

(No Model.)

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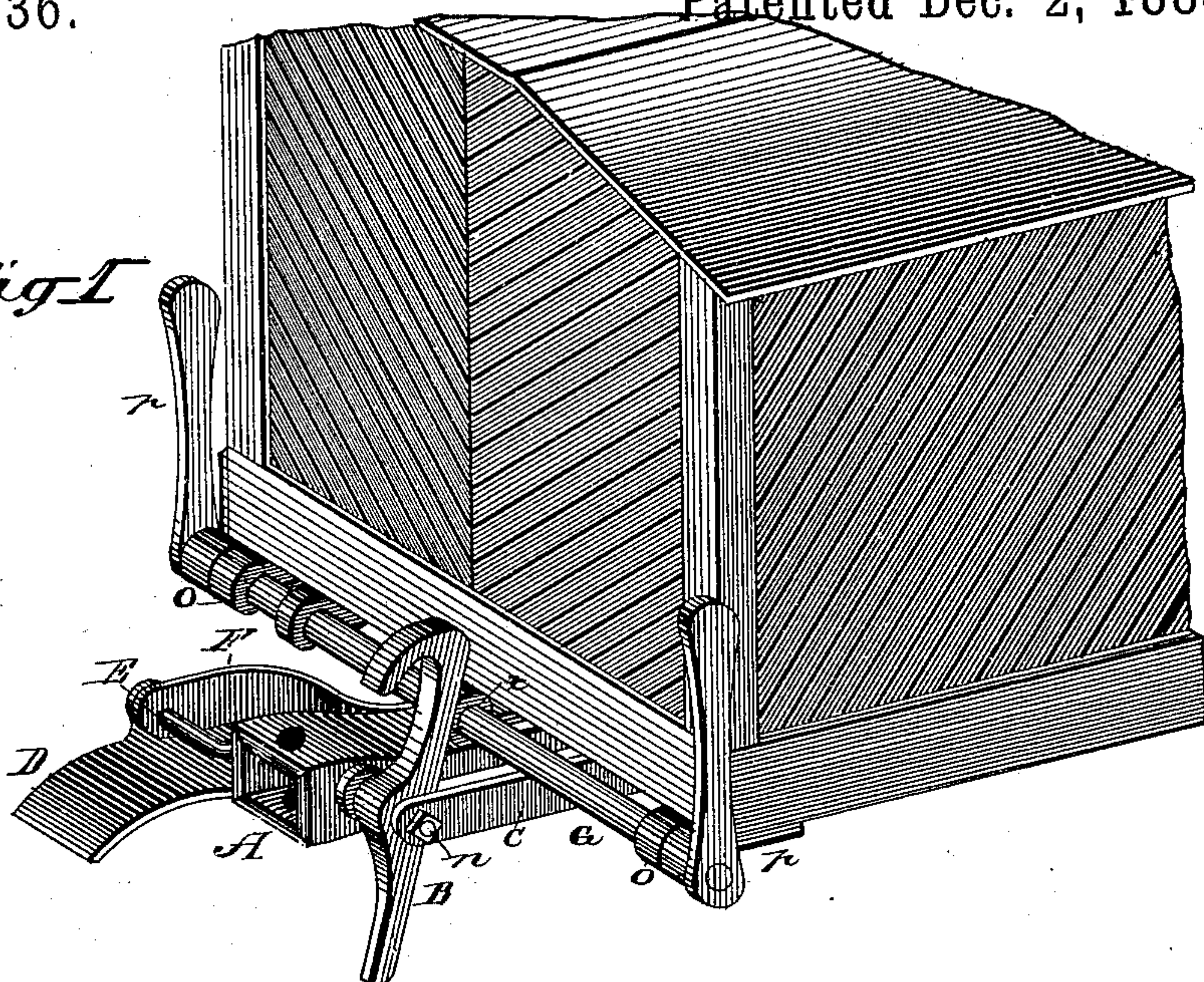
F. F. SIDDALL.

CAR COUPLING.

