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G. W. SHAFER & J. L. HARMAN.

SLED BRAKE.

APPLICATION FILED MAR. 27, 1905.

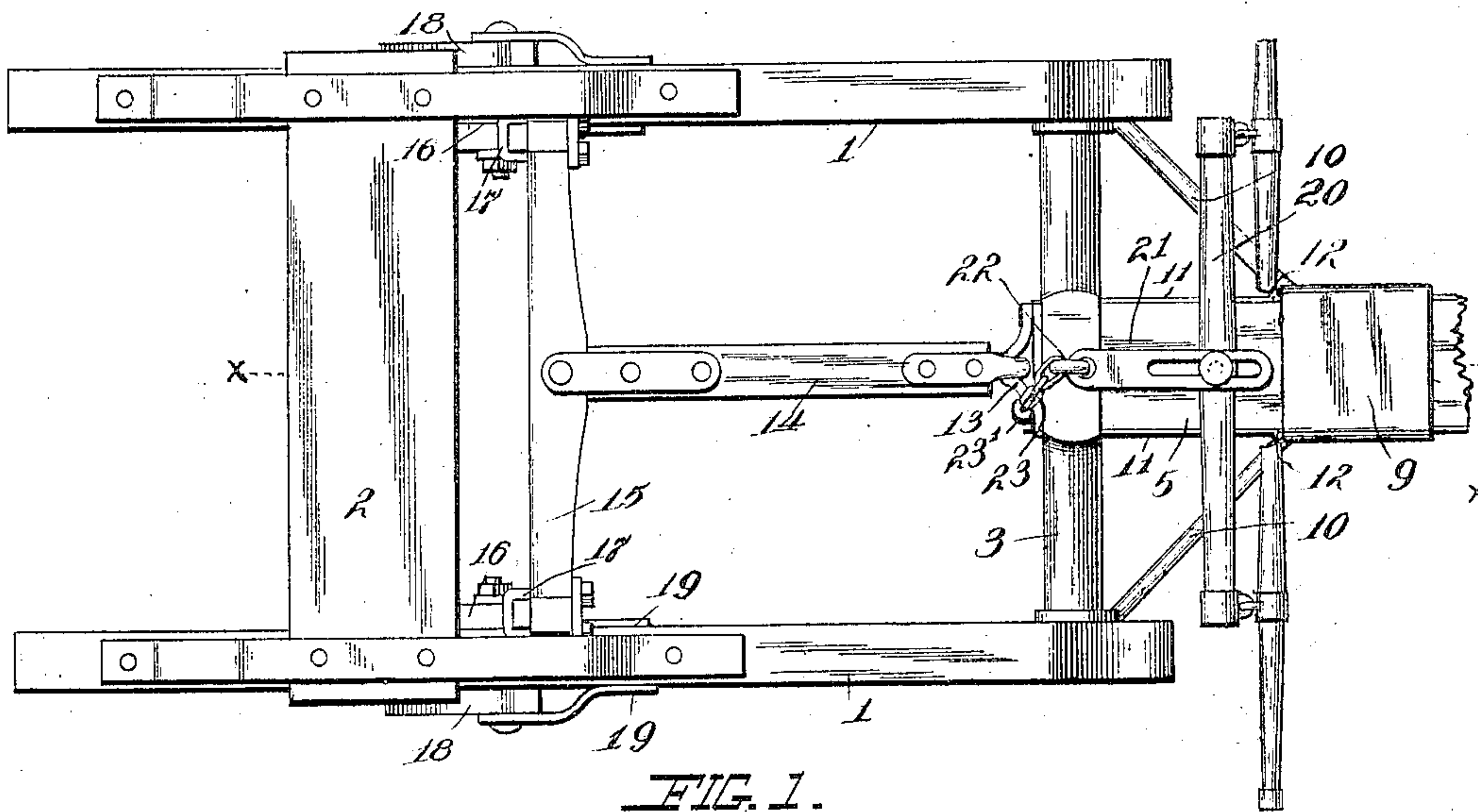


FIG. 1.

