of the draw-head, a pin, a support whereby to secure such pin in elevated position, and a sleeve encircling said pin and movable, substantially as set forth.

2. The combination of the draw-head, the pin-support, the sleeve encircling the pin, and the pin adapted to elevate said sleeve, substantially as set forth.

3. The combination of the pin, the support E therefor, the rest *s*, and a spring for actuating such rest, substantially as set forth.

4. The support E, having guides for the rest, the rest *s*, fitted to such guides, and the spring for actuating such rest, substantially as set forth.

5. The combination, with the draw-head and the coupling-pin, of the support having a spring-actuated rest, such rest having its sides grooved, and pivot-bolts for securing such support in the draw-head, the points of said bolts being extended into the grooves of the spring-actuated rest, substantially as set forth.

6. The combination of the pivoted support having a movable rest and a spring for actuating such rest, the coupling-pin, and the sleeve encircling said pin, substantially as set forth.

7. The combination of the draw-head, the stop-bolts D, and the pin-support having slots 12, substantially as set forth.

8. The combination of the stop-bolts, the support having a spring-actuated rest, the coupling-pin, and the sleeve encircling said pin, substantially as set forth.

9. In a car-coupling, a pin-support comprising a body or main portion, a rest having an upwardly-projected flange along its sides and across its rear edge, and a spring for actuating said rest, substantially as set forth.

10. A pin and a support adapted to turn under and secure such pin in elevated position and back to release the same, combined with a guard arranged and adapted to interpose itself between the support and pin when the latter is lowered, substantially as set forth.

11. The combination, with the pin and a guard therefor, of a support having a spring-actuated rest, and means, substantially as described, for limiting the movement of said rest, substantially as set forth.

12. The combination of the coupling devices, the shaft I, having arm I', the carrier, the rod J, swiveled to the carrier and having arm 16, and a catch for engagement by said arm 16, substantially as set forth.

BUSH F. LAIRD.

Witnesses:

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E. HART.