

N. NILSON.  
Car-Coupling.

No. 164,866.

Patented June 22, 1875.

Fig. 1.

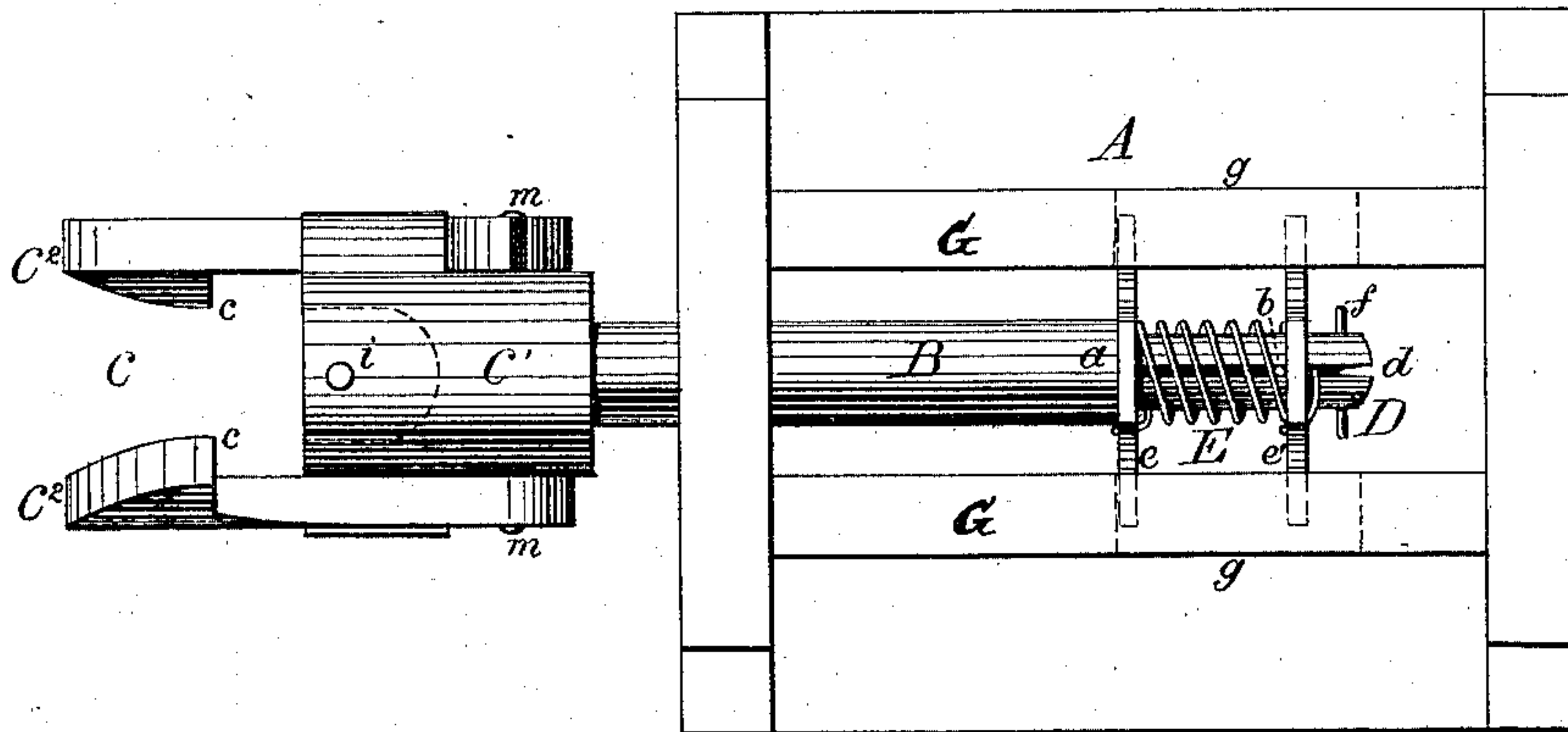


Fig. 2.

