

J. A. VOGLER.
CAR-COUPLING.

No. 174,326.

Patented Feb. 29, 1876.

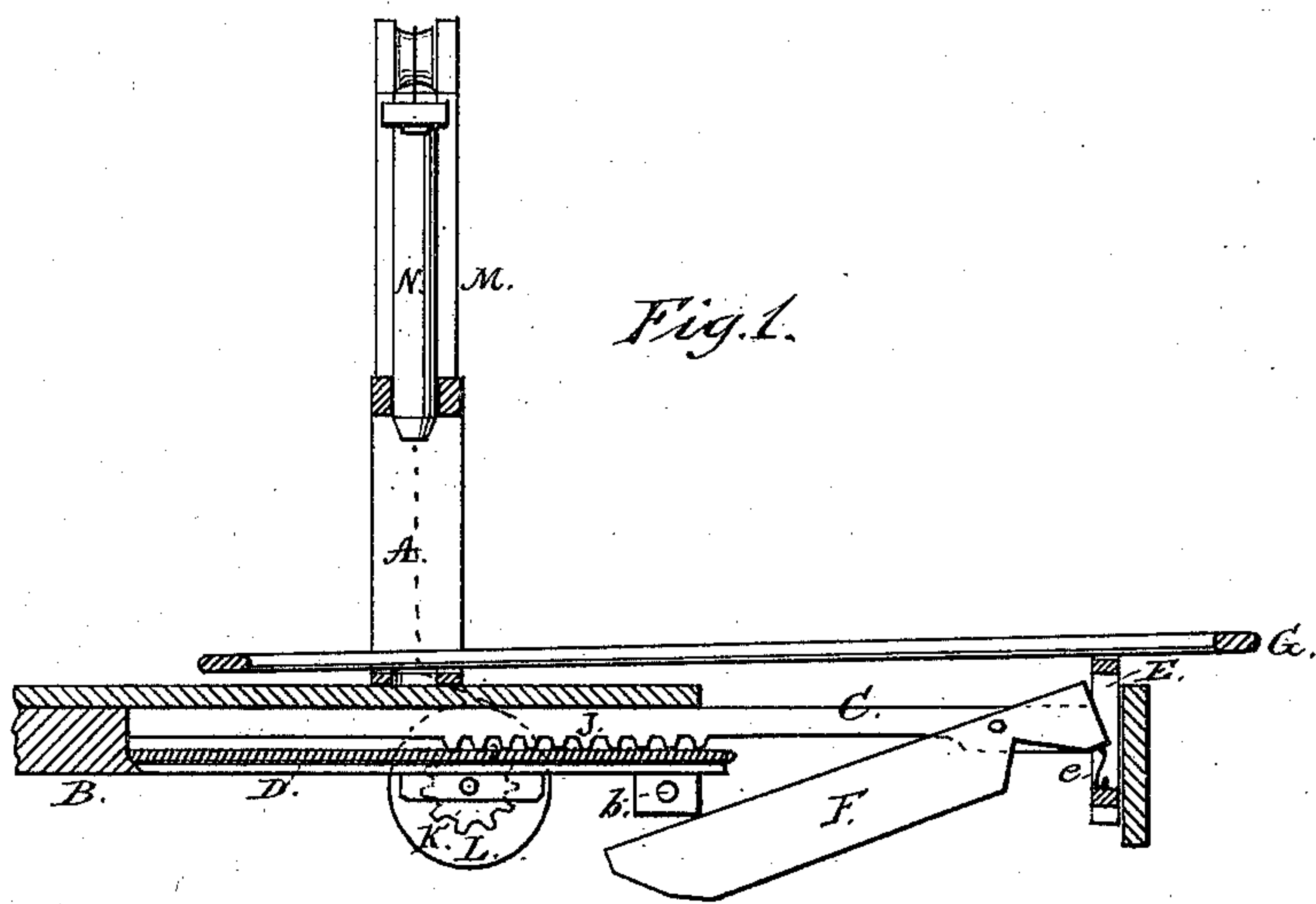