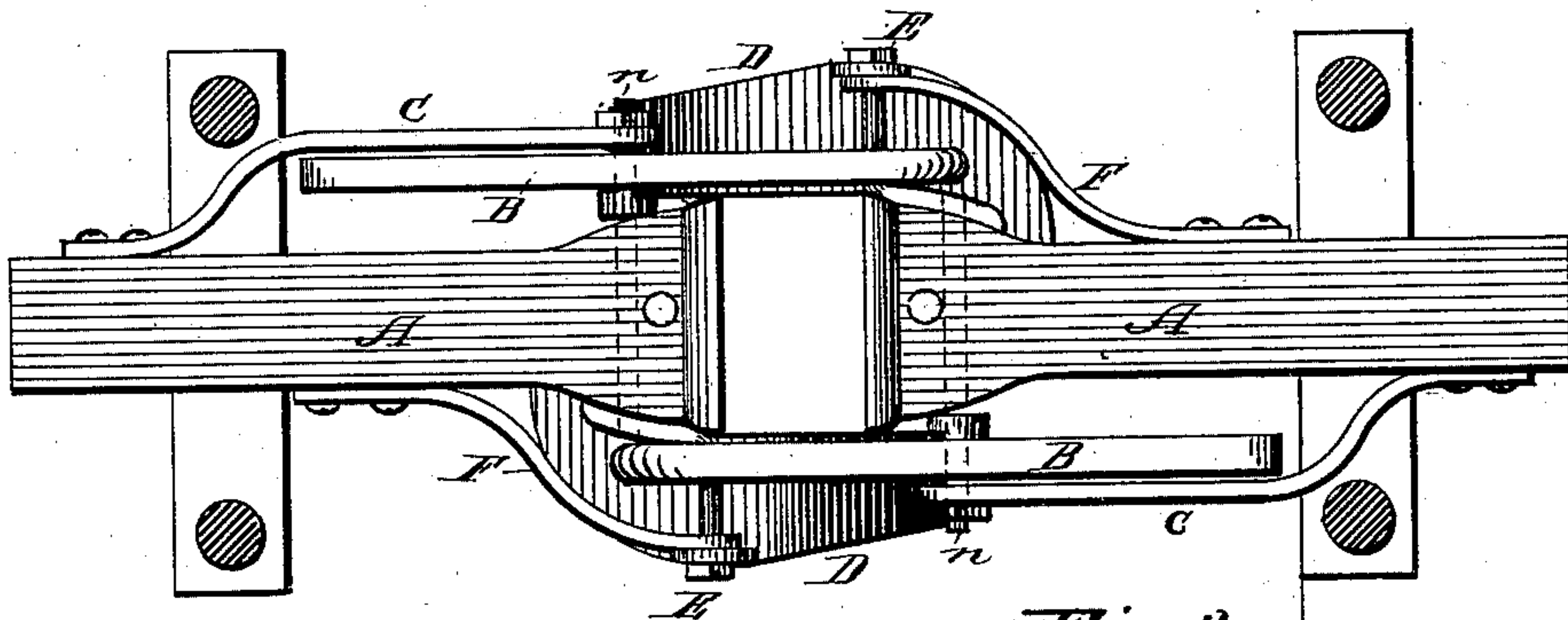
No. 308,636.

Patented Dec. 2, 1884.

