E. SUMNER & H. M SMALL.

Sleighs.

No. 154,353. Patented Aug. 25, 1874.

Fig. 1.

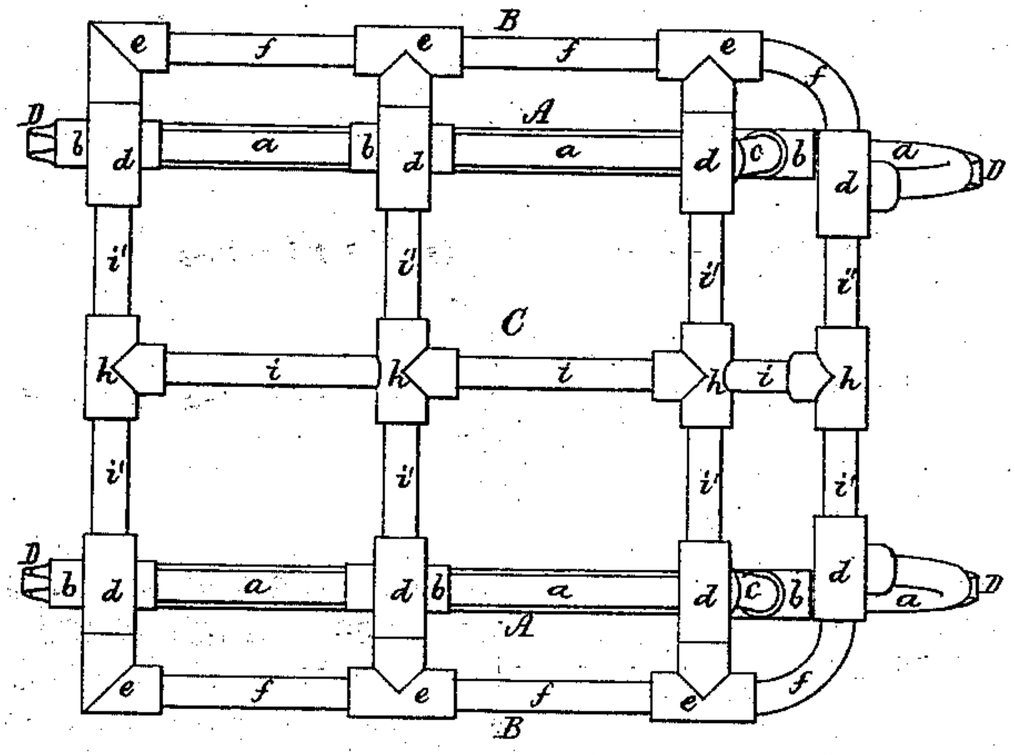

Fig 2.

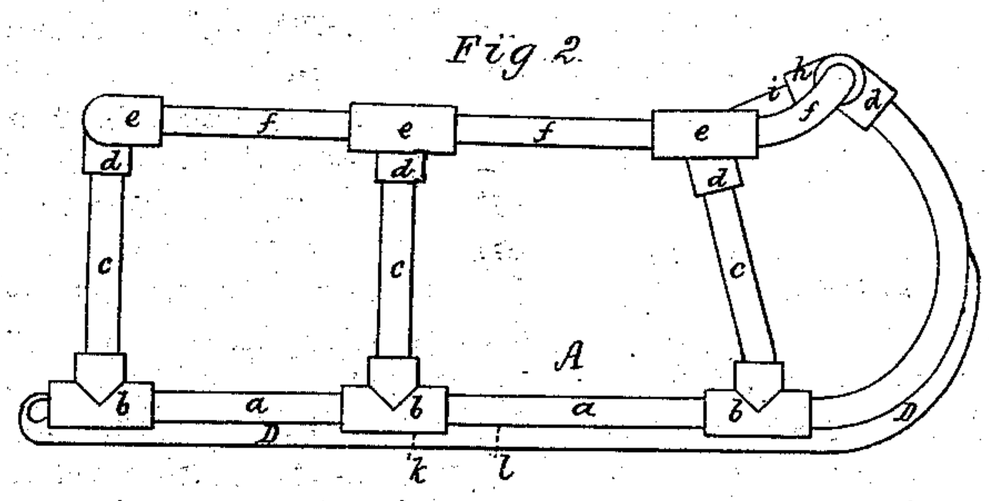

Fig. 3.

