

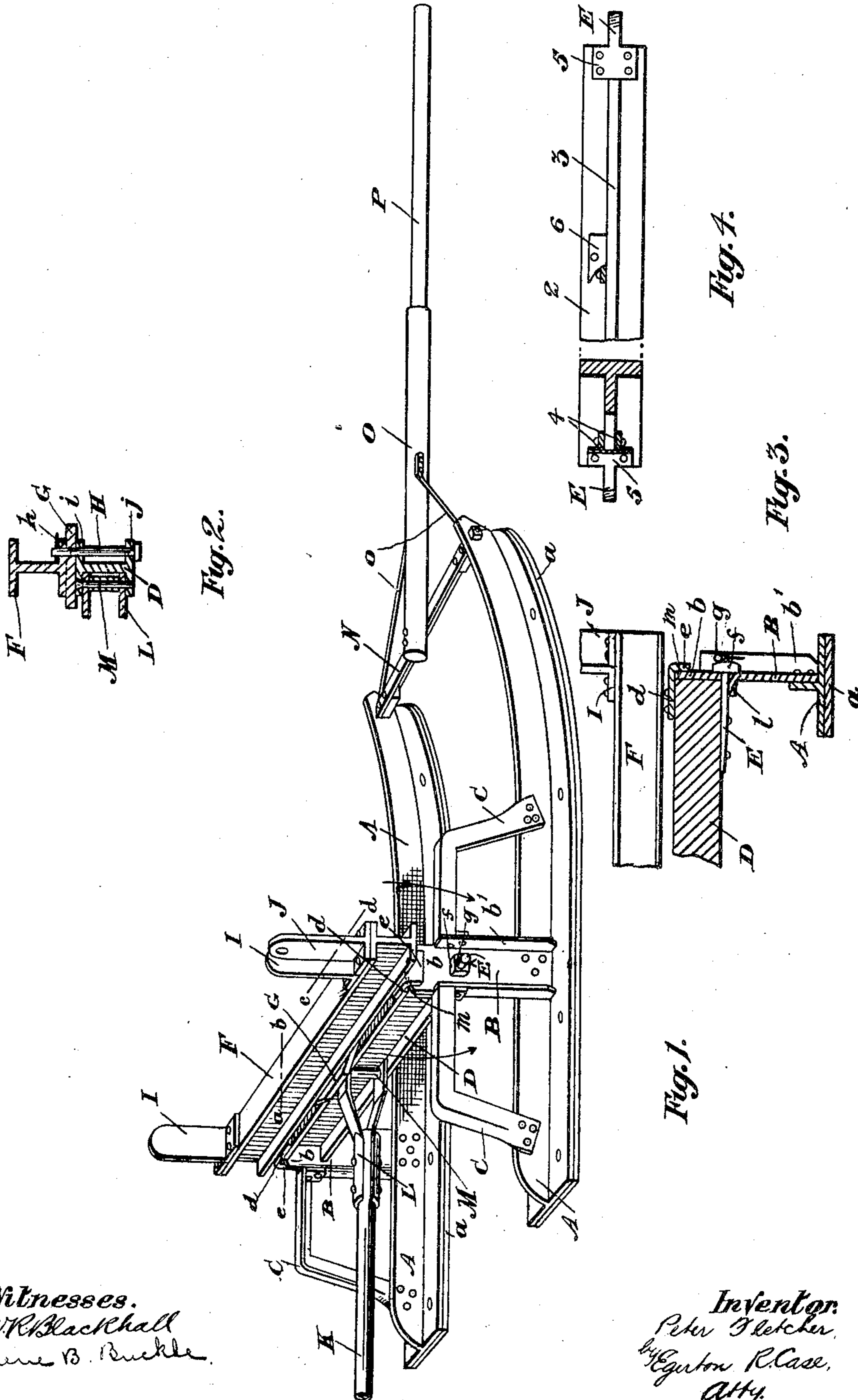
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PATENTED SEPT. 27, 1904.

P. FLETCHER.
SLEIGH.

APPLICATION FILED DEC. 9, 1903.

NO MODEL.



Witnesses.
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UNITED STATES PATENT OFFICE.

PETER FLETCHER, OF MIDLAND, CANADA.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 770,745, dated September 27, 1904.

Application filed December 9, 1903. Serial No. 184,479. (No model.)

To all whom it may concern:

Be it known that I, PETER FLETCHER, blacksmith, a subject of the King of Great Britain, residing in the town of Midland, in the county of Simcoe, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Sleighs, of which the following is a specification.

