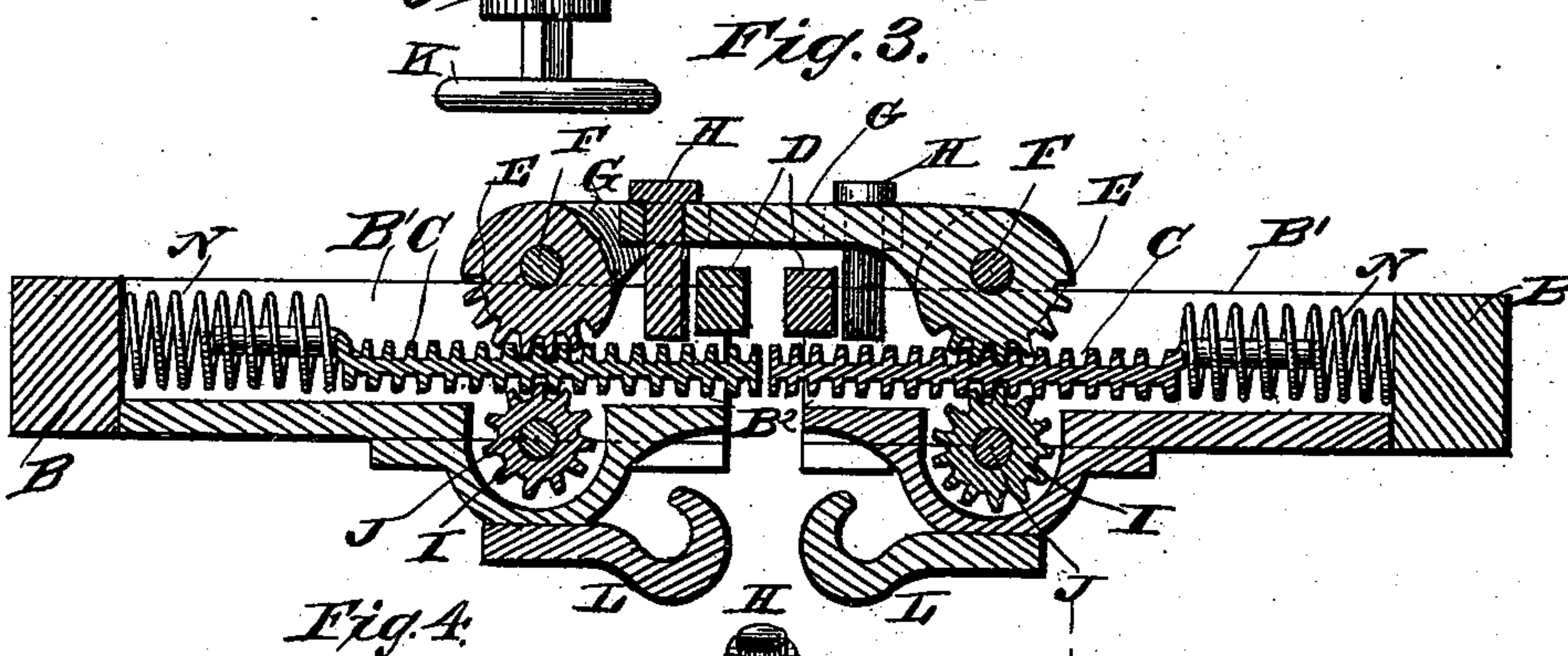
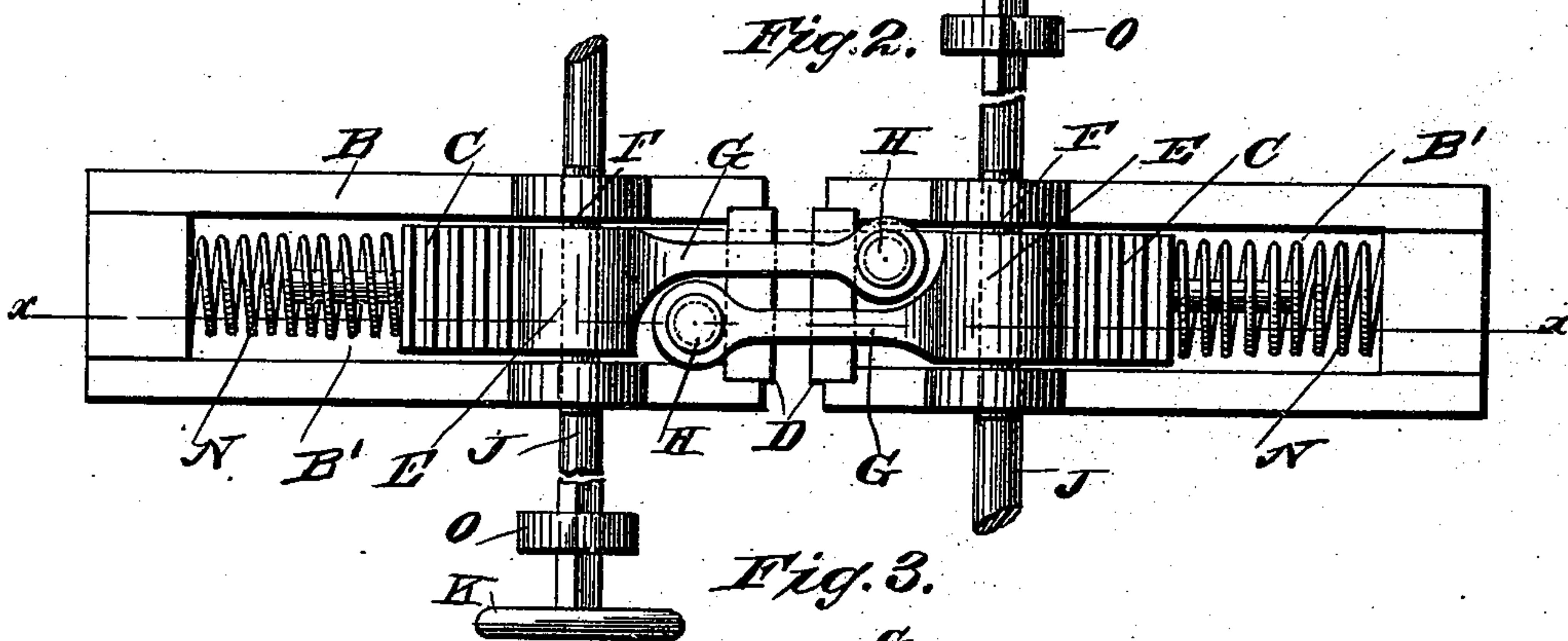
