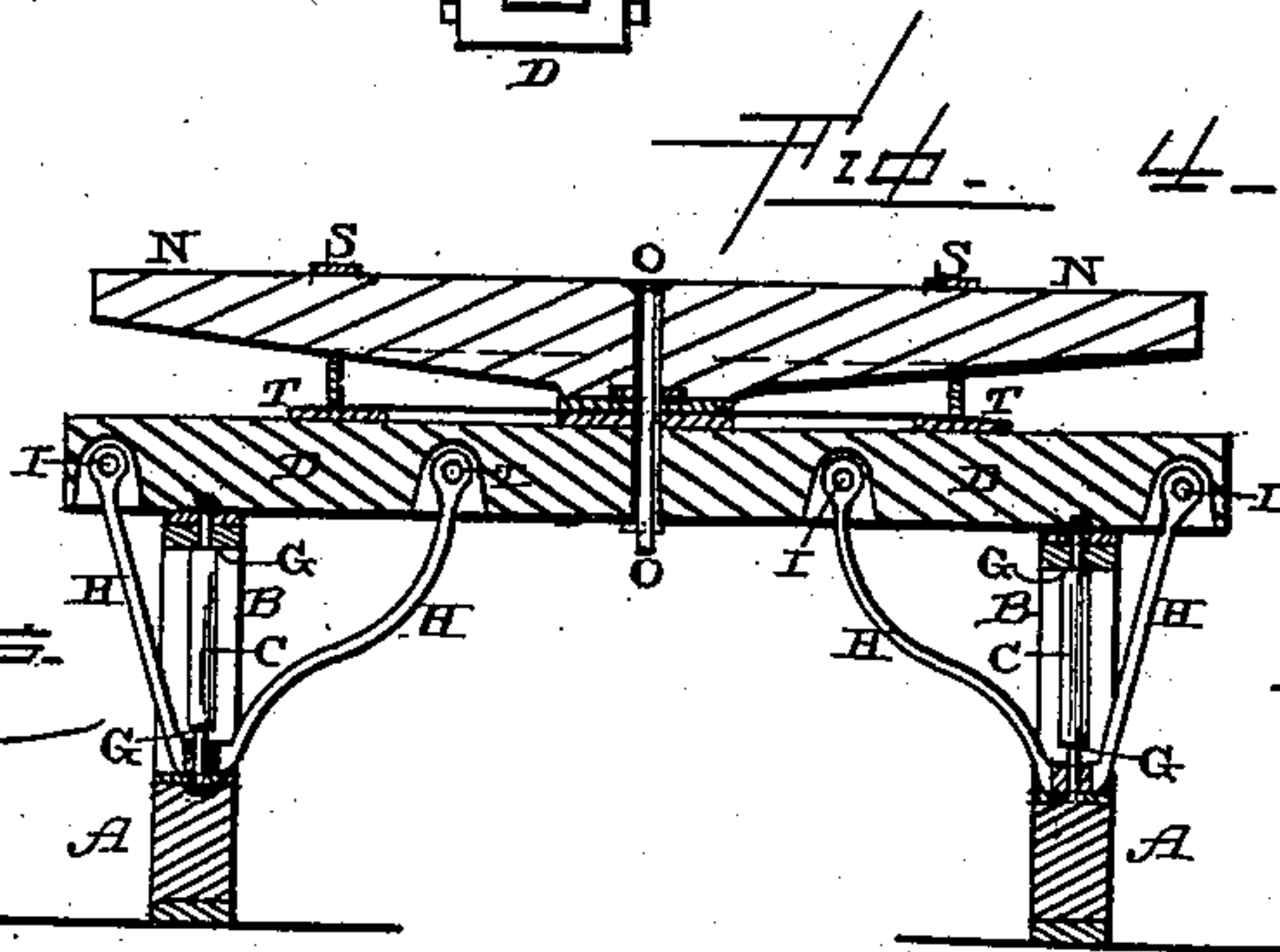
