(No Model.)

P. FRITZ.

SLEIGH.

No. 347,787. Patented Aug. 24, 1886.

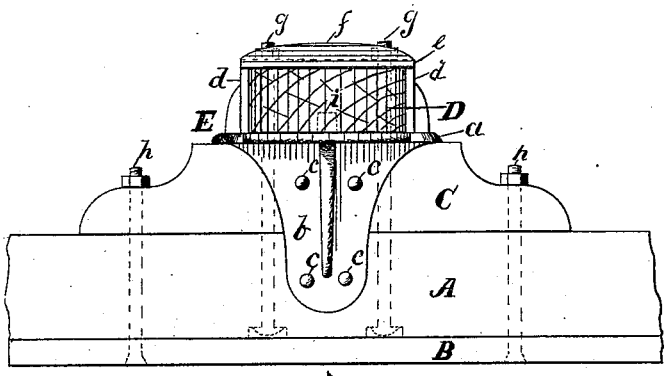

Fig. 1.

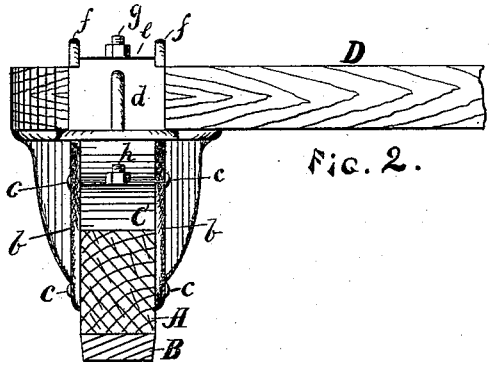

Fig. 2.

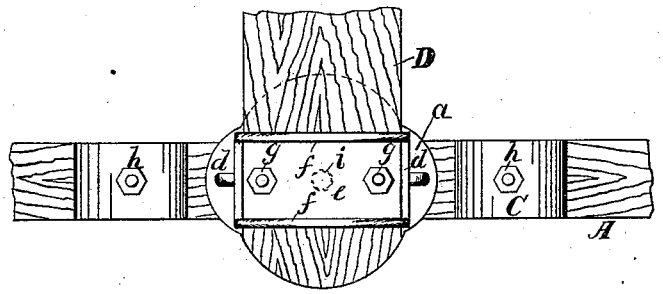

Fig. 3.

Witnesses
Sarah A. Moulton
B. D. Jackson

Inventor
Philip Fritz
By his Attorney
Luther V. Moulton,

UNITED STATES PATENT OFFICE.

PHILIP FRITZ, OF GRAND RAPIDS, MICHIGAN.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 347,787, dated August 24, 1886.

Application filed June 3, 1886. Serial No. 204,090. (No model.)

To all whom it may concern:

Be it known that I, PHILIP FRITZ, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Improvement in Sleighs, of which the following is a specification.

My invention relates to that class of sleighs having a single beam attached to runners at either end; and it consists in an improved device for attaching the same, as will more fully appear in what follows.

Heretofore it has been usual to attach the beams to the runners by means of pins or bolts only, or by means of some form of knees in conjunction with the same. In either case there is liability of splitting the runner or of bending or breaking the pins, and some forms of knees are quite expensive, if sufficiently secured to be durable.

The object of my invention is to make a cheap and durable attachment for securing the beams to the runners that will not split the beams or runners or get out of order or break by use. I accomplish these results by the device shown in the accompanying drawings, in which—

Figure 1 is an elevation showing the end of a beam and a portion of a runner secured to each other by my method; Fig. 2, an elevation of the same shown at right angles to Fig. 1, and Fig. 3 a plan of the same device.

Like letters refer to like parts in all the figures.

A is the runner; B, the shoe; C, a block to raise the beam a suitable distance from the ground.

D is the beam; E, a casting for securing the beam to the runner, which consists of a bed-plate, *a*, of suitable form, inserted between the beam and block, having attached to its under side the flanges *b b*, the inner surfaces of which are parallel to and at a suitable distance from each other to embrace the block and runner. Through these flanges and the block and runner are the rivets *c c c c*. From the upper surface of the plate *a*, and at right angles to the flanges *b b*, project two other flanges, *d d*, between which is embraced the beam. Upon the top of the beam rests the cap *e*, having ribs at either side to strengthen it, and also to protect the ends of the bolts *g g*, which bolts pass through the cap, beam, block, and runner, as shown by the dotted lines. Two other bolts, *h h*, pass through the block, runner, and shoe, as shown. From the upper side of *a* projects a stud or pin, *i*, which enters a hole in the under side of the beam and serves to take a portion of the strain off the other parts.

By employing the form of casting shown I secure a very strong fastening with but little material. The flanges *b b* and rivets *c c c c* serve to rigidly secure the runner to the plate *a*, relieving the bolts *g g* from lateral strain, which enables me to use smaller bolts. Said flanges and rivets also prevent splitting of the runner or block. The flanges *d d* serve to prevent any horizontal twisting or turning of the beam upon the plate, and also prevent any splitting of the beam by the bolts *g g*, which are also thus relieved of any transverse strain, the general result being a very strong and durable fastening between the beam and runner of the sleigh at small expense.

I am aware that in sleighs knees have been used having flanges to engage with the beams and runners. I do not claim these, broadly.

What I claim and wish to secure is as follows:

1. In a sleigh, in combination with the beam and runner, a block between said beam and runner, a plate between said beam and block having flanges on its under side to inclose and secure said block and runner to said plate and to each other, substantially as described.

2. In a sleigh, in combination with the beam and runner, a plate provided with means of securing the runner to its under side and having flanges on its upper side to inclose and secure the beam, and a pin, *i*, substantially as described.

3. In a sleigh, in combination with the beam and a runner having a block, C, a plate having flanges on its under side to secure said block and runner to said plate, and also flanges and a pin on its upper side to secure the beam to said plate, substantially as described.

4. In a sleigh, the combination of a plate

having flanges to embrace and secure the beam and runner, the rivets *c c c c*, and bolts *g g*, substantially as described.

5. In a sleigh, in combination with the beam D, the runner A, and the block C, the plate *a*, having the flanges *b b* and *d d*, and the rivets *c c c c*, the bolts *g g*, and the cap *e*, substantially as described.

6. In a sleigh, in combination with a beam and runner secured by bolts *g*, a cap, *e*, having flanges *f f*, substantially as described.

PHILIP FRITZ.

Witnesses:
L. V. MOULTON,
SARAH A. MOULTON.