

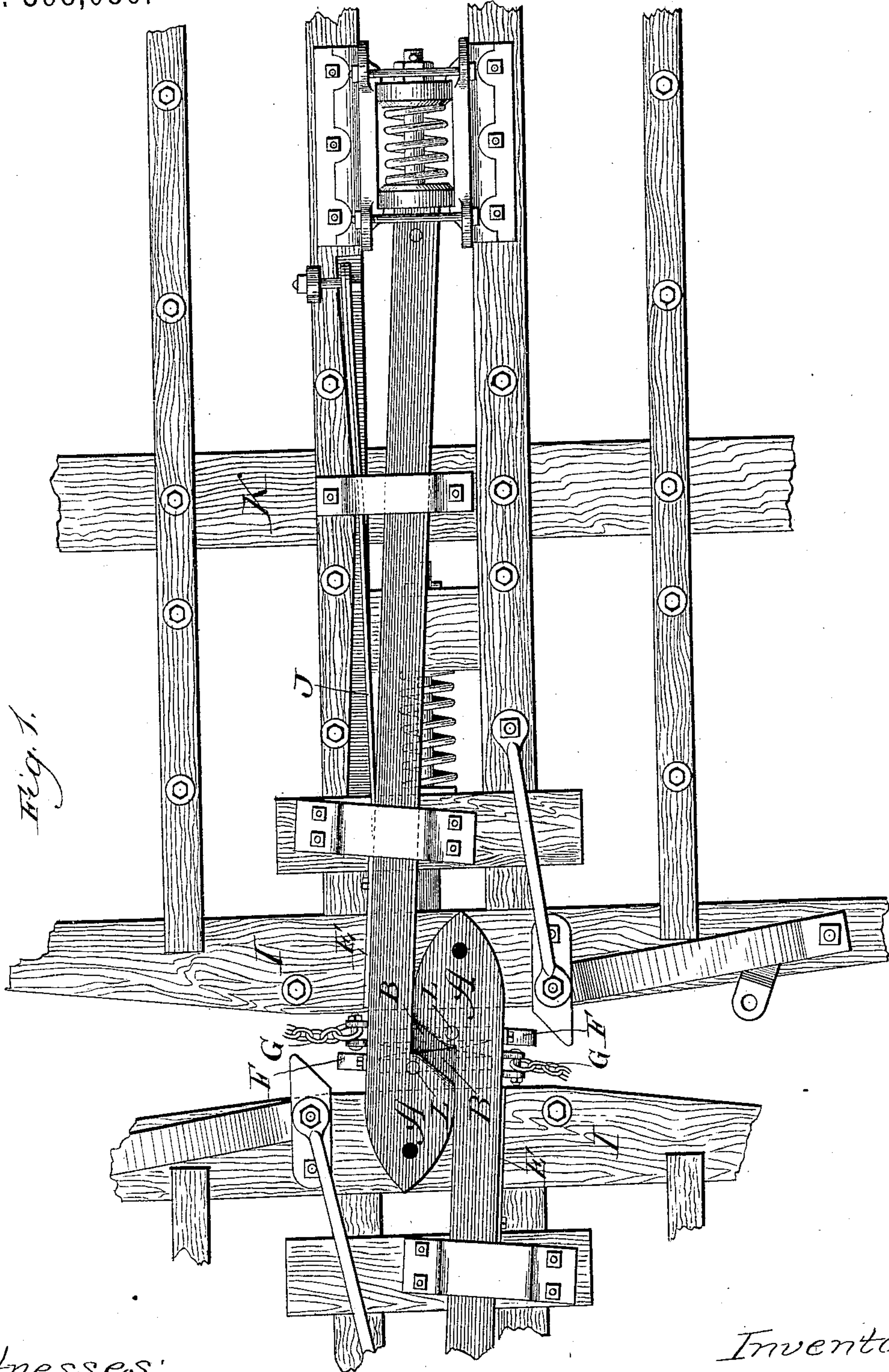
(No Model.)

2 Sheets—Sheet 1.

C. A. SCHROYER.
CAR COUPLING.

No. 398,086.

Patented Feb. 19, 1889.