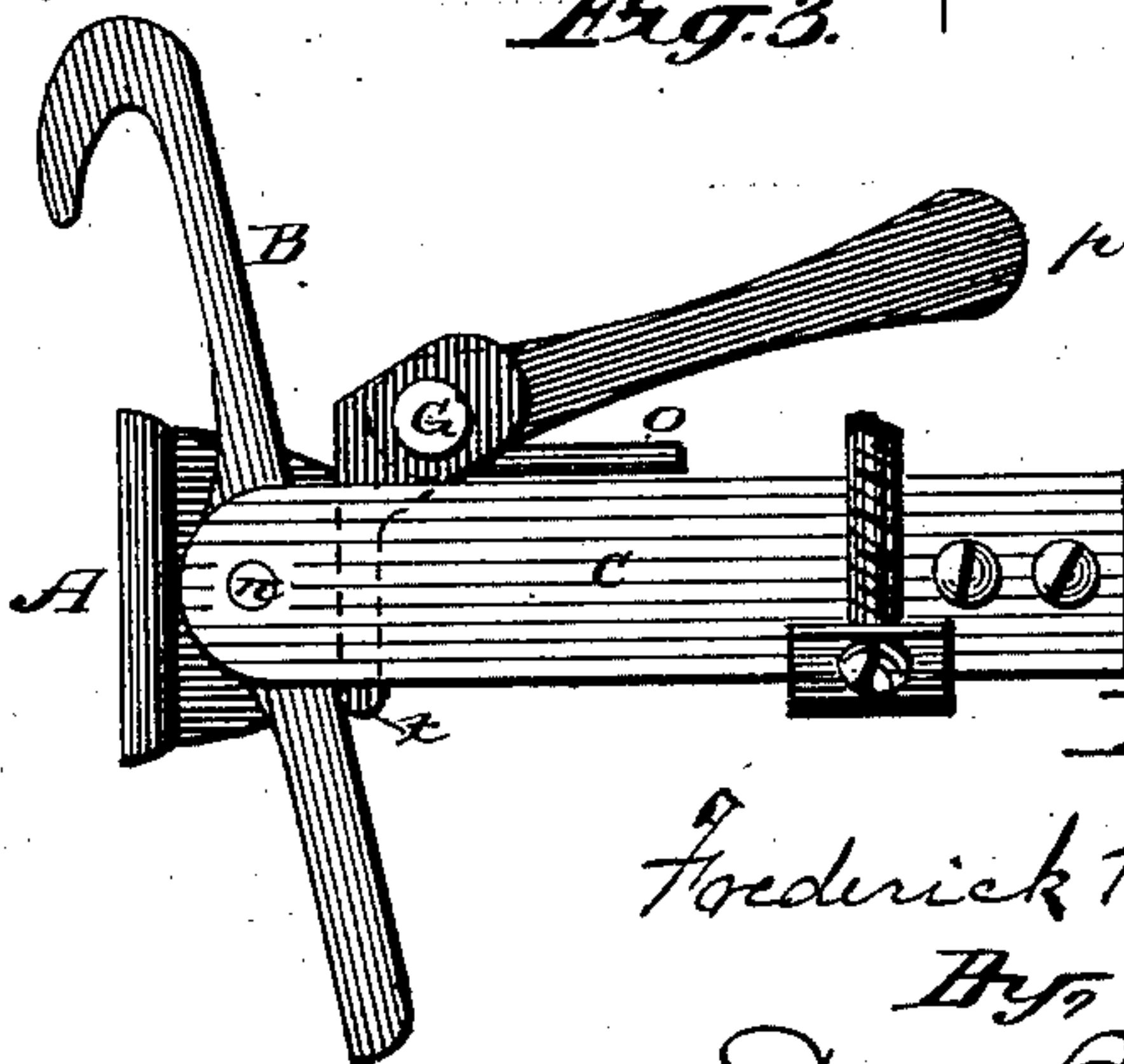
*Fig. 1*



*Fig. 2.*



*Fig. 3.*



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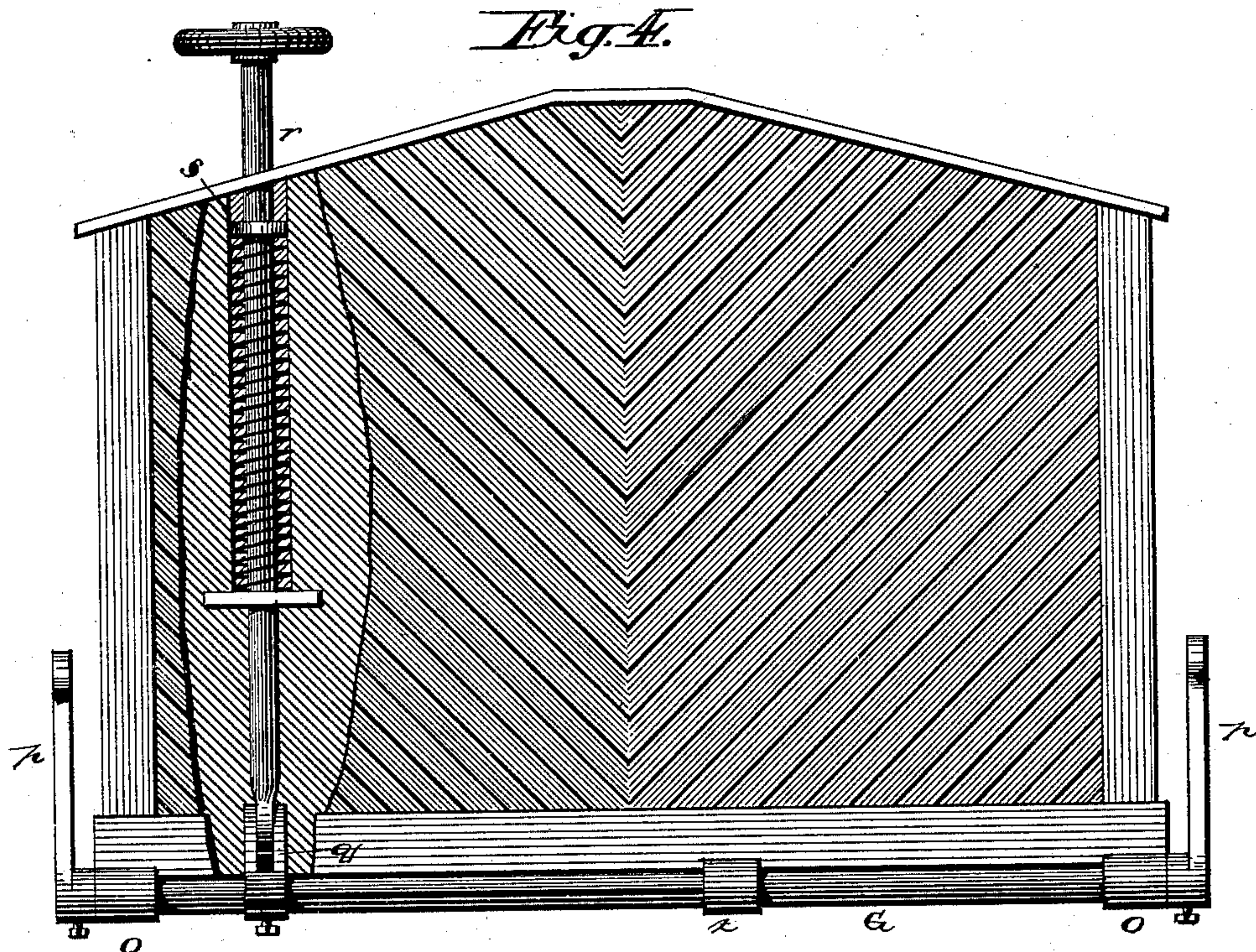
