

No. 712,697.

Patented Nov. 4, 1902.

P. MARTINSON.  
SLEIGH.

(Application filed Sept. 16, 1901.)

(No Model.)

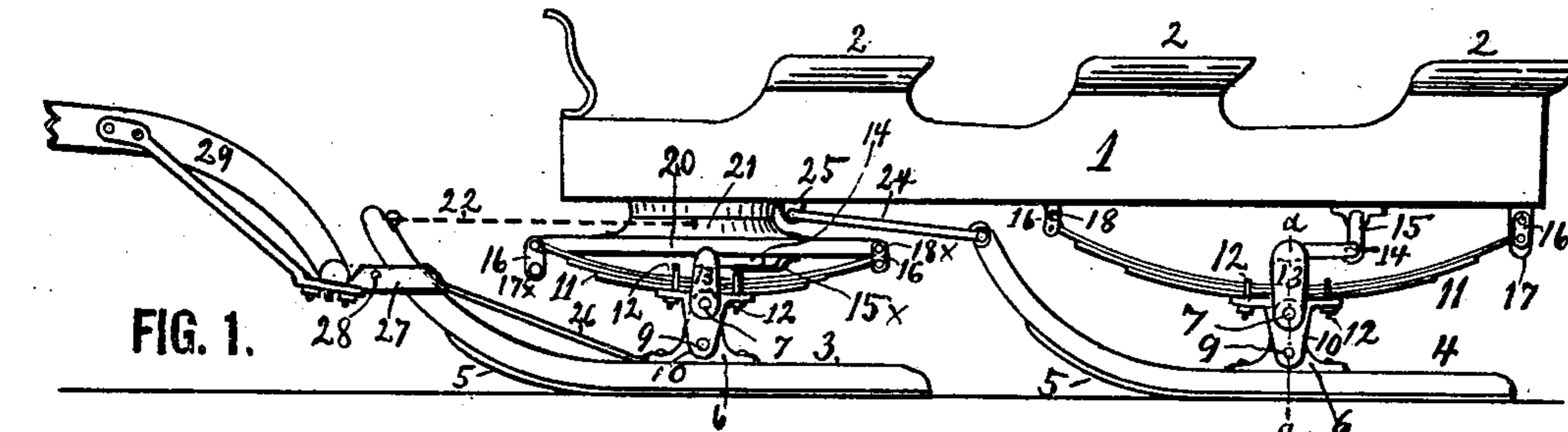


FIG. 1.