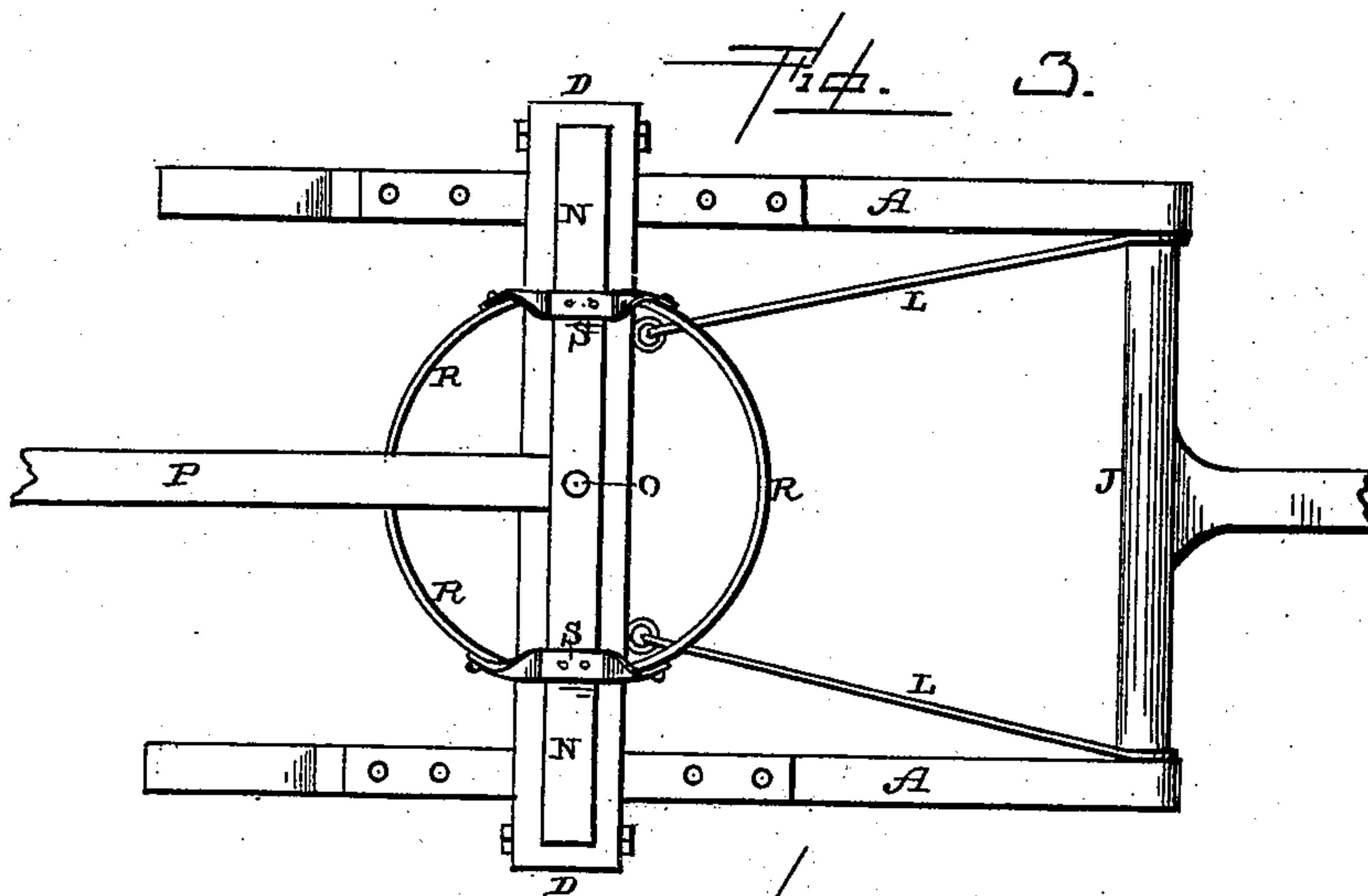
