

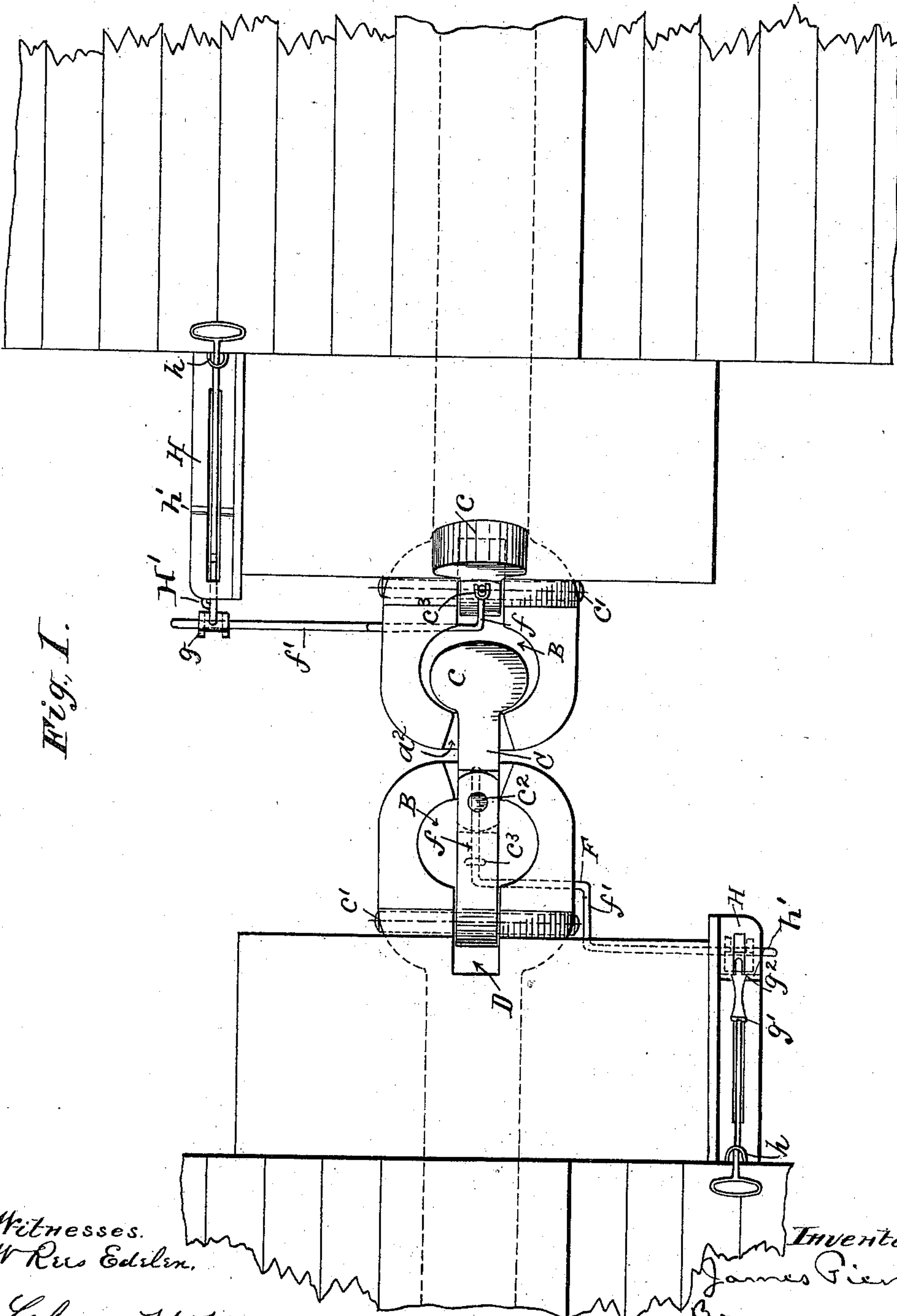
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3 Sheets—Sheet 1..

J. PIERCE.
CAR COUPLING.

No. 598,181.

Patented Feb. 1, 1898.