Witnesses:
C. E. Gaylord.
Clifford White

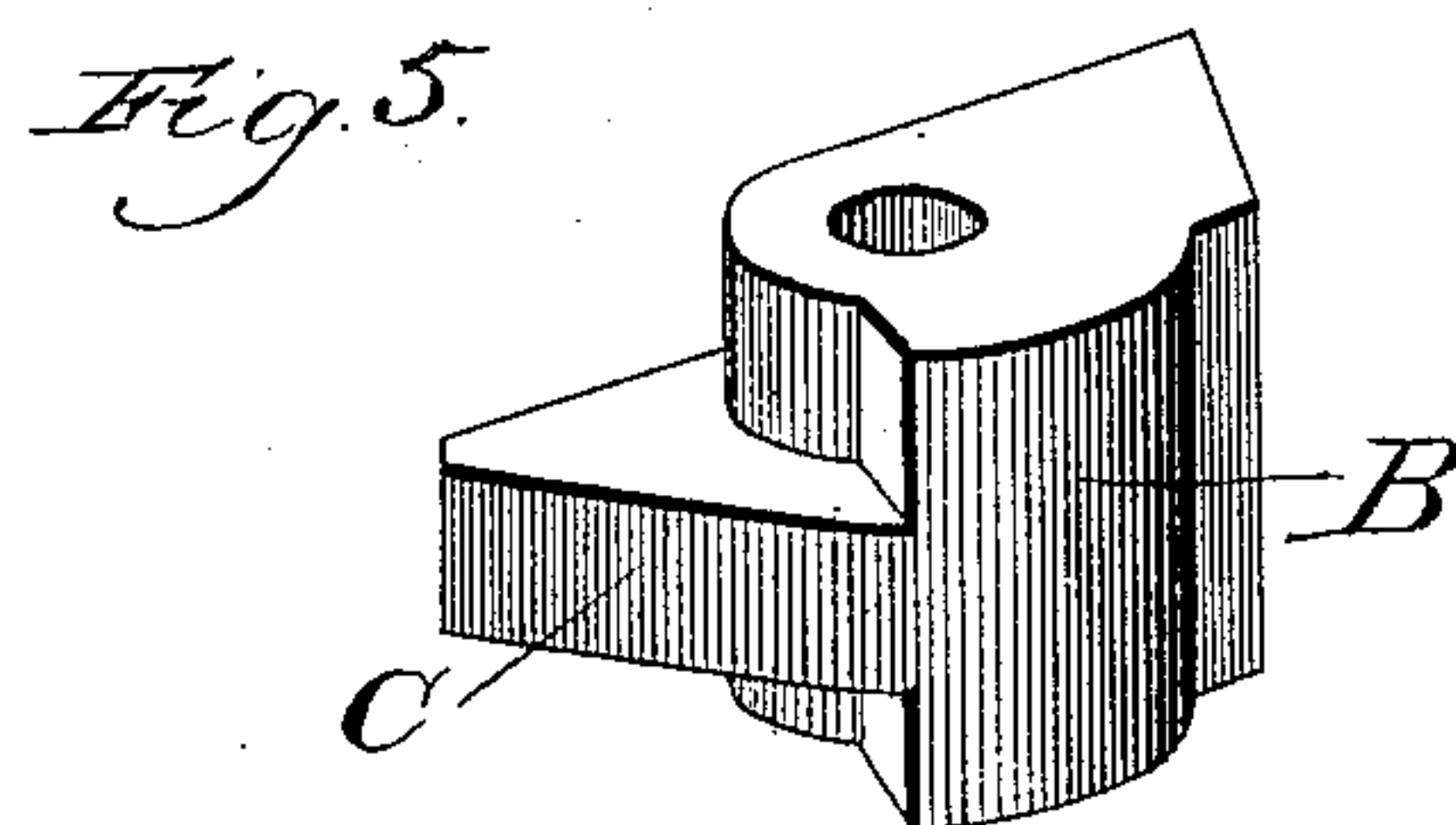