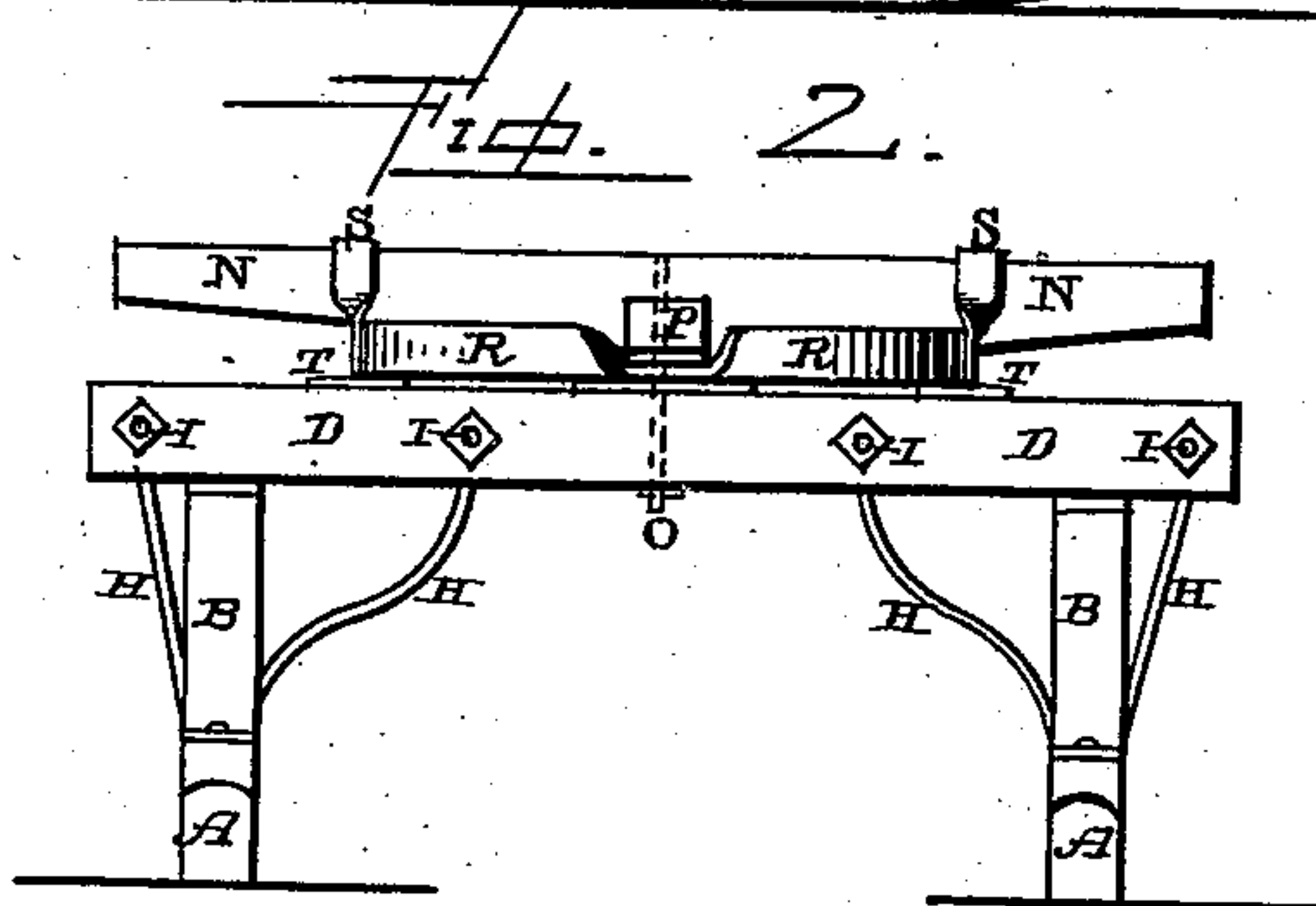