My invention relates to improvements in sleighs; and the objects of my invention are, first, to pivot the runners to the bench, so that they may oscillate independently of same; secondly, to manufacture each of the bobs out of steel and iron, so as to make them as strong and as durable as possible, and, thirdly, to equally divide the weight between the connections securing the runners to the benches; and it broadly consists of a bench constructed or provided with a stub-axle or strap-bolt having bearing in a knee secured to the runner.

There are other points of construction in my sleigh, and I will hereinafter particularly point out and claim same.

Figure 1 is a general perspective view of a bob constructed after my invention. Fig. 2 is a vertical cross-section on the line *a b*, Fig. 1. Fig. 3 is in part a vertical longitudinal section on the line *c d*, Fig. 1. Fig. 4 is a bottom plan view of an alternative form of bench, partly in section.

In the drawings like characters of reference indicate corresponding parts in each figure.

I have only shown one pair of bobs, as the other pair used therewith is a duplicate of the pair shown.

I construct my sleigh of iron and steel throughout; but I wish it distinctly understood that my invention is broad enough to include a sleigh made of wood or partly of wood that embodies my invention.

A represents the runners, which are constructed of T-beam steel or iron, as shown, and are provided with any suitable shoes *a*, suitably attached or secured thereto.

The knees B are constructed of channel-iron and are suitably secured at their lower ends to the runners A.

Secured at their upper ends to the knees B and at their lower ends to the runners A are

the raves C, which are constructed of angle-iron, as shown.

The preferred form of bench D is constructed of I-beam steel. Secured to or forming part of the bench D are strap-bolts or stub-axes E, which have bearing in the knees B. On the threaded ends of the strap-bolts I secure nuts *f* and key same in place by means of a cotter-pin or split pin *g*. I of course do not confine myself to any particular way of securing the strap-bolts in the knees. If desired, I may provide the knees with lengthened bearings *h* where the strap-bolts or stub-axes pass therethrough. From this description of my invention it will be understood that the runners will oscillate freely independent of the bench. I preferably attach the bench D to the knees, so that the weight of same and load carried thereby will not be entirely carried by the strap-bolts or stub-axes E. To that end I secure to the bench D, or form a part thereof, angle-pieces or lips *d*, the lower ends *e* of which are bent downward so as to overlap the top *b* of the knees B. As the angle-pieces or lips *d* rest upon the upper ends of the knees B it will be understood it will be necessary for me to form the upper ends of said knees semicircular, as shown at *m*, in order to permit of the free movement of the runners on the stub-axes or strap-bolts. As the angle-pieces or lips *d* rest upon the top of the knees B it will be understood that the weight carried by the bench will be equally divided between said angle-pieces or lips *d* and the strap-bolts or stub-axes E.

It will be noticed that the flanges *b'* of the knees B are cut away at their upper ends, so as to allow free movement of the upper end *b* of the knees B. By removing the flanges *b'*, as just described, it will be understood that the runners will be free to oscillate on the strap-bolts or stub-axes E.

I do not confine myself to using the angle-pieces or lips *d*, as I may construct the stub-axes or strap-bolts E stout enough to carry the entire load without any difficulty. I preferably use same, however, as I am enabled to lighten different parts of my sleigh and also to divide the load between same and the strap-

bolts or stub-axles E, thus preventing undue weight on said stub-axles or strap-bolts E.

The bolster F is preferably constructed of I-beam steel and is provided at its center with a reinforcing-plate G (which may be secured thereto or formed a part thereof) of sufficient thickness to insure the bottom of said bolster moving free of the angle-pieces or lips *d* when I use same. The king-bolt H passes through the bottom flange *h* of said bolster and down through the flanges *i* and *j* of the bench. The stakes or standards I are riveted to the bolster and are provided with corner-pieces J, constructed of angle-steel, also riveted to said bolster. It will of course be understood that I do not confine myself to using this construction of stakes or standards, as it will be understood that when a sleigh is designed for work in the bush the bolsters will be provided with the usual clevises.

I may use any suitable reach-coupling for securing the bobs of the sleigh together. In the construction shown in the drawings the reach-coupling K is made of piping and is secured by any suitable coupling L to the bench D by means of the reach-bolt M, held in said bench. The roller N is constructed of angle-iron and is held in the runners A in the usual manner, so as to allow of a certain amount of play, so that the said runners may freely oscillate. When I use the reach-coupling K, it will be understood that I secure same to the back bob by a roller similar to that just described.

The tongue is constructed of piping and consists of the back piece O, which is suitably bolted to the roller N, and the front piece P, which fits within the back piece O.

o represents any suitable braces by means of which the tongue is braced to the runners.