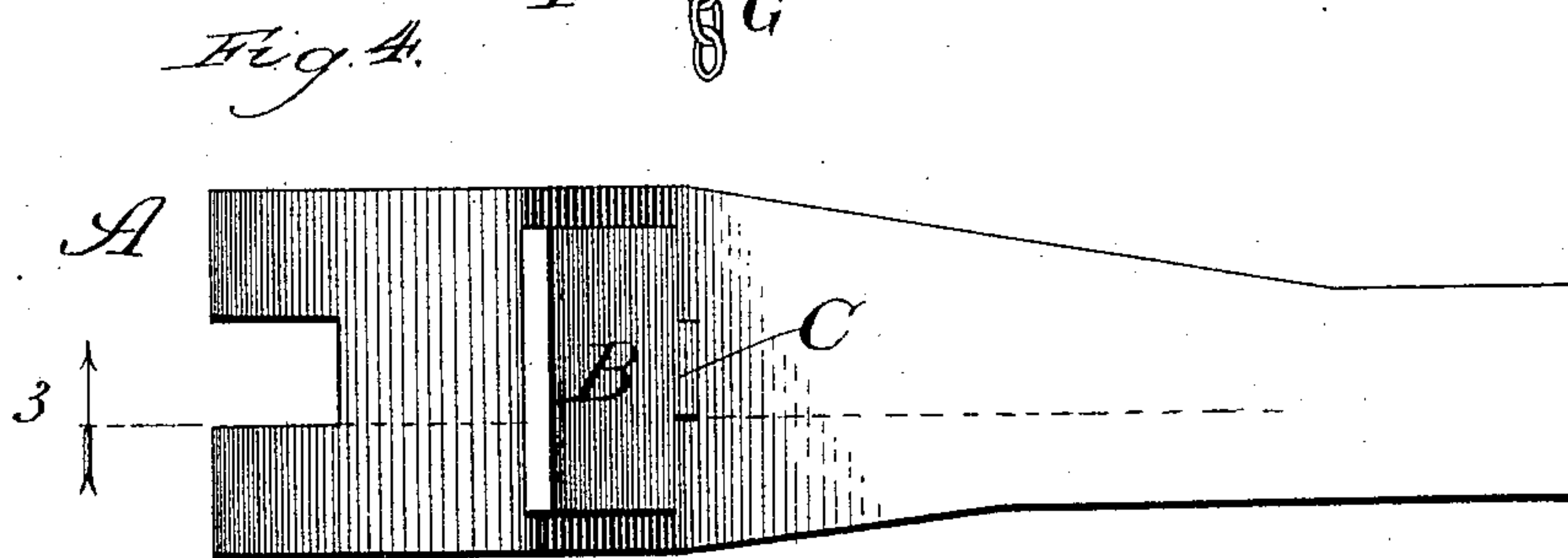
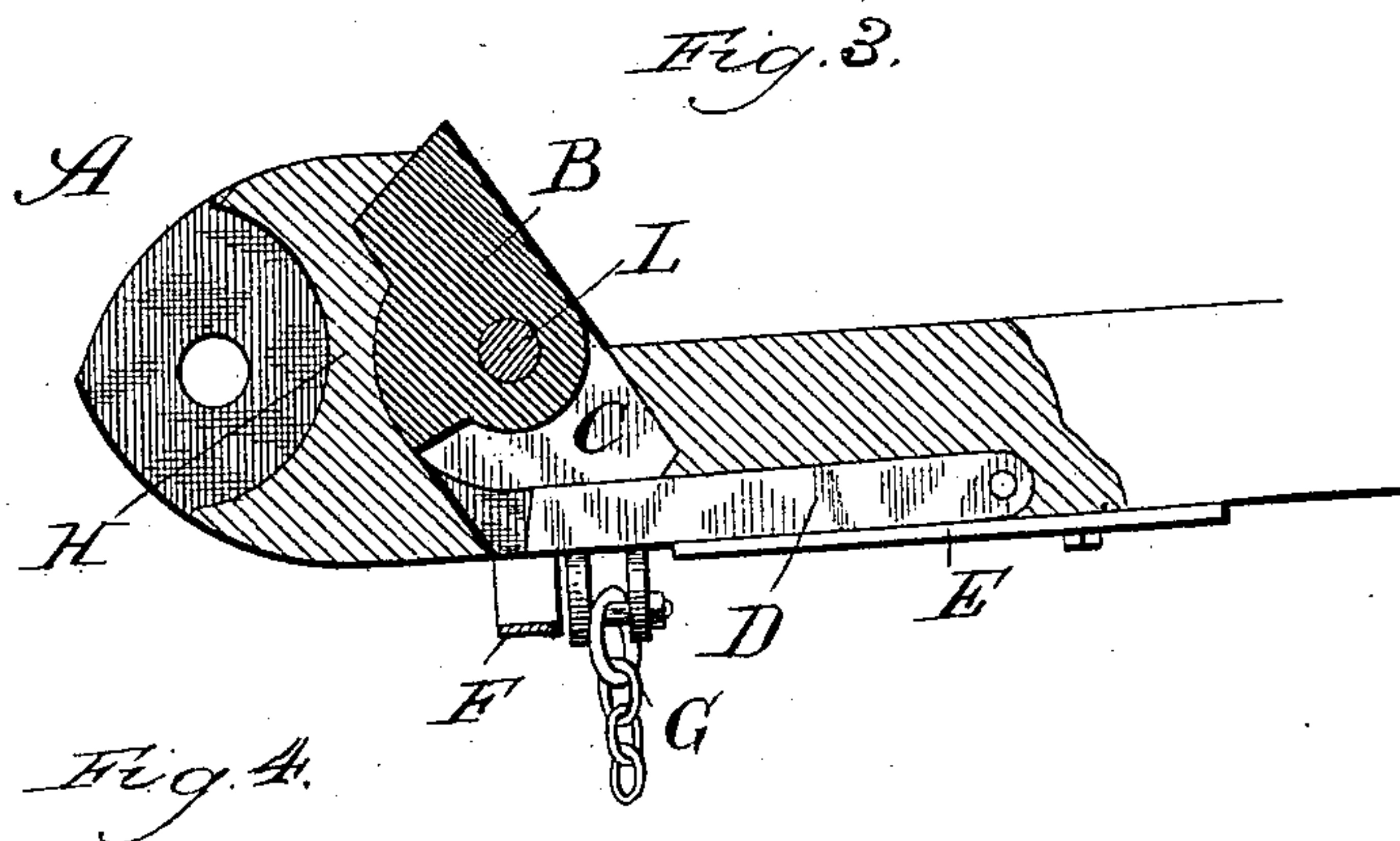
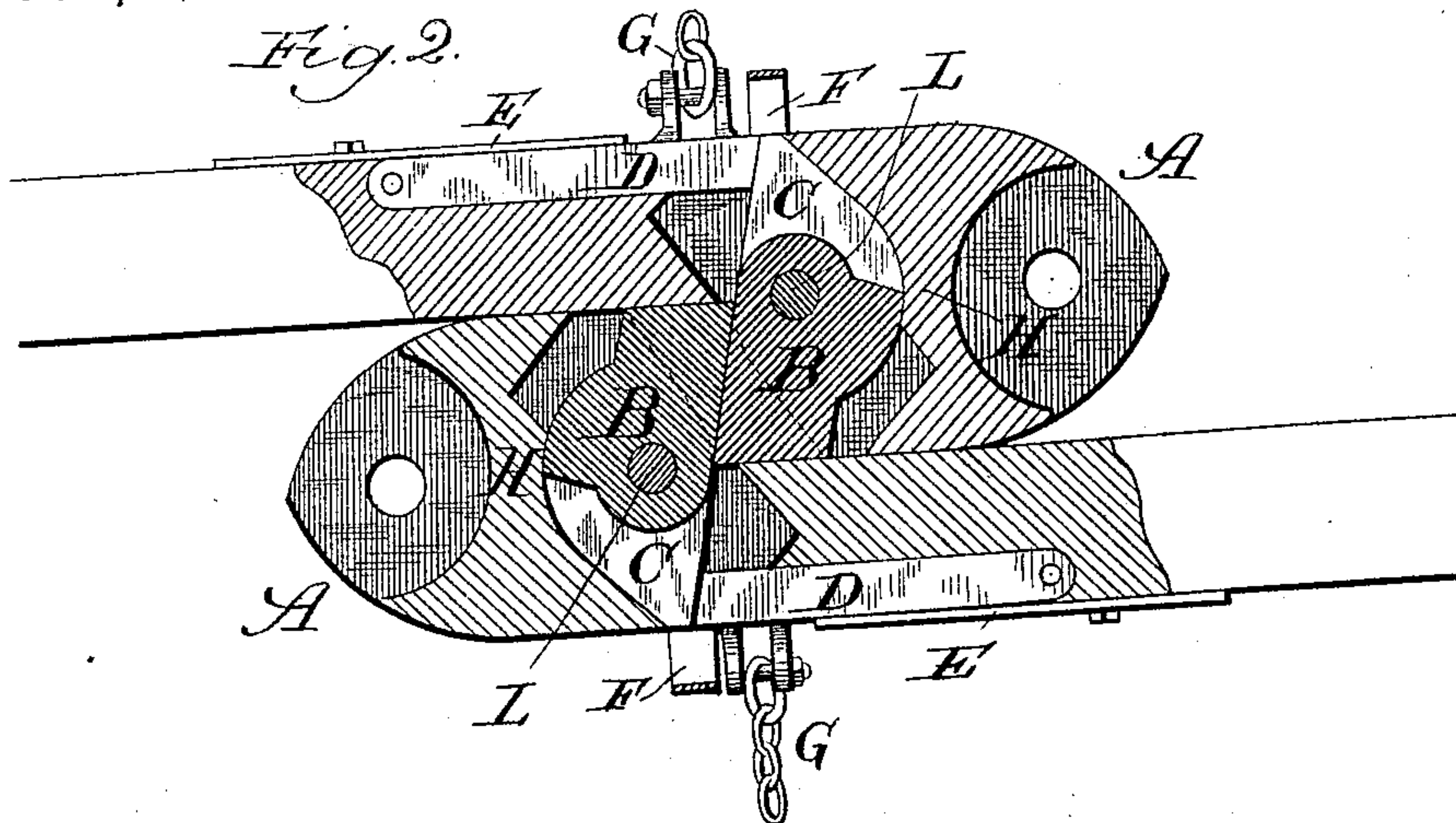
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UNITED STATES PATENT OFFICE.

