No. 754,387. PATENTED MAR. 8, 1904.

S. B. PRICE.

CAR COUPLING.

APPLICATION FILED JUNE 5, 1901. RENEWED NOV. 23, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

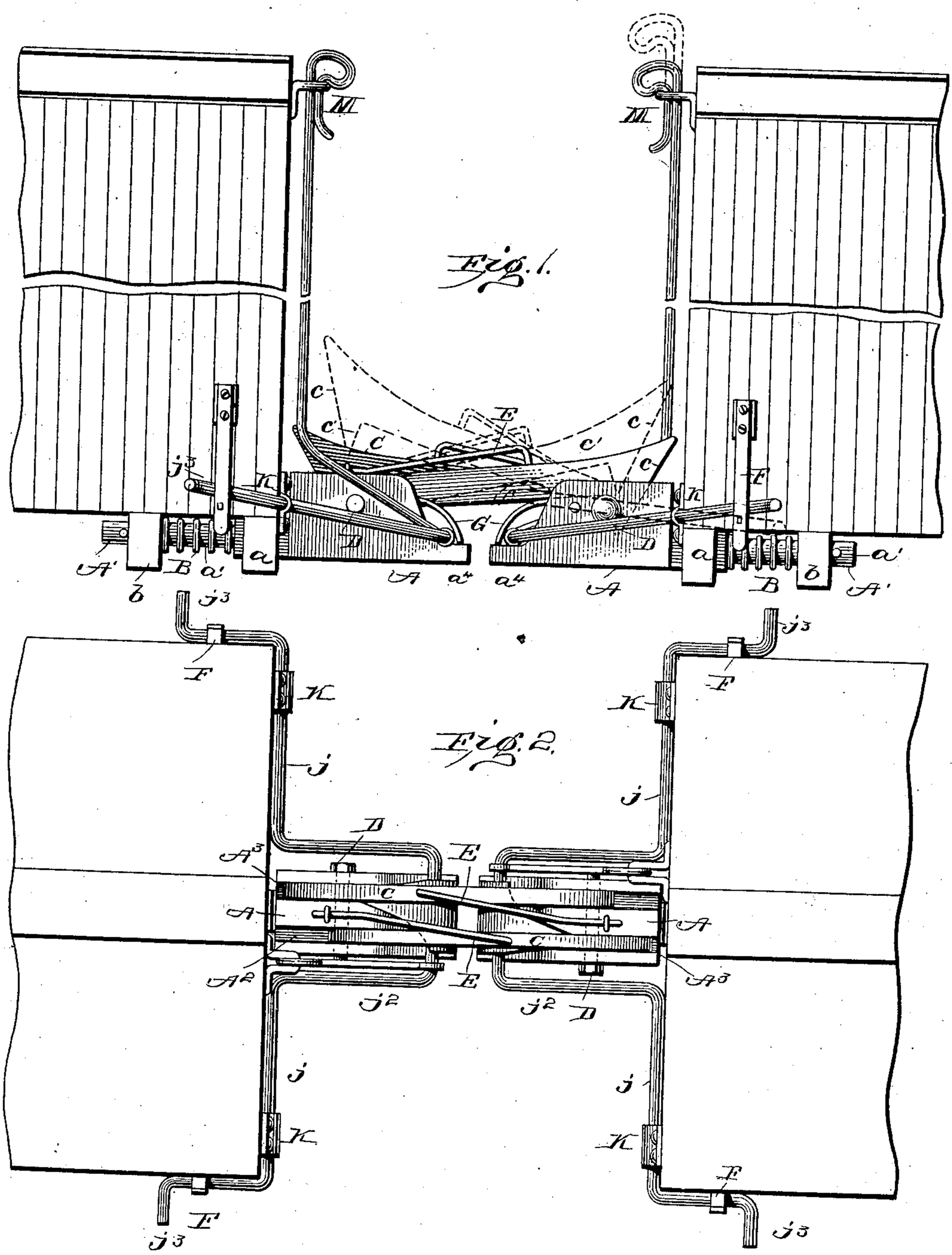

Fig. 1.

Fig. 2.

