

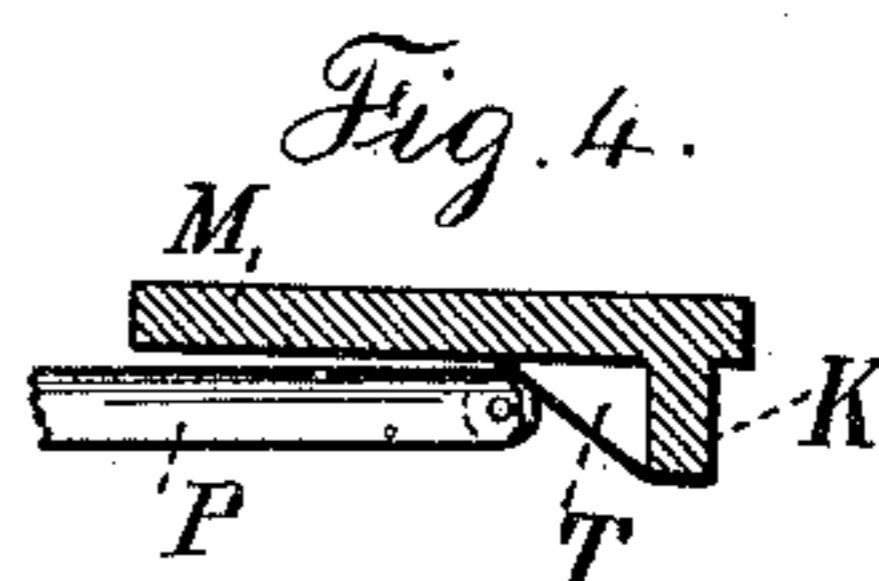
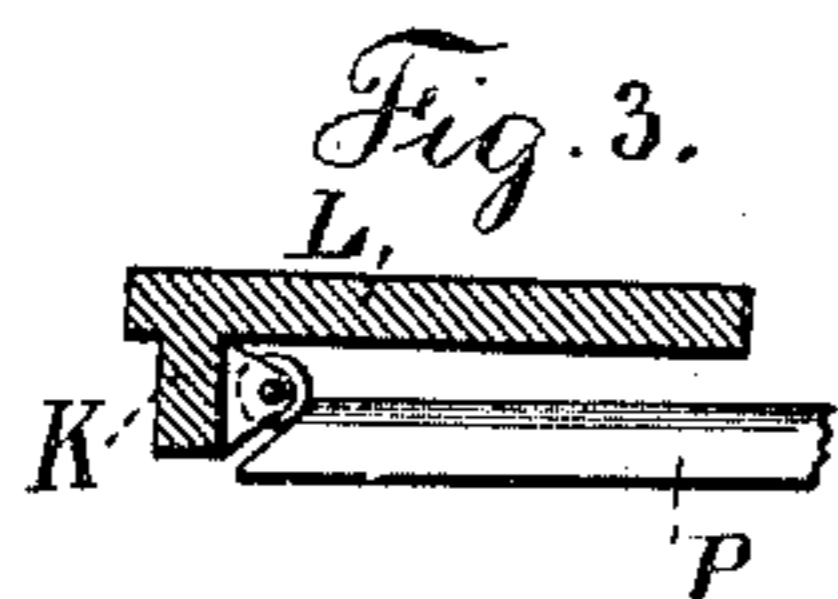
