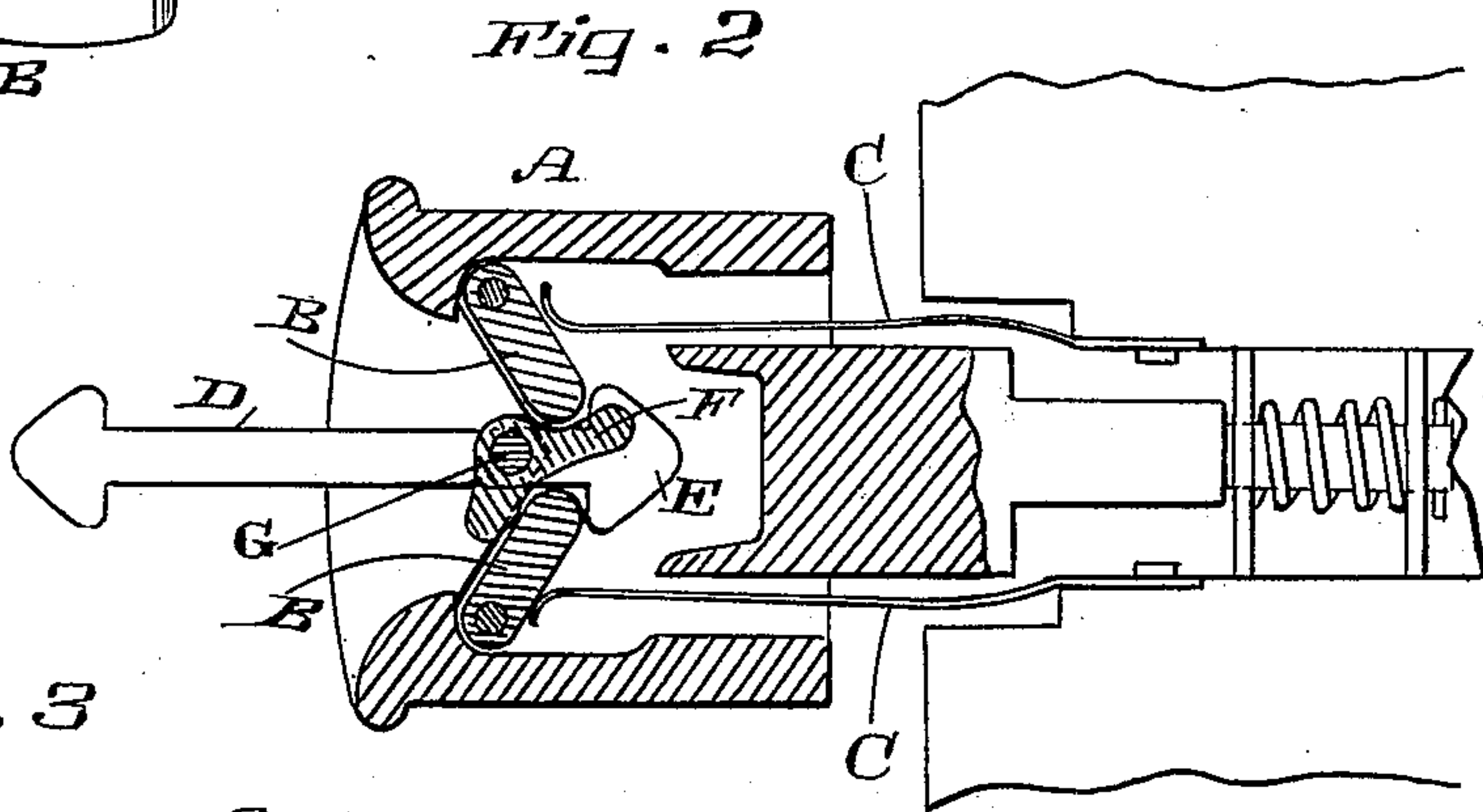