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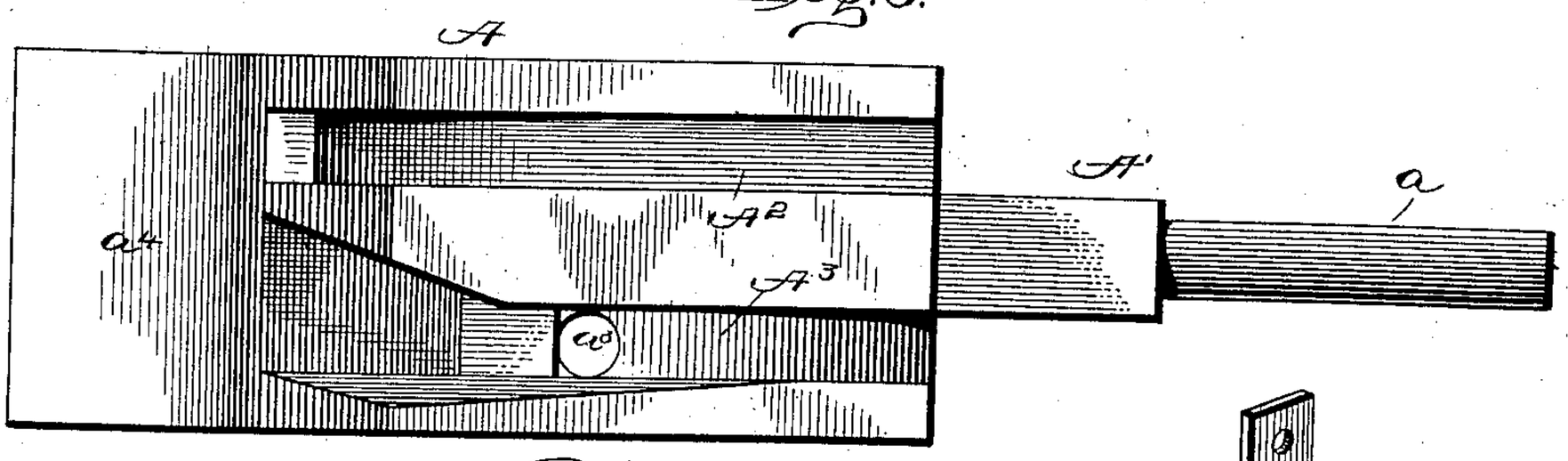
NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.