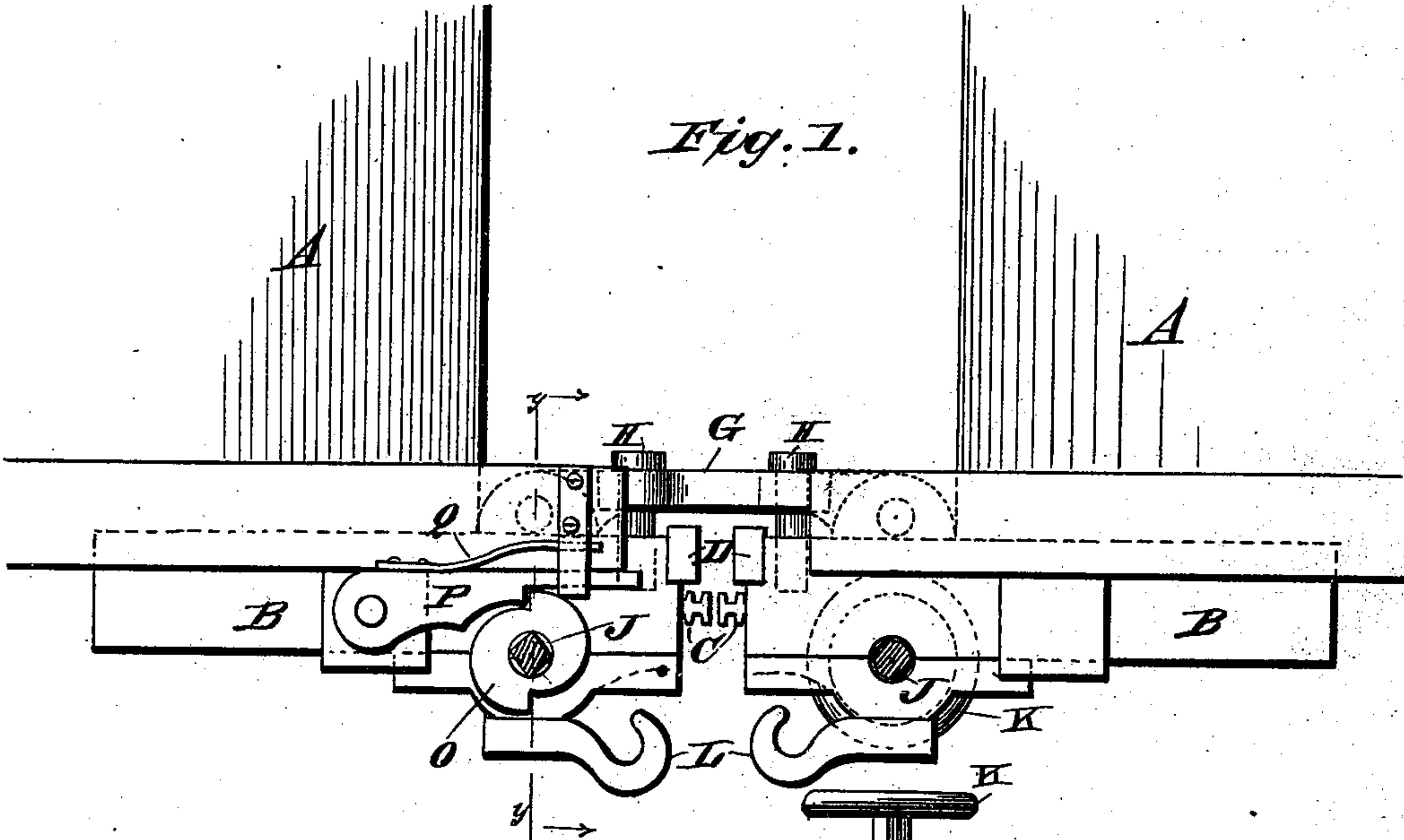


