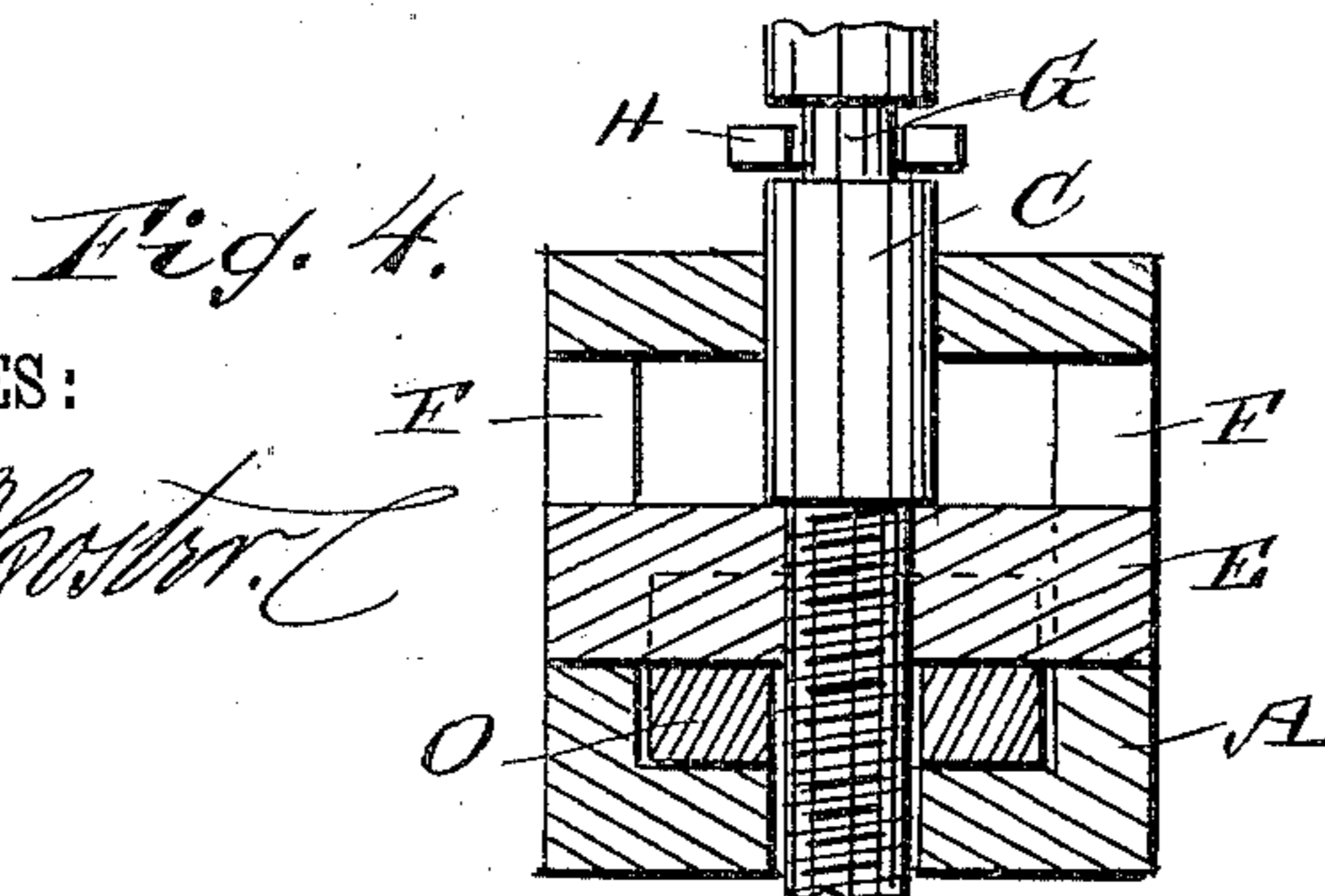
