

(No Model.)

2 Sheets—Sheet 1.

J. B. HANNAY & J. COWAN.
CAR COUPLING.

No. 323,142.

Patented July 28, 1885.

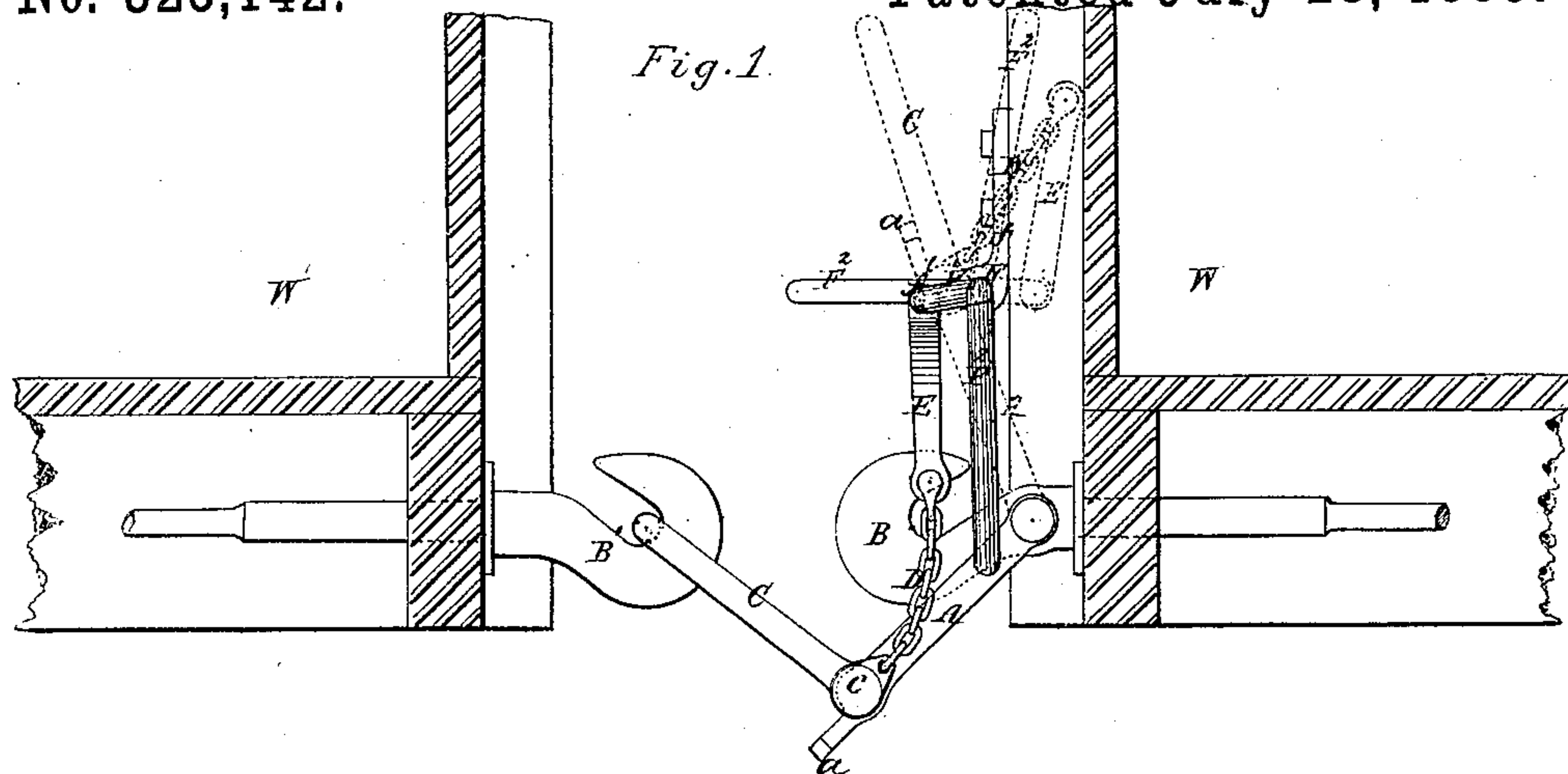
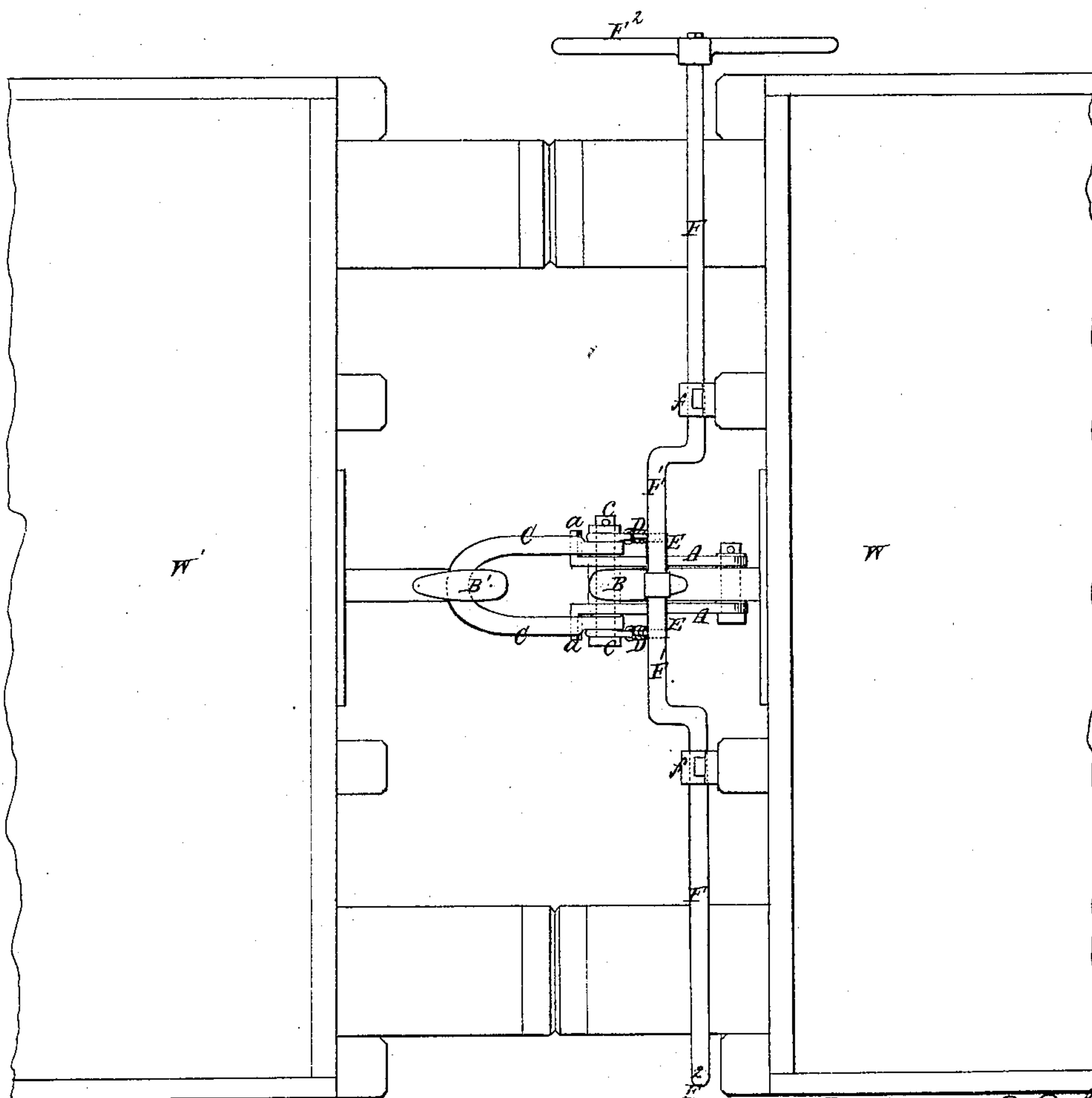


