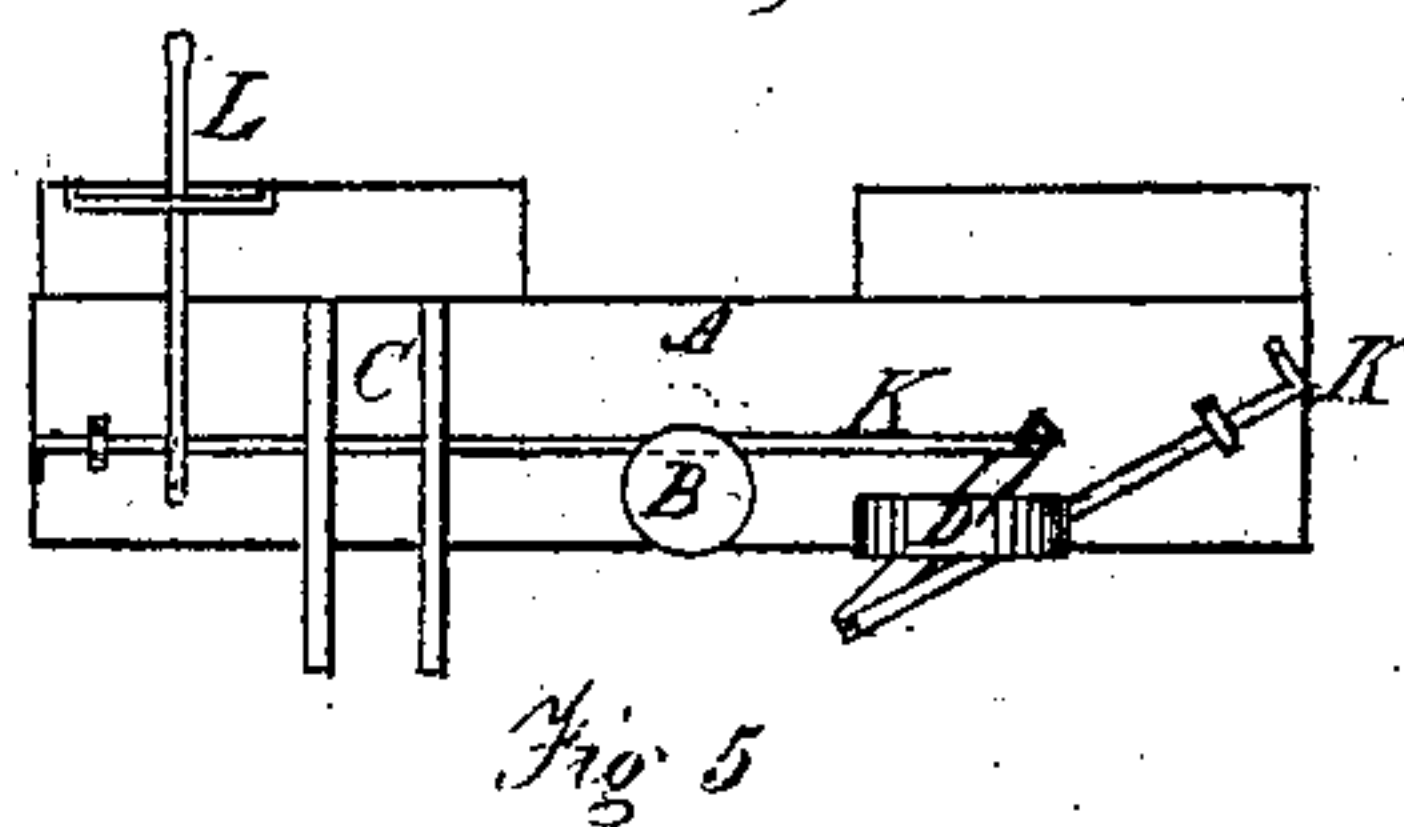