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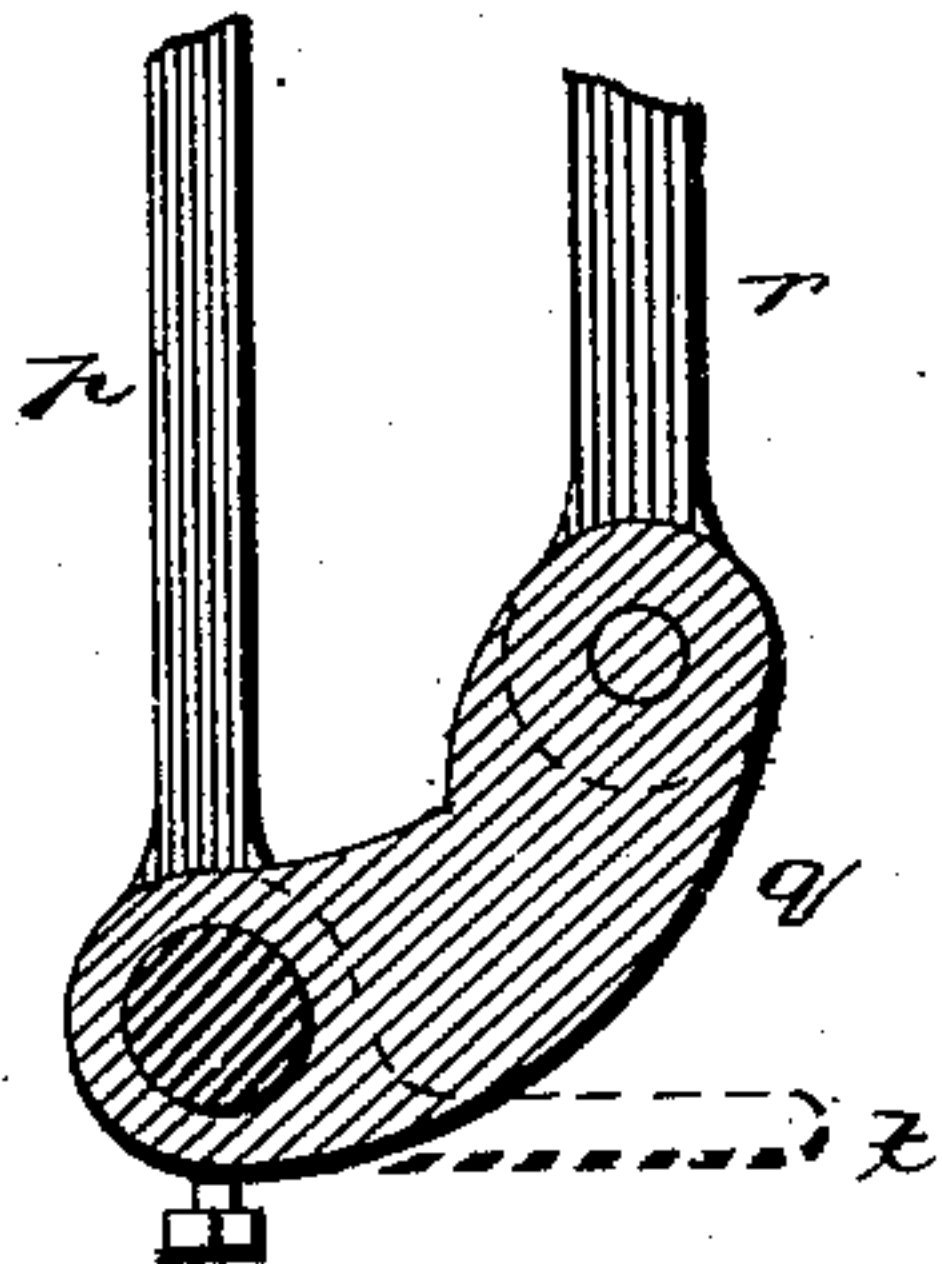
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