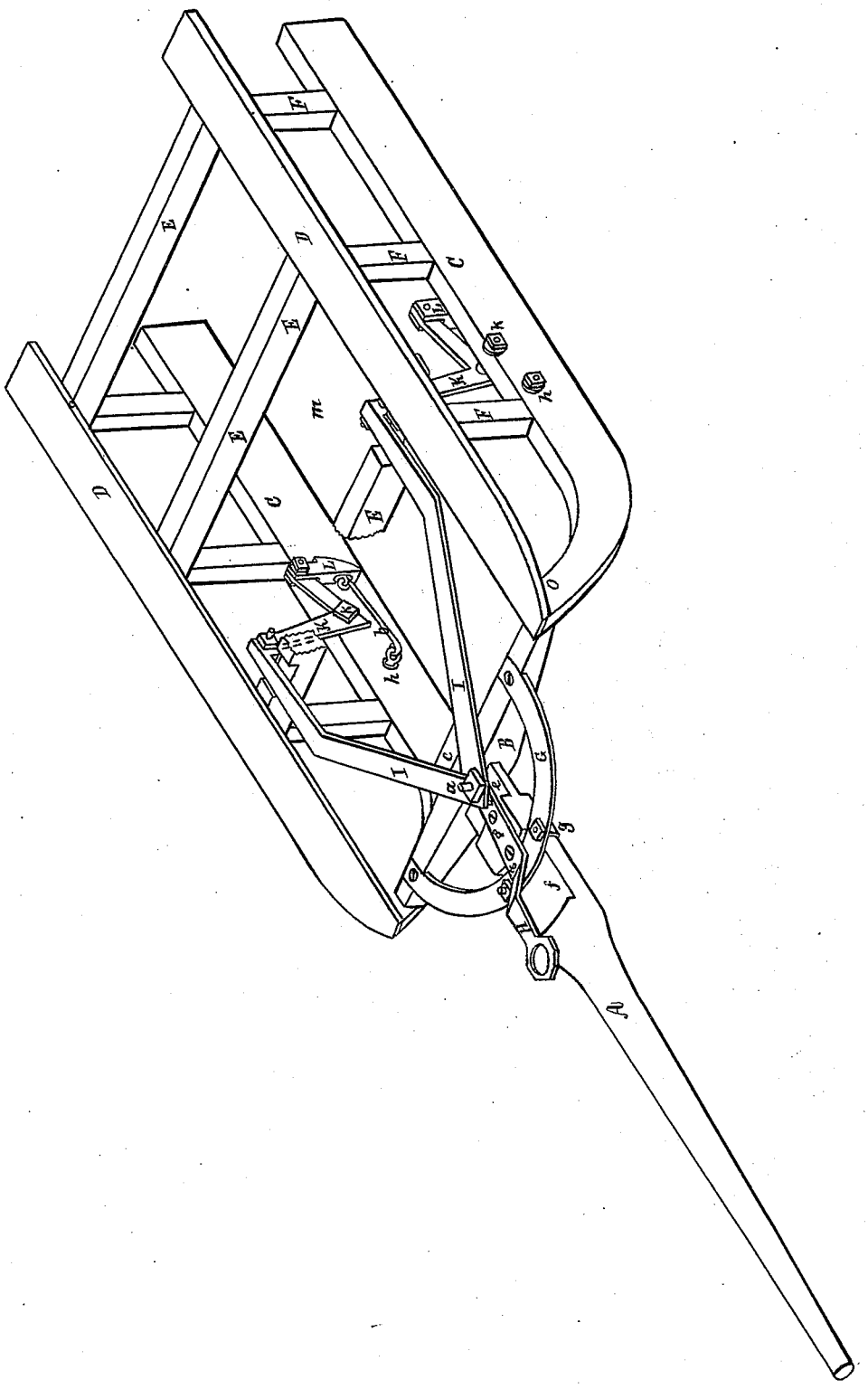
J. DUBOIS, Jr.