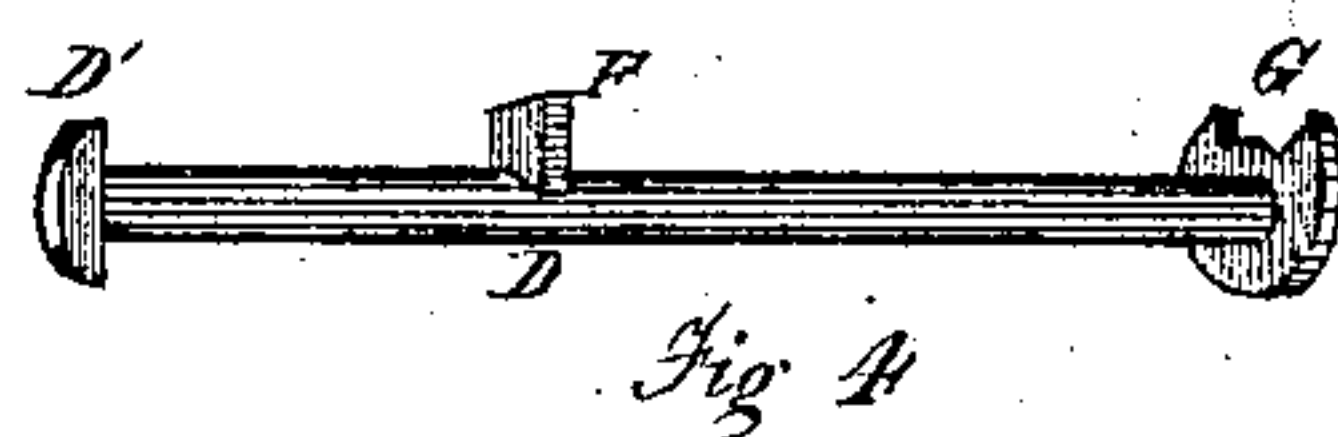
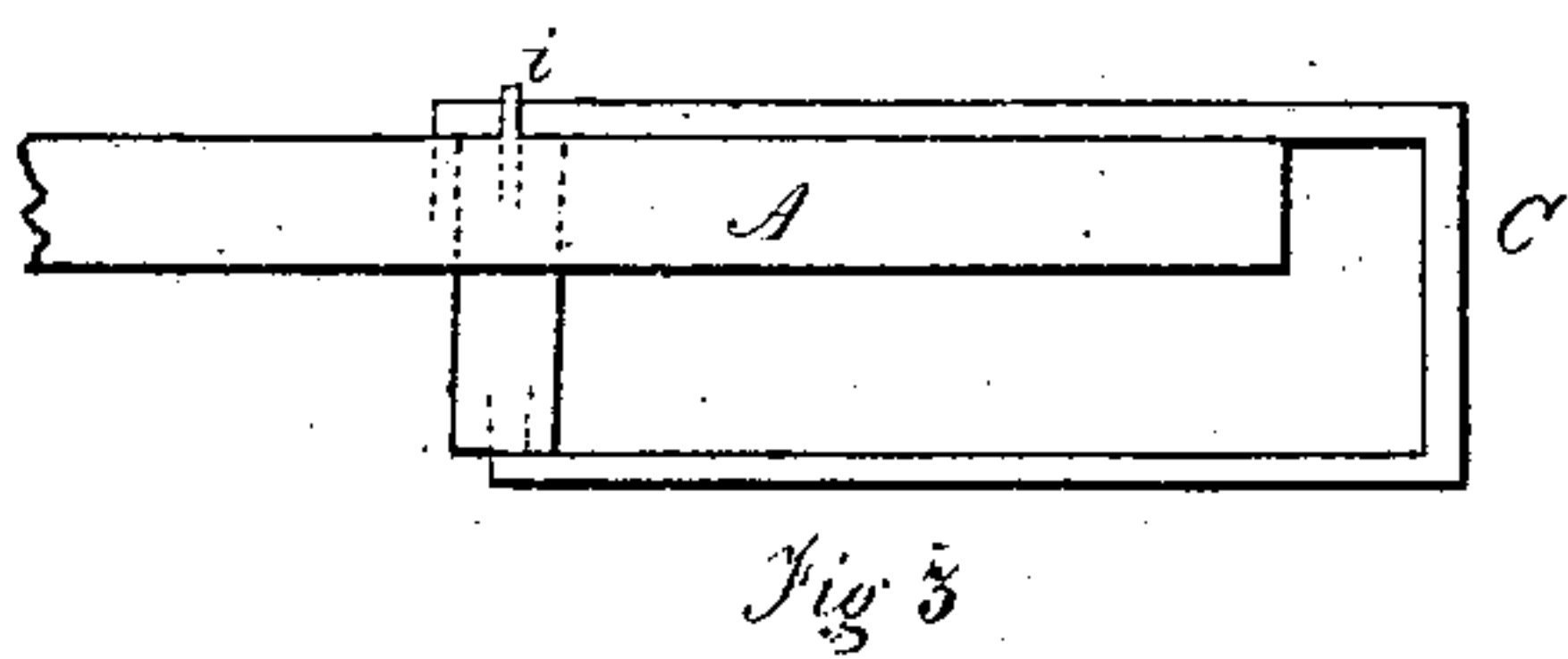