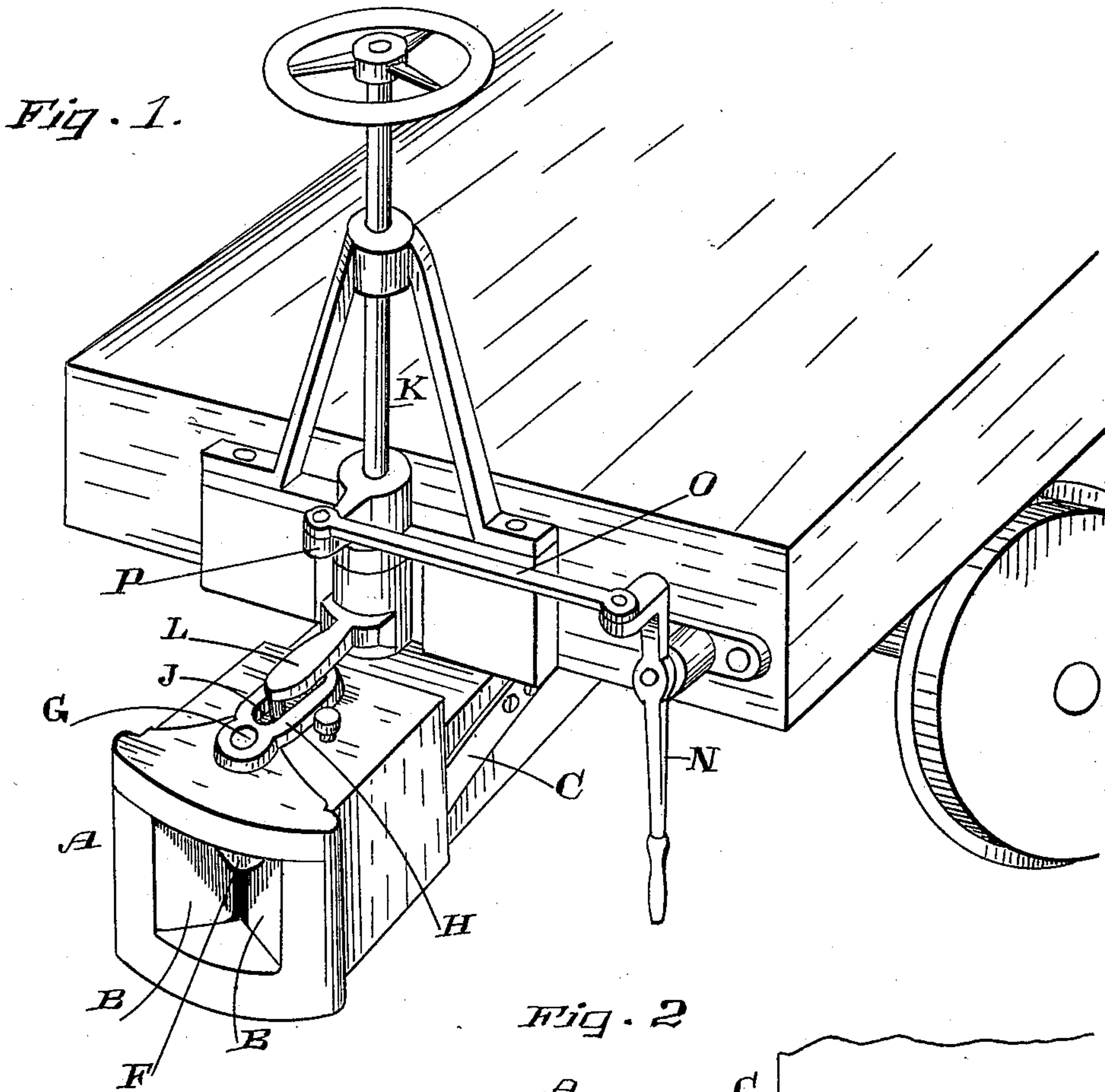