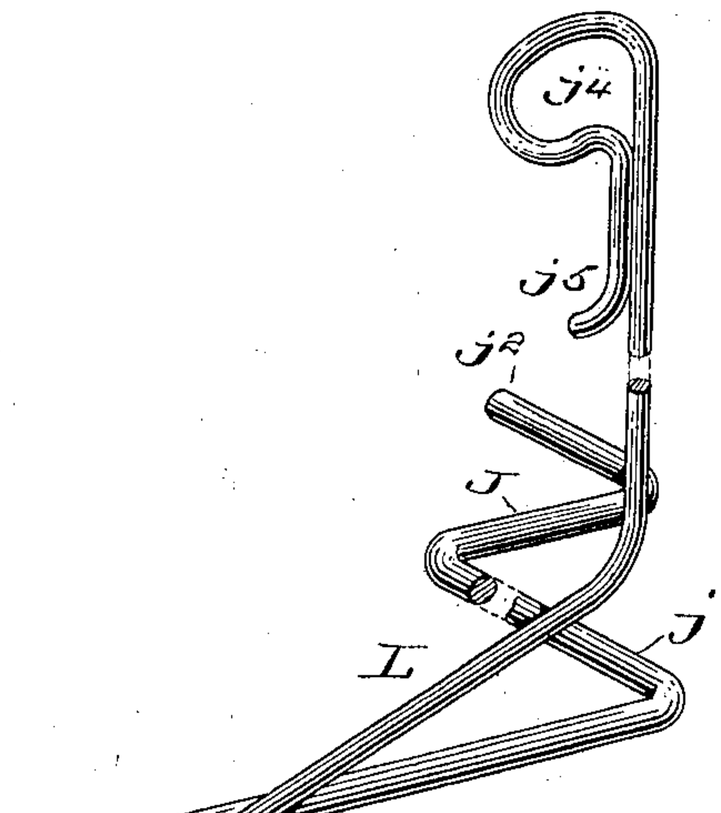


Fig. 4

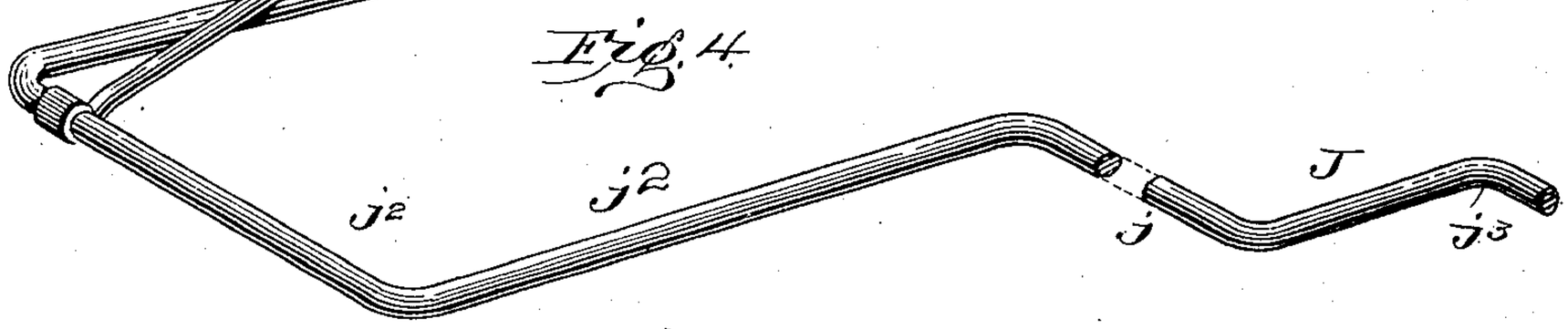


Fig. 6

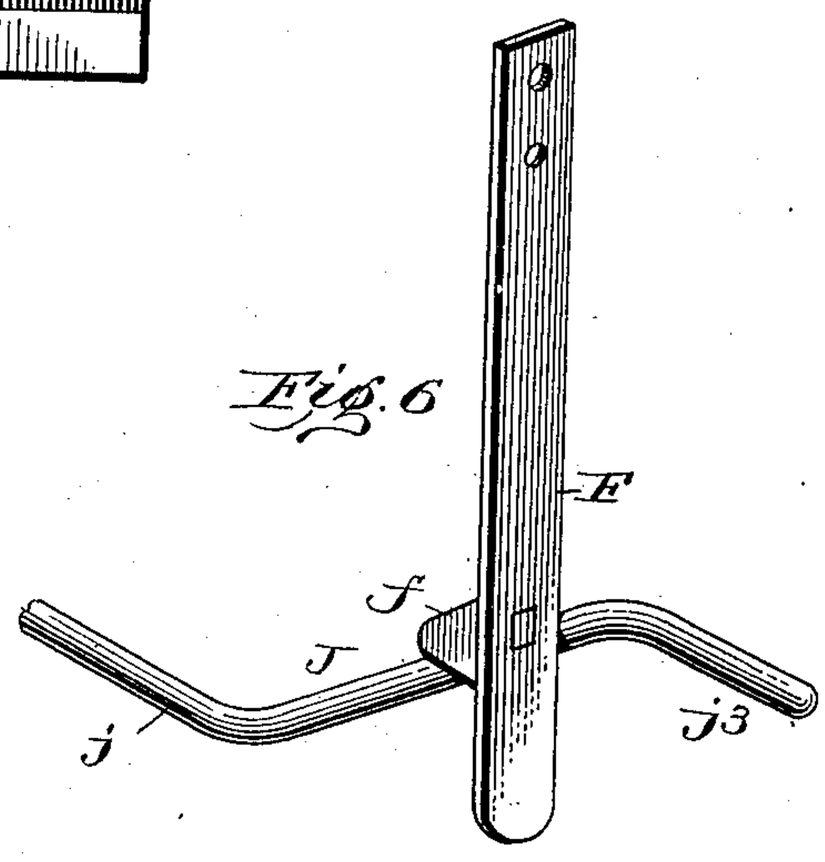
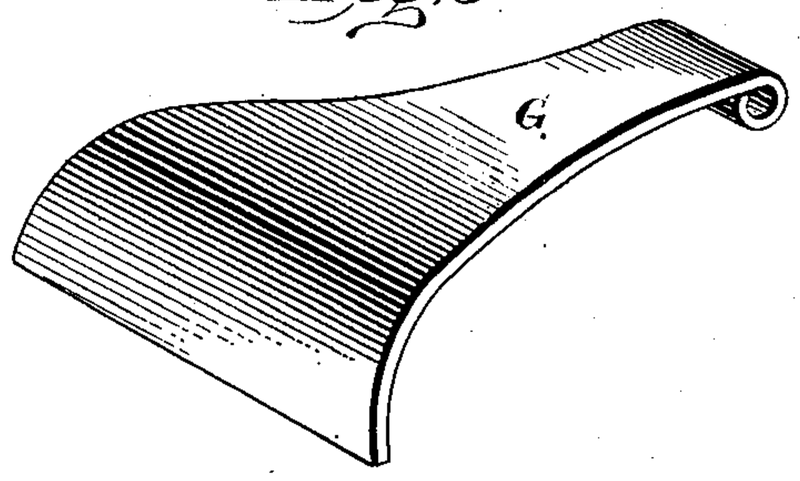