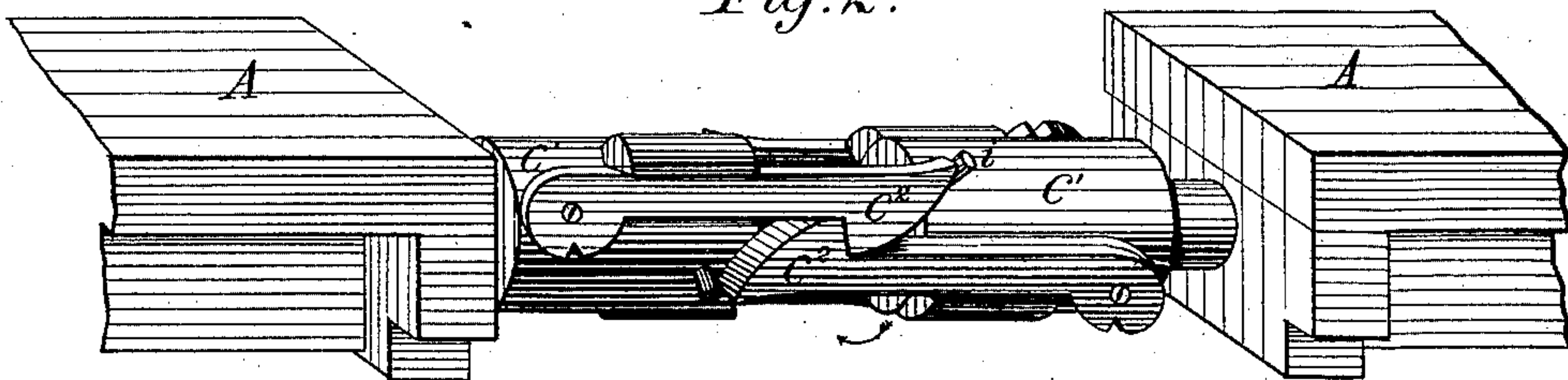
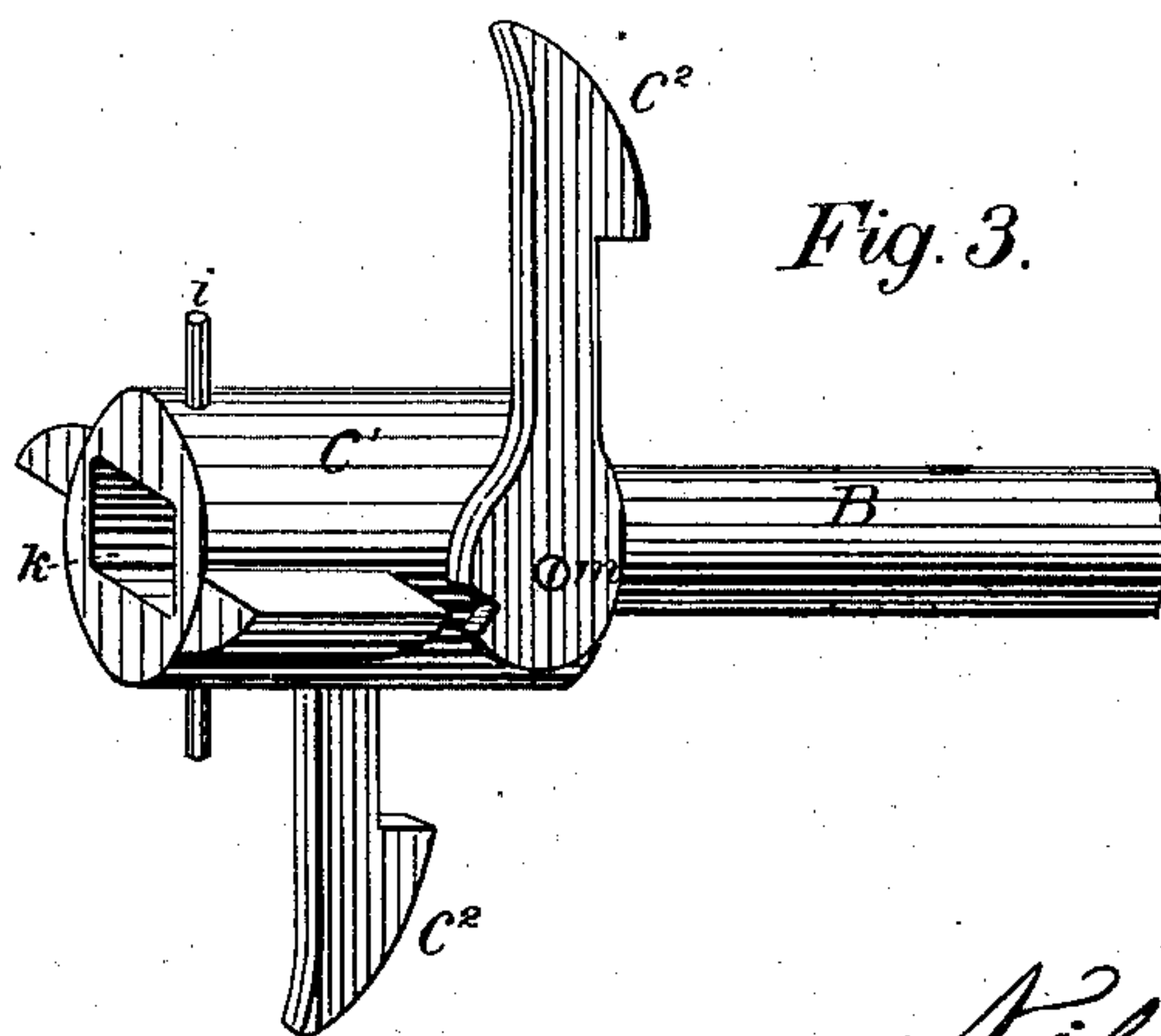


Fig. 3.