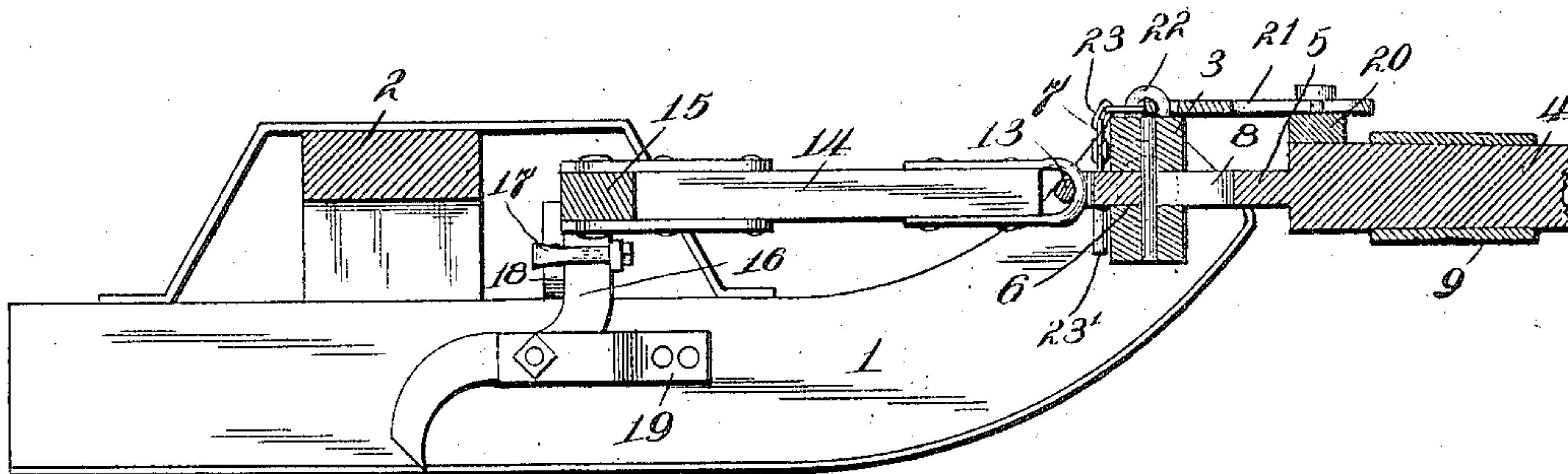


FIG. 2.

