

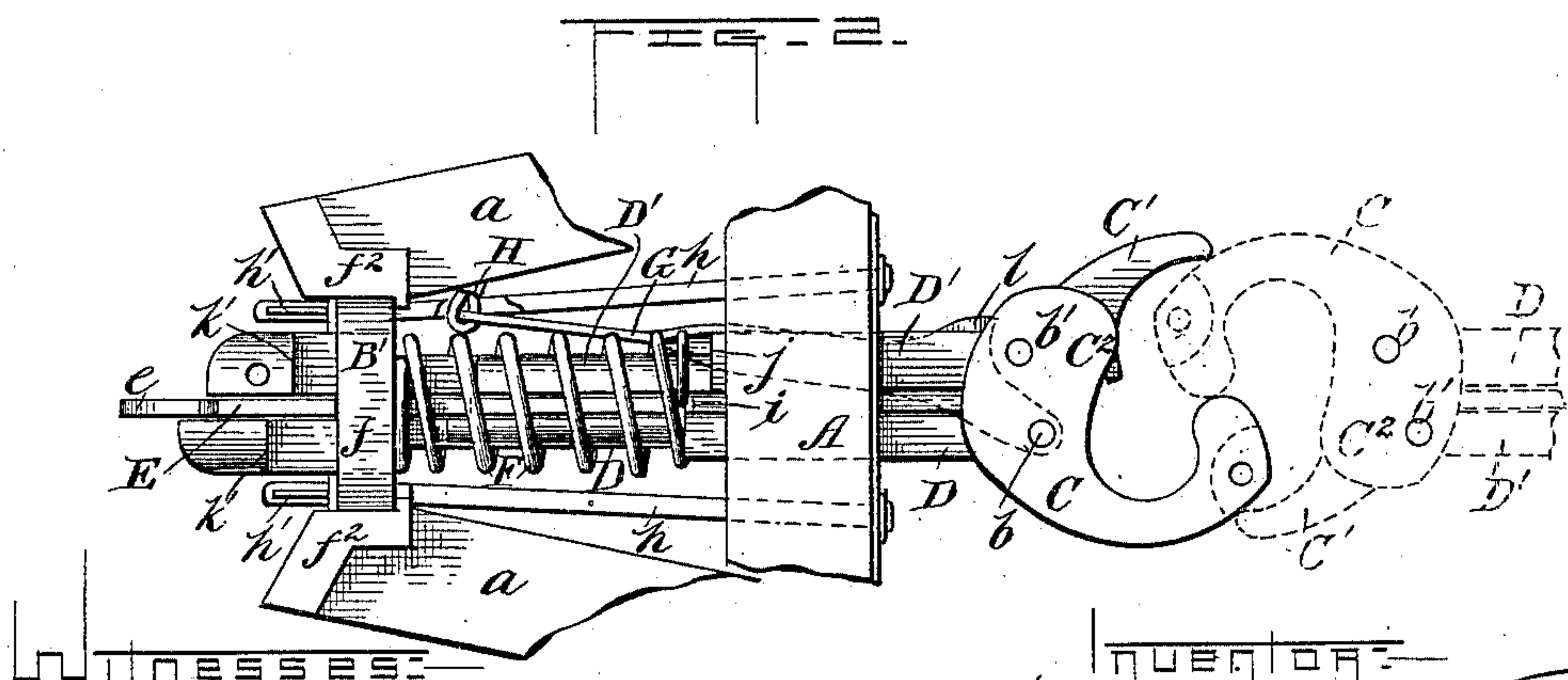