Sleigh.

No. 4,566. Patented June 13, 1846.



UNITED STATES PATENT OFFICE.

JOHN DU BOIS, JR., OF CASCADE, PENNSYLVANIA.

IMPROVEMENT IN APPARATUS FOR RETARDING SLEIGHS IN DESCENDING INCLINATIONS.

Specification forming part of Letters Patent No. **4,566**, dated June 13, 1846.

To all whom it may concern:

Be it known that I, JOHN DU BOIS, Jr., of Cascade township, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Self-Acting Method of Retarding the Motion or Progress of Sleds, Sleighs, &c., in Descending Hills; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing, making a part of this specification.

The nature of my invention consists in securing the tongue or pole in the roller-bar in such a manner as to allow it to play freely backward and forward in a mortise through the same, and in connecting the tongue to a couple of scrapers placed on the inner sides of each runner near their center in such a manner that when the tongue is pressed inward it forces the points of the scrapers downward below the bottoms of the runners against the snow or ice composing the road, and thereby retards the forward motion of the sleigh or sled. The amount of downward pressure upon the scrapers will depend upon the inclination of the hill and the weight of the load.

The accompanying drawing is a perspective view of a sled with my improved method of retarding the same attached to it. A part of the forward beam is broken out in the drawing for the purpose of showing parts concealed by it.

A is the tongue.

B is the roller-bar.

C C are the runners.

D D are the rails over the runners.

E E are the beams.

F F are the posts connecting the beams to the runners.

G is a semicircular tongue-brace, each end of which is secured to the roller-bar B.

f is a recess on the top of the tongue for the brace G to fit into, in which it works freely backward and forward. The brace G is secured in the recess *f* by an iron staple or strap *g*, passing around under the tongue, having its ends secured to the brace by screw-bolts and nuts. The point of draft on the tongue is the shoulder on the rear side of the recess *f*, bearing against the brace G.

e is the tenon on the rear end of the tongue, which passes through a mortise in the roller-bar.

c is a bolt for securing the tongue and preventing its action upon the scrapers by changing it from its present position and inserting it into the hole *d*, which secures it to the brace and renders the tongue permanent in that position.

a is a screw-bolt on the rear end of the hammer-strap H. The hammer-strap H is strongly bolted to the top of the tongue between the mortise *f* and tenon *e*. The bolt *a* at the rear end of the hammmer-strap is connected to the scrapers L L by the connecting-pieces I I and the elbows or knees K K. When the tongue is pushed backward, it forces down the scrapers by means of the connecting-pieces I I acting on the upper or vertical portion of the knees and pressing down the ends of the inclining portion of the same, to which the scrapers are attached.

b b are braces which stay the front sides of the scrapers and secure them to the bolts *h h*, which pass through the runners a short distance forward of the scrapers.

The two arms of the elbows K K form such an angle with each other that when the scrapers are forced down, so as to act upon the road in descending an inclination, the arms of the elbows to which the scrapers are attached are slightly inclined upward, so as to cause the scrapers to act on the braces *b b* and react against the tongue of the sled, and thereby enabling the scrapers to relieve themselves by reaction when they strike against an unyielding substance without injury to themselves or the sled. Were the lower arms of the elbows in a horizontal position when the scrapers are acting the scrapers would react against a dead-point at the bolts *k k*, and in case of striking an unyielding substance they would either be broken and carried away or would stop the sled.

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

The retarding the motion of sleds or

sleighs in descending inclinations by means of self-acting and self-regulating scrapers L L, attached to the runners C C and connected to the tongue of the sled by means of the acute-angled elbows K K, connecting-bars I I and hammer-strap H, the whole combined and operating substantially in the manner and for the purpose herein set forth.

JOHN DU BOIS, JR.

Witnesses:
Z. C. ROBBINS,
J. M. THAYER.