D. L. BLOCHER.

SLED RUNNER.

APPLICATION FILED MAR. 3, 1909.

943,513. Patented Dec. 14, 1909.

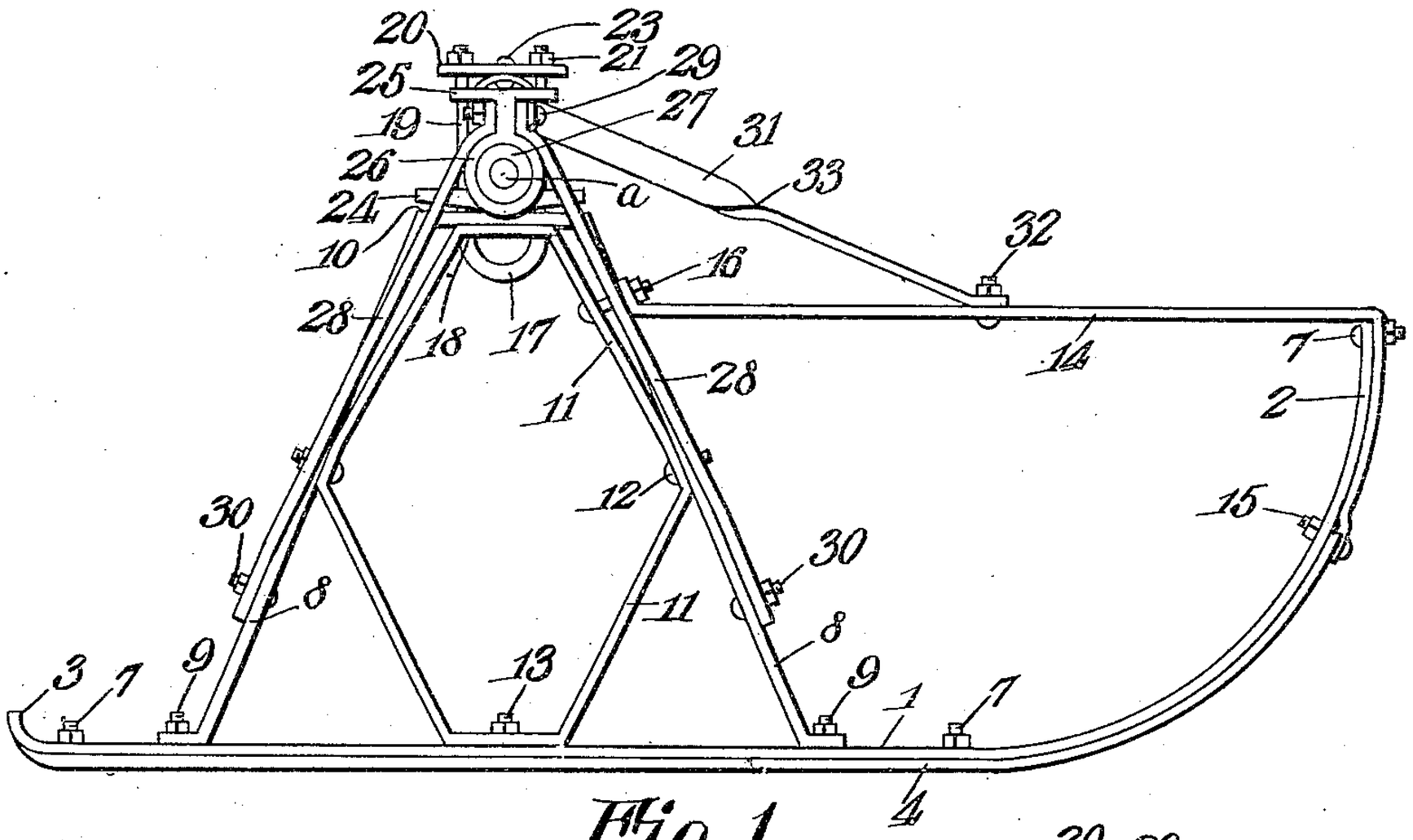

Fig. 1.