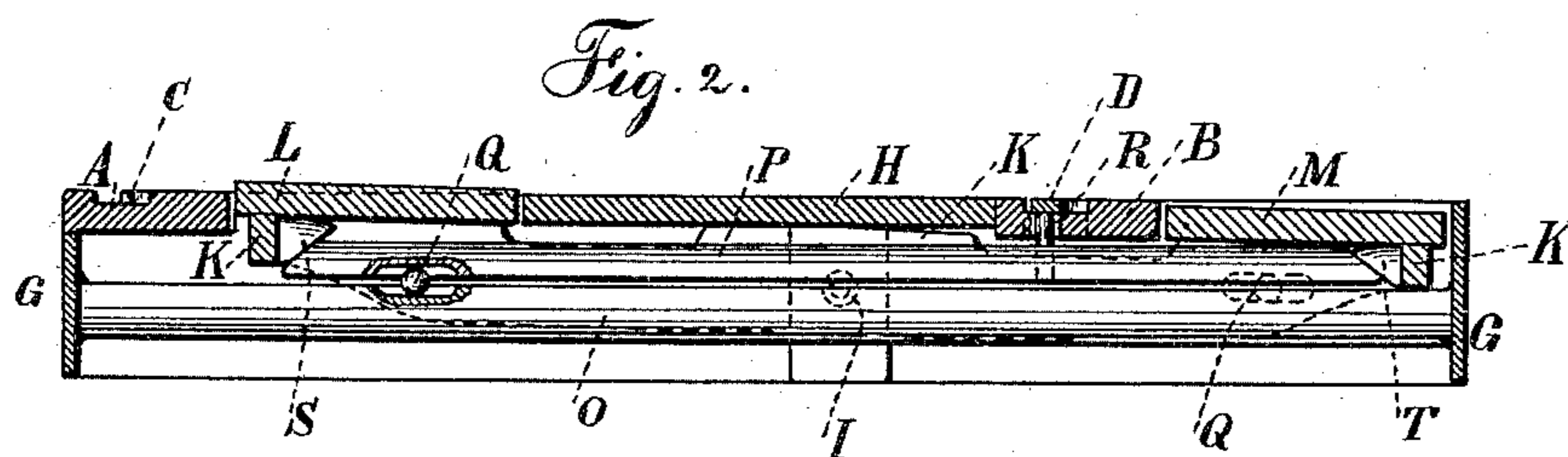
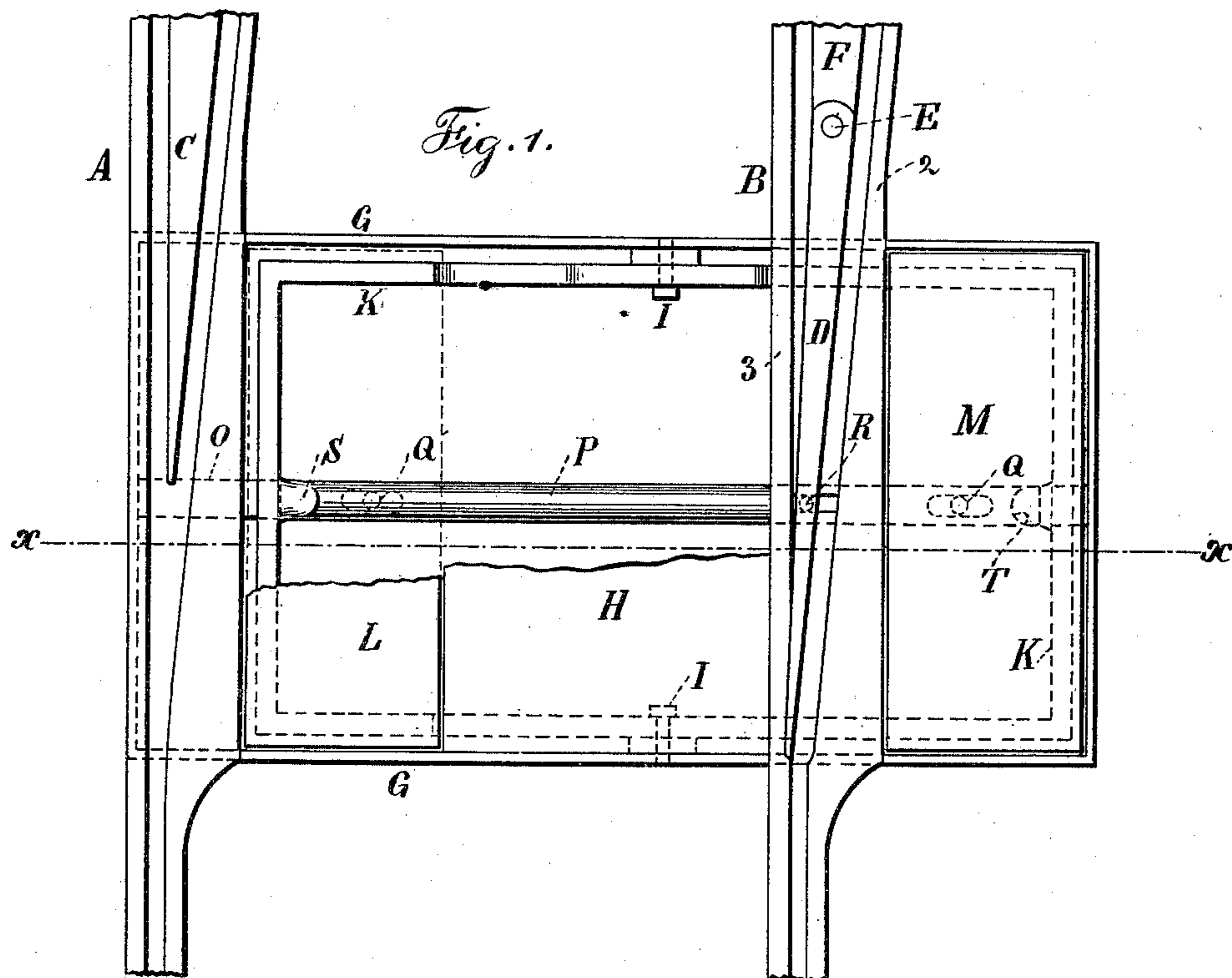
(No Model.)