Fig. 5



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No. 754,387. Patented March 8, 1904.

UNITED STATES PATENT OFFICE.

STEPHEN B. PRICE, OF EAGLE MILLS, KENTUCKY, ASSIGNOR OF ONE-HALF TO ALEXANDER RAPHAL MATTINGLY, OF EAGLE MILLS, KENTUCKY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 754,387, dated March 8, 1904.

Application filed June 5, 1901. Renewed November 23, 1903. Serial No. 182,408. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN B. PRICE, a citizen of the United States, residing at Eagle Mills, in the county of Larue and State of Kentucky, have invented certain new and useful Improvements in Car-Couplings; and I do 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 the letters of reference marked thereon, which form a part of this specification.

My invention relates to automatic car-couplings of the class in which the draw-bar at each end of a car is provided with a pivoted hook, a recess for the reception of a similar hook to be carried by the draw-bar of an adjoining car, means for directing the locking-hooks to a position to connect two cars, and means for disconnecting the hooks.

The object of my invention is to produce a coupling of the class referred to having improved means for simultaneously raising the hooks of adjacent cars out of coupling engagement with the respective draw-heads and which can be operated from either side or from the top of a car, thus rendering it unnecessary for an operative to go between the cars.

Further, the object of the invention is to produce a car-coupling which when desired may be prevented from coupling on the coming together of two cars bearing the devices.

Further, the object of the invention is to provide a car-coupling of the character referred to in which each hook is mounted in such manner that its pivot-pin will serve as the coupling-pin for the hook on the adjacent draw-bar.

With these and other objects in view the invention consists in the construction and arrangement of parts, as will hereinafter be more fully described and claimed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the ends of two cars having my couplings applied thereto, showing in full lines the positions of the parts when the draw-bars of the respective cars are connected and by dotted lines the positions assumed when the parts are disconnected. Fig. 2 is a plan view of the coupling, showing the same in a coupled position. Fig. 3 is a plan view of a coupling-head with the movable parts removed therefrom. Fig. 4 is a perspective view of the means for raising the coupling-hooks out of contact with the respective draw-heads. Fig. 5 is a perspective view of the curved plate by which the coupling-hooks are directed to a locking position and by which they are moved from such position, and Fig. 6 is a perspective view of the means by which the parts of the coupling are retained in position to prevent coupling of cars when brought together.

In the drawings, A denotes the draw-head of my improved coupling, which is capable of a limited longitudinal movement independently of the car. The rear portion of the draw-head is reduced and is supported by and slides through the braces *a* and *b*. The reduced portion or stem A′ of the draw-head is rectangular adjacent to the brace *a*, the extreme inner end *a′* being cylindrical. It is fastened by a pin after passing through brace *b*, and by this means the entire draw-head is retained in position on the car.

A coiled spring B is arranged around the cylindrical portion of the draw-head and abuts at one end against the brace *b* and at the other end against the rectangular portion of the reduced portion of the draw-head, forming a buffer to prevent jar to the cars when the draw-heads are brought together.

Each draw-head is provided in its upper surface with two parallel recesses—one, A^2, for the reception of the inner end of a coupling-hook and the other, A^3, for the reception of the outer end of the coupling-hook of an adjacent draw-head. To prevent accumulation of dirt or water which may become frozen in the recess A^3, which would prevent introduction of the coupling-hook, the bottom of the recess A^3 is provided with an outlet-opening a^3, allowing for the free escape of such matter.

C C denote the coupling-hooks, one being pivotally attached to each draw-head, its in-

ner end being arranged in the recess A^2 and secured therein by the pin D, passing through the hook and through both recesses, as shown in the drawings. Each coupling-hook has its outer end beveled on its lower face and terminates in an offset *c*, having a plane inner face *c'*, forming a flat surface for engagement with the pin D of the opposite draw-head.

