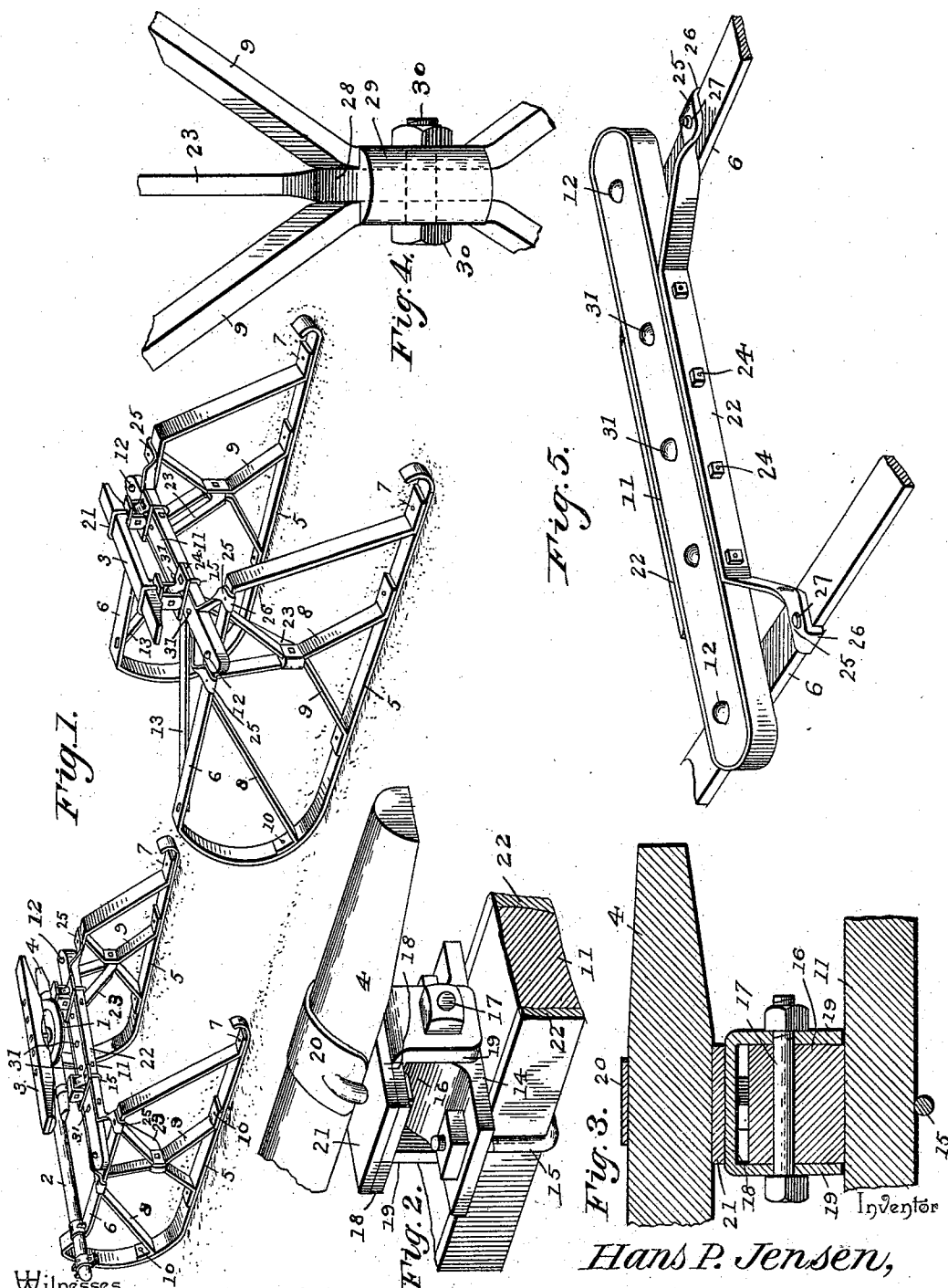


(No Model.)

H. P. JENSEN.
SLEIGH.

No. 530,948.

Patented Dec. 18, 1894.



Witnesses

Julius W. Keefe
J. Keefe

By his Attorneys.

Carlson & Co.

UNITED STATES PATENT OFFICE.

HANS P. JENSEN, OF MANKATO, MINNESOTA.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 530,948, dated December 18, 1894.

Application filed March 9, 1894. Serial No. 503,048. (No model.)

To all whom it may concern:

Be it known that I, HANS P. JENSEN, a citizen of the United States, residing at Mankato, in the county of Blue Earth and State of Minnesota, have invented a new and useful Sleigh, of which the following is a specification.

The principal feature of my invention lies in certain improved braces for the runners and frame; and the object sought to be attained is to produce a device which will be more durable and neater than those ordinarily used.

In the drawings, the invention is shown in detail, and therein Figure 1 represents a perspective view of the front and rear runners and their attachments; Fig. 2, a detail perspective of one of the knees; Fig. 3, a section taken through the same and including the beam; Fig. 4, a detail perspective showing the manner of connecting one of the braces; Fig. 5, an enlarged perspective showing the arrangement of braces for the beam.

The front and rear runners and their attachments are constructed substantially alike, with the exception of the fifth wheel or circle 1 and the cross beam 2, which are provided for the front runners. The fifth wheel is secured to the bolster 3 and head block 4, and serves to give the former a rotary movement on the beam 4, on, of course, a vertical axis, while the cross bar or beam 2 is provided to brace the runners and make it possible to attach the team to the sleigh.

The reference numerals 5 indicate the runners, which are four in number, and which are bent upwardly and forward at their front ends, and thence rearwardly and horizontally to form the raves 6. From this point the runners proceed downwardly to the runners proper, and are secured to themselves at 7.