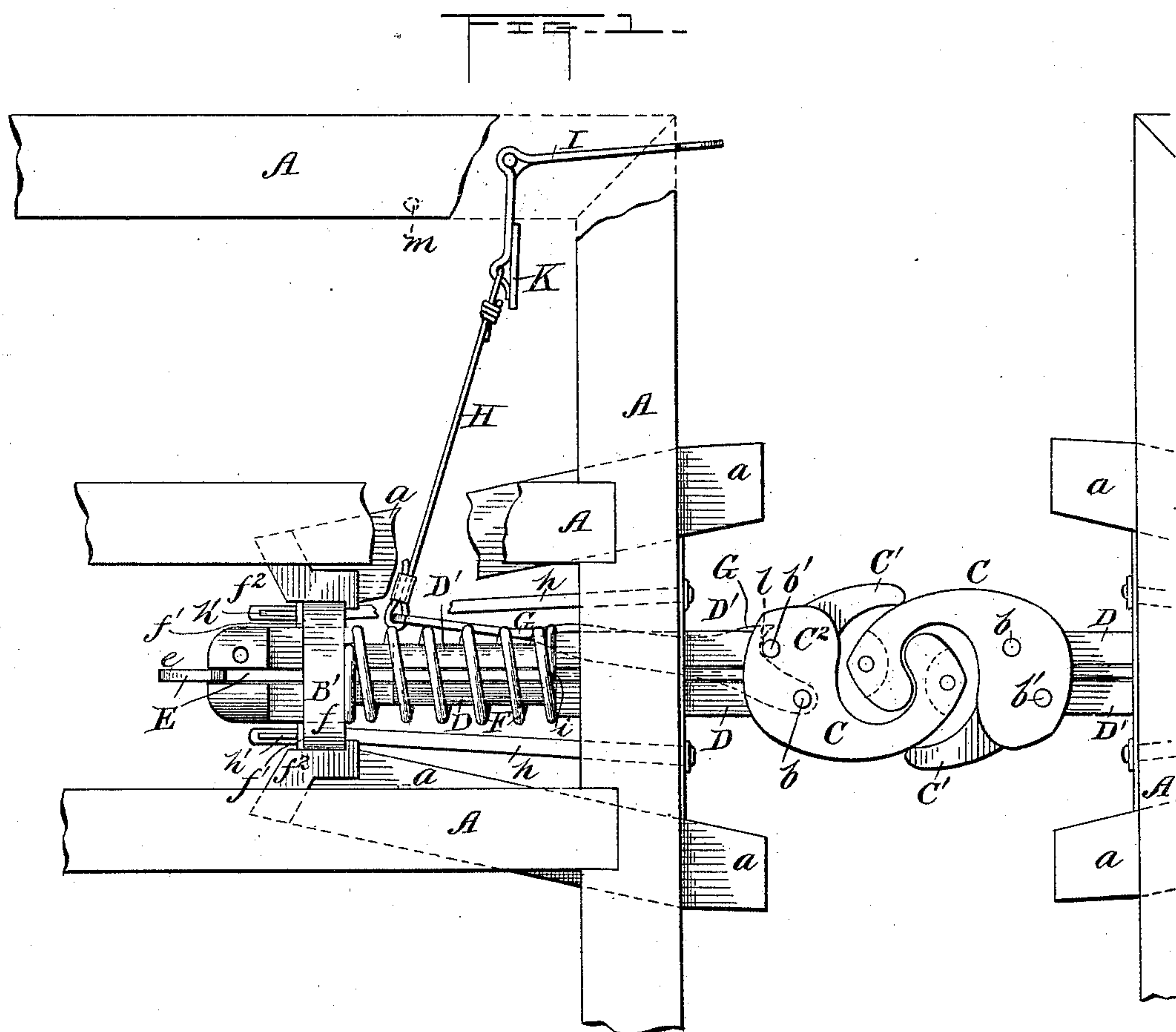
(No Model.)