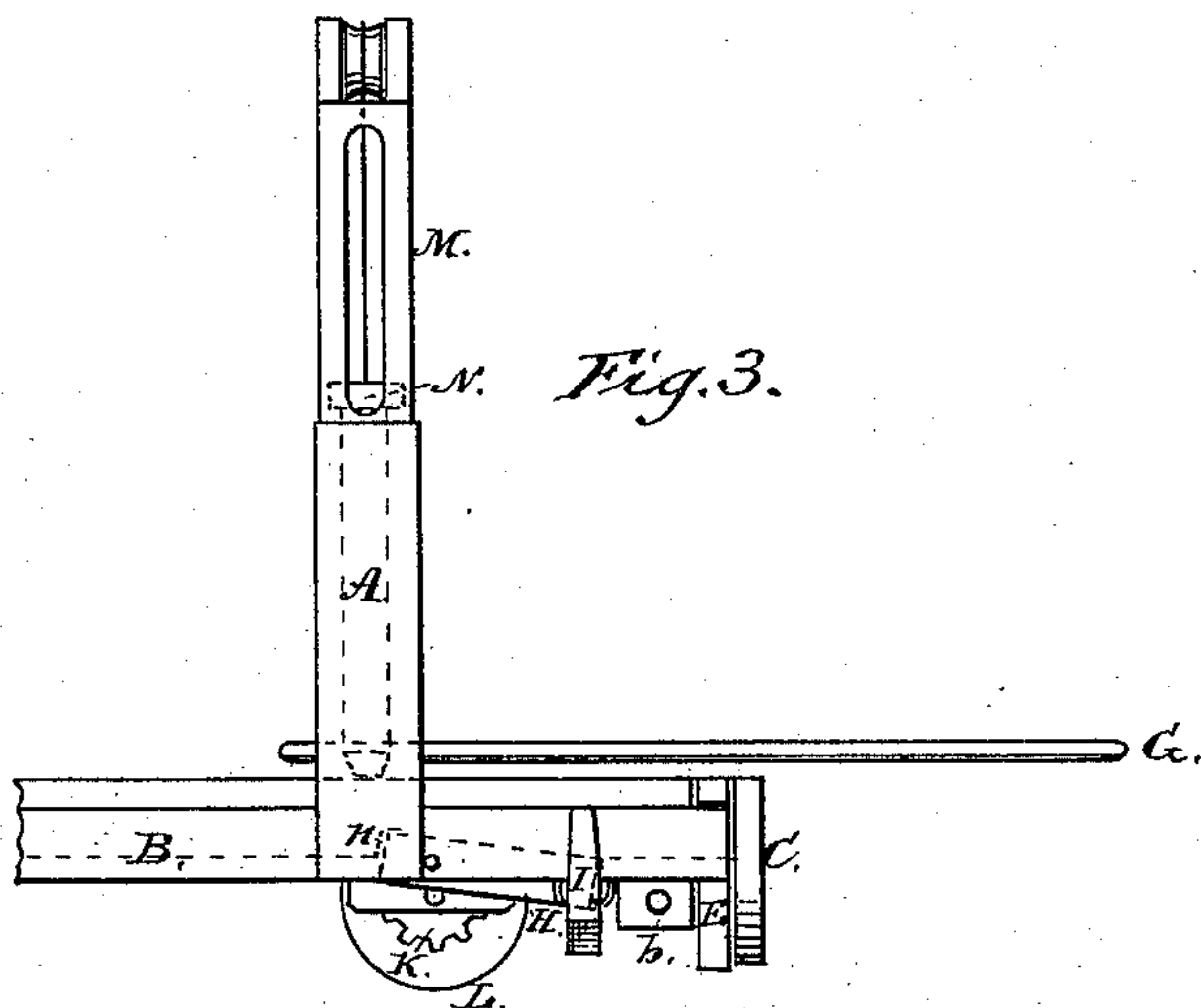
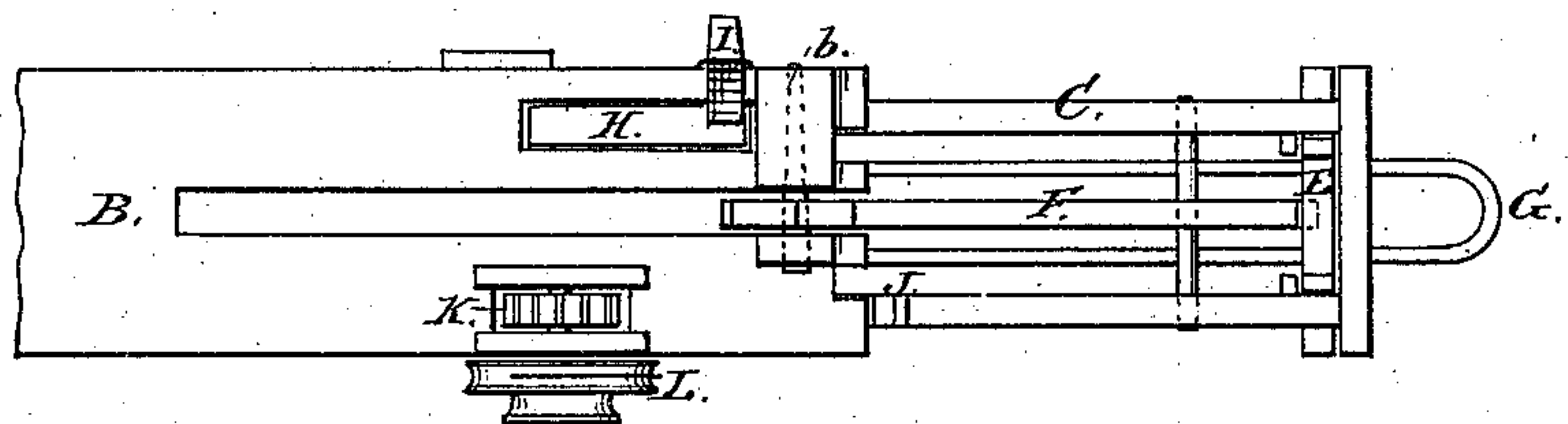


