

R. SUTTON.

Sleigh.

No. 24,415.

Patented June 14, 1859

Fig. 1.

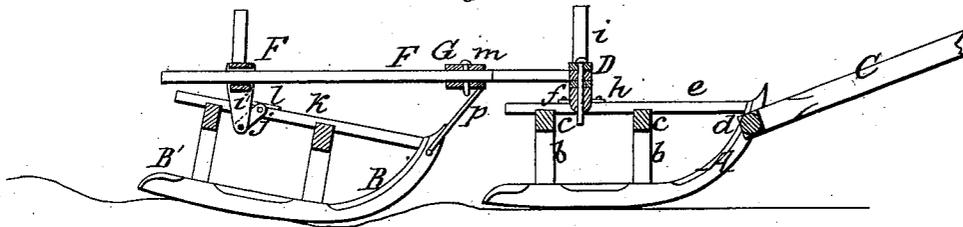
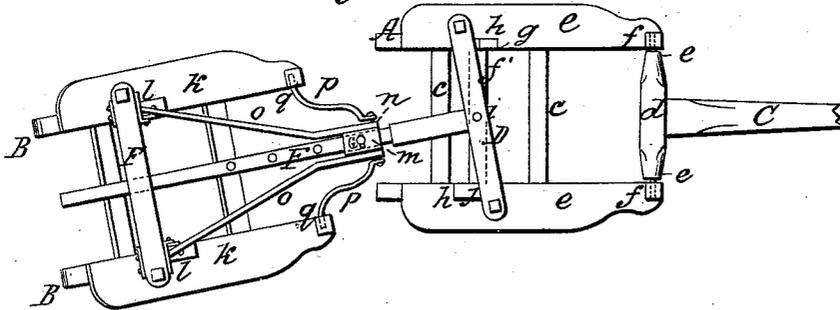


Fig. 2.



Witnesses.  
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R. SUTTON, OF EAST AVON, NEW YORK.

## RUNNING-GEAR OF SLEDS.

Specification of Letters Patent No. 24,415, dated June 14, 1859.

To all whom it may concern:

Be it known that I, R. SUTTON, of East Avon, in the county of Livingston and State of New York, have invented a new and useful Improvement in the construction of the Running-Gear of Sleighs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a longitudinal vertical and central section of my invention. Fig. 2, is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, A, represent the front and B, B, the back pair of runners of a sleigh. These runners are constructed in the usual way, the runners being attached to knees *b*, that are connected by cross-ties *c*, at their upper ends. The draft pole C, is attached to a cross bar *d*, the ends of which are provided with journals *e*, that fit in proper bearings *f*, attached to the front pair of runners A, the cross bar *d*, being allowed to turn freely in its bearings.

Near the back ends of the cap-pieces *e*, of the front runners A, A, a cross piece *f'*, is attached. This cross-piece *f'*, like the cross bar *d*, has journals *g*, that are fitted in bearings *h*, *h*, attached to the cap-pieces *e*, the journals *g*, being allowed to turn freely in their bearings.

D, is the front bolster which is attached by a bolt *i*, to the cross piece *s'*, said bolt passing through the centers of the bolster and cross piece and permitting the bolster to turn freely on the cross piece. To the center of the bolster D, the reach E, is attached. The greater portion of this reach is of cylindrical form and it passes loosely through the back bolster F, which has a pendant *i'*, attached to each end of it, the lower ends of said pendants being attached by links *j*, to the cap-pieces *h*, *h*, of the back runners, the links being pivoted to the pendants and having journals at their opposite

ends which are allowed to turn freely in their bearings *l*, *l*.

On the reach E, a collar G, is placed loosely. This collar is of metal and it is secured on the reach or prevented from sliding longitudinally thereon by a pin *m*, which passes through the reach and through oblong transverse slots *n*, *n*, in the collar, the collar being allowed to turn freely on the reach. The back bolster F, is braced at each end by a rod *o*, said rods being attached to opposite sides of the collar G, and the front ends of the back runners are connected by curved rods *p*, *p*, with the collar G, said rods being pivoted to the collar and having journals *q*, at their back ends which are fitted loosely in the back runners.

It will be seen from the above description that both pairs of runners are allowed to turn freely on account of the swivel reach obtained by the collar G, and its connection with the back pair of runners B, by the rods *o*, and it will also be seen that the front runners A, are allowed to work, swing or turn on the journals *g*, the front part of the runners being allowed to move in consequence of the draft pole C, being attached to them by means of the cross bar *d*. The back pair of runners are allowed to work or rock freely up and down in consequence of their connection with the bolster F, by the links *j*, which form double joints and insure a free and easy movement of the same. The sleigh runners therefore will readily conform to the inequalities of the ground, may be readily turned, and the device as a whole rendered extremely durable, and of light draft.

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

The arrangement and combination of the sliding collar G, rods (*o*), reach E, sliding bolster F, pendants (*i*), links (*j*), and runners B, as herein shown and described.

R. SUTTON.

Witnesses:

A. M. LAMB,  
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