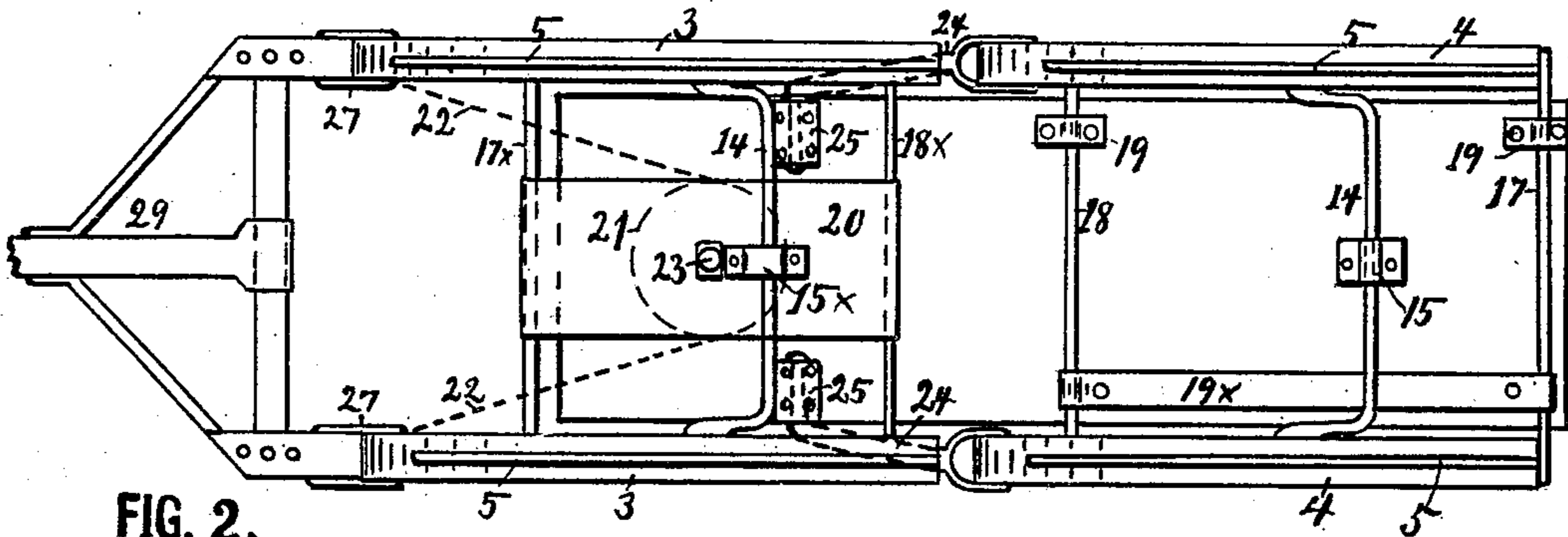


FIG. 2.



FIG. 3.



FIG. 4.

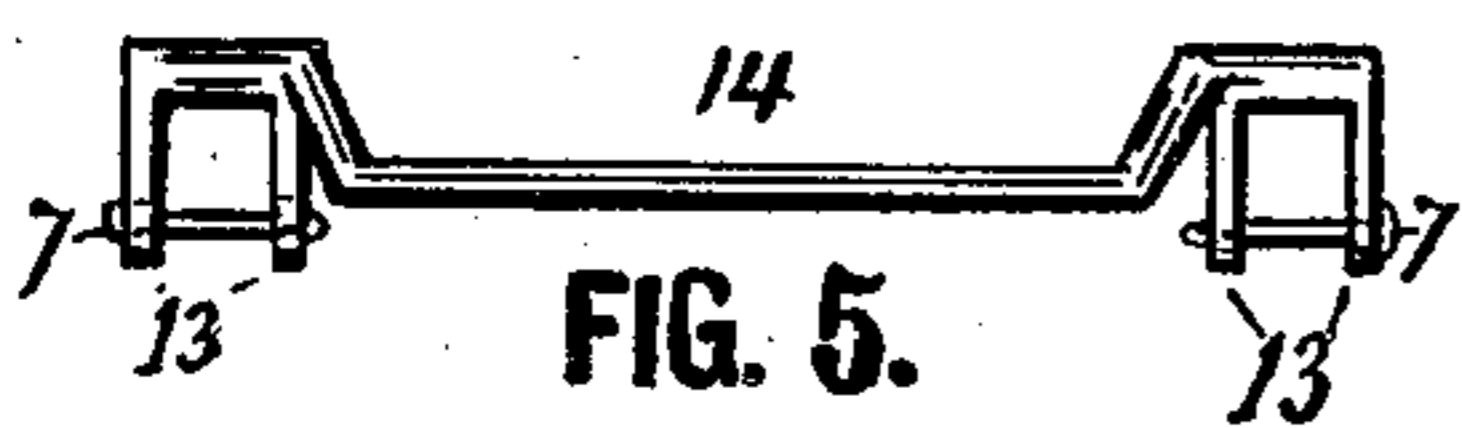


FIG. 5.