Fig. 2.



WITNESSES.

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IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 174,326, dated February 29, 1876; application filed January 24, 1876.

To all whom it may concern:

Be it known that I, JOSEPH A. VOGLER, of Frankford, in the county of Franklin and State of Kentucky, have invented certain new and useful Improvements in Self-Acting Couplers for Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, which 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.

Figure 1 is a longitudinal section of my invention. Fig. 2 is a bottom plan of the same. Fig. 3 is a side elevation of the same.

This improvement comprises an attachment which may be applied to any of the draw-heads commonly in use, or may be manufactured in connection with draw-heads of any known style; and it consists, first, of an automatic extension-frame arranged to slide in and out under the draw-head, and by its movement to effect the following results: (a) the proper support of the outer end of the coupling-link, so as to insure the proper entrance of the same in the opposite draw-head when coupling; (b) the raising of the coupling-pin, and release again of the same, to admit said link, or to release the same, as the desired operation is to couple or uncouple; second, in a sliding gate, moving up and down in the front end of the before-mentioned slide, and operated by a weighted lever, the object being to raise the front or outer end of the link to the desired level for proper coupling; third, in an ejector-spring, in connection with the first-named sliding frame, whereby the outward movement of the same is made automatic, and a latch to retain the said sliding frame when pushed in by the operation of coupling; fourth, in a rack and pinion, operated by said sliding frame to actuate a pulley for the purpose of raising the coupling-pin, to admit the link or release the same, as the object is to uncouple or couple.

That others may more fully understand my invention, I will particularly describe it.