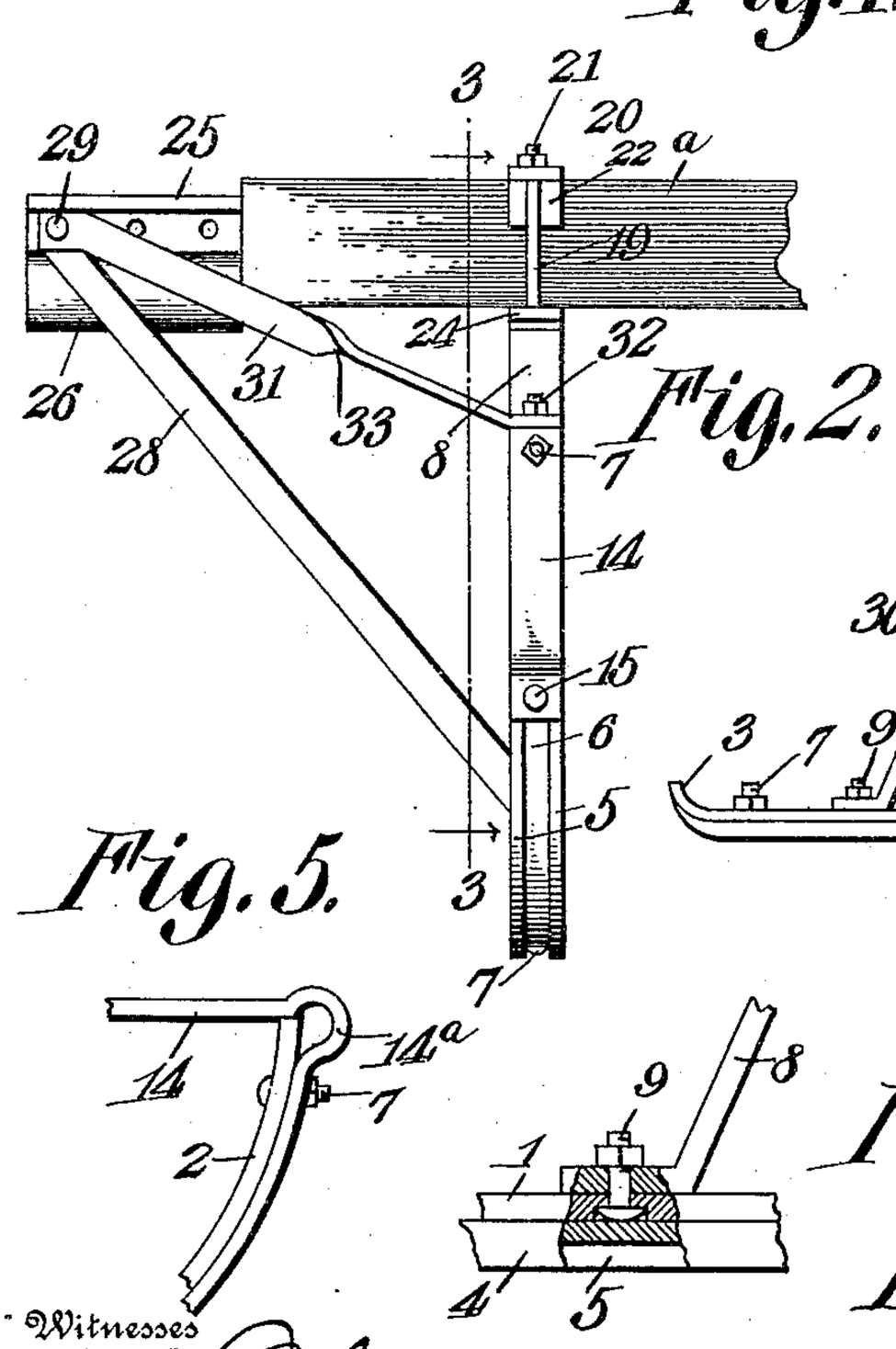

Fig. 2.