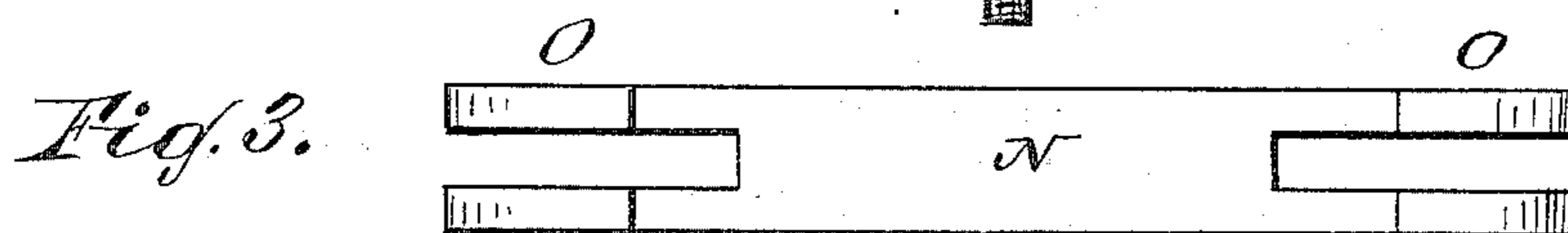
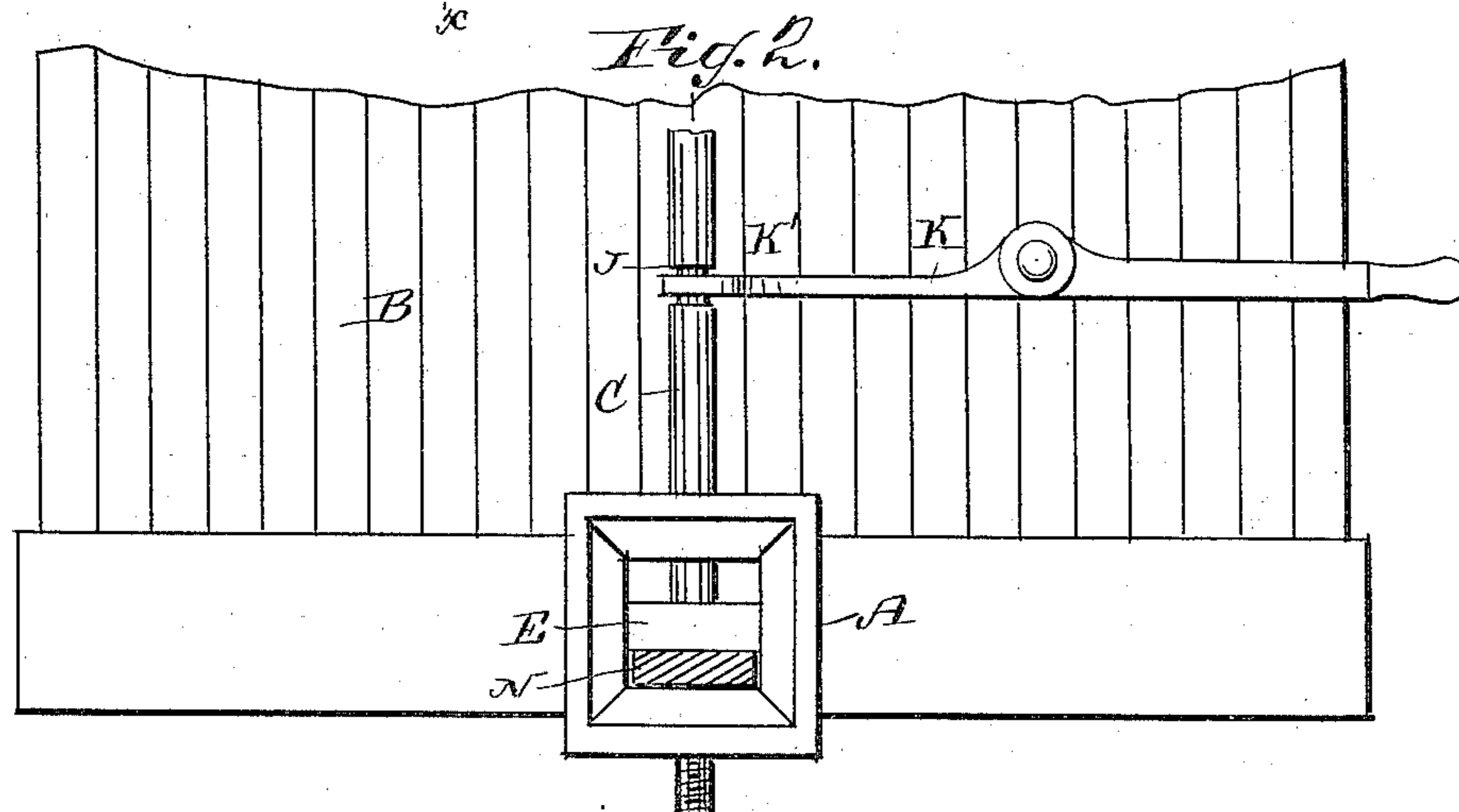