2 Sheets—Sheet 1.

J. B. GRANGER.  
CAR COUPLING.

No. 462,078.

Patented Oct. 27, 1891.



Everance.  
E. J. Fenwick

James B. Granger  
by his Attorneys  
Mason, Fenwick and Lawrence

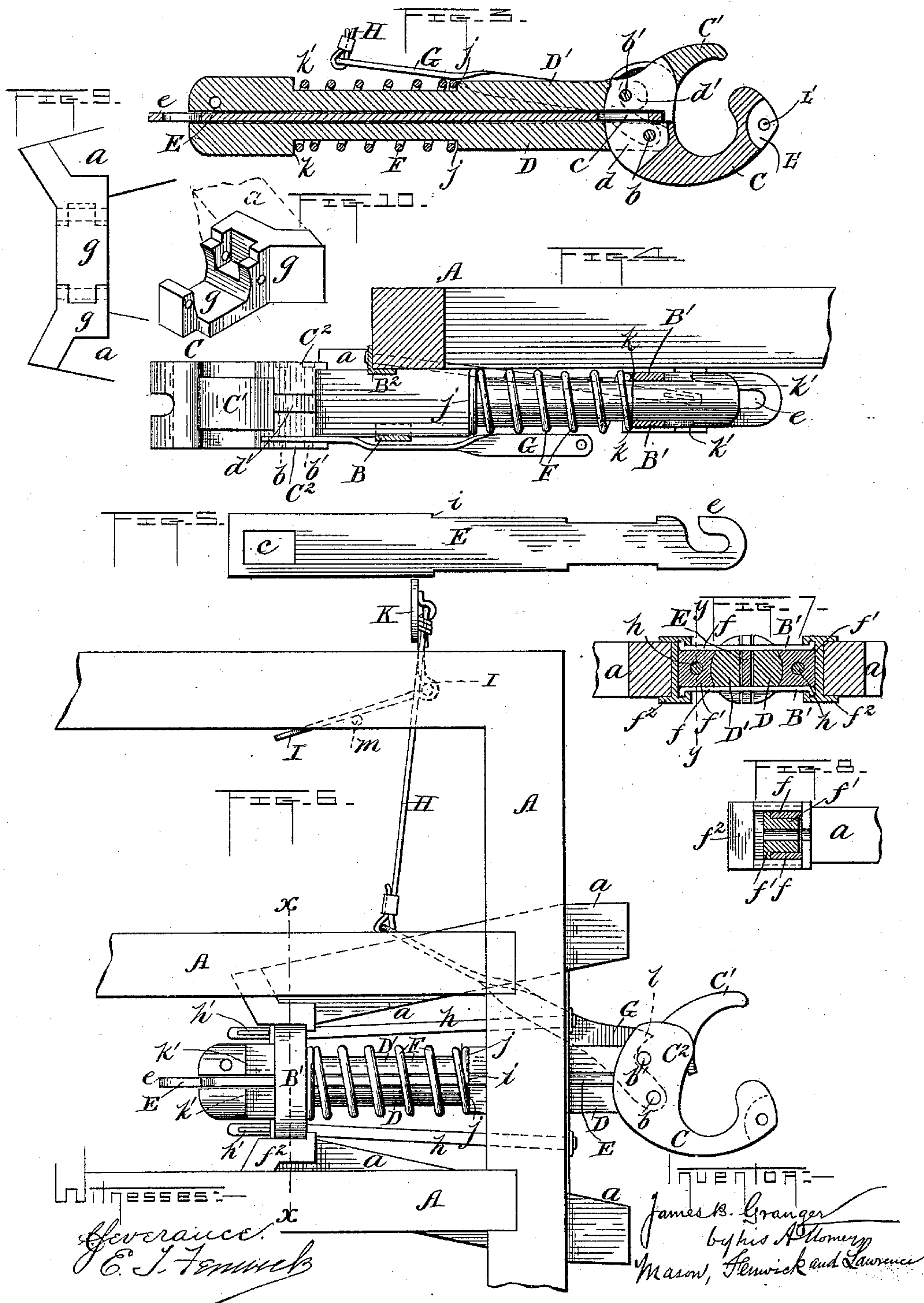
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# UNITED STATES PATENT OFFICE.

JAMES B. GRANGER, OF DELHI, NEW YORK.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 462,078, dated October 27, 1891.

Application filed April 1, 1891. Serial No. 387,218. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. GRANGER, a citizen of the United States, residing at Delhi, in the county of Delaware and State of New York, have invented certain new and useful Improvements in Twin Couplings for Railroad-Cars; and I do hereby 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.

My invention relates to pivoted-jaw twin car-couplings; and it consists, mainly, in constructing the shank of the jaws in two parts and attaching a jaw to each of said parts and one of the jaws to both of the parts, also in combining with said divided shank a locking-bar, all as will be hereinafter described.