Fig. 2.



Witnesses
Henry Bossert.
Harry Drury

Inventors: J. B. Hannay
and
J. E. Lowan
by their Attys. Howson & Sons

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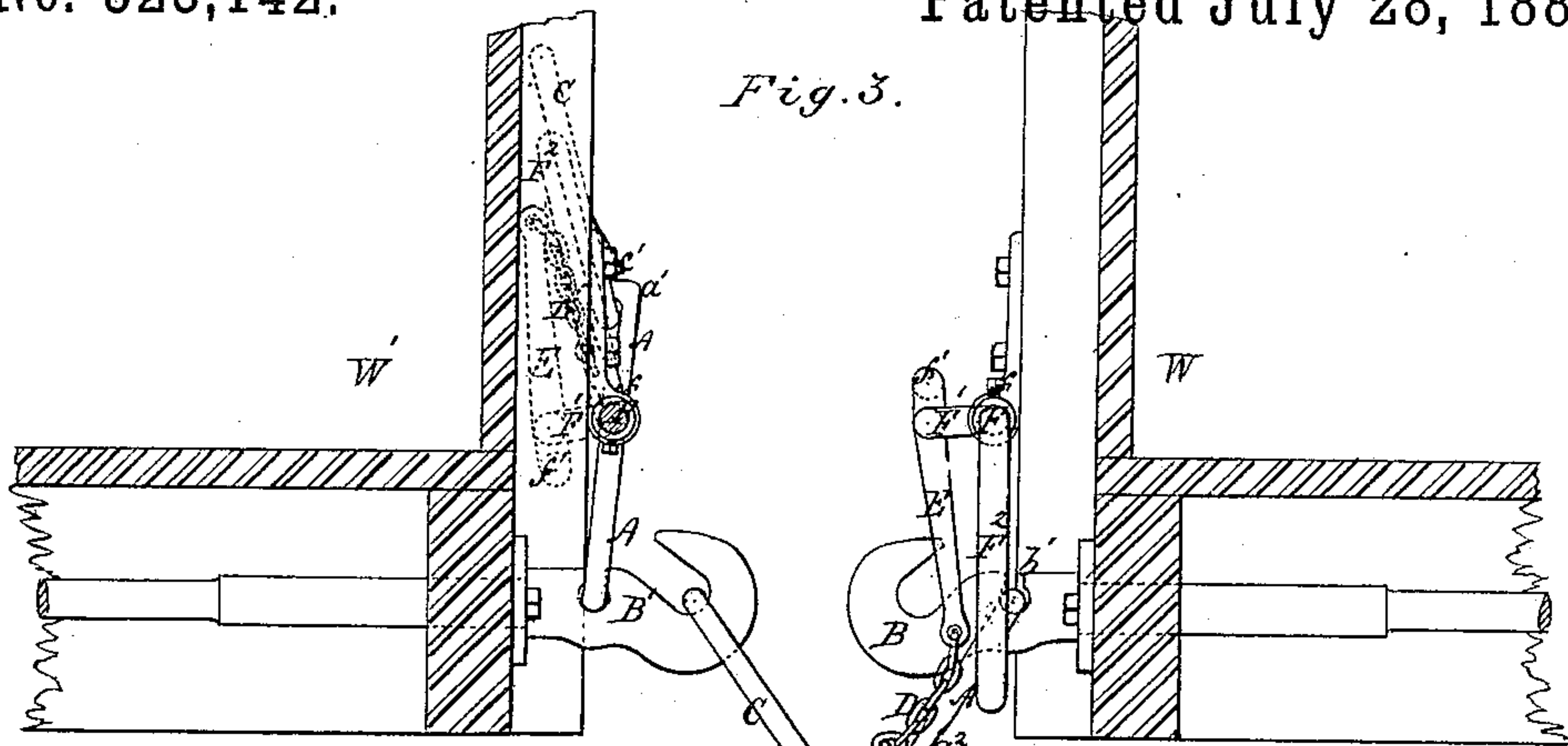
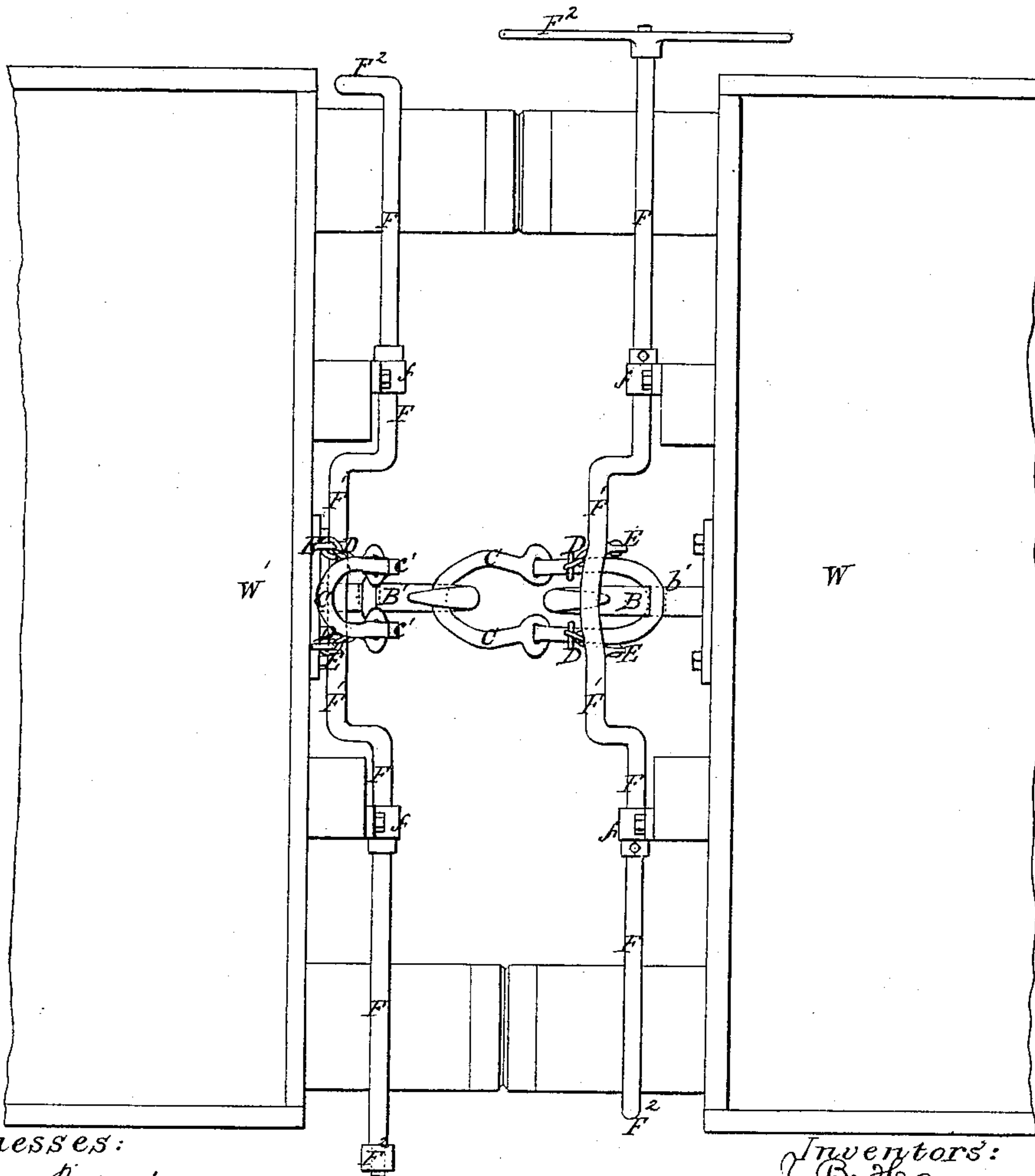


