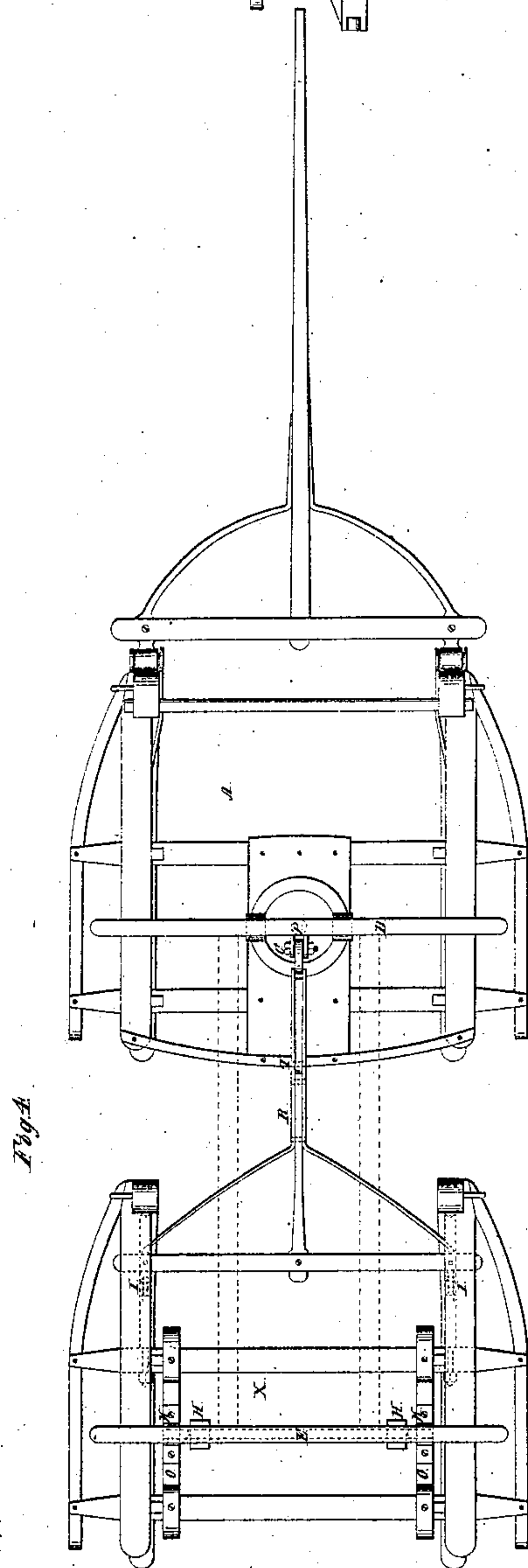