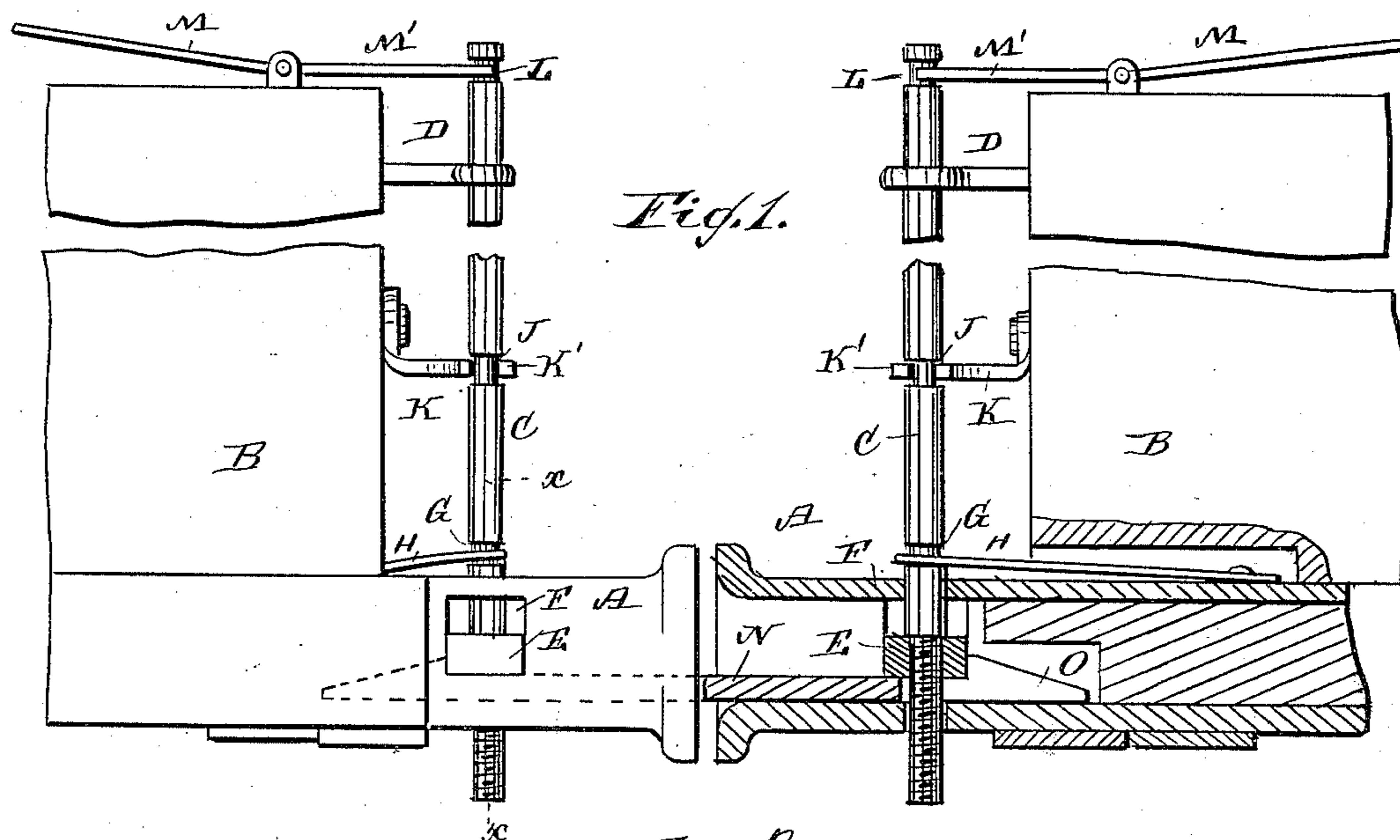