Fig. 4.



Witnesses:
Henry Bossert
Harry Drury.

Inventors:
J. B. Hannay &
J. Cowan
by their Attorneys
Howson & Sons

UNITED STATES PATENT OFFICE.

JAMES B. HANNAY AND JOHN COWAN, OF GLASGOW, COUNTY OF LANARK,
SCOTLAND.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 323,142, dated July 28, 1885.

Application filed January 15, 1885. (No model.) Patented in England June 5, 1884, No. 8,639; in Germany June 19, 1884; in France August 8, 1884, No. 163,686; in Belgium August 8, 1884, No. 65,977; in Austria December 22, 1884, and in Italy December 24, 1884, No. 17,773.

To all whom it may concern:

Be it known that we, JAMES BALLANTYNE HANNAY and JOHN COWAN, both residing at Glasgow, in the county of Lanark, Scotland, and subjects of the Queen of Great Britain and Ireland, have invented certain Improvements in Couplings for Railway - Wagons, of which the following is a specification.

Our invention relates to improvements in couplings for railway-wagons; and it consists of novel mechanical arrangements by means of which the wagons may be coupled or uncoupled without the necessity of the attendant entering between the wagons to effect the coupling operation.

Our invention is illustrated by the accompanying drawings, in which Figure 1 is a sectional elevation, and Fig. 2 is a plan, of portions of a pair of wagons, W W', fitted with a modification of our improved coupling. Figs. 3 and 4 are corresponding views, showing our improved coupling applied in combination with a different form of coupling-link and draw-hook.