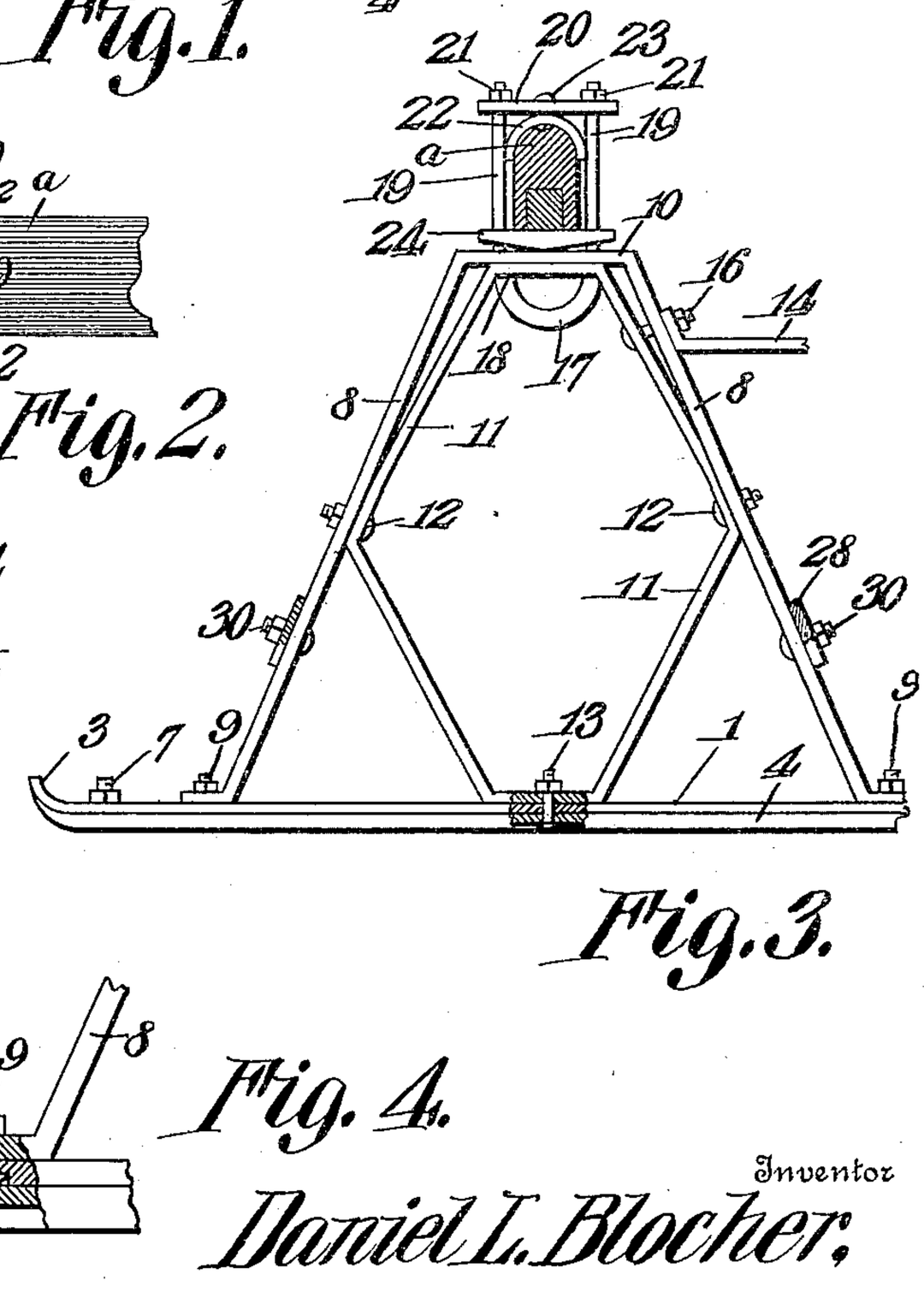

Fig. 3.

Fig. 5.

Fig. 4.

Witnesses

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SLED-RUNNER.

943,513. Specification of Letters Patent. Patented Dec. 14, 1909.

Application filed March 3, 1909. Serial No. 481,051.

To all whom it may concern:

Be it known that I, DANIEL L. BLOCHER, a citizen of the United States of America, residing at Bordulac, in the county of Foster and State of North Dakota, have invented new and useful Improvements in Sled-Runners, of which the following is a specification.

This invention relates to sled runners designed more particularly for attachment to the axle of sled vehicles for converting a buggy or other vehicle into a sleigh, and one of the principal objects of the invention is to provide strong, durable and efficient means for attaching the runners to the axle or axles of the vehicle and to permit the runners to rock upon the axles in passing over rough roads or obstructions.

Another object is to provide a strong and durable runner having a shoe connected thereto which will hold the runners in line with the draft and prevent sidewise movement thereof.

