

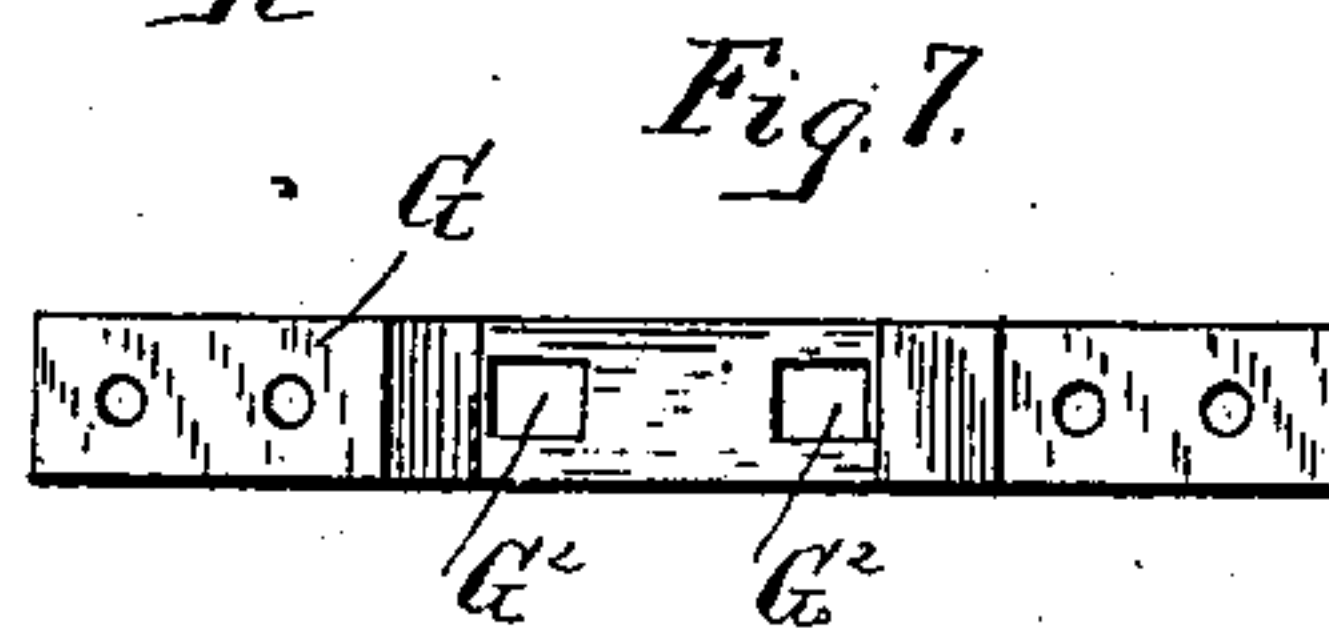
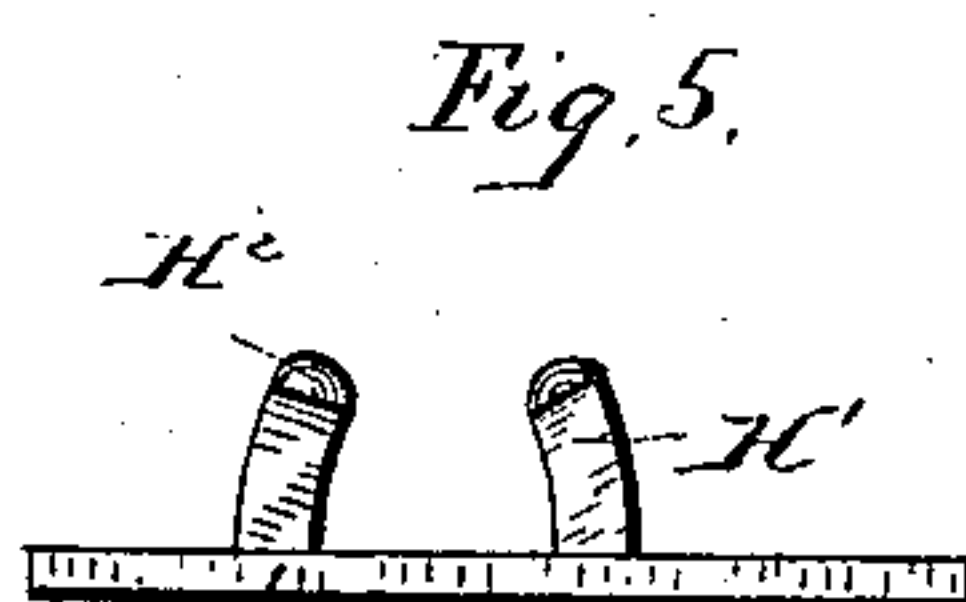