The modification of our improved coupling shown in Figs. 1 and 2 consists of a single forked link or a double link, A, fitted to embrace the ordinary draw-hook, B, of the wagon W, and secured to the shank of the draw-hook B by a pin, b, on which the link A is free to swivel vertically. Near the free end of this link A are jointed by the pin c the limbs of a U-shaped link, C, whose doubled end engages with the draw-hook B' of the next wagon, W'. The free ends of the first link A extend out beyond the joint-pin c, and are bent out laterally at a to support the U-link C on the lower side, while leaving it free to swivel upward on its joint c as a center. The double swiveling link A is hung by a chain or chains, D, to lever-arms E, fitted on the cranked part F' of a transverse shaft, F, which extends right across the end of the wagon, and is free to swivel in bearing-brackets f, secured on the wagon. At either or both ends of this shaft F a hand-lever, F², is fitted, and when turned this lever, acting through the lever-arm E and chain D, raises the swiveling link C to, or nearly to, a vertical position in prox-

imity to the end of the wagon, as is indicated by the dotted lines in Fig. 1, and in this way the engaging link C is raised off the hook B' to uncouple the wagons W W'. The wagons are again coupled by turning the hand-lever F² in the opposite direction to bring down the links A C, when the U-link C drops over the draw-hook B' of the adjacent wagon W', and the center part of the two links or parts of the coupling drops down or hangs like the ordinary chain-coupling, as shown by the full lines. The links A C thus freely yield when the wagons approach each other closely, and are drawn up to an approximately horizontal position when the wagons are drawn apart.

The cross-shaft F, by means of which the coupling-links are raised and lowered, is formed with a crank, F', in the mid part of its length, on which the lever-arms E are formed or secured, thus putting these and the crank out of line with and nearer to the end of the wagon than the outer ends, which are fitted in the bearing-brackets f a short way out from the end of the wagon. That is the position of the crank-shaft F when the coupling is disengaged, its position being reversed, as shown, when the coupling is engaged. The cranked part F' of the shaft F is, by preference, so formed that it is slightly inclined downward from the horizontal position, and backward when the coupling-links are raised up in line with the end of the wagon.

The object of forming the crank on the shaft is, that when the coupling-links are raised they are automatically locked there, and can only be brought down by the attendant turning the shaft, as the strain on the arms E, due to the weight of the coupling, being nearly in the line of the center on which the shaft F turns, only tends to prevent the crank-shaft from being canted accidentally. The crank F' on the shaft F is in some cases further bent or cranked at right angles to the main crank F', as shown at f' in Figs. 3 and 4, so that when the coupling-links are raised against the end of the wagon the cross-shaft F F' may not be in the way and prevent the coupling-link C on an adjacent wagon being passed over the draw-hook.

The modification shown in Figs. 3 and 4 only differs from that already described in so far as it illustrates an application of coupling-links in which there are no center pins, the use of center pins being considered by many practical men as objectionable. The link A in this case is fitted into a notch, b' , in the draw-hook B by dropping the link in at a flattened part, a^2 , of its length, which enters the top of the notch, and then turning the link so that its end, which is of round section, fits the lower part of the notch and cannot be lifted out by accident. This is an arrangement already in common use, and does not *per se* form part of our invention. The free ends of the link A are formed with forged eyes, which engage similar eyes in the ends of the link C. Shoulders a' are formed on the eyes of the link A, which act on the projections c' on the eye of the link C, to couple or uncouple it as the link A is raised or lowered by the shaft F, all as described in reference to the former modification, Figs. 1 and 2. In this latter arrangement the two links A and C are joined by eyes in place of the pin c in the former modification, and, being open links from end to end, have the important advantage of their being

let down and coupled in any position of the hooks pressed up together or otherwise.

The coupling-links A C, and devices for actuating the same, are by preference fitted on each end of each wagon; but the improved coupling is equally adapted for engaging or coupling wagons fitted with the ordinary draw-hook and chain-coupling.

What we claim is—

1. The combination of the links A and C of a wagon with a transverse shaft, F, carrying lever-arms E, provided with chains connected to said links to raise the same, substantially as described.

2. The combination of the link A of a wagon and chains D with a transverse shaft, F, having a crank or cranks, F', and carrying arms E, to which the chains are connected, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

J. B. HANNAY.
JOHN COWAN.

Witnesses:

WALLACE FAIRWEATHER, C. E.,
JOHN SIME.