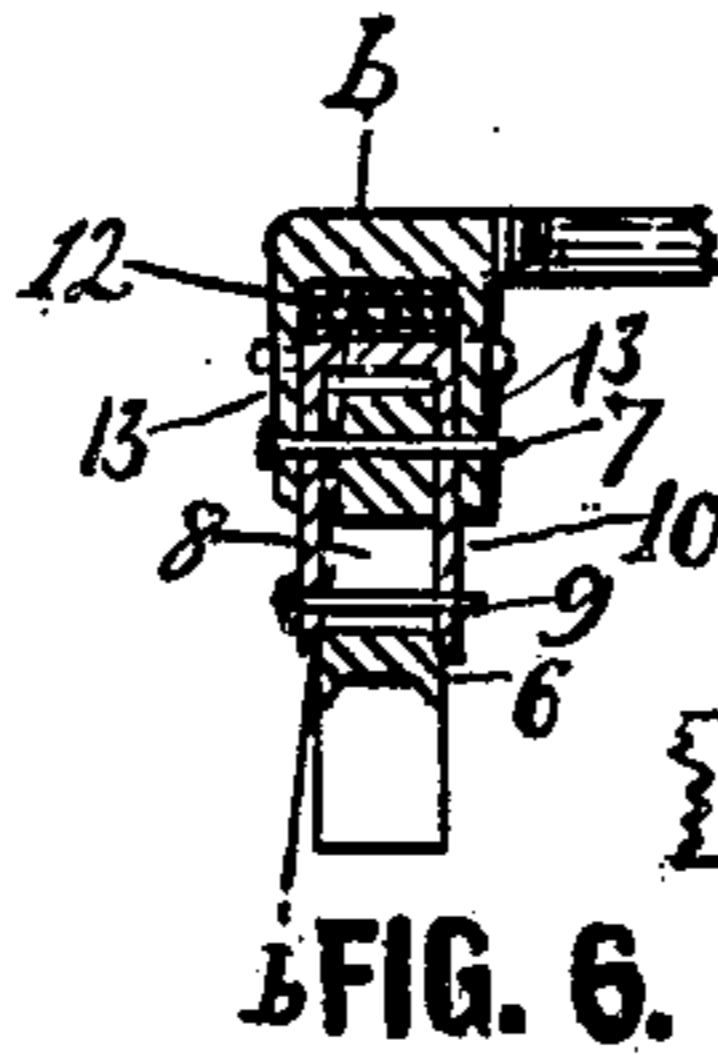


FIG. 6.