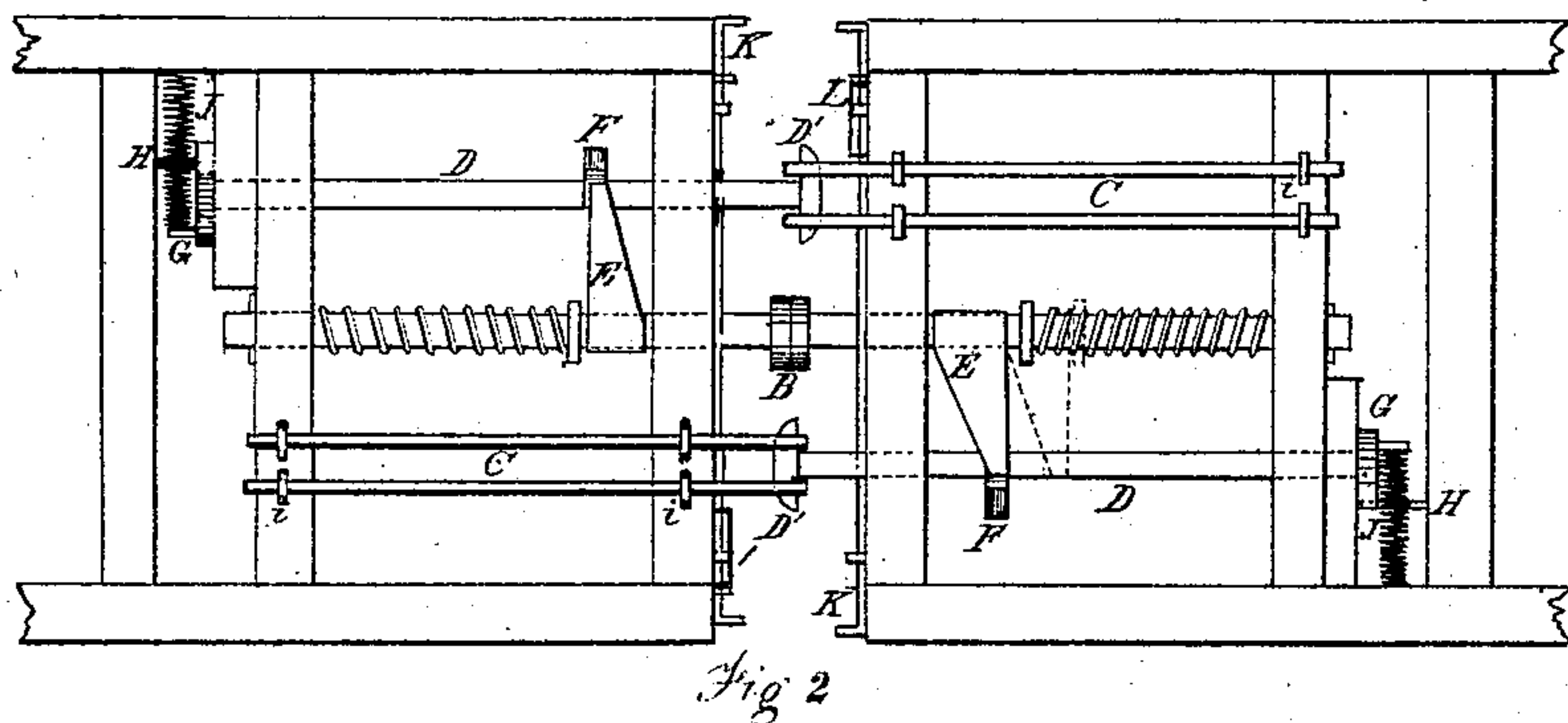