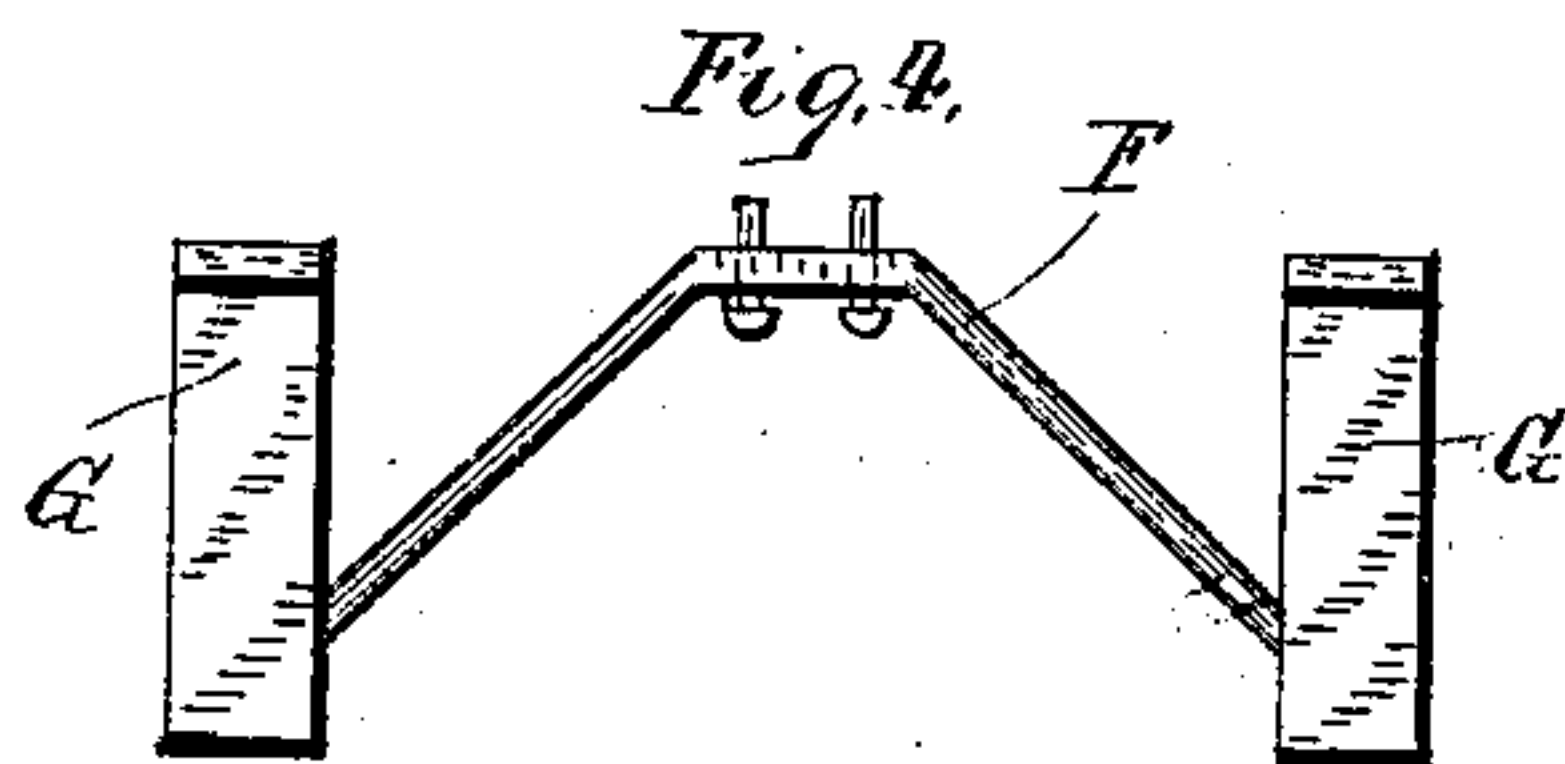