CHARLES ALBERT SCHROYER, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 398,086, dated February 19, 1889.

Application filed August 17, 1888. Serial No. 283,051. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ALBERT SCHROYER, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

The object of my invention is to make a car-coupling belonging to the general class known as the "Miller couplings," which shall permit ready and easy uncoupling of the cars; and my invention consists in the features and details of construction hereinafter described and explained.

Heretofore the Miller couplings, as known and used, have been made with the hook part solid and integral with the head, so that it has been necessary in uncoupling the cars to draw one or both of the coupling-hooks enough to one side to permit of their disengagement. This it is often difficult to do, owing to the force with which the faces of the hooks are pressed together by the powerful draft and buffer springs working against each other in the manner well understood. To obviate this defect, as well as to secure other advantages, I have conceived the idea of making the hooks separate from the coupler-heads and so pivoting them in the heads that they may partially rotate in the operation of coupling and uncoupling.

In the drawings, Figure 1 is a plan view of the frame-work of the under side of the opposing ends of two cars, showing the hooks coupled. Fig. 2 is a plan view of a longitudinal section taken through the couplings on a line corresponding to line 3 of Fig. 4, looking in the direction of the arrow. Fig. 3 is a plan view of one of the couplings shown in Fig. 2, with the rotating hook in the position into which it is thrown by uncoupling. Fig. 4 is a side elevation of one of the couplers with its rotating hook, and Fig. 5 is a perspective view of one of the rotating hooks.

A A represents the coupling-heads; B B, the rotating hooks; C C, the locking-arms of the hook; D D, pivoted bars engaging with the locking-arms; E E, springs for holding the pivoted bars in place; F F, staples to prevent the pivoted bars from being drawn out beyond a certain distance; G G, chains connecting with levers (not shown) for drawing the piv-

oted bars and, if necessary, the entire couplings to one side; H H, bearings against which the curved sides of the rotating hooks rest; I I, the buffer-beams; J, one of the springs for holding the couplings together; K, the end cross-timber of one of the cars, and L L the pins on which the rotating hooks are pivoted in the recesses made in the heads of the couplers. In Figs. 2, 3, and 4 these recesses are shown as formed in the ordinary Miller coupler and in the back part of its head. The forward side of the recess is made rounding or curved throughout that portion in front of the pins L L, so that the curved or rounded portion of the rotating hooks will bear against it and so relieve the pins from strain. The other parts of the recesses are intended to be made of a size and shape that will permit the outer edges and the locking-arms of the rotating hooks to turn in them. The shape of these recesses will be readily understood from an inspection of Figs. 2 and 3 of the drawings, and need not be more minutely described.

