

(No Model.)

J. E. THOMAS.
CAR COUPLING.

No. 548,098.

Patented Oct. 15, 1895.

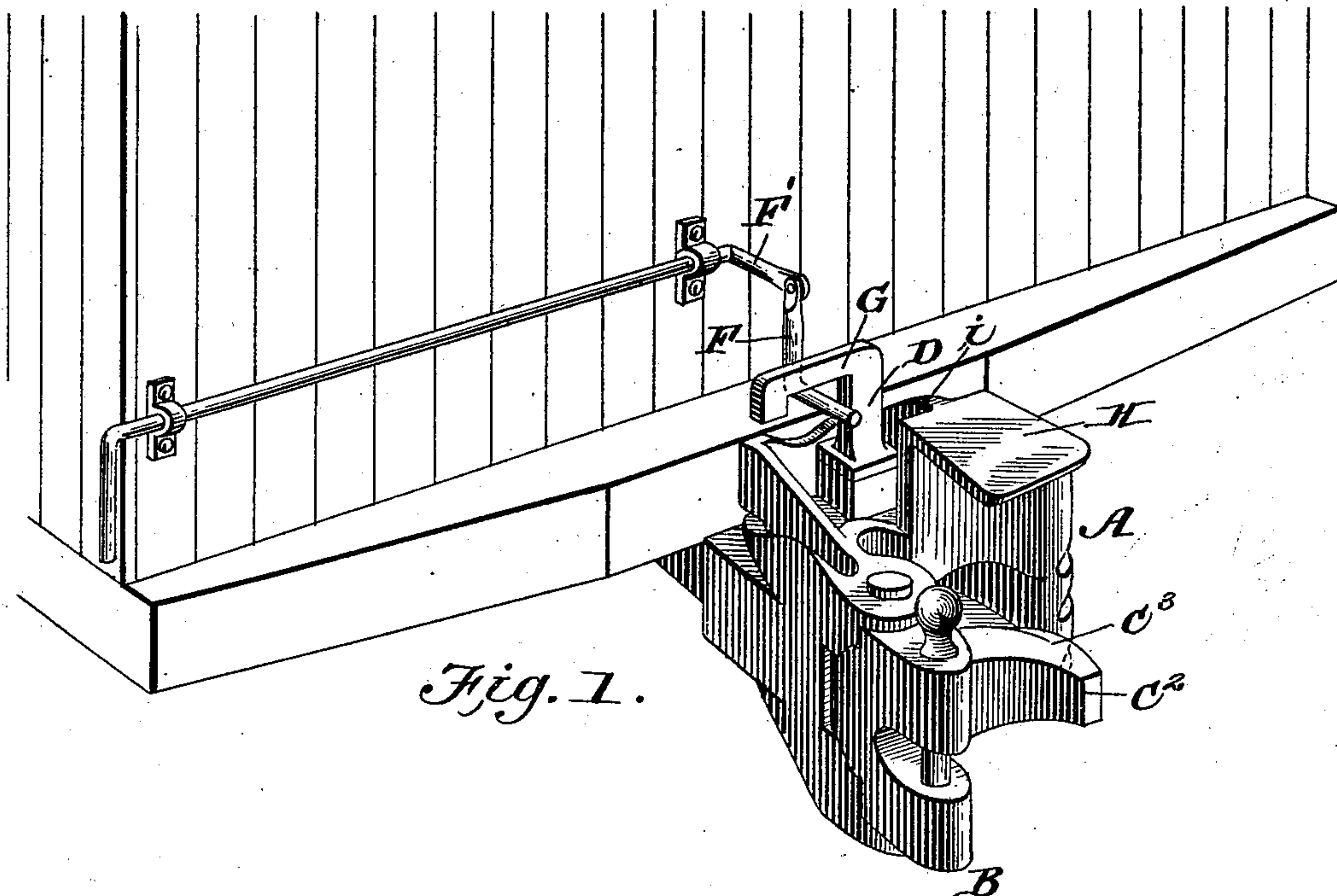


Fig. 1.