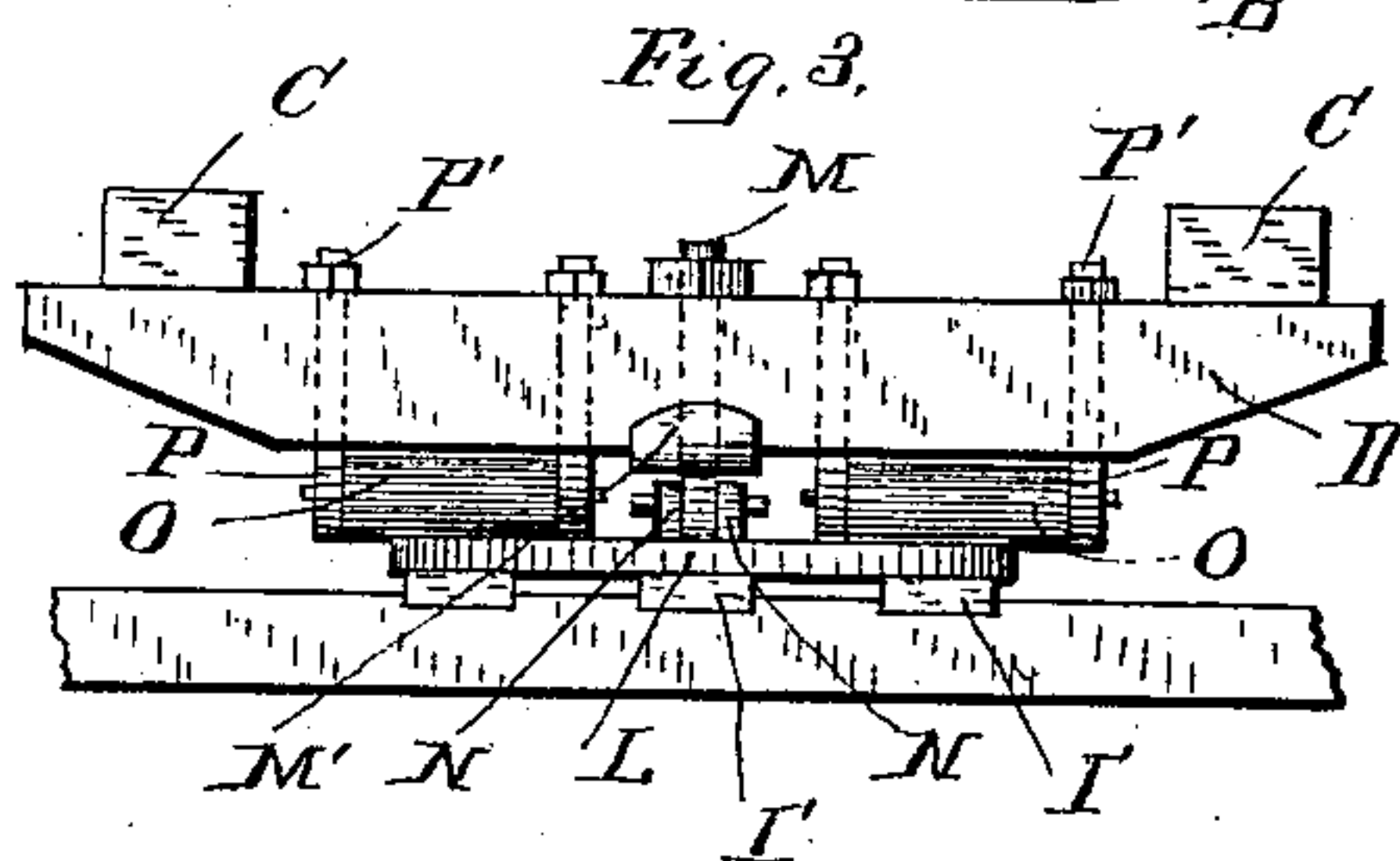
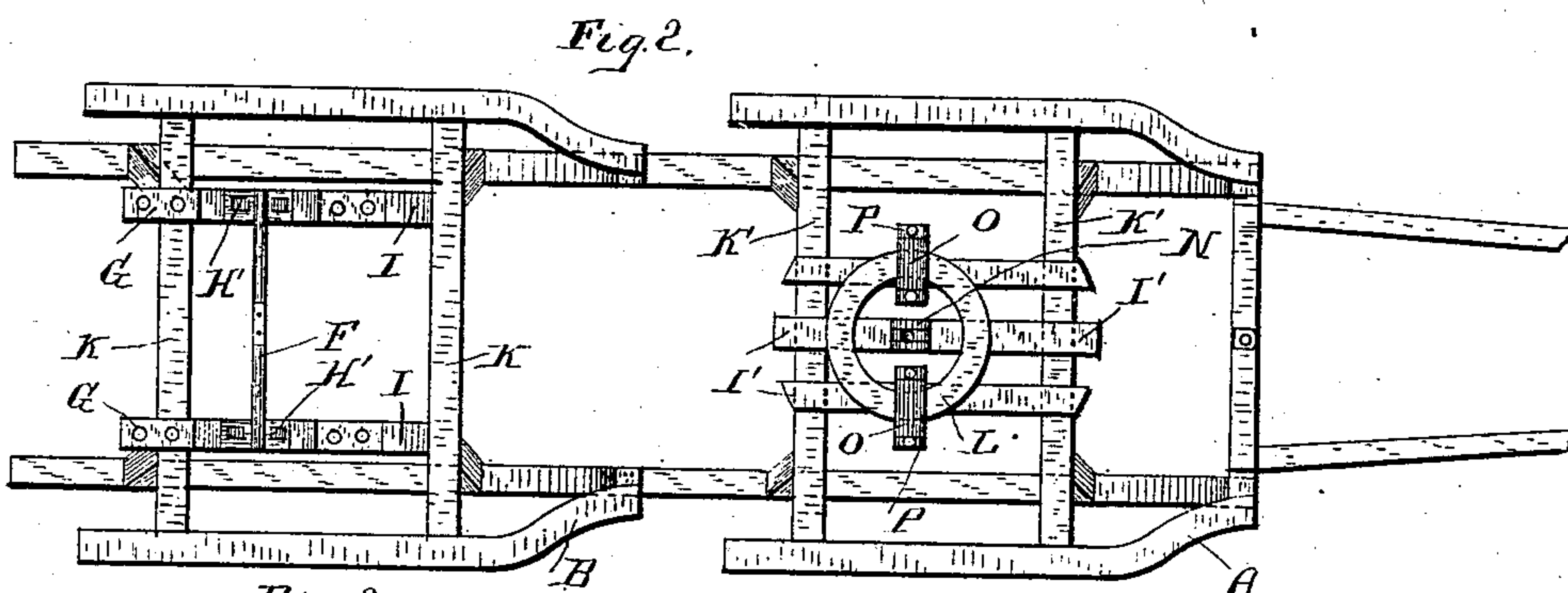