(No Model.)

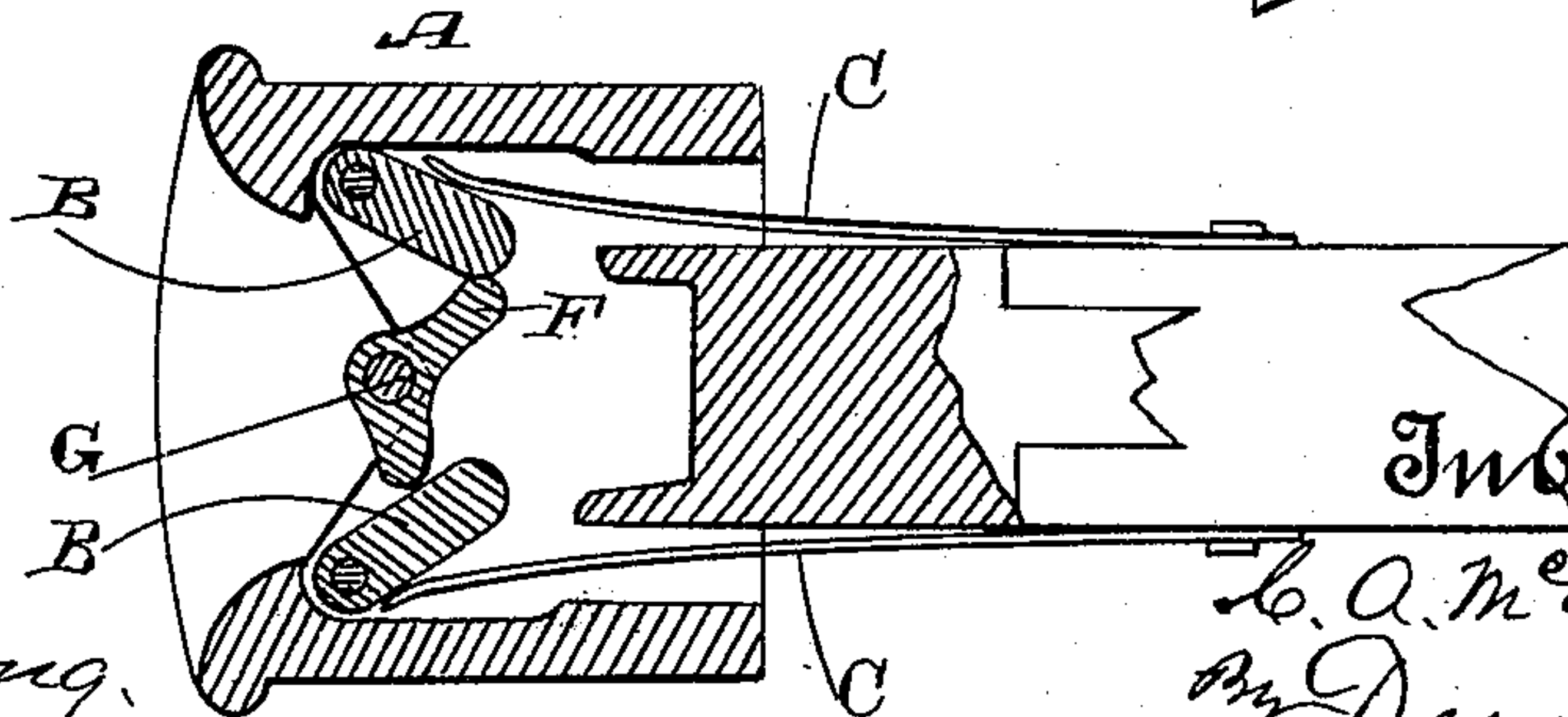
C. A. McDOUGALL.  
CAR COUPLING.

No. 401,046.

Patented Apr. 9, 1889.



*Fig. 3.*



Witnesses,  
Geo. H. Strong,  
J. H. Morse

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By Dewey & Co.  
Attys



# UNITED STATES PATENT OFFICE.

CHARLES A. McDOUGALL, OF ALAMEDA, CALIFORNIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 401,046, dated April 9, 1889.