(No Model.)

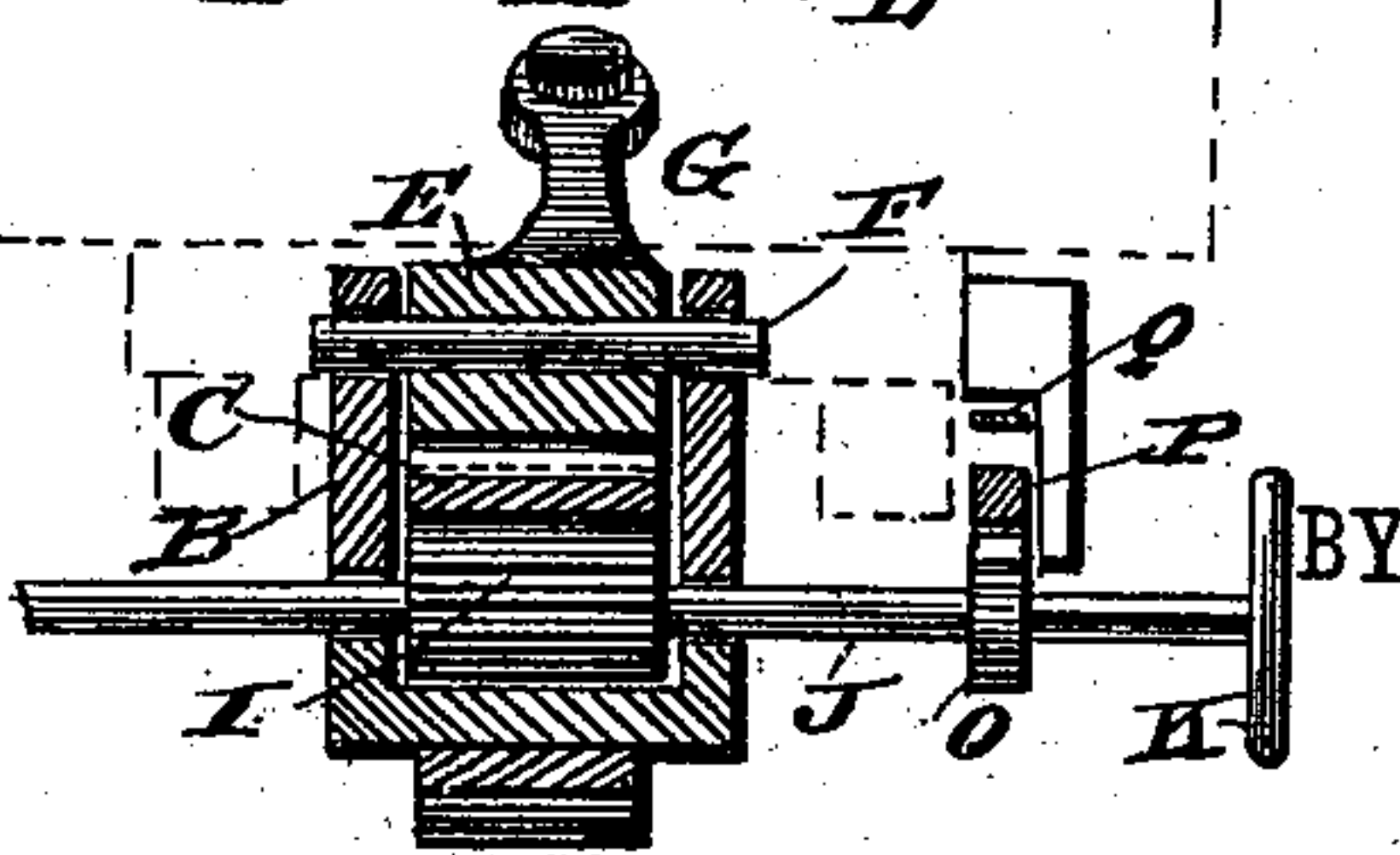
G. F. BROWN.  
CAR COUPLING.