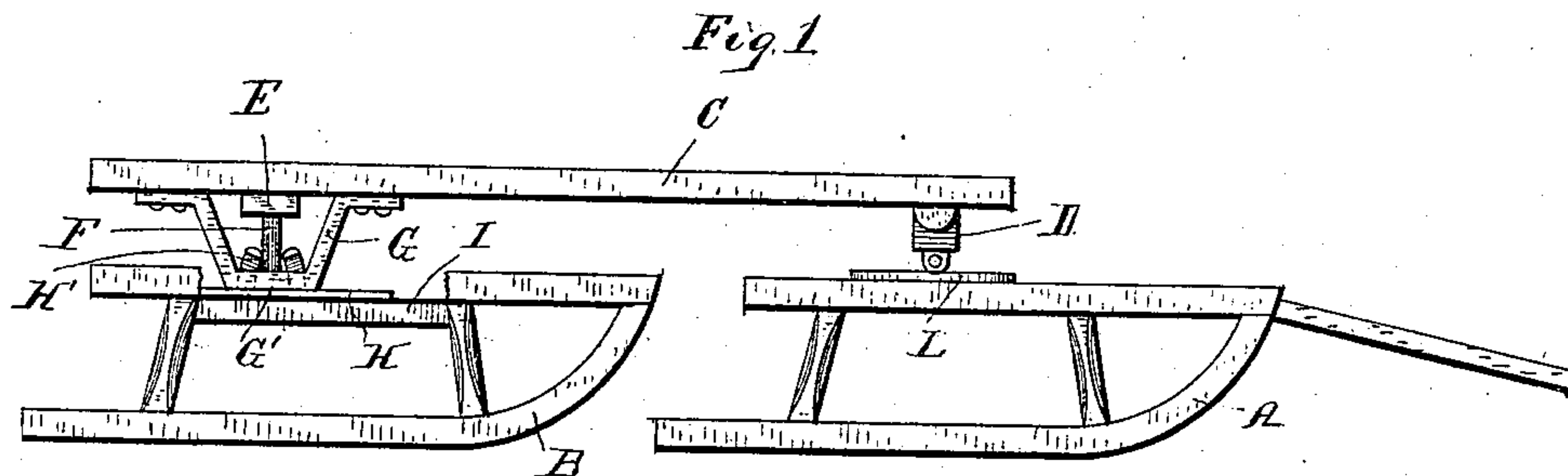
(No Model.)