Application filed October 20, 1888. Serial No. 288,704. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. McDOUGALL, of Alameda, Alameda county, State of California, have invented an Improvement in  
5 Car-Couplings; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improved automatic coupling and uncoupling device for rail-  
10 way-cars.

It consists of a bumper and draw-head, having leaves or gates within the cavity or opening of the draw-head, these leaves opening automatically to receive the head of the link  
15 and being opened by suitable mechanism to release the same when desired.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view showing my improved coupling attached to the end of the  
20 car with the link in place and the leaves closed against the head. Fig. 2 is a horizontal section of the same. Fig. 3 is a horizontal section showing the leaves pressed open by the  
25 cam F.

A is the bumper and draw-head, connected with the car in the usual or any suitable manner, with springs to relieve the shock of the meeting of the cars, and having its end  
30 chambered to admit the connecting-link. Within this chamber are two vertically-disposed leaves or plates, B, with their edges hinged so as to stand nearly or quite in line with the sides of the opening through which  
35 the connecting-link enters. The inner edges of these plates B are pressed toward each other by springs C, so that they approach each other and leave but a narrow space between them.

The draw-bar D is of the form known as the "spear-head," having the head E, as shown. When two cars come together, the  
40 draw-bar being fixed in one of the coupling-heads, the other ends, entering between the edges of the swinging gates B, will force them apart against the pressure of the springs until the head has passed them, when they will again close together about the shank D and prevent the head E from being withdrawn.

The pressure caused by the drawing cars  
50 is transferred from the head E through the

plates extending sidewise to the inside of the draw-head in line with the fulcrum or pivots. In order to release the coupling-bar when desired, a cam, F, is fixed upon a short  
55 shaft, G, which passes through the top of the draw-head, the cam being fixed to its lower end and in the upper part of the chamber within the draw-head. This cam extends above the coupling-bar and between the adjacent edges of the leaves or gates B. From  
60 the upper end of the shaft to which the cam is fixed the arm H extends rearwardly, this arm being slotted, as shown at J.

K is a vertical shaft having a hand-wheel  
65 or other means by which it may be turned upon its upper end, and upon this shaft is fixed a hub or projecting arm, L, having a pin, which enters the slot J of the crank-arm H. It will be seen by this construction that  
70 when the vertical shaft K is turned it will, through the two connecting crank-arms, act upon the cam, turning it, so as to separate the edges of the gates B sufficient to allow the head of the draw-bar to be withdrawn.

The hand-wheels may be used upon flat or box cars, and, in addition to this, I have shown  
75 a lever, N, fulcrumed upon the end of the car, so as to be within easy reach of the train-man from the side, and this lever may be used in making up trains, so as to enable the  
80 train-man to couple or uncouple without going between the cars. The upper end of this lever is connected by a rod, O, with the crank-arm P, which is fixed to the vertical shank K,  
85 and by the use of the lever serves to turn the shaft, and through it the arms by which the cam is actuated, as previously described.

Having thus described my invention, what I claim as new, and desire to secure by Letters  
90 Patent, is—

1. The vertically-fulcrumed leaves or gates B, fitted within the chamber of the draw-head, and springs by which they are closed, so as to retain the head of the draw-bar, in  
95 combination with the double-acting cam fixed upon the vertical shaft between the hinged gates, the vertical shaft K, and the intermediate crank-arms, whereby the cam-shaft is turned, substantially as herein described.

2. The chambered draw-head having the vertically-fulcrumed and spring-actuated  
100

leaves or gates fitted within it, the double cam  
fixed to the shaft between the leaves, the  
shaft K, having crank-arms connecting with a  
similar arm from the cam-shaft, and a sec-  
5 ond crank-arm, P, fixed to the shaft K and  
connected by a rod with a hand-lever, N, sub-  
stantially as herein described.

In witness whereof I have hereunto set my  
hand.

CHARLES A. McDOUGALL.

Witnesses:

S. H. NOURSE,  
H. C. LEE.