Patented Nov. 24, 1885.



ATTORNEYS.

# UNITED STATES PATENT OFFICE.

WILLIAM HENRY KNIGHT, OF PORTLAND, OREGON.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 331,066, dated November 24, 1885.

Application filed June 15, 1885. Serial No. 168,792. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. KNIGHT, of Portland, in the county of Multnomah and State of Oregon, have invented a new and  
5 Improved Car-Coupling, of which the following is a full, clear, and exact description.

The invention consists in the combination, with a draw-head, of a cross-bar in the draw-head, a rod projecting upward from the cross-bar, a spring acting on the said rod, and levers for moving the rod and cross-bar upward, all as will be fully set forth and described hereinafter.

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

Figure 1 shows a draw-head in side view and another in longitudinal sectional elevation. Fig. 2 is an end view of a car provided with my improved car-coupling, parts being broken out. Fig. 3 is a plan view of the coupling-link. Fig. 4 is an enlarged cross-sectional view on the line *x x*, Fig. 1.

25 The draw-head A is held on the bottom of the car B, and through the draw-head the vertical rod C passes, which extends up to the roof of the car, and is guided by an arm, D, on the end of the car. The lower end of the rod  
30 C is screwed into a cross-bar, E, in the draw-head, which cross-bar is passed through the slots F in the sides of the draw-head, and which bar E is adapted to move up and down with the rod C. The rod C is provided with  
35 an annular groove, G, and on the top of the draw-head a spring-bar, H, is secured, which has its free end forked, the prongs of the fork being in the groove G. The said spring-bar H can press down the rod C until the spring  
40 rests fully upon the top of the draw-head, and when the rod C is lowered as far as possible the cross-bar E is a short distance above the bottom of the draw-head. The rod C is also provided with an annular groove, J, in which  
45 the prongs of a fork, K', are placed, which fork is formed on the bent end of a lever, K, pivoted on the end of the car and extending to the side. The rod C is provided at the upper end with an annular groove, L, which receives the prongs of a fork, M', on the end of  
50 a lever, M, pivoted on the top of a car. The

coupling-link N has each end provided with a bevel hook-fork, O, the part between the pronged ends having half the height of said prongs, as shown in Fig. 1. The cross-bar E  
55 can be adjusted higher or lower on the rod C, as may be necessary.

The operation is as follows: When the link N is forced into the draw-head, the beveled prongs strike the bar E and force the same  
60 upward, and when the ends of the prongs have passed the bar E the spring H forces the bar E downward and rests against the shoulders at the ends of the prongs, thus preventing withdrawing the link. 65

To uncouple the cars the bar E on that draw-head must be raised from which the link is to be drawn. This is done by pressing down the levers M or K, and as soon as the levers are released the rod C and bar E are pressed down  
70 by the spring H. When the cars are coupled, the rod C is between the prongs of the hook-fork O.

Having thus described my invention, I claim as new and desire to secure by Letters Patent— 75

1. In a car-coupling, the combination, with a draw-head, of a cross-bar in the same, a rod screwed in the cross-bar, and a spring secured on the draw-head, and having its free forked end in an annular groove in the rod, 80 substantially as herein shown and described.

2. In a car-coupling, the combination, with a draw-head, of a cross-bar in the same, a rod screwed in the cross-bar and projecting from the top of the draw-head, a spring acting on 85 the rod, and one or more levers pivoted on the car, and having forked ends which are in annular grooves in the rod, substantially as herein shown and described.

3. In a car-coupling, the combination, with 90 a draw-head having slots in the sides, of a cross-bar having its ends passed into said slots, a rod projecting upward from the cross-bar, a spring acting on the rod, and one or more levers pivoted on the car, and having 95 their forked ends passed into annular grooves in the rod, substantially as herein shown and described.

WILLIAM HENRY KNIGHT.

Witnesses:

CHAS. MCGINN,

E. B. HILL.