J. RORABACK.

BOB SLEIGH.

No. 312,386.

Patented Feb. 17, 1885.



Witnesses
W. A. Jones.
L. E. Wooster

Inventor.
John Roraback
By A. M. Wooster
Atty.

UNITED STATES PATENT OFFICE.

JOHN RORABACK, OF WASHINGTON, CONNECTICUT, ASSIGNOR OF ONE-HALF TO ORLANDO BROWN, OF SAME PLACE.

BOB-SLEIGH.

SPECIFICATION forming part of Letters Patent No. 312,386, dated February 17, 1885.

Application filed October 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN RORABACK, a citizen of the United States, residing at Washington, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Bob-Sleighs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to so improve the construction of this class of sleighs that the constant vibration of the bobs shall not be imparted to the body of the sleigh, while at the same time the device, as a whole, shall be simple in construction, economical in cost, and able to stand long-continued hard usage without getting out of repair. Heretofore the great objection to this class of sleighs has been that the vibration of the bobs, particularly the rear one, has been imparted to the body, owing to the fact that the couplings have provided but a single point of support for the body upon each side of the bob.

For the purpose of obviating the above objection I have devised the simple and novel construction which I will now describe, referring by letters to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation with the side rail of the rear bob removed; Fig. 2, a plan view, the connecting-bars being removed; Fig. 3, an elevation of the front coupling on an enlarged scale; and Figs. 4, 5, 6, and 7 are details, also on an enlarged scale, illustrative of the rear coupling.

Similar letters indicate like parts in all the figures.

A and B indicate, respectively, the front and rear bobs.

C indicates the connecting-bars, and D and E, respectively, the front and rear cross-bars, to which the connecting-bars are bolted.

F is a brace bolted to the rear cross-bar at the center, and extending downward and outward on each side, its outer ends being bolted to the side supports, G. These side supports are important features of my invention. They are bolted at both ends to the connecting-bars and extend downward and inward,

being provided at their middle portions with elongated bearings G', which rest upon plates H, which in turn are bolted to longitudinal tie-bars I, extending between the cross-beams K of the bob.