It also consists in the combination, with the divided shank and the jaws of the draw-head of a locking mechanism whereby the jaws can be held locked open without liability of cars becoming casually coupled at times when it is not desired that they shall become coupled.

It also consists in the combination of an indicator-signal with the divided shank and jaws of the draw-head and with a locking mechanism; and it further consists in certain other novel constructions and combinations, as will be hereinafter described and specifically claimed.

By my invention the jaws of one draw-head can be automatically coupled with the jaws of a corresponding draw-head, and also automatically locked after being coupled in a very perfect and expeditious manner. The said jaws can also be readily opened for the uncoupling of the cars, and, when desired, held locked open, and the fact that the jaws are thus locked open and not ready for the coupling operation indicated by a signal.

In the accompanying drawings, Figure 1 is a top view of portions of a car-frame with my invention applied thereto, parts of the framing being broken out to show more plainly parts that would be hidden thereby. In this view two coupling-heads are represented as coupled. Fig. 2 is a top view illustrating the twin coupling-heads as in the act of being coupled, one coupling-head being shown by dotted lines. Fig. 3 is a longitudinal horizontal section of one of the coupling-heads, showing the jaws, the divided shank, the

locking-bar, the spring, and a portion of the locking mechanism connected with the signal and serving for locking one of the jaws open. Fig. 4 is a detail longitudinal section of the framing and supporting-hangers of the coupling-head. In this view the jaws are shown in a reverse position from that of the other views, the car being turned around. Fig. 5 is a side view of the locking-bar, shown in the same position as in Fig. 4. Fig. 6 is a top view showing the jaws of the draw-head locked open. Fig. 7 is a vertical cross-section in the line *xx* of Fig. 6. Fig. 8 is a detail vertical section of the rear bearing or hanger and its supports in the line *yy* of Fig. 7. Fig. 9 is a top view of a modified form of the rear hanger and its support, and Fig. 10 is a perspective view of one-half of said rear hanger.

A in the drawings indicates the framing of a car; B B', front and rear metallic hangers or bearings for the shanks of the draw-heads applied to timbers *a a* beneath the platform or bottom of the framing of the car.

C C' are the jaws, and D D' are the portions composing the shank of the draw-head, to which the jaws are pivoted, respectively, by pivots *b b'*, the pivot *b* being located in rear of pivot *b'*.

E is a thin slotted locking-bar applied between the shank portions D D' of the draw-head, said bar having a slot *c*, through which the web-like extension *d d'* of the jaws can move during the coupling operation, said bar also having a hook *e* at its rear end, to which a rod running the entire length of the car and connecting to the hook of another similar bar may be connected, if desired. The front bearing or hanger B may be an angularly-bent plate forming a rectangular seat for the shank portion to fit in and be guided by, and thus be held from lateral movement. Above this plate a wear-iron and guiding-plate B<sup>2</sup>, having a notch to admit the shank portions and guide the same, may be provided, said plate also preventing lateral movement. The rear hanger B' may be either in the form of two straps *f f* between angular plates *f<sup>2</sup>*, as shown in Figs. 1, 2, and 7, with half bearing-blocks *f'* between them, or it may be constructed of two matching castings *g g*. In either construction of this bearing the hanger is sustained and its parts held in their posi-