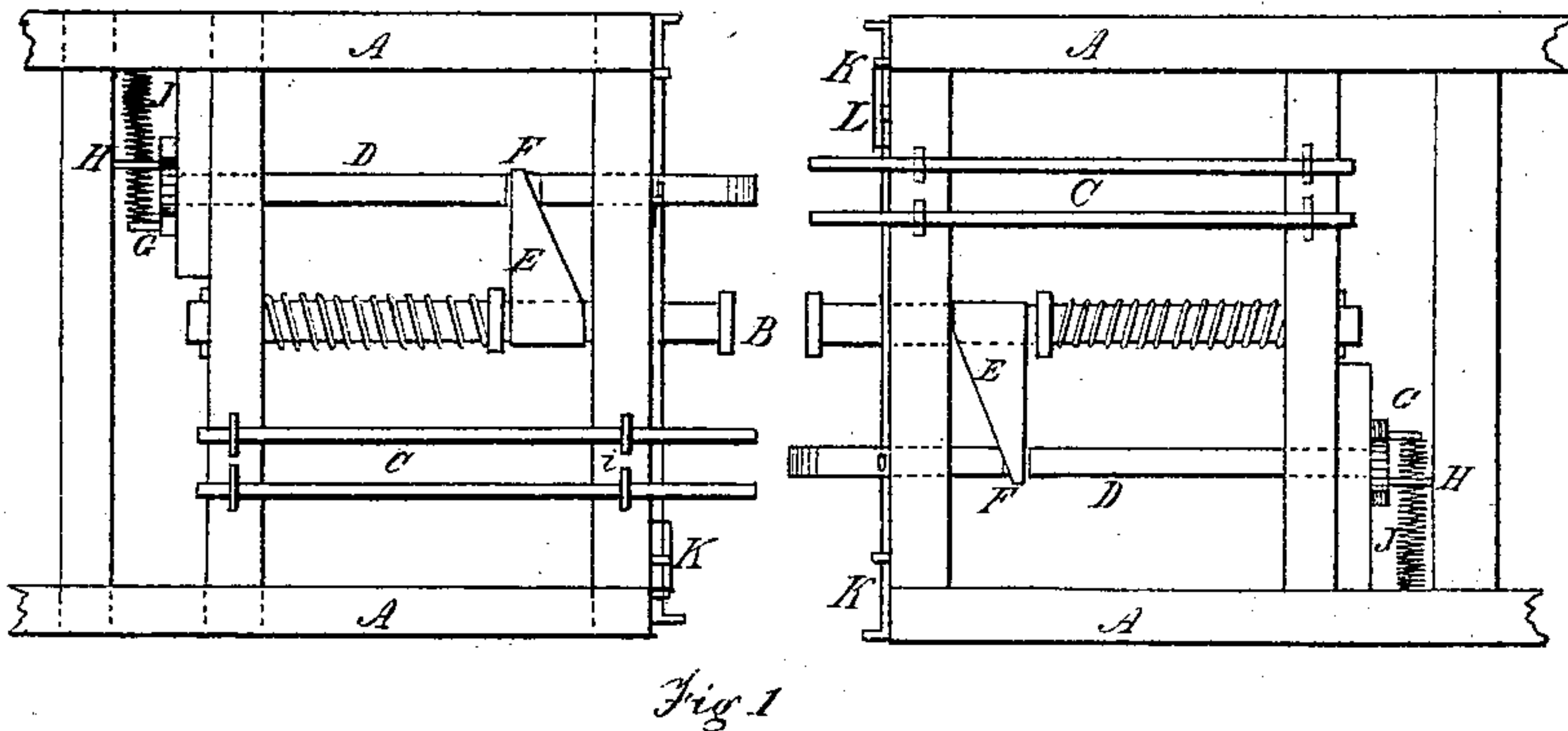