Witnesses.
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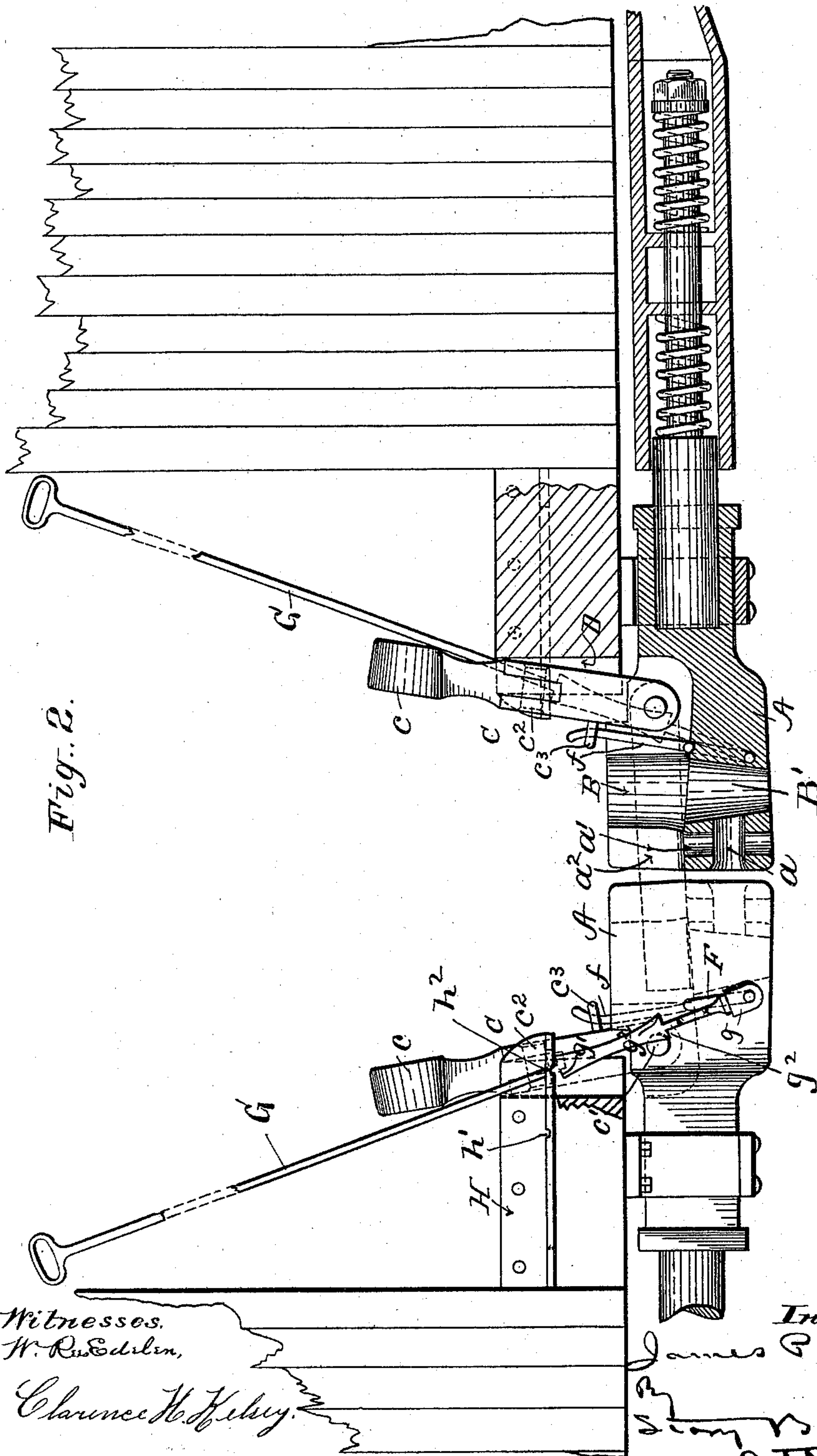
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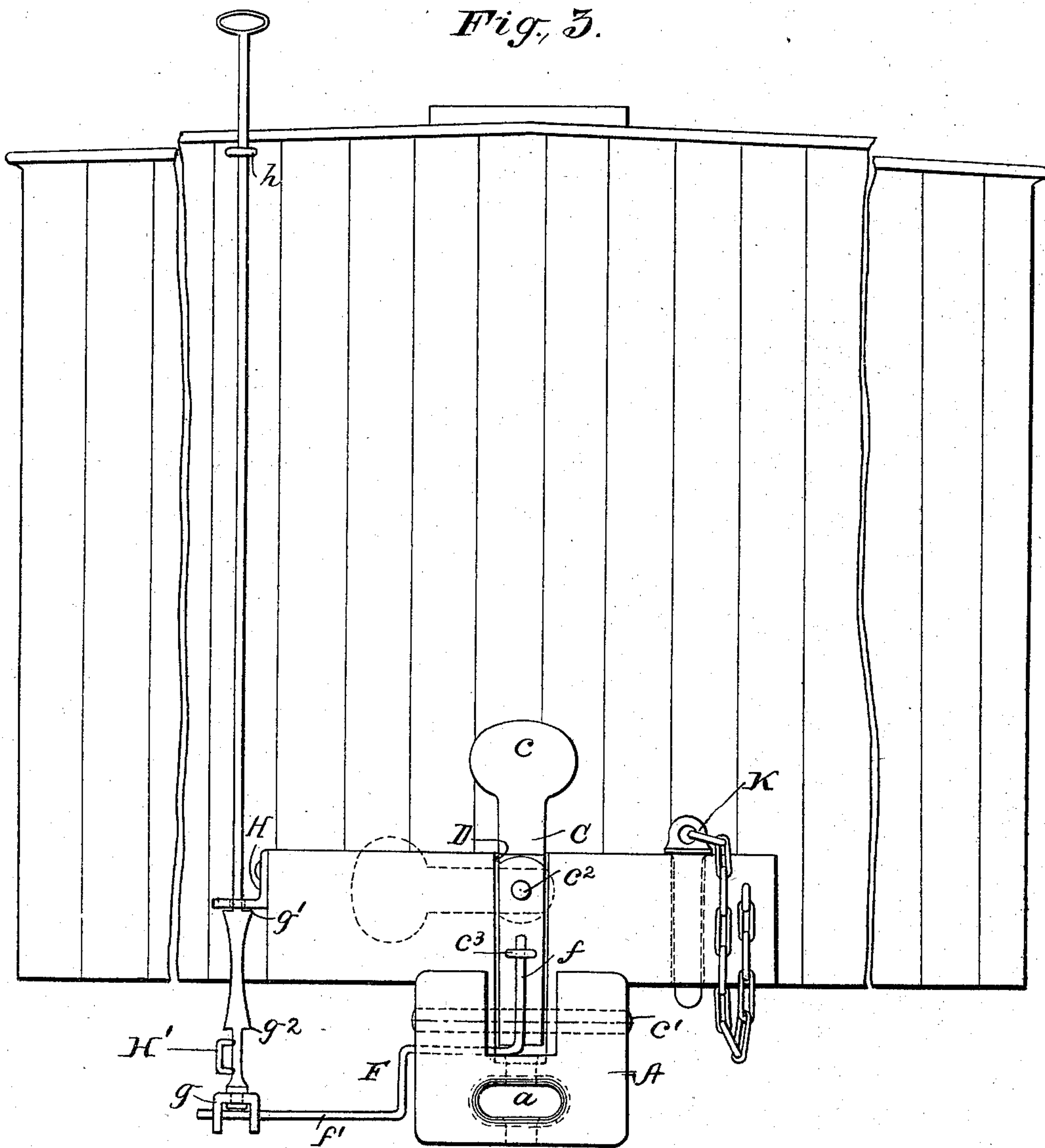
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Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES PIERCE, OF SPRINGVILLE CITY, UTAH.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 598,181, dated February 1, 1898.