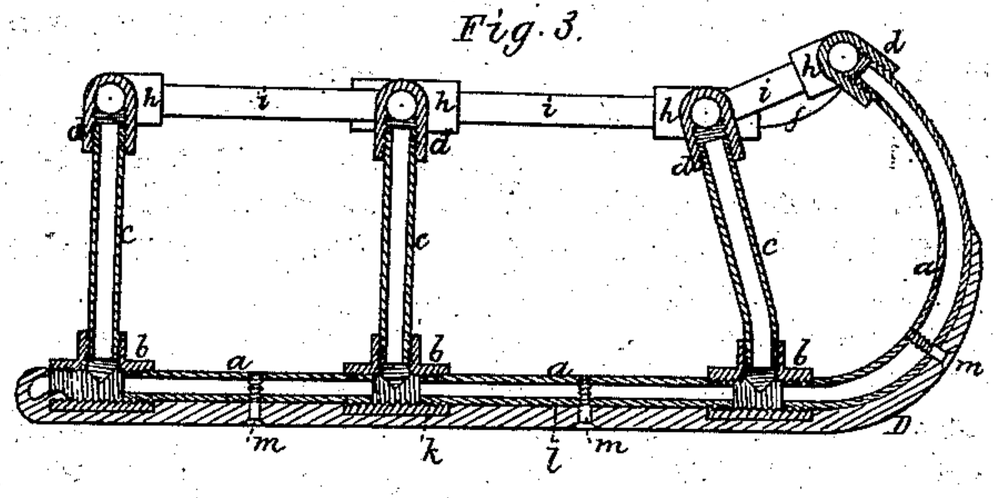

Fig. 4.

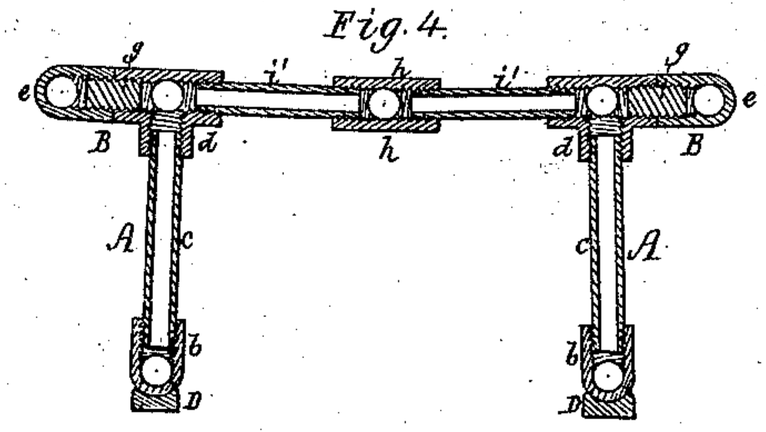

Fig. 5.

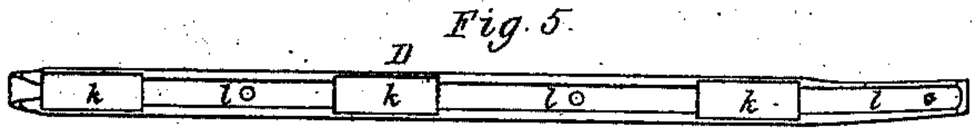

Fig. 6.

Witnesses.
S. N. Pipe.
J. R. Snow.

Edwin Sumner
Herbert N. Small
by their attorney.
R. H. Eddy

UNITED STATES PATENT OFFICE.

EDWIN SUMNER AND HERBERT M. SMALL, OF WALTHAM, MASSACHUSETTS.

IMPROVEMENT IN SLEIGHS.

Specification forming part of Letters Patent No. **154,353**, dated August 25, 1874; application filed July 7, 1874.

To all whom it may concern:

Be it known that we, EDWIN SUMNER and HERBERT M. SMALL, of Waltham, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Sleighs or Runners therefor; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, Fig. 3 a longitudinal sectional section, and Fig. 4 a transverse section, of a sledge or set of runners therefor made in accordance with our invention, by which we dispense with the usual cap-bars of the runners, and compose of metallic tubes and joint-connections a light and very strong set of runners, connected together and provided with guards.

In the drawings, each runner A is composed of a series of longitudinal tubes, *a a a*, a series of joint-connections, *b b b*, a series of upright tubes, *c c c*, and another series of joint-connections, *d d d*, all being formed, arranged, and connected by securing the tubes into the joint-connections, as represented. Arranged outside of each runner is a guard, B, composed of a series of joint-connections, *e e e*, and tubes *f f f*, secured together, and arranged as shown, each guard being connected to its runner by the screws *g*, connecting their joint-connections. The two runners are connected together by a multi-armed cross, C, composed of a series of joint-connections, *h h h h*, and tubes *i i'* screwed into them longitudinally and laterally, as shown; the lateral tubes *i'* screwed also into the upper joint-connections of the runners. The whole, when together, forms a very stiff, durable, and light sledge. Each of the runners has applied to it a metallic shoe, D, which is grooved and socketed lengthwise on its upper surface, to receive and fit to the lower tubes and connection-pieces of the runner. A top view of one of the shoes is represented in Fig. 5, and a transverse section of it in Fig. 6, in which figures the sockets are shown at *k*, and the grooves at *l*. The grooves and sockets aid in keeping the shoe in place on the runner, both lengthwise and widthwise thereof. The shoe is fastened to the runners by bolts or rivets *m* going through them.

We claim—

1. The combination of runners A, guards B, and the intermediate connecting-cross C, all composed of links and joint-connections, and applied substantially as shown and described.

2. The shoes D, socketed and grooved, in combination with the runners A, composed of tubes and joints, connected longitudinally and laterally, all substantially as set forth.

EDWIN SUMNER.
HERBERT M. SMALL.

Witnesses:
R. H. EDDY,
S. N. PIPER.