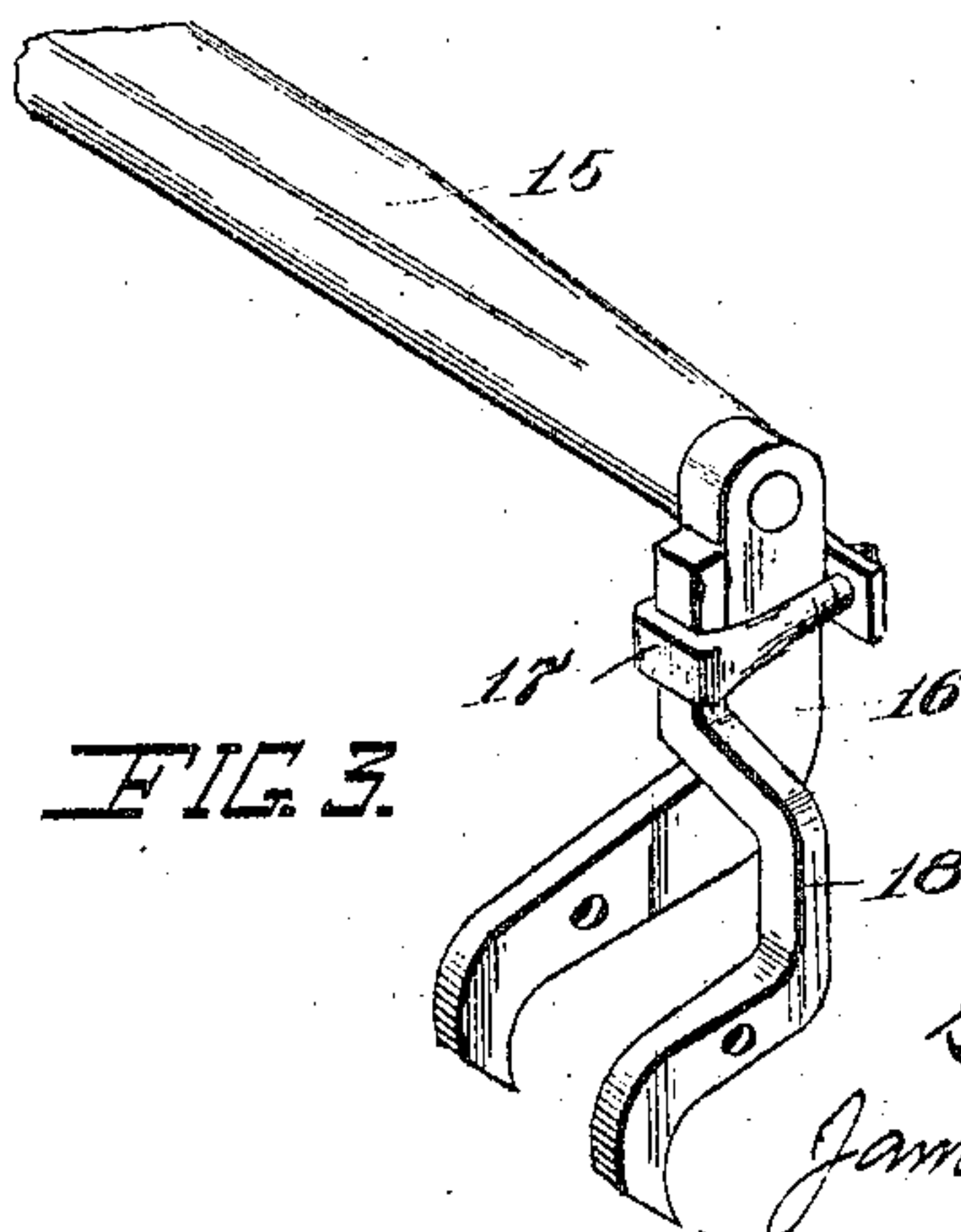


FIG. 3.

Witnesses,
E. E. Edmiston
J. M. Copenhaver

Inventors
George William Shafer
James Raphael H. Harman
By
Henry M. Cope
Attorney

UNITED STATES PATENT OFFICE.

GEORGE WILLIAM SHAFFER AND JAMES LAPHEYETT HARMAN, OF
FLORENCE, MONTANA.

SLED-BRAKE.

No. 818,475.

Specification of Letters Patent.

Patented April 24, 1906.

Application filed March 27, 1905. Serial No. 252,331.

To all whom it may concern:

Be it known that we, GEORGE WILLIAM SHAFFER and JAMES LAPHEYETT HARMAN, citizens of the United States, residing at Florence, county of Ravalli, and State of Montana, have invented certain new and useful Improvements in Sled-Brakes, of which the following is a specification.

Our invention relates to sled-brakes to prevent the sled from crowding the horses in going downhill and to hold the sled while the horses are resting going uphill.

The object of the invention is to provide improved means whereby when the tongue is pushed backward by the horses backing the brakes are allowed to engage the ground, thus preventing too rapid motion of the sled downhill.

A further object of the invention is the advantage gained by directly bracing the brake-arms and providing a direct connection between the two sets. This gives additional strength and insures the equal movement of both sets, thus avoiding buckling of brake-shifting arms.