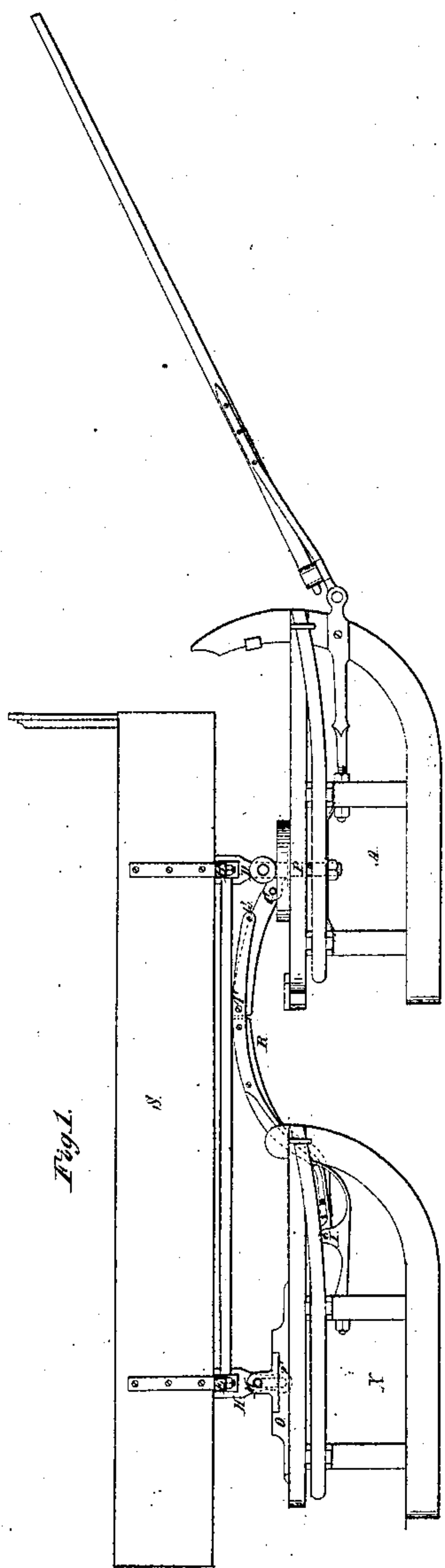
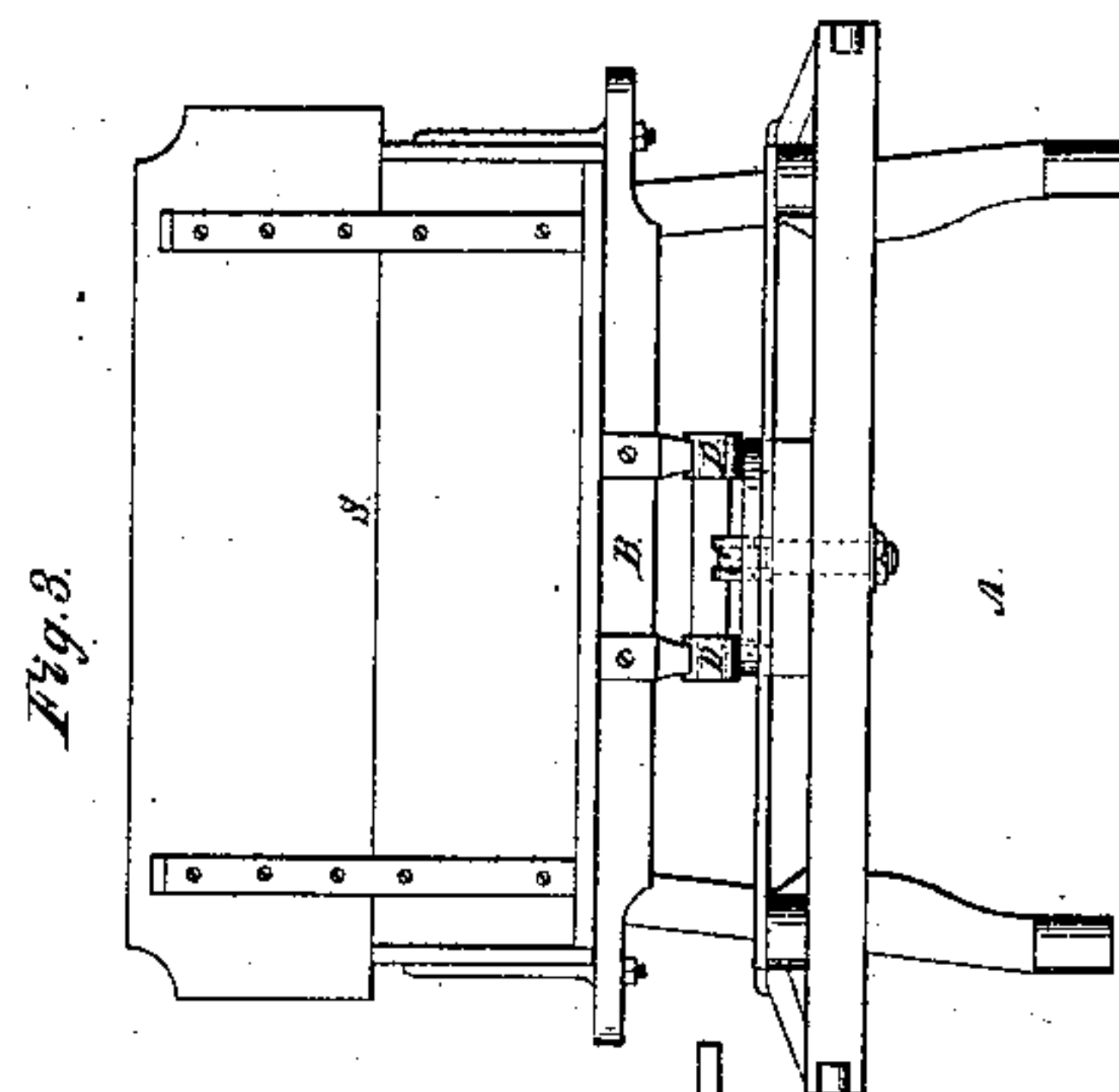