No. 377,882.

Patented Feb. 14, 1888.



*Fig. 4.*



WITNESSES:

*Phil. Dietrich.*  
*C. Sedgwick*

INVENTOR:

*G. F. Brown*  
*Munn & Co.*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

GEORGE F. BROWN, OF CONSTABLE HOOK, NEW JERSEY.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 377,882, dated February 14, 1888.

Application filed September 8, 1887. Serial No. 249,172. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. BROWN, of Constable Hook, in the county of Hudson and State of New Jersey, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved car-coupling which is simple and durable in construction, automatic in coupling, and adapted to be uncoupled from either side of the car.

The invention consists of a rack engaging a segmental gear-wheel carrying the coupling-pin.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improvement with parts in section. Fig. 2 is a plan view of my improvement. Fig. 3 is a longitudinal sectional elevation of the same on the line *xx* of Fig. 2, and Fig. 4 is a vertical cross-section of the same on the line *yy* of Fig. 1.

The car A is provided with a draw-head, B, having a central opening, B', in which is held to slide longitudinally a rack, C, provided on the top and bottom with rack-teeth and extending at its front end through an opening, B<sup>2</sup>, formed by a cross-piece, D, secured to the sides of the draw-head B. The upper set of teeth on the rack C mesh into teeth formed on a segmental gear-wheel, E, held on the shaft F, placed transversely in suitable bearings on the draw-head B. From the segmental gear-wheel extends an arm, G, in the outer end of which is held loosely the coupling-pin H, adapted to engage the cross-piece D on the other draw-head, as illustrated in the drawings.