It will be seen that each coupling-hook is pivoted in the right side of each draw-head, and therefore when two draw-heads are brought together the beveled end of each hook rides over the pin D in each recess A^3 in the opposite draw-head until the offset *c* passes over the pin, when the hook drops, bringing the plane surface *c'* into contact with the pin, effecting a locking.

To insure the descent of the hooks after riding over the pins D, springs E, attached to the partition between the recesses in each draw-head and bearing on the upper face of the coupling-hooks, are provided. These springs constantly exercise a pressure to depress the outer portions of the coupling-hooks, and thus serve both to retain the hooks in a locked position after two cars are coupled and also to return the hooks to a position ready for coupling after being released by the means employed for uncoupling.

It will be seen by an inspection of the drawings that the recesses A^3 for the reception of the hook ends are somewhat broader at their outer ends than those in which the hooks are pivoted. This form is adopted to permit the pivoting in the outer ends of the recesses A^3 of the curved plates G. These plates, which at their inner ends are of a width to enter the recesses, increase in width toward their outer ends, and they normally rest on the extensions a^4 from the draw-heads. At their outer ends the plates are of a width to extend beneath both the coupling-hook received into the recess A^3 and the hook pivoted in the recess A^2. The upper curved surfaces of the plates adapt them for directing without shock or jar the hook of an adjacent car to a position to engage the pin D. Besides this function the plate serves to raise and release both locking-hooks used to connect two cars. By simply raising the plates both hooks are raised from engagement with the transverse pins of the respective draw-heads and a curved surface over which the hooks may freely move as cars are separated is provided.

J J denote operating levers or rods bent into the form of bails, the horizontal portions *j* of which are journaled in bearings or hangers K, fixed on the ends of the cars. The rods or levers J are formed about midway of their lengths with loop extensions j^2, which pass around and beneath the curved plates E, as shown. From the horizontal portions *j* the rods or levers J extend along the sides of the cars and are provided at their ends with outward-extending arms j^3 for grasping. By lowering the rear ends of the arms the loop portions j^2 are raised, carrying with them the curved plates G and the coupling-hooks C, thereby releasing the hooks from the pins and uncoupling the cars.

L denotes a bar attached to the loop extension j^2 of the rod J and extending to the top of the car. The bar has at its upper end a handle j^4, and on it is a catch or notch j^5. The bar L is held in place by a bracket M, secured to the upper part of the car, and the bracket also serves to hold said bar in a raised position by bringing the catch or notch j^5, with which the bar is provided, into contact with it.

F denotes a spring attached to the side of a car and having on its inner face a projection *f*, beveled on both its upper and lower sides, so that when the end of the lever J is raised or lowered little resistance is offered to this movement; but the projection retains the end against displacement by reason of jarring, and thus the curved plates are held in an elevated position and the coupling put out of use until the spring is released. When cars are placed on a siding from which they are not to be removed, the coupler may thus be put out of operation, and the bringing together of two draw-heads will not effect a coupling.

In operating when the cars are brought together for coupling the forward beveled ends of the coupling-hooks ride up the inclined plates attached to the front ends of the draw-heads against the tension of the springs E and are by these springs forced into contact with the coupling-pins after passing over the plates. In uncoupling all that is necessary for the brakeman standing at the side of the car or on the top of it is to depress the rear end of the rod J or raise the curved bar L by the handle, when the rod J will raise the curved plate G, thus raising both coupling-hooks clear of the coupling-pins.

Should it be desired for any reason that the cars be prevented from coupling when coming together, the projection *f* on springs F is allowed to remain above the rod or the notch on the bar L to remain over the bracket M, thus retaining the plate and hooks in an elevated position.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my improved coupling will be readily understood.

Various changes in form and in the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention.

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

A car-coupling comprising a draw-head having two recesses therein and an extension pro-

jecting beyond the recesses, a coupling-hook pivoted in one of the recesses, a plate having an upper curved surface and having its outer end bearing on the extension from the draw-head pivoted in the other recess, a spring attached to the draw-head and bearing on the coupling-hook, a bail arranged beneath the plate, a spring attached to the side of the car and having a beveled projection, and an extension from the bail arranged between the spring and the car and adapted to come in contact with the projection in its up-and-down movement, substantially as described.

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

STEPHEN B. PRICE.

Witnesses:
D. H. SMITH,
F. R. TWYMAN.