Projecting upward from plates H are two inwardly-curved arms, H', having heads H². These arms pass through slots G² in the side supports, which are prevented from being lifted off under any circumstances by the heads on the arms. It should be observed, however, that the curvature of the arms themselves acts to prevent both ends of the supports from rising at the same time, the line of curvature of the outer edge of each arm being an arc of a circle of which the point at which the outer edge of the other arm joins the plate is the center. Thus when either end of the bob is lifted the other is necessarily held down. The action of this coupling is as follows: Suppose that the bob meets an obstruction, the forward end of the bob rises to pass over it. This causes the forward ends only of the side supports to rest upon plates H, thus leaving the entire weight to be supported at this single point of contact. The parts remain substantially in this position until the obstruction is directly under the center of the support. At this instant the plates will have resumed a position parallel with the bearings G', which position is instantaneous only, as the bearing-point is quickly transferred to the rear ends of the side supports. By this means—i. e., an elongated bearing which permits the shifting backward of the contact-point of the weight upon the bob—I am enabled to avoid the rapid and jerky up and down motion of the body of the sleigh, which is unavoidable where the weight is supported at a fixed point, as in bob-sleighs as heretofore manufactured.

The advantages of my improved construction are particularly noticeable where the roads are rough and uneven, so that the bobs, for example, do not strike obstructions at the same time, but one will be going up as the other is going down.

The effect of the improved coupling which I have just described is to practically compensate for the roughness of the roads; so much so, in fact, as to make ordinary obstructions scarcely noticeable, and causing the mo-

tion of the body to more nearly resemble that of a spring-wagon. The tie-bars I', which extend between the cross-beams K' of the front bob, are placed near the center and support a circle or fifth-wheel, L. The king-bolt M passes through the front cross-bar, D, and is pivoted to lugs N, projecting upward from the middle tie-bar. The king-bolt turns freely in the cross-bar, being prevented from wearing away the wood of the cross-bar by a guard-plate, M', through which it passes.

O O are rollers bearing on the fifth-wheel, and journaled in bearings P at the ends of bolts P', which extend upward through the cross-bar. It will thus be seen that the front bob is free to turn upon the king-bolt, which at the same time is relieved from all the weight. The weight, which is comparatively light on the front bob, is supported entirely by the rollers and the circle. I thus provide two contact-points for the weight upon the bob, and also provide for the shifting of the contact-points in turning, &c. It will of course be understood that the connections are not so tight but that ample movement of the parts is permitted.

I do not wish to be understood as limiting myself to the exact construction shown and described, as it is obvious that the details may be varied within reasonable limits without departing from the spirit of my invention.

Having thus described my improved construction, I claim—

1. In a bob-sleigh, the combination, with the connecting-bars having side supports, G, with slots G², attached thereto, of curved arms projecting upward from the rear bob, which pass through said slots, as and for the purpose set forth.

2. The rear bob having inwardly-curved arms projecting upward therefrom, in combination with side supports both ends of which are secured to the connecting-bars, with their middle portions projecting downward and inward, and provided with bearing-surfaces G', and slots through which the arms project.

3. The rear bob having tie-bars to which plates H, with arms H', are secured, in combination with connecting-bars to which side supports having slots for the arms are bolted, cross-bars E, and braces F, secured to the cross-bar and to the side supports.

4. In a bob-sleigh, plate H, having projecting therefrom arms H', said arms being curved in an arc of a circle whose center is the point at which the other arm joins the plate, in combination with side supports secured to the connecting-bars, and having slots through which the arms pass, whereby the point at which the weight is supported is shifted as the bob passes over an obstruction.

5. In a bob-sleigh, the side supports secured to the connecting-bars, and having elongated bearings with slots, as shown, in combination with plates upon the bobs, having curved arms which pass through said slots, whereby as either end of the bob rises the side supports are caused to ride up one or the other of the curved arms, leaving the weight to be supported at one end only of the elongated bearing.

6. The front bob having a circle or fifth-wheel, and lugs N, to which the king-bolt is pivoted, in combination with cross-bar D, in which the king-bolt is swiveled, and rollers secured to said cross-bar, which travel on the circle as the bob is turned.

7. The cross-bars D and E, the former carrying the king-bolt and rollers O, and connecting-bars C, having side supports, in combination with the rear bob having curved arms which pass through slots in the side supports, and the front bob having a circle upon which the rollers travel.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN RORABACK.

Witnesses:

MARY ANGIE PEASE,
GOULD C. WHITTLESEY.