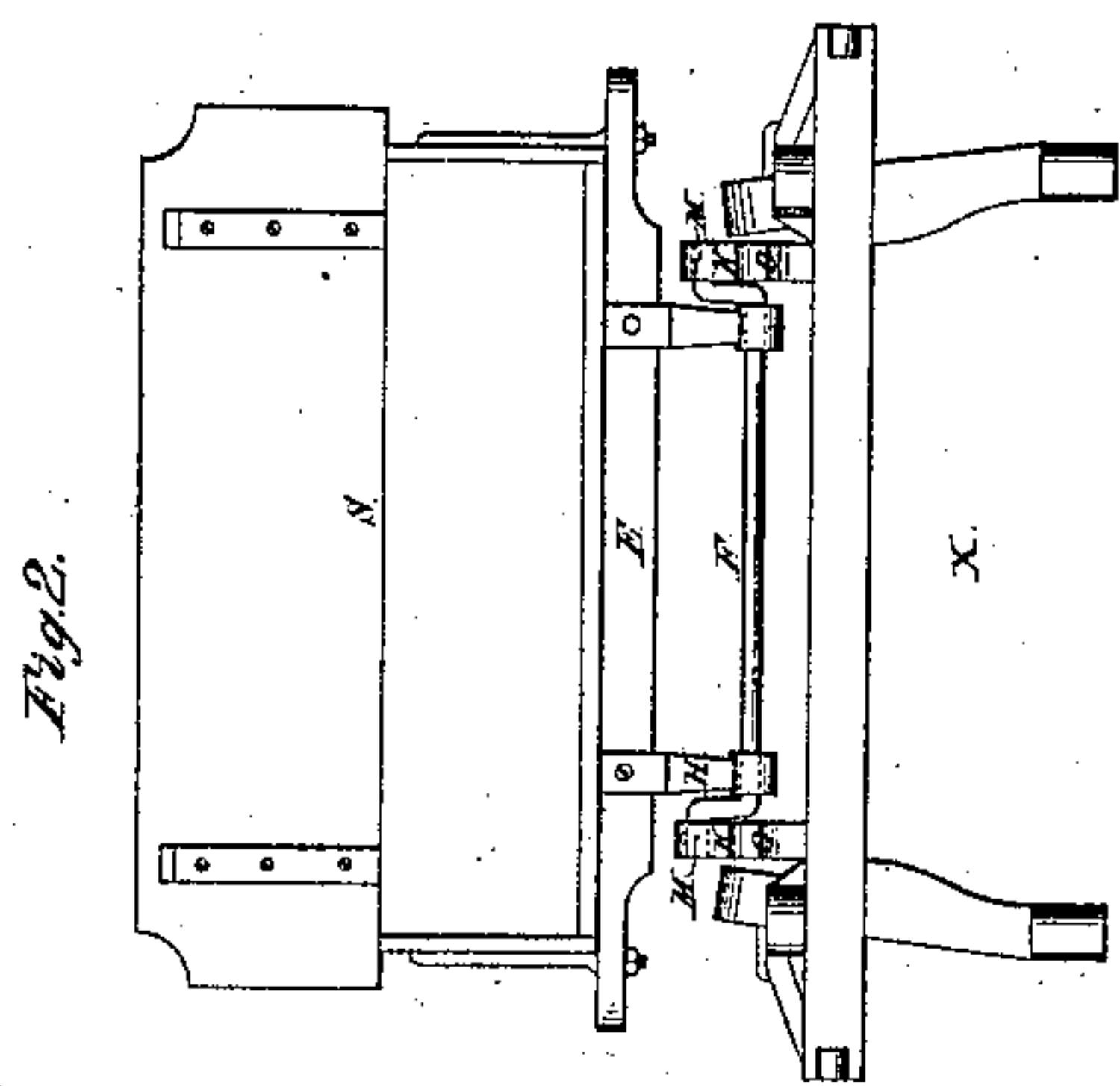