A is a part of the draw-head of an ordinary pattern, and B is the case in which the operative parts of my invention are placed. Said

case is attached to the under side of the draw-head A. The slide C has guides inside of the case B, in which to slide longitudinally, and it is provided with a helical spring, D, the front end of which is secured to the front end of the case B, and its rear end to the rear end of the slide C, so that said spring is drawn out or flexed when the slide C is forced in, and by its reaction said slide is forced out again as soon as liberated. At the front end of the slide C there is a gate, E, which moves in slides up and down at the front end of the slide C, and said gate is operated by a weighted lever, F, which is pivoted in the slide C, and connected to said gate by a link, *e*. If desired or found advisable, two levers, one on each side of the frame, may be used in place of the center lever, as by this means the gate E can be kept in a horizontal position when in action.

The weighted end of the lever F is held up by a slip-bolt, *b*, and when said bolt is withdrawn the weighted end of said lever drops down, and the gate E is thereby raised, as shown in Fig. 1. The purpose of this is to elevate the outer or front end of the link G, to correspond with the height of the draw-head with which it is designed to couple. If the said draw-head is slightly lower than the draw-head A, then the gate E would not be called into operation, and the lever F would remain supported by the bolt *b*.

One of the side bars of the slide C is provided with a notch, (shown in dotted lines at *n*, Fig. 3,) and into this notch a small weighted detent or pawl, H, engages when the slide E is pushed into its case B, and holds said slide until released by the removal of said pawl H. This may be effected by the angle-lever I, which bears upon the outer end of said detent, and may be caused to remove the same from engagement with its notch *n*.

The operation of this part of my invention is simple and easily understood. When released, the slide C is caused to run out by the spring D, and the forward end of the link G is thereby supported in position ready for entrance into the opposite draw-head, and is held until actual collision with said opposite draw-head and the proper entrance of said link therein. The slide C is driven into its case B,

where it is caught by the detent H and retained until the uncoupling takes place.

One of the side bars of the slide C is provided with a rack, J, the teeth of which mesh with the leaves of a pinion, K, and cause the same to rotate as said slide moves in or out.

A pulley, L, is mounted upon the end of the shaft of the pinion K, and from said pulley a cord or chain passes upward over pulleys or rollers in the upper end of a gallows-frame, M, above the draw-head, and down to the head of the pin N, so that, in whichever direction said slide may move, the pulley L will be rotated, and the pin N will be raised high enough to admit or release the link G, as the case may require. But the rack J is shorter than the range of movement of the slide, and, therefore, goes out of gear with the pinion K at each end of its movement, so that said pinion and its pulley is liberated, and the pin N will immediately drop into its place again by its own gravity.

It can be readily seen that the device for lifting and releasing the pin N can be simplified, and other movements than the rack and pinion substituted. The raising and lowering of the pin N by the operation of the slide C, produced by the collision of the two draw-heads, is the main point, and the device used in connection therewith secondary thereto.

When two cars are to be coupled, the position of the parts is indicated in Fig. 1; the only difference being that in said figure the forward movement of the slide has not been completed, and the coupling-pin is still elevated. The front end of the link is elevated and ready to enter the opposite draw-head.

When the draw-heads come in contact the link enters, and the slide is driven into its case and held there, as shown in Fig. 3. The opposite draw-head being affected in the same manner, the pin thereof has been raised by the revolution of its pinion and pulley to admit the link, and has fallen again into place, so that the coupling is completed. The similar raising of the pin N produces no harm, because the link G cannot in the act of coupling become displaced. To uncouple it is only necessary to press the lever I and withdraw the detent H, when the slide will immediately be projected forward, the pin raised, and the link permitted to escape.

Having described my improvement, what I claim as new is—

1. Combined with the slide C and draw-head A, the ejector-spring D, notch n, and detent H, substantially as set forth.
2. Combined with the draw-head A and extension-slide C, the vertically-moving gate E and its actuating-lever F, substantially for the purpose set forth.
3. A draw-head, A, with an automatic slide, C, its actuating-spring and holding-notch and detent, in combination with the latch lever I, as set forth.
4. The rack J, pinion K, and pulley L, and the connecting cord or chain, combined with the slide C, draw-head A, and pin N, for the purpose of automatically raising said pin when coupling or uncoupling, as set forth.

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Witnesses:

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