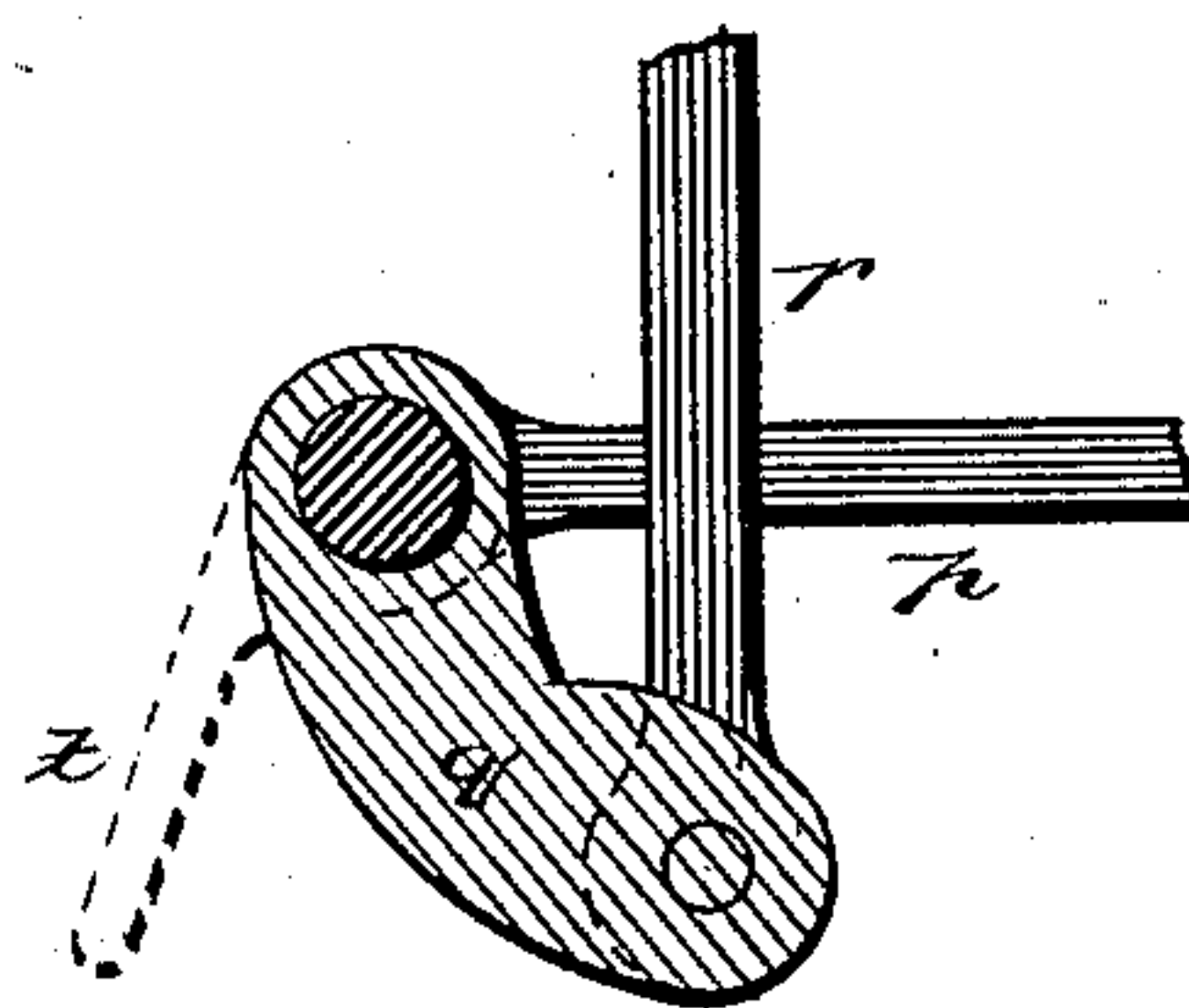
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*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