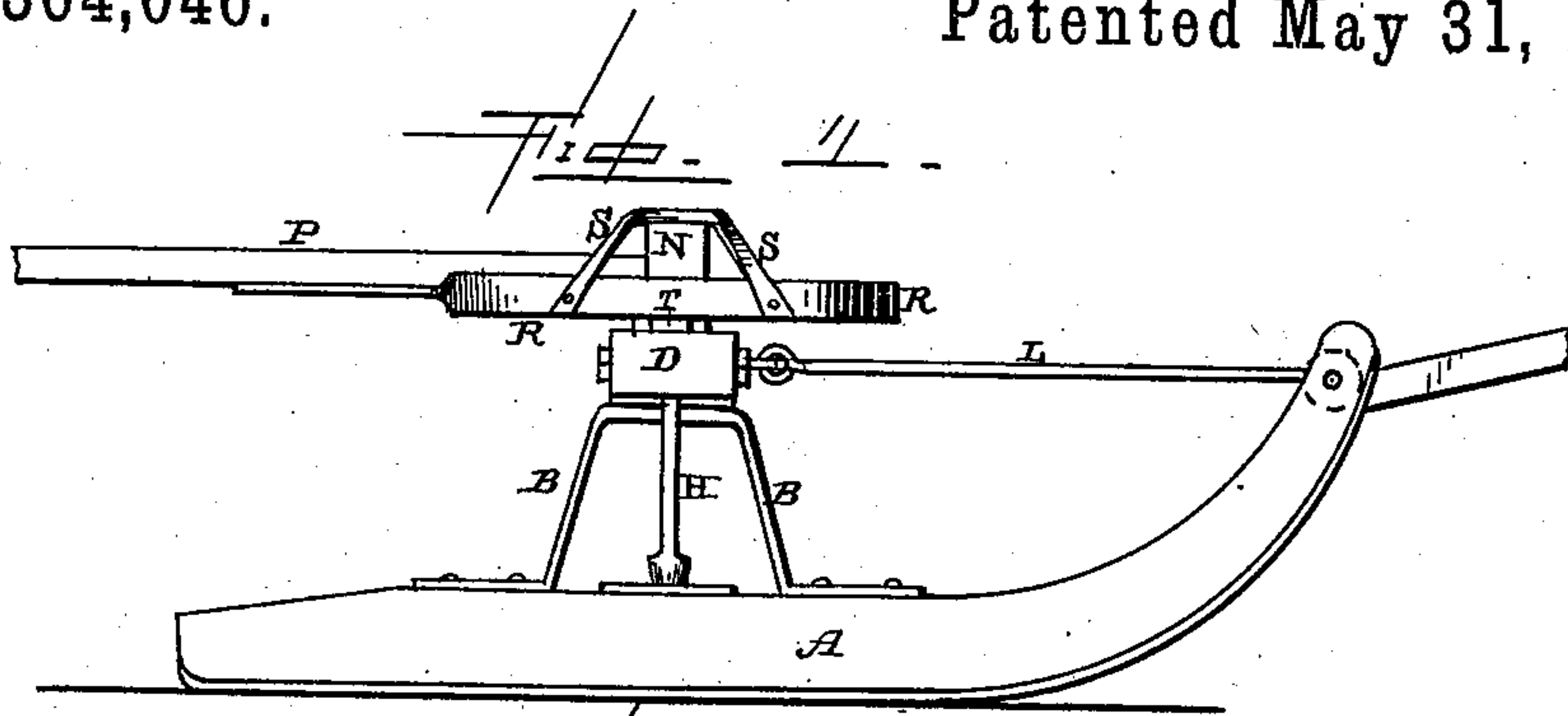