I have described my preferred form of bench; but it must be understood that I do not confine myself to using I-beam steel. Upon referring to Fig. 4 it will be seen I have shown an alternative form of bench. This bench 2 is constructed of T-beam steel. Secured to or forming part of the web 3 of same I provide suitable angle pieces or blocks 4, to which the stub-axles or strap-bolts E may be bolted. It will be noticed that the inner portions 5 of said stub-axles or strap-bolts are made flat, so that they may be suitably secured to the said flanges. 6 is an angle piece or block suitably secured to the web 3 to provide a lower bearing for the reach-bolt M.

Although I have described and shown the bolster as being constructed of I-beam steel, it will be understood that I may construct same of T-beam steel.

I of course do not confine myself to the construction shown and described for securing the tongue to the runners.

In constructing my sleighs for very heavy work I will use the I-beam steel for the bench

and bolsters, and for light delivery-sleighs these parts will be constructed of the T-beam steel.

I hereby claim that I may make changes in the construction of my bobs without departing from the spirit of my invention.

What I claim as my invention is—

1. In a sleigh, the combination with a bench; its strap-bolt or stub-axle, and a metal lip extending from the upper side of said bench, of a runner constructed of T-beam metal; a metal knee secured to said runner and extending upward adjacent the ends of said bench, the upper end of said knee being constructed semicircular; the said metal lip resting thereon; the said strap-bolt or stub-axle having bearing in said metal knee, and braces or raves bracing said knee to said runner.

2. In a sleigh, the combination with the bench constructed of I-beam steel; its strap-bolt or stub-axle, and a metal lip extending from the upper side of said bench, of a runner constructed of T-beam metal; a metal knee secured to said runner and extending upward adjacent the ends of said bench, the upper end of said knee being constructed semicircular; the said metal lip resting thereon, the said strap-bolt or stub-axle having bearing in said metal knee, and braces or raves bracing said knee to said runner.

3. In a sleigh, the combination with the bench constructed of I-beam steel; its strap-bolt or stub-axle, and a metal lip extending from the upper side of said bench, of a runner constructed of T-beam steel; a metal knee secured to said runner and extending upward adjacent the ends of said bench, the upper end of said knee being constructed semicircular; the said metal lip resting thereon, the said strap-bolt or stub-axle having bearing in said metal knee, and braces or raves, constructed of angle-iron, secured at their upper ends to said knee and at their lower ends to said runner.

4. In a sleigh, the combination with the bench constructed of I-beam steel; its strap-bolt or stub-axle, and a metal lip extending from the upper side of said bench and having its end bent downward, of a runner constructed of T-beam steel; a knee, constructed of channel-iron, secured to said runner and extending upward adjacent the ends of said bench, the upper end of said knee being constructed semicircular; the said metal lip resting thereon; the angle-pieces of said knee being cut away for a certain distance near its upper end, so as to allow free movement of the knee, the turned-down end of said lip overlapping the top of said knee; the said strap-bolt or stub-axle having bearing in said knee, and braces or raves, constructed of angle-iron, secured at their upper ends to said knee and at their lower ends to said runner.

5. In a sleigh, the combination with the bench constructed of I-beam steel; its strap-

bolt or stub-axle, and a metal lip extending from the upper side of said bench and having its end bent downward, of a runner constructed of T-beam steel; a knee, constructed of channel-iron, secured to said runner and extending upward adjacent the ends of said bench, the upper end of said knee being constructed semicircular; the said metal lip resting thereon, the angle-pieces of said knee being cut away for a certain distance near its upper end so as to allow free movement of the knee, the turned-down end of said lip overlapping the top of said knee; the said strap-bolt or stub-axle having bearing in said knee; braces or raves, constructed of angle-iron, secured at their upper ends to said knee and at their lower ends to said runner; a metal bolster provided with a reinforcement near its center so that said bolster will move clear of the ends of said bench, and a king-bolt passing down through said reinforcement of said bolster and the flanges *i* and *j* of said bench.

6. In a sleigh, the combination with the bench, constructed of I-beam steel, of the bolster constructed of I-beam steel, and the king-bolt passing down through the lower flange of said bolster and the flanges *i* and *j* of said bench.

7. A member for sleighs, comprising a runner made of T-beam steel; a knee constructed of channel-iron, secured to said runner at its lower end, the upper end of said knee being constructed semicircular; the angle-pieces of said knee being cut away for a suitable distance near its upper end, and braces or raves, constructed of angle-iron, secured at their upper ends to said knee and at their lower ends to said runner.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER FLETCHER.

Witnesses:

DUNCAN S. STREY.
T. W. GRANT.