D. W. BINNS & C. WOLFF.

AUTOMATIC SWITCH FOR HORSE RAILWAYS.

No. 409,268.

Patented Aug. 20, 1889.



Witnesses:  
*J. Staib*  
*Chas. N. Smith*

Inventors:  
*David W. Binns*  
*Charles Wolff*  
per *Lemuel W. Terrell* atty.

# UNITED STATES PATENT OFFICE.

DAVID W. BINNS AND CHARLES WOLFF, OF BROOKLYN, NEW YORK.

## AUTOMATIC SWITCH FOR HORSE-RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 409,268, dated August 20, 1889.

Application filed October 25, 1888. Serial No. 289,105. (No model.)

*To all whom it may concern:*

Be it known that we, DAVID W. BINNS and CHARLES WOLFF, both of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Automatic Switches for Horse-Railways, of which the following is a specification.

Before our invention automatic switches had been made in which the switch itself is turned by the weight of the horse passing over the platform that is slightly depressed by such weight. Our present invention is for accomplishing this object in a more simple and reliable manner than heretofore.

In our improvement we make use of a frame or box with a central longitudinal bar within the same, a switch and switch-changing bar, a frame pivoted to the box and platforms resting upon the pivoted frame, and inclines between the pivoted frame and the switch-changing bar.

In the drawings, Figure 1 is a plan view of the switch with a portion of the cover of the box and the platforms removed. Fig. 2 is a vertical section at the line  $x x$ . Figs. 3 and 4 show modifications by detached vertical sections.

The tracks A B, stationary frog C, switch D, and frog-plate F, upon which the switch is pivoted at E, are all of ordinary construction.

The frame or box G is placed below the surface of the roadway or street, so that the top edges thereof and the top plate H are level with such street or roadway. Within this frame G is a pivoted frame K, the pivots I of which connect such frame to the frame G, and the platforms L M rest upon the moving ends of the pivoted frame K, and one of these platforms rises and the other descends in giving motion to the pivoted frame, and these platforms L M are confined within the frame G, but are free to rise and fall.

The central longitudinal bar O runs horizontally through the center of the frame G, and upon this rests the switch-changing bar P, and preferably the top surface of the bar O and the under surface of the bar P are grooved or recessed for the reception of anti-friction balls Q, and there is a pin R extending down from the switch D into a hole in the bar P, and this bar P is at right angles, or nearly so, to the switch D, and the ends of the bar P are beveled or inclined,

and upon the pivoted frame K are the inclined projections S T, adjacent to the inclined ends of such switch-changing bar P. It will now be apparent that when the horse or horses are driven so as to pass upon the platform M and avoid the platform L such platform M descends and the inclined projection T gives an endwise movement to the switch-changer P to move the switch and cause the car-wheels to travel upon the rail 2 with the flanges of the wheels in the groove between such rail and the switch D, and when the horses are guided so as to travel over the platform L such platform descends, the platform M rises, and the incline S gives an endwise movement to the bar P to move the switch D the other way and cause the flanges of the wheels to travel in the groove between the rail 3 and the switch D.

In place of the inclines S T rollers may be attached to the pivoted frame K to operate upon the inclined ends of the switch-changing-bar P, as seen in Fig. 3, the operations being identical; or, if desired, anti-friction wheels may be placed in the ends of the switch-changing bar P, against which the inclines S T act as aforesaid, as seen in Fig. 4.

We claim as our invention—

1. The frame or box G and the central longitudinal bar O, in combination with the switch-changing bar P and anti-friction balls Q within longitudinal grooves or recesses in the respective bars O and P, the pivoted frame K and platforms L M, the switch D and connection between the same and the bar P, and the inclines between the pivoted frame K and the ends of the switch-changing bar P, substantially as and for the purposes set forth.

2. The frame or box G and the central longitudinal bar O within the same, in combination with the switch-changing bar P above the bar O, the frame K, pivoted at I to the box G, the platforms L and M, resting upon the pivoted frame, the switch D, connected to the bar P, and the inclines between the pivoted frame and the bar P, substantially as set forth.

Signed by us this 17th day of October, 1888.

DAVID W. BINNS.  
CHARLES WOLFF.

Witnesses:

S. L. ROWLAND,  
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