FREDERICK F. SIDDALL, OF MILWAUKEE, WISCONSIN.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 308,636, dated December 2, 1884.

Application filed May 15, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK F. SIDDALL, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Car-Couplings; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in car-couplings.

The object of my invention is to provide a strong, reliable, and practical device for coupling cars, by which device cars are coupled together automatically, and may be readily uncoupled by a lever operated at the side or top of the car. I attain these objects by the mechanism hereinafter described, which is better explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of the end of a car, showing my device attached thereto. Fig. 2 is a top view of the coupling device. Fig. 3 is a side view of a part of the device, showing the coupling bar and hook and a part of the uncoupling device. Fig. 4 is a view of the end of a car, with a portion broken away, showing the uncoupling device. Figs. 5 and 6 are detail views.

Like letters refer to the same parts in all the views.

In the drawings, A A are the draw-bars of the car, and, as here shown, are those in common use on freight-cars, having an open rectangular flaring-mouthed draw-head adapted for the use of a pin and coupling-link in coupling cars together.

My device is readily applied to cars having such draw-heads, without in any manner interfering with their capability of being coupled together, if occasion requires it, in the way for which such draw-head was originally intended—to wit, with pin and link.

B is a coupling-bar terminating at the front end in a downwardly and inwardly curved hook, which bar is centrally pivoted to the

side of the draw-bar, preferably by a bolt, *n*, through a keeper-arm, C, and through said bar and into or through the draw-bar, said keeper-arm being at its rear extremity affixed to the draw-bar. The rear arm of this coupling-bar is adapted, when the hook is thrown forward, to strike against the under side of the arm *t* on the rod G, and thereby said bar is adapted by gravity to be held in horizontal position.

To the draw-bar, on the side opposite to that on which the coupling-bar is placed, I affix a guard-plate, D, and draw-bolt E, supported and strengthened by the keeper-arm F. The guard-plate D extends forward of the draw-head, and curves or inclines downwardly somewhat in front of the draw-bolt E, and is adapted for the twofold purpose, first, of impinging against the rear (or lower) end of the coupling-bar when said bar is in a vertical position, as in Fig. 1, as the cars come together, and thereby throwing its front or hook end forward, whereby and by its gravity said coupling-bar is thrown over, and by its hook couples onto the draw-bolt E of the other car; and, second, by its downward inclination to the front to pass beneath the coupling-bar on a lower car, and, if need be, to carry the front or hook end of the coupling-bar on such lower car upward toward the draw-bolt as the cars come together. The draw-bolt E is rigidly affixed to the side of the draw-bar A, and preferably supported and strengthened by the keeper-arm F, rigidly affixed to said draw-bar, and is adapted to receive and hold the hook of the coupling-bar B of the other car. The hook on the coupling-bar has a rearward as well as downward inclination on its front outward lower part, adapted, if thrown down in front of the bolt E as the cars come together, to be thereby caught and carried upward and over said bolt, so as in all cases to insure an automatic coupling.

