P. FILMAN.

Metallic Sleigh-Knee.

No. 198,591. Patented Dec. 25, 1877.

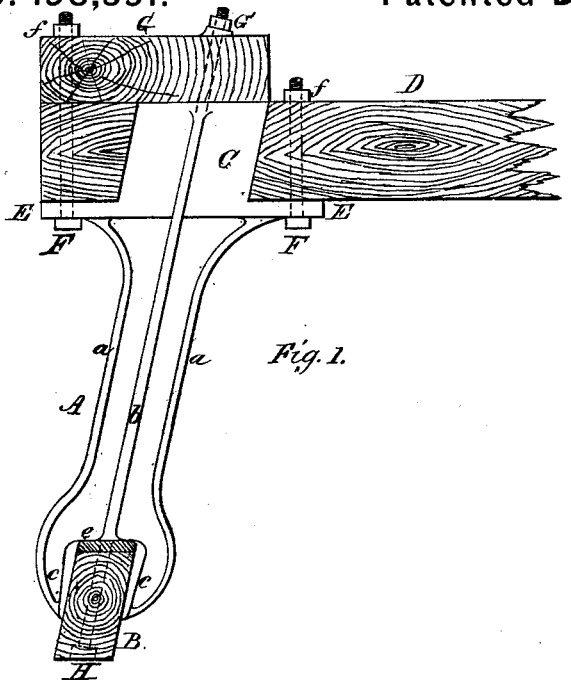

Fig. 1.

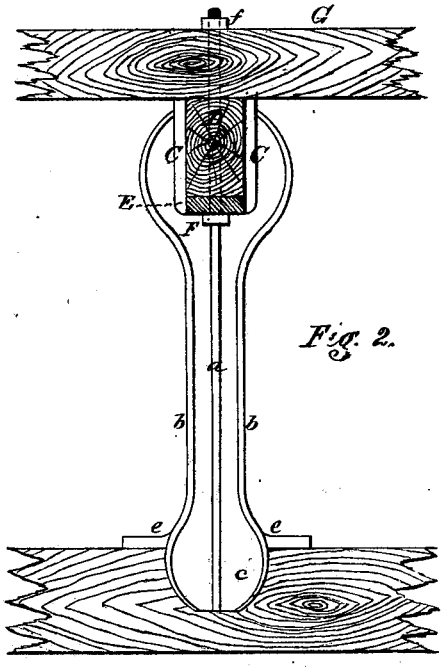

Fig. 2.

Witnesses

W. R. Crockett

C. McCullough

Inventor.

Peter Filman.

By Wm. Bruce

His Att'y.

UNITED STATES PATENT OFFICE.

PETER FILMAN, OF BARTON TOWNSHIP, WENTWORTH COUNTY, ONTARIO, CANADA.

IMPROVEMENT IN METALLIC SLEIGH-KNEES.

Specification forming part of Letters Patent No. **198,591**, dated December 25, 1877; application filed March 23, 1877.

To all whom it may concern:

Be it known that I, PETER FILMAN, of the township of Barton, in the county of Wentworth, in the Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Sleigh-Knees; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

The invention relates to a sleigh-knee of cast-iron, constructed at the bottom with projecting lugs, which clasp the runners on all sides. The top of the knee is also constructed with lugs, which clasp the bench, and secured to the same by means of bolts and nuts. A rod also passes up through the runner and the whole length of the knee, bench, and rave, and secured by a nut. The sides of the knee are also strengthened by projecting ribs. The whole construction forms a durable and economical device for all kinds of sleighs and cutters.

Reference being had to the accompanying drawing, forming part of this specification, it will be seen that Figure 1 represents a rear view of the knee, with section of bench and rave. Fig. 2 represents a side view of the same.

A is the knee, of cast-iron, malleable or otherwise. It is strengthened with two ribs, *a a*, one on each side, and two ribs, *b b*, on the opposite sides, respectively. Its upper portion is constructed with two projections, C C, which form a socket or bed for the reception of the bench D, and its lower end terminates in two projections, *c c*, which clasp the sleigh-runner B. The walls of the lower socket are braced laterally on the outside by extensions of the ribs *a*, which project vertically across said walls, and the upper-socket walls are directly braced by upward extensions of the ribs *b*. There are also two projections, E E, near the upper part, one projecting inward and the other outward, which forms a solid bed for the bench D, and each projection is provided with a bolt-hole, through which the bolts F F pass, being secured by the nuts *f f*.

e e are horizontal projections of the knee, which are for the purpose of pressing on the top of the runner, and serve to steady and brace the knee and greatly strengthen it.

The knee is cast with a hole longitudinally through its center, to admit a rod, H, which passes upward through the runner, knee, bench, and rave, and secured by a nut, G.

It will be seen by this arrangement that the runner, knee, bench, and rave are all firmly secured together, so as to possess the greatest strength with the least complication; and the advantages arising from the knee constructed as described are, the parts can be taken apart easily for repairs or otherwise, and quickly put together again by an unskilled hand; there are no mortises cut in the parts to weaken them.

The number of knees will be in proportion to the size of the sleigh, for instance, a common farm-sleigh will have about three on each side, bob-sleighs will have two on each side, and cutters three on each side. For the latter the knees will be made longer than the pattern shown, but substantially the same.

Sleigh-knees have heretofore been made of cast-iron, and with top-bar and inner sockets, and the knee has been strengthened by ribs which terminate against the bottom wall of the top-bar socket and top wall of the inner socket, bracing said walls against vertical strain; and I do not claim, broadly, a socketed metal sleigh-knee braced by ribs formed thereon; but,

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

The sleigh-knee A, formed with vertical projections C C, forming the walls of a top-bar socket, and braced laterally on their outsides by extensions of the ribs *b b*, and with downward projections *c c*, forming the walls of a runner-socket, and braced laterally on their outsides by extensions of ribs *a a*, substantially as set forth.

Dated at Hamilton, Ontario, this 13th day of February, A. D. 1877.

PETER FILMAN.

In presence of—

WM. BRUCE,

R. A. PRINGLE.