(Model.)

W. SCHAU.
SLED.

No. 364,046.

Patented May 31, 1887.



WITNESSES.
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UNITED STATES PATENT OFFICE.

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SLED.

SPECIFICATION forming part of Letters Patent No. 364,046, dated May 31, 1887.

Application filed March 31, 1887. Serial No. 233,190. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM SCHAU, of Newaygo, in the county of Newaygo and State of Michigan, have invented certain new and useful Improvements in Sleds; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in sleds; and it consists in, first, the combination of the runner, the knees secured rigidly thereto, the cross beam which connects the knees together, the braces which are secured to the under side of the cross-beam, and the rods which are connected both to the cross-beam and the runners, and which pass down through the knees and the braces; second, the arrangement and combination of parts, which will be more fully described hereinafter.

Figure 1 is a side elevation of a sled to which my invention is applied. Fig. 2 is a rear elevation of the same. Fig. 3 is a plan view. Fig. 4 is a vertical section taken down through the cross-bar.

A represents the runners, and B the knees which are secured thereto. These knees are secured rigidly to the runners, and have openings through their tops for the rods C, connected to the under side of the cross-beam D and the top of the runner, to pass through. These rods are held in place by the runners and cross-beams, their lower ends being held in sockets in the tops of the runners and their upper ends in sockets in the under side of the cross-beams. These rods C are provided with two shoulders, G, which limit the distance that the brace and the cross-beam shall move thereon. The braces H, which are secured at both of their upper ends to the under side of the cross-beam D by means of the bolts I, extend downward through the knees and are provided with openings at their lower ends for the rod C to pass through. The braces are loosely connected to the under side of the cross-bar by the bolts I, extend at right angles to the knees, and have a limited vertical movement upon the rods C, which is limited by the shoulders G. As the rod C is loosely connected at its ends to both the runner and the cross-

bar, and as the braces H are loosely connected to the under side of the cross-bar and to the rod C, a flexible connection is formed between the runners and the cross-bar, so that one runner can have a more or less independent movement of the other. These runners are connected together at their front ends by the cross-bar J, to which the tongue is secured, and extending from this cross-bar back to the front edge of the cross-beam D are the brace-rods L, which are loosely connected at both ends. The runners always move together in the same direction, but, being loosely connected together to the cross-beam, each one can twist and give, when passing over obstructions and inequalities in the road, independently of the other.

The bolster N is pivoted upon the top of the cross-beam D by means of the king-bolt O. Secured to the rear side of this bolster N is the reach P, which is also secured to the top of the circle R. This circle R is made from a flat piece of iron, which is turned up upon edge and secured to the bolster by means of the braces S, which extend up over the top of the bolster, as shown. Upon the top of the cross-beam D are secured the two bearing-plates T, upon which the lower edge of the circle bears, and which plates protect the beam D from wear. This circle, being rigidly secured both to the reach and the bolster, keeps the bolster in a horizontal position with the sled, which makes the sled less liable to tip than any now in use. This circle, being made of tire-iron and bent the same as for a tire, is brought edgewise under the bolster, as shown. At that point where the reach P is secured to the circle the iron is bent down so as to fit the under side of the reach and yet leave the lower portion of the circle perfectly flat.

By means of devices here shown and described for connecting the cross-beam to the runners three bearings are formed upon each runner, so as to lessen the liability to break the shoe, and the bearings are so made that one runner can follow the ground independently of the other without causing any strain on any part of the sled. Owing to the bearings being so evenly distributed on the runners, the parts are not liable to sag in the center.

Having thus described my invention, I claim—

1. The combination of the runner, the knees
secured rigidly thereto, the beams, the rods
which connect the beams and runners together,
and the brace which is connected to the under
5 side of the beam, extends at an angle to the
knee, and has the connecting-rod to pass
through its lower end, substantially as shown.

2. The combination of the runners, the knees
rigidly secured thereto, the braces extending
10 at right angles to the knees, the cross-beam,
the rods which connect the cross-beam and the
runners together, and which pass through both
the braces and the knees, connecting-rod J,
which unites the front ends of the runners to-
15 gether, and the brace-rods L, substantially as
described.

3. The combination of the cross-beam D, the
bolster N, pivoted thereon, the reach P, the
circle R, the braces S, which secure the bol-
ster and the circle together, and the bearing- 20
plates T, placed upon the top of the cross-beam,
the circle being placed upon edge and secured
rigidly both to the bolster and the reach, sub-
stantially as set forth.

In testimony whereof I affix my signature in 25
presence of two witnesses.

WILLIAM SCHAU.

Witnesses:

LAWRENCE NEWTON,
WM. J. PIKE.