G is a rod extending across the lower end of the car, having a rotating motion in its supporting-bearings *o o*, which bearings are rigidly affixed to the car. The rod G is provided at its extremities at the side of the car with the rigid adjustable arms or levers *p p*, and also with the rigid adjustable arm or lever *q*, to the free extremity of which is pivoted the



rod or hand-arm *r*, which rod *r* is supported vertically to and through the roof of the car. The rod *r* is provided with a rigid collar, *s*, beneath which collar and around the rod is a spiral spring supported at its lower end upon a rest or ledge in the frame or side of the car, which spring, resisting upwardly against said collar, is adapted to throw and hold said rod *r* up, and thereby, through the lever *q*, to hold the rod *G* and the hand-levers *p p* and the tripping-arm *t* in the position shown in Fig. 5. The tripping-arm *t* is at one end adjustably affixed to the rod *G* in line with the coupling-bar *B*, and by its free end is adapted to bear against the rear arm of bar *B* and raise it from a horizontal to a vertical position.

As has been hereinbefore indicated, the forward or hook end of the coupling-bar is somewhat heavier than the rear end, so that when the front end is thrown forward and the rear end tips upward and strikes against the tripping-arm *t* (the arm *t* being in the position shown in Fig. 5) the bar remains at rest in a horizontal position, and when, by means of the arms *p p* or *q*, the tripping-arm *t* is swung downward and forward against the rear arm of the coupling-bar, (it being in a horizontal position, either coupled or otherwise,) the arm *t* being forced into the position shown in Fig. 6, the coupling-bar is thereby thrown into the position shown in Fig. 1, and by its gravity remains in that position, ready for the act of coupling, though the arm *t* is withdrawn from contact therewith by the action of the spiral spring about the rod *r*. Thus it is obvious that the act of coupling is automatically performed by the guard-plate *D* striking against the rear end of the coupling-bar *B* and throwing the hook forward upon and over the draw-bolt of the car to be coupled thereto, or, if the draw-bar is already in the horizontal position, by the guard-plate *D* passing under the approaching coupling-bar and raising the hook up to the draw-bolt, over which it passes as the two cars are forced together, by reason of the inclination on the lower front part of the hook impinging against the draw-bolt and being raised thereby over it; and it is also obvious that the cars may at any time be uncoupled without going between them by means of the arms *p p* or rod and arms *r* and *q* through the rod *G* and tripping-arm *t*.

I use one coupling bar and hook and one guard-plate at each end of every car, always placing the bar on the same side (either right

or left) of the draw-bar, thereby securing a proper complement of bar and guard for coupling, and thereby providing a double coupling in all cases.

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

1. In car-coupling devices, a coupling-bar provided with a downwardly and rearwardly curving hook at its front and heavier end, centrally pivoted to the side of the draw-bar, in combination with a draw-bolt rigidly affixed to the opposite side of the draw-bar, and a guard-plate also rigidly affixed to the draw-bar on the same side of the draw-bar as and below the draw-bolt, which guard-plate extends in front of and downwardly from the draw-bolt, said coupling-bar, with its hook, and said guard-plate and draw-bolt being adapted automatically to couple together cars which are each provided with said devices, substantially as and for the purpose set forth.

2. In car-coupling devices, the rod *G*, rotating in bearings *o o*, affixed to the car, said rod being provided with the adjustable arms *p p* and *q* and the tripping-rod *t*, said arm *q* having pivoted thereto the rod *r*, which rod *r* is provided with collar *s*, and is borne upward by a spiral spring resting on the car-frame, or other equivalent means, substantially as and for the purpose set forth.

3. In car-coupling devices, the coupling-bar *B*, centrally pivoted at the side of and to the draw-bar *A*, said coupling-bar being provided at its front and heavier end with a downwardly and inwardly curving hook, the draw-bar *A*, the draw-bolt *E*, rigidly affixed to the opposite side of the draw-bar, and the forwardly-extending and downwardly-inclining guard-plate *D*, which guard-plate is rigidly affixed to said draw-bar, in combination with the rod *G*, rotating in bearings *o o*, rigidly affixed to the car, the arms *p p* and *q*, affixed to said rod *G*, and the rod *r*, pivoted to the arm *q*, and provided with the collar *s*, and a spiral spring or other equivalent means for bearing said rod *r* upward, and the tripping-arm *t*, substantially as and for the purpose set forth.

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

FREDERICK F. SIDDALL.

Witnesses:

C. T. BENEDICT,  
JAS. B. ERWIN.