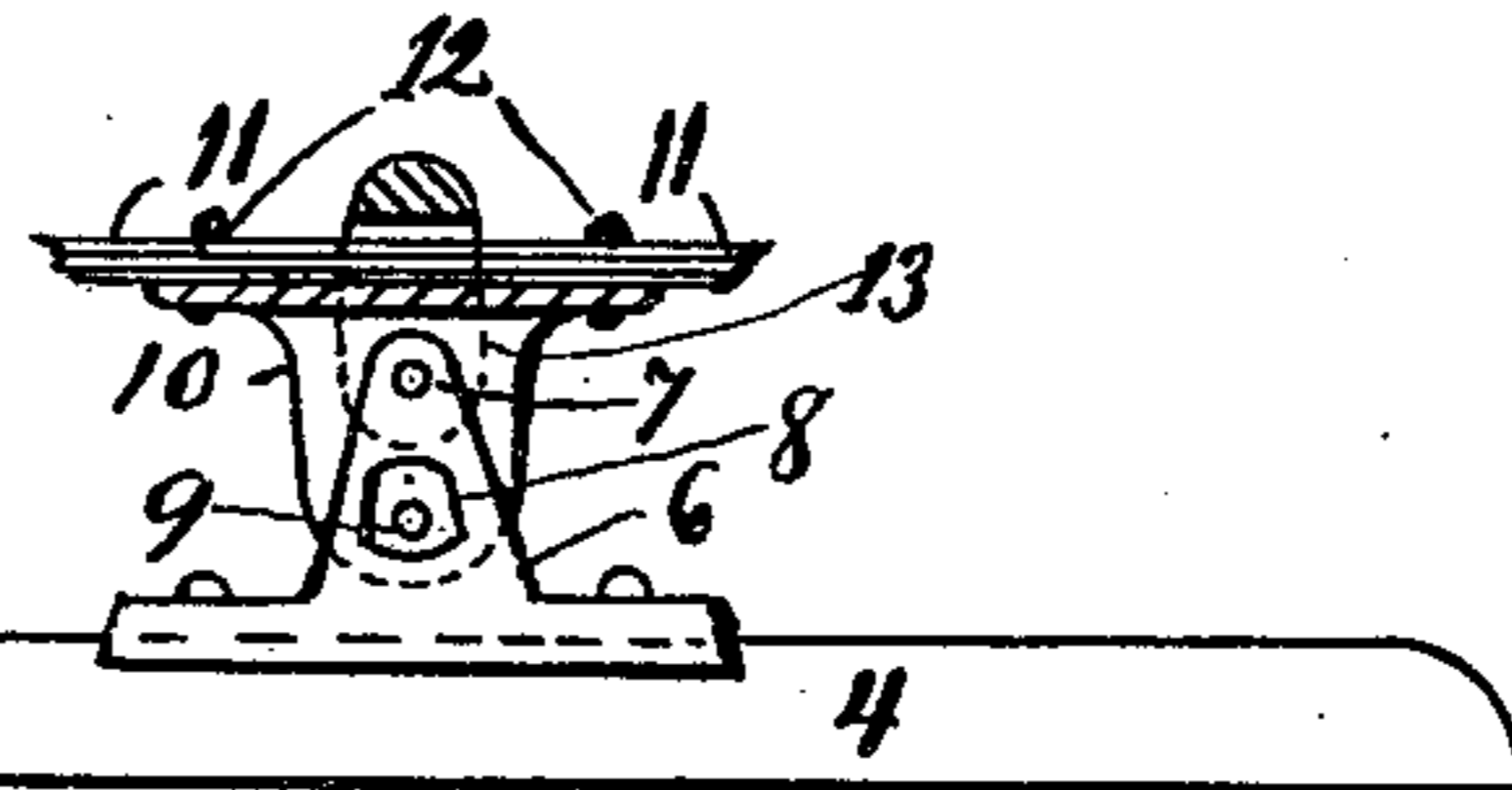


FIG. 7.

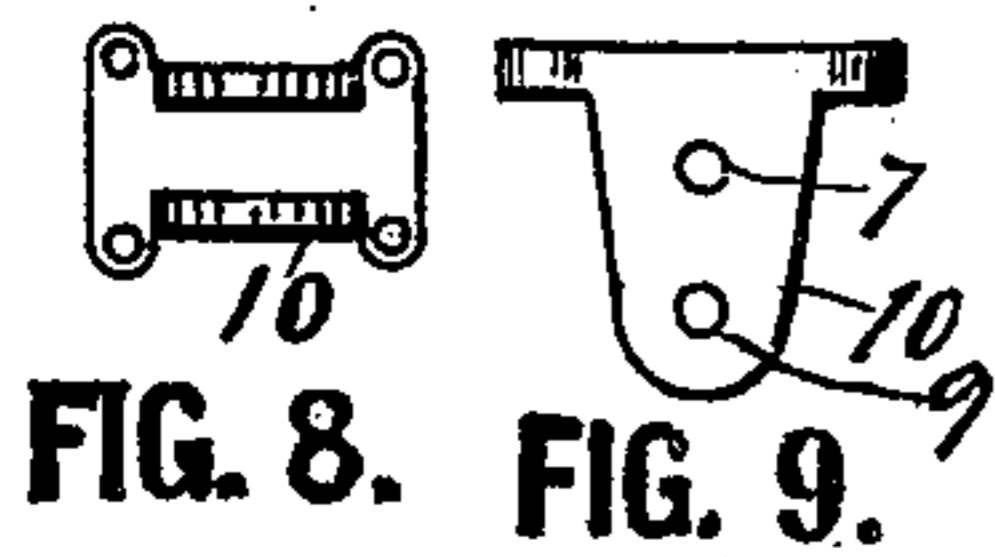


FIG. 8.



FIG. 9.

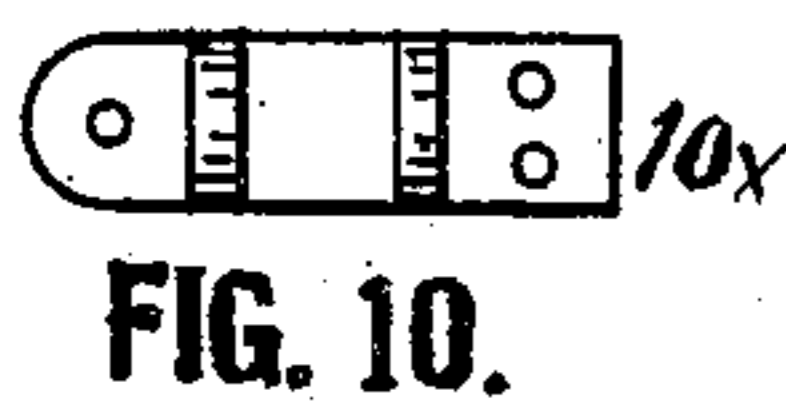


FIG. 10.

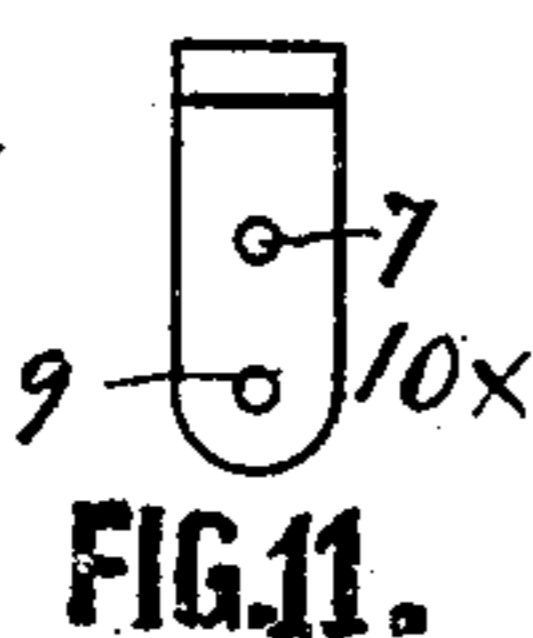


FIG. 11.