Application filed April 3, 1897. Serial No. 630,627. (No model.)

To all whom it may concern:

Be it known that I, JAMES PIERCE, a citizen of the United States, residing at Springville City, in the county of Utah and State of Utah, 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 it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of the present invention is to provide an automatic coupling specially designed for freight-cars, where perfect uniformity, simplicity and cheapness of construction, and certainty in operation are essential; and the invention consists in the improved coupling as hereinafter described, and set forth in the claims.

Figure 1 is a plan view of a railway-car coupling constructed according to my invention, it being shown in a coupled position. Fig. 2 is a side elevation, one half in section, showing the parts in position for coupling, the same when coupled being shown in dotted lines. Fig. 3 is an end elevation showing the tongue raised.

The spring-backed draw-head A is provided with a mouth a for use with an ordinary link-and-pin coupling when occasion may require the use of the same. The hole for a coupling-pin is shown at a' , and a coupling-pin K therefor may be provided.

In the top of the draw-head there is a cylindrical recess or pocket B, adapted to receive the head of the tongue C of the coupling of the adjacent car, said pocket being open on the front side at a^2 . The walls of the pocket B at the sides of the opening a^2 are made to overhang or incline inward, as shown in Fig. 2, so that the draft on the tongue will hold the head c in place at the bottom of the pocket.

This pocket B is made an inch deeper than the thickness of the head of the tongue, and it has a central opening B' at the bottom for the free discharge of snow, water, or slush to keep the pocket dry. The outer face of the draw-head also slopes backward, as shown, in order that the upper part of the draw-head may not strike in coupling, but the blow will

come on the center line and the bottom, where the metal is solid. In the rear of the pocket or recess B there is a recess formed to receive the bottom or rear end of the tongue C, which is hinged on a pivot c' to the draw-head.