Still another object of the invention is to provide a light metal sled runner having a knee and brace of novel form for strengthening the runner and a reinforcing bar extending from the front end of the runner to the knee for giving greater strength to the structure.

These and other objects may be attained by means of the construction illustrated in the accompanying drawing, in which,—

Figure 1 is a side elevation of a sled runner made in accordance with my invention and secured to the end of an axle of ordinary form. Fig. 2 is a detail front elevation of a step secured to the runner. Fig. 3 is a sectional view on the line 3—3 of Fig. 2, looking in the direction indicated by the arrows. Fig. 4 is a detail view in partial section showing the manner of securing the brace to the sleigh runner. Fig. 5 is a detail side elevation, showing the loop in the end of a brace secured to the front of a runner.

Referring to the drawing, the numeral 1 designates the body of the runner, the front end of which is curved upwardly, as at 2, and the rear end of which is curved upwardly, as shown at 3. Secured to the runner 1 is a shoe 4 of channel-iron or channel-steel, said channel-iron having the oppositely disposed flanges 5 providing the intermediate channel 6 between said flanges, and said shoe being secured to the runner by means of the bolts 7 disposed in the channel 6. This runner will hold the sled in the line of draft and will not be liable to slue about from side to side. Secured to the runner is a strong metal knee 8, the feet of which are connected by means of bolts 9 to the runner, said knee converging as it extends upwardly and provided with a horizontal upper supporting bar 10. To give increased strength to the knee 8 a strong metal brace 11 is secured thereto, said brace comprising an angular frame secured within the knee by means of bolts 12, said brace being connected to the runner by means of a single bolt 13.

Extending from the front end of the runner is a reinforcing bar 14, the front end of which is secured to the runner by means of a bolt 15, and the rear end of said bar is connected by means of a bolt 16 to the knee 8 and to the brace 11.

The runner is secured to an ordinary vehicle axle *a* by means of a U-shaped clip 17, the crown of which is curved and provided with shoulders 18, while the upper ends of said clip are formed into rounded bolts 19 which extend through a plate 20, said bolts 19 being fitted with nuts 21. Fitting over the top of the axle and underneath the plate 20 is a curved bearing plate 22 which is secured to the plate 20 by means of a rivet 23. The bolts 19 extend through a rocker 24, the ends of which are reduced in a size to permit the runner to rock upon the axle, the lower surface of said rocker resting upon the top 10 of the knee 8.

As shown in Fig. 2, the step 25 is connected to the outer end of the vehicle axle, said step comprising a tubular portion 26 surrounding a wooden bushing 27 on the end of the axle *a*. The step is braced from the runner by the diverging braces 28 secured to the step by means of the bolt 29 and secured to the brace 8 by means of the bolt 30. A brace 31 is connected by the bolt 29 to the step, and the opposite end of said brace is connected by the bolt 32 to the brace 14. The brace 31 is provided with a twist 33 intermediate its ends.

As shown in Fig. 5 the brace 14 is provided with a loop 14^a at its front end to provide means for attachment of a draft chain or link.

From the foregoing it will be obvious that my sled runner is of simple construction, is secured to the axle by strong and durable means which will permit the runner to rise

and fall in passing over obstructions or to rock upon the axle; that the shoe is made of channel-iron or channel-steel and will hold the runner in line of draft, and that the entire runner is made of metal, and while it is very strong, it is comparatively light in weight.

I claim:—

1. A sled runner comprising a runner, a shoe connected thereto, a knee, a reinforcing bar connected to said runner and knee, a brace connected to said bar and to said knee, an axle clip connected to said knee and brace, an axle and a rocker connected to said axle and provided with reduced opposite ends, said rocker bearing upon the upper surface of the knee to permit the runner to rock under the axle.

2. A sled comprising a pair of runners, a shoe connected to each runner, a knee consisting of a bar connected to the runner and having a flat upper surface, a brace within the knee, said brace being connected to the runner and knee, a reinforcing bar connected to said runner and knee, an axle clip connected to said knee and to said brace, an axle and a rocker provided with oppositely reduced ends bearing upon the upper surface of the knee to permit the sled to rock under the axle.

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

DANIEL L. BLOCHER.

Witnesses:
A. H. WENTLAND,
CHRISTIAN BLOCHER,
CHRIS S. BLOCHER.