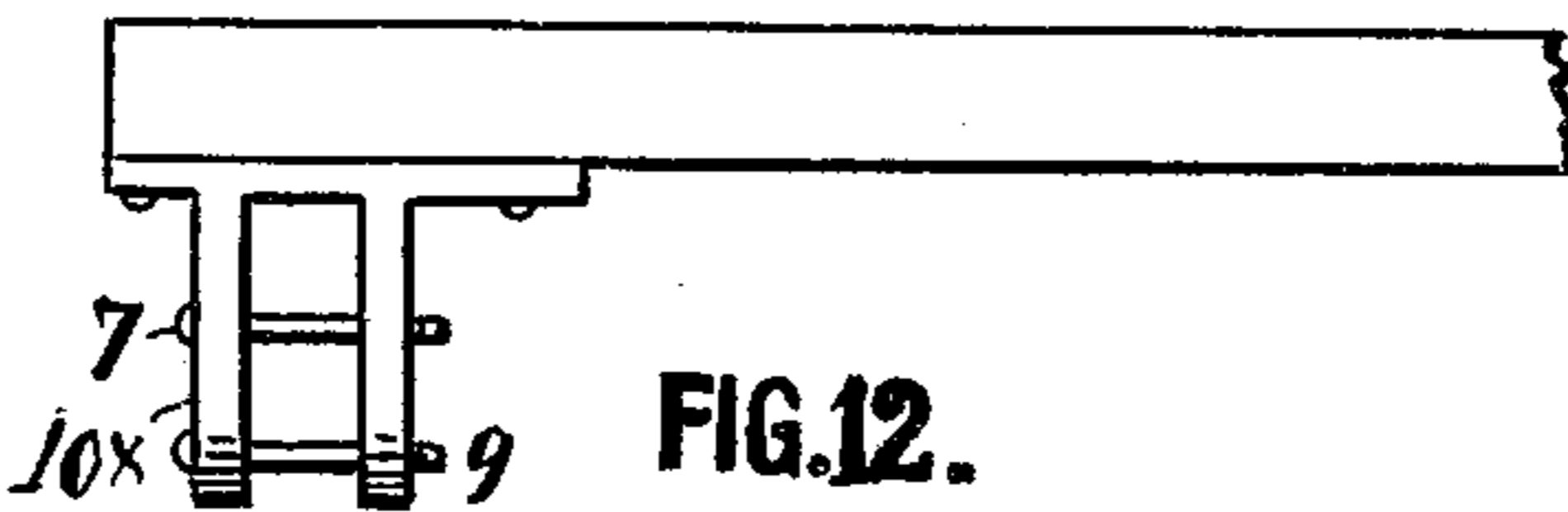


FIG. 12.

WITNESSES:

D. E. Carlsen.  
C. E. Carlsen

INVENTOR:

Petter Martinson.  
BY his ATTORNEY:  
A. M. Carlsen

# UNITED STATES PATENT OFFICE.

PETTER MARTINSON, OF LAKEPARK, MINNESOTA.

## SLEIGH.

SPECIFICATION forming part of Letters Patent No. 712,697, dated November 4, 1902.

Application filed September 16, 1901. Serial No. 75,642. (No model.)

*To all whom it may concern:*

Be it known that I, PETTER MARTINSON, a citizen of the United States, residing at Lakepark, in the county of Becker and State of Minnesota, have invented certain new and useful Improvements in Sleighs; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in sleighs, and may in part be applied with advantage also to sleds.