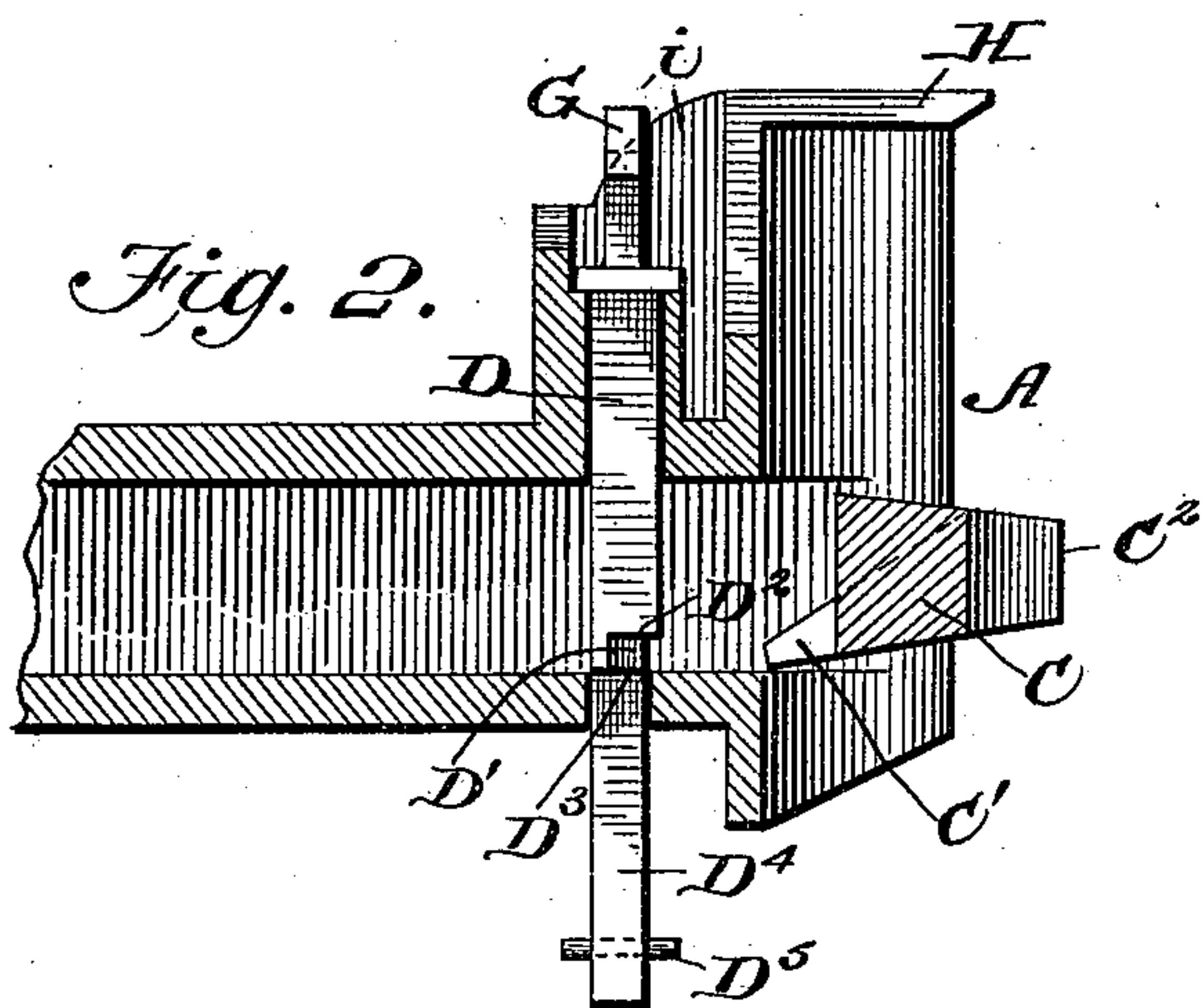


Fig. 2.