*J. Hoyt,  
Connecting Bob-Sleds,*

*No. 19,994,*

*Patented Apr. 20, 1858.*



# UNITED STATES PATENT OFFICE.

JNO. HOYT, OF FISHKILL, NEW YORK.

## RUNNER OF SLEDS.

Specification of Letters Patent No. 19,994, dated April 20, 1858.

*To all whom it may concern:*

Be it known that I, JOHN HOYT, of Fishkill, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Bob Sleighs or Sleds; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawings, and to the letters of reference marked thereon.

The nature of my invention consists in connecting the two bobs of the sleigh or sled together by a jointed reach, so that the rear bob is drawn from, or near its front end, at the same time that it has an oscillating motion, in a vertical direction, entirely independent of the front bob, also in attaching and connecting the rear bob to the body of the sleigh or sled by a double-cranked axle, to permit it to have a longitudinal motion to compensate for the different distances between the two bobs which may be caused by the different angles assumed by them in passing over a sinuous or uneven track.

Figure 1 in the accompanying drawings is a side elevation, Fig. 2 an elevation of the rear end and Fig. 3 an elevation of the front end of a sleigh, complete. Fig. 4 is a plan of the bobs, reach, &c., of the same with the body removed.

S is the body of the sleigh, secured to the cross-bars B and E in the usual manner.

A is the front and X the rear bob. The former is connected to the body by the "dog-joints," D, D' and the T headed noddle-pin P, the noddle-pin having a joint C attached to its rear side to which the jointed reach hereinafter described is connected—which allows the bob to partially rotate on its center to enable it to turn short curves, and to have a vertical oscillating movement to enable it to follow the sinuosities of the track over which it may be drawn. The latter is connected to the body by the two axle-bearings H H', the double-cranked axle F, the cranks M, M', the crank bearings K, K' and the side girders O, O'—the movements of the cranks of the cranked axle permitting the bob to have a longitudinal motion to compensate for the different distances between the two bobs, incident to the different angles assumed by them in passing over a "rutty" or uneven track.

R is the reach, connecting the two bobs

together securely, yet allowing to each an independent motion. It is connected to the front bob by the joint C in the noddle-pin P, and to the rear bob, at a point at or near the front end of each runner, by the joints I, I'. It is jointed, between these points of connection, at T, to allow both of the bobs to have a free oscillatory movement in a vertical direction, and the rear bob to have in addition a longitudinal movement as described. It has a gaurd, G, attached to its rear section, with a pin in its front end which rests upon its forward section, to prevent the center of the sections from being depressed below its proper position.

The ordinary method of attaching the rear bob to the body of the sleigh or sled by a fixed joint, or a joint that only permits the bob to have an oscillatory movement in a vertical direction upon that joint, involves the necessity of drawing it from that point of attachment, and requires more power to move the sleigh or sled, than if it were drawn from, or near, its front end, as in my arrangement, in consequence of the front end of its runner being pressed or pitched downward. This means of attachment is used for the reason that a rigid or unjointed reach to connect the bobs together would not allow the rear bob to have the movement required to enable it to follow the unevenness of the track. Both these objections are remedied by my improvement, as the bobs have each their proper movement, while they are securely attached together, and the rear bob is drawn and moved from the point named, requiring the least power to effect the purpose.

What I claim as my invention and desire to secure by Letters Patent is—

1. The combination of the T headed noddle pin P, with the dog-joints D, D', and the front bob A, as described and for the purposes set forth.

2. The combination of the noddle-pin P, with the jointed reach R, constructed and operated as and for the purpose described.

3. The attachment of the rear bob X to the double cranked axle F, and to the body of the sleigh, in the manner and for the purposes set forth.

JOHN HOYT.

Witnesses:

SETH S. HOYT,  
WILLIAM W. BOYCE.