8 indicates four braces which are one for each runner, and which extend from a point near the middle of the horizontal portion of the same, forwardly and downwardly to the runners proper, 5, and at their front extremity. In addition to the braces 8, I provide for the runners the braces 9, which are arranged substantially in the form of an X and which are two for each runner and the rear ones of which are secured to the upper portions or raves 6, and proceed inwardly and

downwardly and thence outwardly and downwardly to the runners proper, both ends of the braces in question being secured in place by bolts or rivets 10. The forward braces 9 are duplicates of those just described, excepting they are formed integral with the braces 8. These devices constitute the braces by which the rigidity of the runners is insured.

Secured to the raves 6 of each pair of runners, and extending from one to another are the beams 11, which are held in place by bolts 12 and which serve to connect the runners and provide a support for the sleigh body. In place of the cross-bar 1 of the front runners, I provide the braces 13 for the rear runners, and these are two in number and secured at their forward ends to the runners, and extend rearwardly and inwardly to the beam 11 of the rear runners, to the under side of which they are suitably connected.

The beams 11 and blocks 4 and 3 of each pair of runners are joined by the knees of Fig. 2, so that the runners will be allowed a limited oscillatory movement on the head blocks. The knees consist of a metallic plate 14 secured to the beams 11 by means of the yoke or clip 15, and provided with the knob or lug 16, which has formed therein a transversely extending passage or eye. The passage is adapted for the reception of the bolt 17 of the head block section 18, which consists of an approximately square plate provided with the oppositely arranged and downwardly extending arms 19, which embrace the lug 16 and carry the bolt 17 before described. The plates 18 are secured to their head blocks by means of the yokes or clips 20, which embrace said blocks and project downwardly through the plate 18, a washer or supplemental plate 21 being interposed between each of the plates 18 and the head-blocks.

The beams 11 of each pair of runners are braced, as against the runners, and the runners braced by each other by means of the braces 22 and 23. These braces are three in number and the braces 22 are duplicates of each other and secured to each side of the beams 11 by means of the nuts 24 and the yokes 15, and are each bent, at points near the ends of the beams outwardly, thence torsionally and finally inwardly, so that the last

bend will form an arm 25 extending slightly downwardly and parallel with the beams 11, and provided with the hooked ends or lugs 26 which embrace the raves 6 and the upper ends of braces 9, and are secured each by means of rivets 27. By this means the beams 11 are securely braced on the runners, and the runners, in turn, similarly braced.

The braces 23 are secured to the under side of the beams 11, and are held in place by the yokes 15 and bolts or rivets 31, and are bent at the same points on the beams at which braces 22 were bent. The bend in braces 23 is first torsional so as to change their edgewise disposition, and thence downward and outward, to the point at which the bends in braces 9 cause them to meet. Here the braces 23 end, and are formed with the thickened portion 28 and head 29. The thickened portion 28 fits between the braces 9 at the point just stated, and the three are securely joined by the bolts 30, which pass through them. The head 29 of braces 23 is formed by spreading the ends of the braces so that they will engage the outer edges of both the braces 9. Thus the connection between braces 23 and 9 is rendered doubly secure, for if the bolts 30 were to become broken the head 29 would still operate to retain the connection, and to prevent the runners from spreading.

It will be seen that by means of my invention, the beams are securely and immovably connected to the runners, and that the runners are so braced that it will be quite impracticable to break them. It will also appear that the structure of the device is neat and attractive.

All the parts composing my invention are constructed of metal, with the exception of the beams 11, the bolsters, head blocks and cross bars. These I prefer to form of strong wood.

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

1. The combination of the runners, the raves, the transverse beam secured to the raves, the braces 22 consisting of flat bars secured intermediate of their ends to the front and rear edges of the beam and having similar diverging end portions provided with a quarter turn and secured at their extremities flat against the raves and provided with depending lugs 26 engaging the outer edges of the raves, the braces 9 arranged substantially in the form of an X and centrally secured together and having their diverging ends se-

cured to the runners and the raves, and the downwardly and outwardly diverging braces 23 secured at their upper terminals to the lower face of the beam, and having their outer ends arranged edgewise between the central portions of the braces 9 and provided with flat heads 29, engaging the outer edges of the braces 9 and forming a rigid joint, substantially as described.

2. The combination of the runners, the raves, the transverse beams secured to the raves, the braces 22 consisting of flat bars secured intermediate of their ends to the longitudinal edges of the beam and having their outer ends arranged flat against and engaging the raves, the braces 9 arranged substantially in the form of an X and secured to the raves and the runners, the oppositely inclined braces 23 extending from the beam to the braces 9 and having their lower ends arranged edgewise between the central portions of the latter and secured to the same and provided with flat exterior heads engaging the outer edges of the braces 9 to provide a rigid joint, the clips 15 embracing the beams and securing the upper terminals of the braces 23 to the beam, the plates 14 extending across the beam and secured to the same by the clips 15 and having transverse eyes, the head block, the plates 18 having depending arms 19, bolts passing through the arms and the eyes and forming a hinge joint, and clips embracing the head block and having extended terminals passing through the plates 18, and securing the same to the head block, substantially as described.

3. The combination of runners, raves, a transverse beam secured to the raves, the plates 14 clipped to the beam and provided with transverse eyes, the head block, the plates 18 having depending arms arranged at the terminals of the eyes, bolts passing through the eyes and the arms forming a hinge joint, and clips embracing the head-block and provided with clip plates fitting against the plates 18, said clips being extended and passing through the plates 18 and connecting the same with the head-blocks, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HANS P. JENSEN.

Witnesses:

ARTHUR SCHAUB,
C. L. BENEDICT.