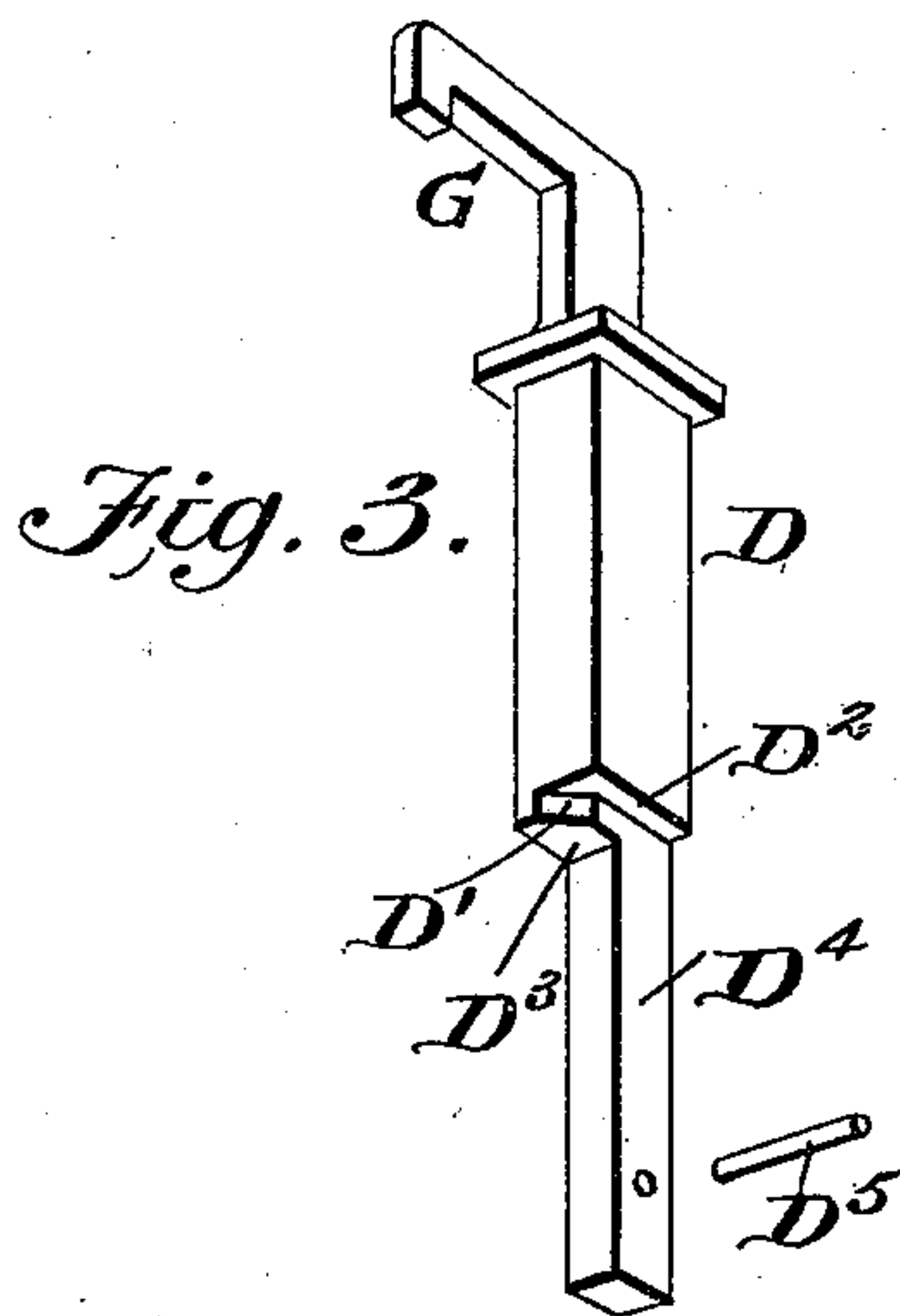


Fig. 3.