The objects of my invention are, first, to provide a sleigh with good and proper supporting-springs without elevating the box of the sled more than is necessary; second, to provide sleighs and sleds with novel and substantial tilting joints for the runners; third, to provide a sleigh with flexible connection and with draft connections, properly distributing the draft upon the strongest parts; fourth, to provide sleighs and sleds with runners adapted for use on either ice or snow. These objects I attain by the novel construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a sleigh having my improvements applied to it. Fig. 2 is a bottom view of the sleigh in Fig. 1. Fig. 3 is a rear view of the cross-bar 17 in Figs. 1 and 2, and is also a front view of the front cross-bar 16 in said views, with the supporting-springs connected. Fig. 4 is a rear view of either of the cross-bars 17<sup>x</sup> and 18<sup>x</sup>, with the springs removed. Fig. 5 is a perspective view of the cross-bar 14, securing the runners together in pairs. Fig. 6 is a cross-section on the line *a a* in Fig. 1. Fig. 7 is a sectional view on the line *b b* in Fig. 6 looking from left to right. Fig. 8 is a bottom view, and Fig. 9 a side view, of the iron 10, secured to and supporting the springs 11. Fig. 10 is a bottom view, and Fig. 11 a side view, of the irons in Figs. 8 and 9, only in such modified form that they may be applied to heavy sleds on which no springs are used. Fig. 12 is a

portion of a cross-timber of a heavy sled with the iron in Figs. 10 and 11 secured to it.

Referring to the drawings by reference-numerals, 1 is the box or body, and 2 the seats, of a sleigh.

3 represents the front and 4 the rear runners, each of which is provided under its broad bottom, adapted for use on snow, with a narrow longitudinal rib 5, adapted for use on ice and icy ground, to prevent the runners from sliding sidewise. Upon each runner is secured an iron 6, (best shown in Figs. 6 and 7,) having a bolt 7 through its top, and lower down a large aperture 8 with a bolt 9 passed loosely through it.

Pivoted on the bolt 7 is the spring-seat 10, on top of which the bow-springs 11, supporting the box 1, are secured by the clips 12. On the pivots 7 are further pivotally secured the pendent lips 13 of the rearwardly-offset cross-bars 14, which serve to hold the runners firmly together in a front pair and a rear pair, still allowing each runner freedom to tilt on uneven ground, since the bolt may swing back and forth in the large aperture 8.

In order to permit the springs 11 to bend up and down freely and in order to keep the cross-bars 14 in the desired position with their ends, their offset middle portion is supported in a horizontal position by a link 15, suspended from the bottom of the box, as shown under the rear end of the box in the drawings, or instead of a link I may use a horizontally-slotted guide or clip, like 15<sup>x</sup>, on the front bar of the drawings.

The ends of the bow-springs 11 are connected by links 16 to the ends of the cross-bars 17 18 and 17<sup>x</sup> 18<sup>x</sup>, of which the former are secured under the rear end of the box by keepers or brackets 19, which may be made separate, as 19<sup>x</sup> in Fig. 2, or even in one piece all four of them, as under the front end of the box, where the bars are secured to a plank 20, on the middle of which is a fifth-wheel connected from both sides by chains 22 to the front ends of the front runners, so that the draft is not on the springs, but on the king-bolt 23, extending upward through the upper part of the fifth-wheel secured under the box.

The rear runners are each connected pivotally by a rod 24 to a bracket 25, secured

under the sleigh-box, so that each runner may tilt independently and still both be pulled by their front ends, so that no pulling-strain may come on the rear springs. The front runners 5 have the rods 26 secured to the castings 6 and embracing the front portion of the runner by the bifurcated portion 27, which are pivotally connected at 28 in front of the runner to the pole or tongue 29.

10 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a sleigh, the combination with a pair of runners and a sleigh box or body, of the 15 footpieces 6 secured on the runners, the tilting spring-support 10 and springs 11 mounted on the footpiece, the cross-bar 14 having downwardly-projecting lips pivoted one at each side of the spring-support and having a horizontal offset in the middle connected to the 20 box with a joint having a back-and-forth play.

2. In a sleigh, the combination with a suitable box or body, of a fifth-wheel secured under the front end of same and formed with the plank or bridge 20, bow-springs link-connected 25 with their ends to said bridge, a horizontally-offset cross-bar connecting the two runners, spring-supports secured to the ends of the cross-bar, the footpieces 6 pivoted to the spring-supports, runners secured to the footpieces 30 and having their front ends flexibly connected to the lower part of the fifth-wheel; and the rear runners similarly secured under the rear end of the sled, but without a fifth-wheel. 35

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

PETTER MARTINSON.

Witnesses:

LETTIE MARTINSON,  
CASPER MARTINSON.