The tongue C, hinged, as aforesaid, at its bottom or rear end to the draw-head, has an enlarged oval head c , and it is preferably made in two pieces hinged at c^2 to permit the head of the tongue to turn in a horizontal plane when in a coupled position, and with the hinge-joint flush to leave no projection on the tongue-shank. This tongue-hinge c^2 comes just within the recess or pocket of its draw-head, as shown in Fig. 1, close to the mouth of the opening a^2 , so that the tongue will allow of a certain amount of lateral play without permitting the tongue-head to be thrown too far around to the side if the coupling is disengaged and in a fallen position. The side walls of this opening have an outward flare, and the bottom slopes downward to the outer face of the draw-head to allow proper play for the link.

In the dead-wood immediately above and behind the draw-head there is formed a recess D to receive the shank of the tongue C when the same is raised, this recess embracing the tongue-shank at the hinge portion thereof or above the hinge, so that the head of the tongue will be held in an upright position and cannot drop over on either side when the tongue is set for coupling. If the coupling should be used on a passenger-car, the head of one of the tongues (for only the tongue on one of the draw-heads is used in coupling) may be turned down in front of the dead-wood, as shown by dotted lines in Fig. 3, so as not to obstruct the passage between platforms.

For convenience in raising the tongue in setting the coupling, coupling or uncoupling, a crank-lever F extends in through one side of the draw-head and has an arm f beneath and parallel with the tongue, which latter has a guide-eye c^3 for the arm f . By operating the outside crank-arm f' the tongue can thus be easily raised. Pivoted on this crank-arm f' by a swiveled end block g and extending up to the top of the car is a handled rod G for operating the crank-lever F from the top of the car. This rod passes through a slotted

guide-plate H and a guide-eye h at the top of the car. Where the rod plays through the slotted plate H, it is flattened and has shoulders or two pairs of shoulders g' g^2 , the former adapted to catch under the slotted plate H when the rod is pushed down and turned to bring the shoulders g' across and below the slot and lock the operating-rod, and consequently the tongue up, and the latter in like manner adapted to catch on top of the slotted plate H when the handle is pulled up until the shoulders g^2 come above the plate and then turned, in that case locking the handle up and the tongue down. The plate H has the notches h' and h^2 to hold the rod G from being accidentally turned when it is fastened, respectively, up and down.

The operation of the coupling is as follows: In use the tongue of one coupling is fastened up, and when the two draw-heads are not of an equal height the tongue of the lowest draw-head should be used and the coupling made from the lowest to the highest. Both tongues being set in a raised position, with one, as aforesaid, locked back by its crank-lever or otherwise, the concussion, when the draw-heads strike, will force back each draw-head a short distance, and the free tongue, resting in its recess D and leaning against the dead-wood, will be given a positive forward motion or blow by reason of the rearward movement given to the spring draw-head to which it is hinged, its head dropping into the pocket B of the abutting draw-head. The hinge in the tongue permits the draw-heads to be held close together, and hence it is not necessary to allow for the play ordinarily provided for in car-couplings on freight-cars, thereby avoiding the jerking due to the play or lost motion incident to the ordinary form of coupling. The tongue is raised from the top of the car for uncoupling or coupling by pushing down on the rod G and giving a half-turn to the right, which secures the tongue in place in its raised position. To couple the cars without concussion, with the operator on top, he gives

the rod G a half-turn to the left and pulls up on it, which throws the tongue into the pocket of the opposite draw-head, and an extra pull on the rod, with a half-turn to the left, locks the rod and secures the tongue in place.

In coupling from the ground the operator grasps the handhold H' and turns it to unlock it (if it is locked down) and pulls back on the crank, which turns the tongue down into engagement with the opposite draw-head, and the reverse effects the uncoupling from the ground.

What I claim is—

1. The combination in a coupling, of the draw-head having a pocket B, and opening a^2 thereto, and the recess in rear of the pocket, the headed tongue hinged to the draw-head in the recess in rear of the pocket and having the lever-guide c^3 , with the lifting crank-lever extending through the draw-head with an arm beneath and in engagement with the tongue, and an outside rod coupled to its crank-arm and extending up to the top of the car, with means for locking the same in an elevated or lowered position, as and for the purpose set forth.

2. The combination in a coupling, of the draw-head having a pocket B, and opening a^2 thereto, the mouth a , link-pin hole a' , and the recess in rear of the pocket, the headed tongue hinged to the draw-head in the recess in rear of the pocket and having the lever-guide c^3 , with the lifting crank-lever extending through the draw-head with an arm beneath and in engagement with the tongue, and an outside rod coupled to its crank-arm and extending up to the top of the car, with means for locking the same in an elevated or lowered position, as and for the purpose set forth.

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

JAMES PIERCE.

Witnesses:

JOHN V. WORDSWORTH,
M. W. MOLEN.