The outer edges of the hooks when the cars are coupled are flush with the heads of the couplings. When, however, the hooks have been rotated in uncoupling cars, a portion of their outer edges will extend beyond the side of the head, as shown in Fig. 3; but as there is nothing to retain the hook in this position it will be pushed back as the hooks press against each other in the next operation of coupling, and thus be automatically brought back to that position which enables it to engage with the other hook and so couple the cars together. This automatic action of the rotating hooks is an important feature. It dispenses with the necessity of the brakeman returning the hooks back into place after they have been rotated in uncoupling, and permits the cars to be coupled when the hooks are in the position shown in Fig. 3 as well as when they are in the position shown in Fig. 2. In this latter mode of operation it will be seen that the coupling is effected precisely as it is with the ordinary Miller coupler. To lock the hooks in place when cars are coupled, they are provided with locking-arms C C, which extend back into the recesses formed in the heads of the couplers, as already shown.

Longitudinal bars D D are pivoted at their rear ends in a recess in the outside of the

shank. Their forward ends engage with the locking-arms C C of the rotating hooks and hold them in place until the bars D D have been drawn out far enough to permit the locking-arms to turn past them, as shown in Fig. 3. As these arms extend some distance beyond the pins which hold the hooks in position, they afford a sufficient leverage for the bars D D to easily hold them in place against the draft of the cars, and at the same time permit the horizontal bars to be turned aside with slight effort when it is desired to permit the hooks to turn and uncouple the cars. To hold the bars D D in place, springs E E may be provided, as shown in Figs. 2 and 3. The forward ends of the bars D D are intended to be provided with chains G G, connecting with levers extending up through the platform of the cars, to enable the brakeman to draw the bars aside and permit the hooks to turn to uncouple the cars. To prevent the bars D D from being drawn out too far, thus straining or breaking the springs E E, I provide staples F F, attached to the couplers, into which the forward ends of the bars are drawn and by which they are caught when they have been moved out a sufficient distance. This is particularly desirable when it is desired to uncouple the cars, as may be done by drawing the couplings apart, as with the ordinary Miller coupler.

The operation and advantages of my improved coupler will be readily understood. Thus it may be coupled and uncoupled without rotating the pivoted hooks when they are in the position shown in Fig. 2. In that case it operates in all respects like the ordinary Miller coupler; or it may be uncoupled by first drawing back one or both of the bars D D, thus unlocking the pivoted hook or hooks and then pulling the cars apart by the locomotive. In that case its operation is more like that of the Janney type of couplers. In like manner it may be coupled when the hooks are in the position shown in Fig. 3, when its operation somewhat resembles that both of the Miller and Janney, though it is very unlike either. In actual practice, of course, the uncoupling

will generally be effected by simply drawing back the arm D, while the coupling will be effected in either of the ways above mentioned—that is, with the pivoted hooks in the position shown in Fig. 2 or that shown in Fig. 3, according to the way in which the hooks happen to be left.

Various changes may be made in the details of construction which need not be described minutely, as they will readily suggest themselves to skilled mechanics. I do not desire, therefore, to limit myself to precise forms of construction or methods of arrangement so long as the essential ideas of my invention are employed.

What I regard as new, and desire to secure by Letters Patent, is—

1. In automatic car-couplings, the combination of a coupling-head having an oblique face or engaging-surface, and a rotating hook arranged therein and held in a fixed position while in engagement with an opposing hook and permitted to rotate to effect its disengagement therefrom, substantially as described.

2. In automatic car-couplings, the combination of a coupling-head having an oblique face or engaging-surface having a recess therein rounded or curved at its forward portion and a rotating hook rounded or curved at its forward portion and fitted to the recess and held in a fixed position while in engagement with an opposing hook and permitted to rotate to effect its disengagement therefrom, substantially as described.

3. In automatic car-couplings, the combination of a coupling-head having an oblique face or engaging-surface, a rotating hook arranged therein and held in a fixed position while in engagement with an opposing hook, and permitted to rotate to effect its disengagement therefrom, and means for holding the hook in its fixed position and for releasing it therefrom for engagement and disengagement, substantially as described.

CHARLES ALBERT SCHROYER.

Witnesses:

G. W. RUSSELL,
WM. SMITH.