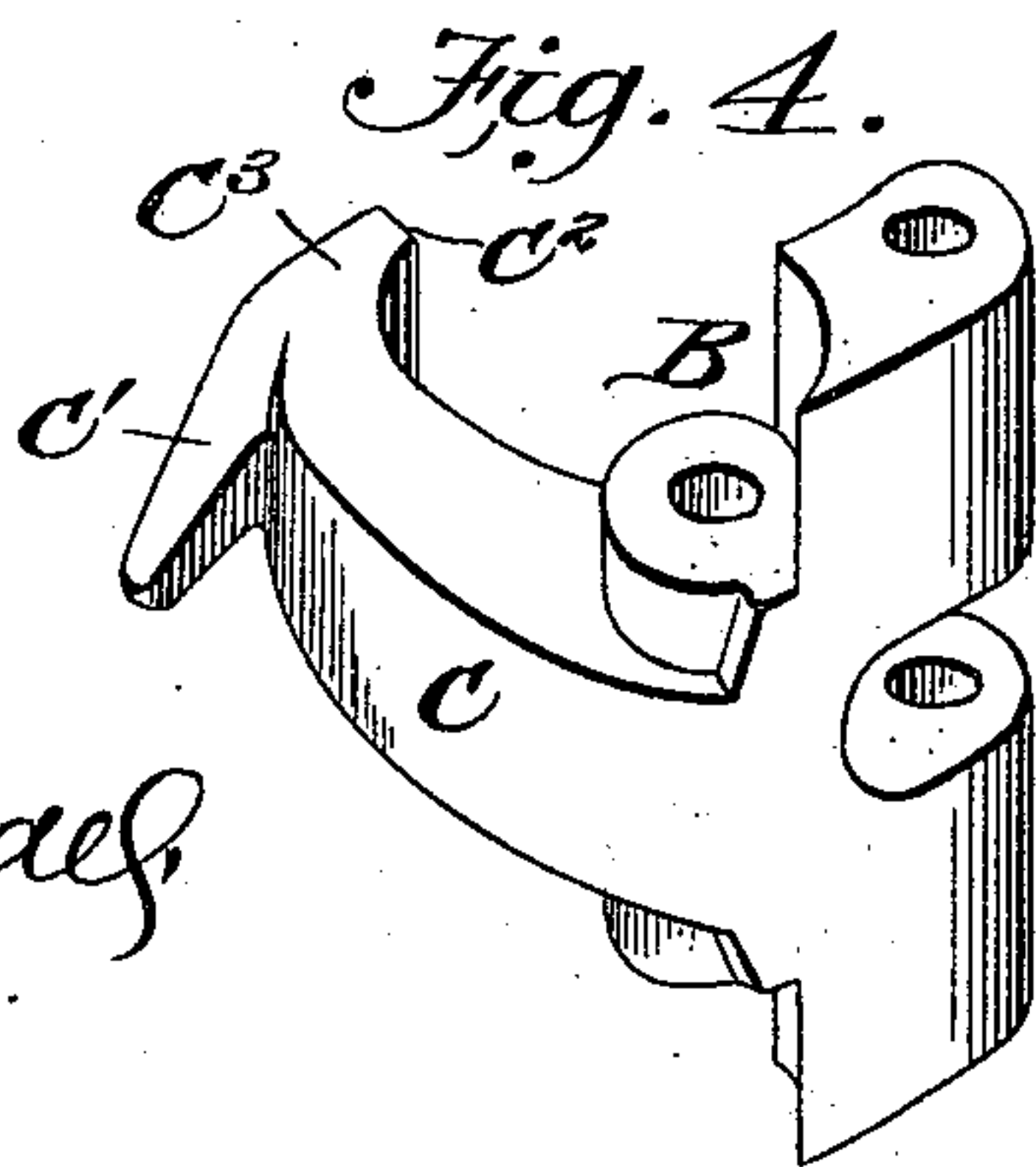


Fig. 4.

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JOHN E. THOMAS, OF RICHMOND, VIRGINIA, ASSIGNOR OF ONE-HALF TO
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 548,098, dated October 15, 1895.

Application filed June 12, 1895. Serial No. 552,576. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. THOMAS, residing at Richmond, in the county of Henrico and State of Virginia, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention is an improvement in car-couplings; and it consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved coupling. Fig. 2 is a vertical longitudinal section of the draw-head. Fig. 3 is a detail view of the coupling-pin, and Fig. 4 is a detail view of the hinged jaw.

The coupling is of the twin-jaw type, having a fixed jaw A and a pivoted jaw or knuckle B, the latter having a shank C, which is locked by the coupling pin or latch D. This shank C is shown curved, and its free rear end or head C³ has a tapered lateral extension C', forming a cam whose function is to engage a shoulder on the coupling-pin and automatically raise the latter, as hereinafter more fully described.

The pin D fits in ways formed vertically in the draw-head, is made non-circular to prevent it from turning, has an inclined surface D', along which the shank of the pivoted knuckle moves, has a shoulder D², below which the cam of said shank engages, is provided below its cam D' with a stop-shoulder D³ to limit the downward movement of the pin, and has an extension D⁴, projecting down through and below the draw-head to brace and guide the pin. Below the draw-head the extension D⁴ has a removable pin or stop D⁵, which limits the upward movement of the pin and prevents the same from being jolted or jarred out of the draw-head or otherwise accidentally displaced.