D. BRADFORD.

Car-Couplings.

No. 135,316.

Patented Jan. 28, 1873.



Witnesses  
Wm. Bruce.  
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David Bradford

# UNITED STATES PATENT OFFICE.

DAVID BRADFORD, OF HAMILTON, CANADA.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 135,316, dated January 28, 1873.

*To all whom it may concern:*

Be it known that I, DAVID BRADFORD, of the city of Hamilton, in the province of Ontario, Canada, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same.

Reference being had to the annexed drawing, it will be seen that Figure 1 represents a plan view of two car-trucks with double-coupling attachment on each, uncoupled. Fig. 2 represents the same coupled. Fig. 3 represents a side view of bars securing the coupling-bar. Fig. 4 shows a detached view of the shoulder-bar coupler, notched disk, and catch.

A A is the frame of the car-trucks. B B are the ordinary buffers with suitable springs. C C, Figs. 1 and 2, represent a top view of strong iron vertical bars securely fastened to the truck-timbers, as shown, of about one by two inches in thickness. There are two of them on each end of a truck, running parallel side by side, only a few inches apart, for the purpose as will be shown hereafter. D is a shoulder-bar coupler on the opposite side of the truck, passing through the timbers, as shown, having a head, D', on the outer end, a projection, F, near its center, and a notched disk, G, at its opposite end. E is a hooked lateral spring secured to the buffers B B. Its object is to catch on the square projection F of the shouldered coupling-bar D and hold it up until the cars are coupled. i i are staples securing the vertical bars C to the truck A.

Fig. 1 shows two car-trucks coming together before they are coupled. Fig. 2 shows them coupled.

It will be seen that the coupler is double, and the method of coupling is as follows: As the buffers B B on opposite trucks come in contact they are pushed inward until the hooked lateral spring E is unhooked from the projection F on the coupling-bar D, when the said coupling-bar revolves one-quarter turn

by means of the spiral spring J, and the heads of the coupling-bars simultaneously turn and catch in the vertical bars C C, as shown in Fig. 2. The cars are then securely coupled, not in the center, as in the usual way, but on both sides of the buffers.

The inner end of the coupling-bar D has a notched disk, G, attached to it, shown in perspective in Fig. 4.

When the cars are coupled one point of the disk strikes against the pin H and prevents the said coupling-bar D from revolving too far. Connecting-rods K, or other suitable devices, are fastened to each of the shoulder-bar couplers D, and, passing along and supported to the end of the truck in the manner shown, so that the cars may be uncoupled by the brakeman from either side without endangering life by going between them. Fig. 5 shows an end view of the device, showing how the connecting-rods are attached to the coupling-bar D to uncouple the cars. L is an upright lever attached to the rod or lever K, which may be of any desired length. Its object is to enable the cars to be uncoupled from the platform, or even from the top of a car, in which case the lever will be made of sufficient length. The motion of the said lever is a lateral one.

The advantages of my coupling are as follows: First, on account of its being a double coupler, the device, consequently, can be made lighter, with equal strength. Second, the cars are more secure on the track, especially in following a curve. Third, it is constructed on the principle of overcoming centrifugal force. Fourth, cars are coupled themselves whenever they come in contact, and uncoupled with equal facility. Fifth, the device is adapted to cars of different heights, as the bars can be made of any desired depth for the coupling D to play in.

What I claim as my invention is—

1. The revolving coupling-bars D D with projections F F, notched disks G arranged in combination with vertical bars C C, and operated substantially in the manner and for the purpose shown.



2. The arrangement of the lateral spring-catch E, operating in combination with the coupling-bar D.

3. The arrangement of the notched disk G on the coupling-bar D, the pin H, and spring J, all combined to operate the coupling-bar and prevent its entire revolution.

4. The arrangement of the series of levers K, K, and L, as shown, in combination with the coupler D for uncoupling from either side

of the car-platform or top of box-car, all arranged substantially as and for the purpose set forth.

Dated at Hamilton, Canada, this 9th day of August, A. D. 1872.

DAVID BRADFORD.

Signed in the presence of—

WM. BRUCE,  
E. LANCELEY.