tion on the framing A by means of rods *h*, through which fastening-keys *h'* are passed or on which screw-threads may be cut and nuts applied to secure the parts together and produce the necessary tension. The jaw C has a short lever-extension portion C<sup>2</sup> on its upper and under side, and between these extensions the thin webs *d d'* are constructed. This lever-extension of the jaw C is formed to receive between its upper and lower portions the bifurcated front end of the portion D of the shank and the thin extension or web-like portion *d'* of the jaw C', and through this lever-extension portion and the web-like portion *d'* of the jaw C' the pivot *b'* is passed, said pivot also passing through the forward bifurcated end of the shank portion D'. The said jaw C is also constructed to receive between its upper and lower extension portions B<sup>2</sup> the bifurcated end of the shank portion D', and through said shank portion and the jaw the pivot *b* is passed. The thin flat locking-bar E is formed with shoulders *i*, and the shank portions are also provided with shoulders *j, k*, and *k'*. Between the shoulders *i, j*, and *k* a strong spiral spring F is applied, the same being wound around cylindrical portions of the shank of the draw-head. By forcing the draw-head backward to the position shown in Fig. 3 the jaws C C' are free to turn on the pivots *b b'*, so as to effect the coupling of one draw-head with another, this action causing the slot *c* to come directly under the web-like portions *d d'* of the jaws, and thus permit said portions to play in said slot. By pulling upon the jaw C the shank portions D D' will pass forward and the solid portions thereof come in contact with the locking-bar E forward of the slot *c*, and thus prevent the jaws having any movement on their pivots *b b'* so long as the pulling strain remains upon the jaw C. The extent of the movement forward of the shank portions D D' is limited by the shoulders *k'* coming in contact with the rear hanger or bearing B'. It will be seen that any contact of a jaw, as C, with another jaw corresponding thereto in construction and arrangement will cause a shank, as D, to move backward, and that a shank portion, as D', having a jaw, as C', as well as a jaw C, pivoted to it, will cause a shank, as D', to slide forward, and thereby open the jaw C', and thus facilitate the coupling of one jaw-head with another, and that as soon as the jaws are coupled together and the pulling strain comes upon the jaw-head the two portions D D' of the shank will slide forward together and cause the jaws to close and the locking-bar to lock them in that condition.

G is a pivoted arm connected to the jaw-head by the pivot *b* and formed with a heel portion *l*, which comes in contact with the pivot *b'* of the jaw C', as illustrated in the drawings. To the rear end of this arm a connecting-rod H is fastened, and this rod is connected to an elbow-lever I, to the short arm of which an indicating or signal disk K is

fastened. The elbow-lever I and the connecting-rod H are so arranged in respect to a stop-pin *m* that when the signal-disk occupies the position shown in Fig. 6 it will be impossible for the arm to change its position with respect to the pivot *b'*, and therefore the jaw C will remain locked open positively; but when the signal-disk K stands in the position shown in Fig. 1 the jaw C' will be perfectly free to turn on the pivot *b'*. A similar connecting-rod, signal-disk, elbow-lever, and stop may be applied on the other side of the car and connected to the arm, and thus the signal shown on both sides.

When the signal is located as in Fig. 6 the attendant understands that the cars are not ready to be coupled, nor can they be coupled; but when the signal is adjusted, as in Fig. 1, he understands that the cars are ready to be coupled and they can be coupled.

The jaw C may be provided with a receptacle E for the end of an ordinary coupling-link and with a coupling-pin hole L', as shown, and by this means a car having one of these described coupling-heads and another car not provided with such head may be coupled.

What I claim as my invention is—

1. A draw-head of a twin coupling, having pivoted jaws and a longitudinally-divided shank, one of said jaws being pivoted to one shank only and the other jaw pivoted to both shanks, substantially as described.
2. A draw-head of a twin coupling, having pivoted jaws and a longitudinally-divided shank, one of said jaws being pivoted to one shank only and the other jaw pivoted to both shanks, in combination with a locking-bar, substantially as described.
3. The jaws C and C' of the draw-head, provided with pivots *b* and *b'*, which are so applied that the pivot *b'* is in rear of the pivot *b*, substantially as described.
4. In combination with the pivoted jaws and divided shank, the lever I, connected to the pivoted arm for opening the jaws, substantially as described.
5. The lever I, connected with the arm and carrying a signal K, for locking the jaw C' open and indicating the condition of the jaws, substantially as described.
6. The combination of the lever I, connected with the arm, and the jaws C C', pivoted, as at *b b'*, to a divided shank, whereby the jaws C' can be locked open, substantially as described.
7. The combination of the divided shank, the jaws, the locking-bar, the hangers or bearings, and the spring, substantially as described.

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

JAMES B. GRANGER.

Witnesses:

GEO. A. STURGES, Jr.,  
WALTER G. EDGERTON.