The under set of teeth on the rack C mesh into a gear-wheel, I, fastened on a shaft, J, extending transversely and held in suitable bearings formed on the draw-head B. To the outer end of the shaft J is fastened a hand-wheel, K, for turning the said shaft, and next to said wheel K is placed a ratchet-wheel, O, engaged by a pawl, P, fulcrumed on the outer

timber of the car A and pressed in contact with the said ratchet-wheel O by a spring, Q.

On the under side of the draw-head B, near its front end, is formed a hook, L, which can be coupled by a common coupling-link with a similar hook formed on the other draw-head. On the inner end of the rack C presses one end of a spring, N, resting with its other end against the rear end of the draw-head B, so as to take up the strain on said rack C when subjected to pressure.

The operation is as follows: When two cars are to be coupled, the operator releases the pawl P from the ratchet O, and then turns the hand-wheel K so that the gear-wheel I causes the rack C to slide forward, whereby the said rack causes the segmental gear-wheel to turn, thereby swinging the arm G, with its coupling-pin H, upward to an angle of about forty-five degrees. The other car is similarly adjusted, so that when the two cars are moved together the front projecting ends of the racks C strike against each other, and are thereby forced inward, so that the two segmental gear-wheels E are turned and the arms G, with the coupling-pins H, swing downward, and the latter engage the cross-pieces D, thus coupling the cars, as shown in the drawings. The inward movement of the racks C causes the gear-wheels I and their shafts J to turn so that the ratchet-wheels O are brought back to their former positions and are held locked by the pawls P, which are again forced in contact with the rims of the gear-wheels by the springs Q.

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

1. In a car-coupling, the combination, with a rack held to slide in the draw-head, of a segmental gear-wheel meshing into said rack, an arm extending from said gear-wheel, and a coupling-pin held on the outer end of said arm, substantially as shown and described.

2. In a car-coupling, the combination, with a draw-head having on its front end a cross-piece, of a rack held to slide in the said draw-head, a segmental gear-wheel meshing into said rack, an arm attached to said segmental gear-wheel, and a coupling-pin held on the outer end of said arm and adapted to engage



the cross-piece of the draw-head, substantially as shown and described.

3. In a car-coupling, the combination, with  
5 a draw-head having on its front end a cross-  
piece, of a rack held to slide in the said draw-  
head, a segmental gear-wheel meshing into  
said rack, an arm attached to said segmental  
gear-wheel, a coupling-pin held on the outer  
10 end of said arm and adapted to engage the  
cross-piece of the draw-head, and means, sub-  
stantially as described, for imparting a sliding  
motion to said rack, as set forth.

4. In a car-coupling, the combination, with  
15 a draw-head having a cross-piece at its front  
end, of a double rack held to slide in said  
draw-head, a segmental gear-wheel meshing in  
the upper teeth of said rack, an arm extend-  
ing from said segmental gear-wheel, a coup-  
ling-pin held in the outer end of said arm and  
20 adapted to engage the cross-piece of the draw-  
head, a gear-wheel meshing into the under

teeth of said rack, and a shaft carrying said  
gear-wheel and extending to the sides of the  
car, substantially as shown and described.

5. In a car-coupling, the combination, with 25  
a draw-head having a cross-piece at its front  
end, of a double rack held to slide in said  
draw-head, a segmental gear-wheel meshing in  
the upper teeth of said rack, an arm extending  
from said segmental gear-wheel, a coupling- 30  
pin held in the outer end of said arm and  
adapted to engage the cross-piece of the draw-  
head, a gear-wheel meshing into the under  
teeth of said rack, a shaft carrying said gear-  
wheel and extending to the sides of the car, 35  
and means, substantially as described, for turn-  
ing the said shaft and locking it in place, as  
set forth.

GEORGE F. BROWN.

Witnesses:

DAVID JOHNSON,  
JAMES BROWN.