In the drawings which form part of this specification, Figure 1 is a plan view. Fig. 2 is a section on line *xx* of Fig. 1, and Fig. 3 is a perspective of the brakes and the connecting cross-bar removed from the runners.

Referring more specially to the drawings, 1 indicates the runners of a sled, which may be of the ordinary kind and which are secured together with the usual knee 2 and are provided at their forward ends with the roller 3, journaled so as to give sufficient vertical movement to the tongue 4. This tongue 4 is provided with a tenon 5, which is adapted to enter a mortise 6 in the roller 3. A pin 7 passes through the roller 3 in a vertical direction and engages a slot 8, formed in the tenon 5. This limits the inward-and-outward movement of the tongue. Surrounding the tongue 4 forward of the tenon 5 is a jacket 9, through which the tongue 4 slides. This jacket 9 is braced by arms 10, extending therefrom to the roller 3, which are adapted to move with the jacket and the tongue. Any wear upon the tongue by the jacket or by the roller 3 is taken up by the wear-irons 11, secured to the sides of the tongue and provided with stops 12, adapted to engage the jacket 9 and assist the pin 7 in limiting the outward movement of the tongue 4.

Secured to the rear end of the tenon 5 is an eye 13, which is pivotally connected in any suitable manner to a reach 14, which is in turn rigidly secured to a cross-bar 15. Pivoted to the inside of the runners are brake-arms 16, which are securely journaled at their upper ends to the cross-bar 15. Just below the pivotal connection of the brake-arms 16 with the cross-bar 15 are secured by clamps 17 brake-arms 18, which extend laterally for a distance sufficient to cover the width of the runner and then downwardly to their pivotal point, which is just the same as that of the brake-arms 16, and thence downwardly in a curved direction to a point near the bottom part of the runner. Braces 19 are made to engage the pivotal connection of the brake-arms 16 and 18 on either side of the runners to take up any undue strain which might be brought upon this pivotal connection.

The advantage of having the brace-bar connect the two sets of brake-arms 16 and 18 on either side of the sled is that it insures uniformity of movement and directly braces and connects the two sets. This is a decided improvement over devices of similar character, because it avoids the buckling of brake-shifting arms where each brake is connected separately.

Secured to the upper side of the tongue is the ordinary doubletree 20, which is prevented from twisting on its pivotal pin by a slotted link 21, which straddles the pivotal pin at one end and engages a hook 22, secured to the upper side of the roller 3.

When it is desired to back the sled, it is necessary to lock the tongue in its extended position, and to do this we provide a pin 23', which is hung to the hook 22 by chain 23, which can be placed in the slot 8 ahead of the roller 3, thus preventing any backward movement of the tongue. If it is desired to keep the brakes engaged with the ground while the horses are removed, it is only necessary to put the pin in the slot 8 back of the roller 3.

By backing the horses in going uphill or by making them hold back on the tongue when going downhill the brakes are caused to swing upon their pivotal point and make their lower ends enter the snow or ice in proportion to the amount of the backward movement of the tongue.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a sled-brake, the combination with
5 the sled-runners and a roller journaled there-
to, of a slidable tongue having a slot, a brake
operated by the tongue, a pin on the roller
which passes loosely through the slot in the
tongue, and a pin attached to the sled by a
10 flexible connection and adapted to be insert-
ed in either end of the slot to lock the brake
either set or released as desired.

2. In a sled-brake, the combination with

the sled-runners and a roller journaled there-
to, of a slidable tongue, a brake connected to 15
said tongue, a doubletree, a bolt pivoting the
doubletree to the tongue, and a brace and
guide connected to the roller and having a
slot which loosely receives the bolt aforesaid.

In testimony whereof we hereunto affix our 20
signatures in presence of two witnesses.

GEORGE WILLIAM SHAFFER.
JAMES LAPHEYETT HARMAN.

Witnesses:

ARTHUR HERBERT,
A. W. DEBEER.