Attest:

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Inventor:

Nils Nilson,  
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his atty.



# UNITED STATES PATENT OFFICE.

NILS NILSON, OF MINNEAPOLIS, MINNESOTA.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **164,866**, dated June 22, 1875; application filed January 21, 1875.

*To all whom it may concern:*

Be it known that I, NILS NILSON, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Car-Couplings; 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 pertains 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 plan view of the under side of a truck, having my improved coupling. Fig. 2 is a side view of the coupling with the forward parts of the respective trucks, the wheels being removed. Fig. 3 is a perspective view of the coupler.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to that class of couplers by which the coupling is effected automatically; and it consists in the combination of a rotating draw-bar with a double-acting spring placed between sliding collars; and it further consists in the combination of a recessed draw-head with projecting beveled hooks or catches pivoted thereto, as and for the purpose hereinafter stated.

In the drawing, A represents a portion of the truck; B, the draw-bar, and C the coupling-head. This latter is of the configuration shown in the perspective view, Fig. 3, and consists of a central part, C<sup>1</sup>, and two hooks, C<sup>2</sup>, pivoted to the head opposite each other, one on each side at *m*. Each of these hooks has a forward bevel, their curves being in opposite directions, and terminating in a shoulder, *c*. The bevels are so arranged as to form, if continued, a screw around the centrally-disposed draw-bar B. The draw-bar terminates in its rear part in a tenon, D, which has a slot, *d*, into which one end of a coiled spring, E, is secured. The tenon D is passed through two vertical slides, *e e'*, in such a manner that the shoulder *a* of the draw-bar B will abut upon *e*. The coiled spring E is disposed between the slides *e e'*, acting against them both severally. *b* is a pin secured in the slide *e'* to keep the spring E in place, and the draw-bar B is prevented from being withdrawn by a

stout pin, *f*, inserted through the rear part of the tenon D back of the sliding plate *e'*. The plates *e e'* move in slots *g* in the longitudinal beams G, in shown in Fig. 1. By this arrangement the requisite elasticity to obviate the shock when the cars come together, or the sudden jerk caused by starting is attained. The spring E is coiled in such a direction as to cause the draw-bar B, with its head C, to turn automatically in the direction indicated by the arrow, so that when the cars come together the projecting keys C<sup>2</sup> of each coupling will meet, and be gradually turned in opposite directions against the tensions of their respective springs E until the shoulders *c* have been passed, when the springs E will cause the respective draw-bars with their heads C<sup>1</sup> and projections C<sup>2</sup> to rotate, and the coupling is effected by the shoulders *c* of one draw-head interlocking with the corresponding shoulders of the opposite draw-head. The uncoupling is effected by turning one or both draw-heads against the tensions of their respective springs E, until the shoulders *c* are released from each other, and readily slip out. This is done conveniently by levers operated from the platform, or from the top of the car by rods or chains, in the usual manner.

From the foregoing description it will be seen that the spring E answers a double purpose, viz: cushioning the draw-bar B when the cars are brought forcibly together, and serving to keep the draw-head C in the proper position for interlocking with the draw-head of the next car. No additional springs or levers are therefore required. The longitudinal play of the draw-bar B is increased beyond the degree to which the spring E may be compressed by the slots *g*, in which move the plates or collars *e e'*; the said slot being longer than the distance between *e* and *e'* when the spring E, placed between them and keeping them apart, is extended to its full capacity.

The draw-head C<sup>1</sup> is recessed at *k* to receive the link used with an ordinary coupler, and which is held in place by the pin *i*. When so used, the hooks C<sup>2</sup>, which are pivoted to the draw-head at *m*, are thrown back out of the way, as shown in Fig. 3. When the projections or catches C<sup>2</sup> are in the position shown in

Figs. 1 and 2, they are held in place by the pin *i* being inserted obliquely through the back part of the draw-head projecting on each side thereof, so as to prevent the turning out of place of the catches  $C^2$ .

The draw-bar B and head C being cast in one piece, enables me to manufacture my improved coupler at much less cost than automatic couplers as ordinarily constructed, which consist of a number of complicated parts. Besides, as has been already stated, my improved coupler can, when desired, be used with a pin and link, as an ordinary coupler.

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

1. The combination of the draw-bar B, hav-

ing the head  $C^1$  and catches  $C^2$ , with the double-acting spring E, between sliding collars *e e'*, substantially as and for the purpose shown and described.

2. The combination of a recessed draw-head,  $C^1$ , with the projecting beveled catches  $C^2$ , pivoted to the sides thereof, so as to be thrown into or out of operation, substantially as and for the purpose before set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

NILS NILSON.

Witnesses:

LOUIS BAGGER,  
WM. BAGGER.