In operation the pin in its lowermost position is stopped with its shoulder D² sufficiently above the upper face of the lower wall of the draw-head to permit the cam or tapered portion C of the knuckle-shank C to pass under it when the knuckle B is swung on its pivot by reason of engagement with a corresponding one on an opposite car. When the cam C' thus passes beneath the shoulder

D² of the pin D, the latter is first lifted till it passes from the cam C' onto the flat horizontal portion C³, which intervenes the cam C' and vertical point or nose C². While such portion C³ is passing beneath the shoulder D² the pin has time to recover from the upward impulse given it by the cam C' and then drops off and into engagement with the nose C² and locks the knuckle B.

It will be seen that the passage of the cam C' beneath the pin-shoulder D² is facilitated or rendered practicable by beveling the shank of the pin D at a point D', Fig. 3, adjacent to the shoulder D'. In other words, such bevel D' permits the cam C' and head C³ to pass without obstruction or difficulty back and forth under the shoulder D².

As will be more fully described hereinafter, I provide means whereby, in case the draw-head is pulled out of the car, it will be supported upon the draw-head to which it may happen to be coupled, and thus be prevented from dropping and producing serious damage, as is now commonly the case. In order that the coupling-pin may not be drawn to uncoupled position when the draw-head is so drawn out, I prefer to construct such pin as shown, in order that it may slide freely off its operating-rod F in case the draw-head is pulled out of the car, and, further, to provide for the limited upward movement of said pin without necessitating its lifting the uncoupling devices. To this end I provide the coupling-pin D at its upper end with horizontal laterally-extended hook G, whose free end has a pendent shoulder or claw. An L-shaped hanger F engages this hook and is pivoted to the arm of the crank-rod F', that is supported and adapted to rock in keepers secured to the end of the wall of the car, as shown. The horizontal form and lateral extension of the hook G permits all due lateral oscillation of the draw-head, and the pendent portion of the free end of the hook prevents disengagement of the parts, even if the crank-rod F' slides endwise in its keepers. Further, the pivoted hanger F enables the pin D to be lifted with less difficulty than it could be if the crank-arm F' were extended beneath the hook G, since the former (F') would then have a sliding frictional engagement with the hook;

whereas the hanger F, being pivoted on the crank-arm F', swings free and moves in an arc as the pin D rises.

An important feature of my improvement is comprised in the overlapping portion provided upon the draw-head, whereby, in case it is pulled out of the car, it will be supported by the draw-head to which it is coupled and thus be prevented from dropping onto the track. In the construction shown this overlapping portion is a laterally-projecting shelf or wing mounted on an upwardly-extended portion I at the front edge of the fixed jaw, such extension being braced on the rear by ribs *i*. This shelf H in operation laps over the hinged jaw of the meeting coupling, and in case the draw-head is pulled out such shelf by resting on said hinged jaw will support the draw-head. The shelf H is arranged sufficiently above its hinged knuckle to permit the desired vertical play of the coupled draw-heads and also to adapt the draw-head for coupling with draw-heads arranged at different heights, as desired. The overlapping arrangement of the supporting portion renders each draw-head of the improved coupling self-supporting—that is to say, if the draw-head provided with my improvement happens to be pulled out of place when coupled to an ordinary draw-head it may be supported upon such ordinary draw-head, each of the improved draw-heads being self-protecting.

While it is preferred to form the supporting portion or shelf integral with the draw-head, it might be made separate from and suitably secured to such draw-head, and also,

if desired, it might be supported upon the portion carrying the hinged knuckle instead of at the opposite side of the draw-head, as herein shown.

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

1. The improvement in car couplings herein described consisting of the draw-head having a pivoted jaw or knuckle, and provided opposite the same with a fixed jaw, the supporting portion or shelf mounted on the fixed jaw opposite the hinged knuckle whereby to support the draw-head upon a coupled draw-head, the hinged knuckle being provided at its rear end or point with a projecting cam or incline, the pin having a shoulder for engagement by said cam or incline, and having at its upper end a laterally extending seat open at one side and the operating rod having an arm bearing under such seat said arm being free and unobstructed at its forward end whereby in case the draw-head is pulled out it may freely disengage from the operating rod, substantially as and for the purposes set forth.

2. In a car coupling, the combination, with the pivoted draw-head, and the coupling-pin having the horizontal and laterally extended hook, G, of the right-angular hanger, F, and the rocking crank, F', to which said hanger is pivoted, as shown and described.

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Witnesses:

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