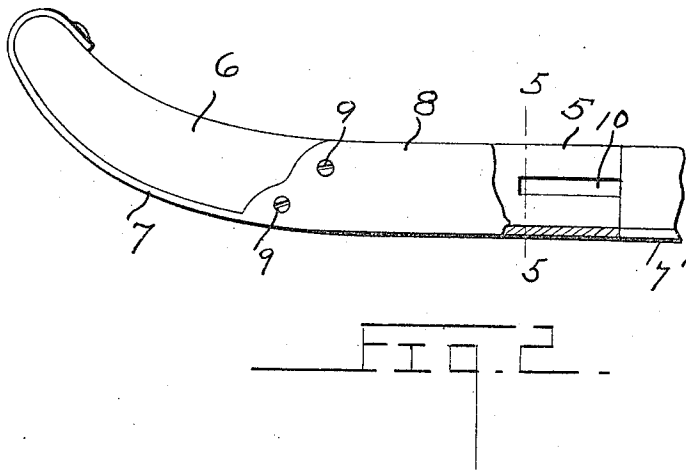
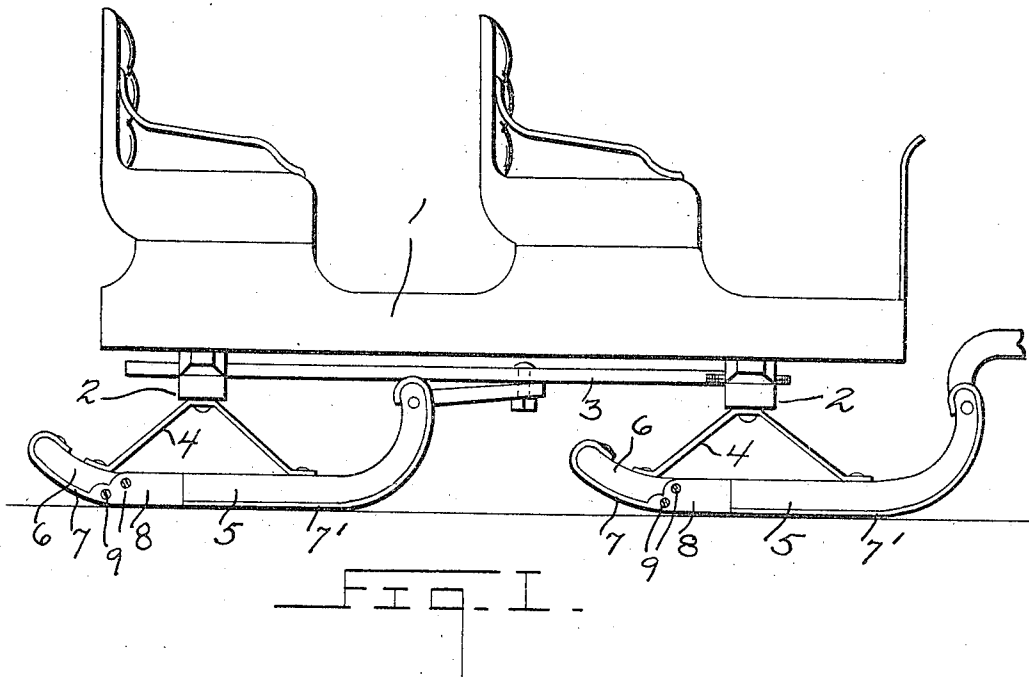


O. J. MENNENGA.
SLED.
APPLICATION FILED JUNE 23, 1909.

948,866.

Patented Feb. 8, 1910.

2 SHEETS—SHEET 1.



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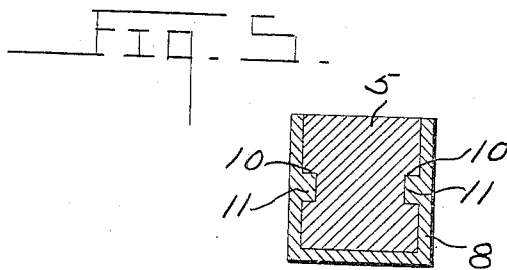
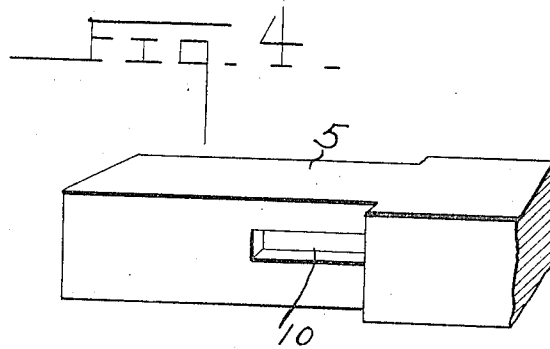
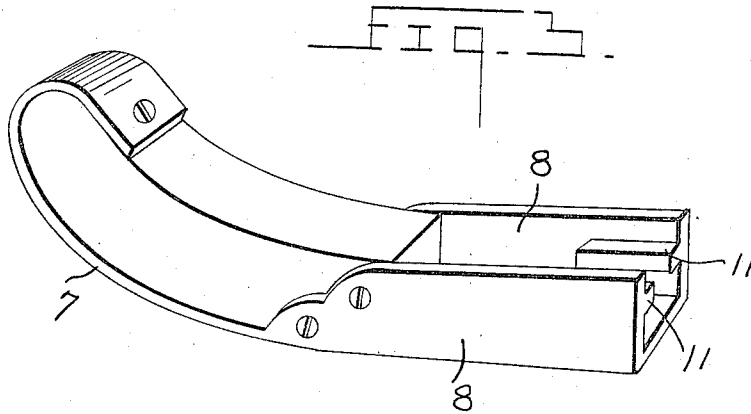
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UNITED STATES PATENT OFFICE

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SLED.

948,866.

Specification of Letters Patent.

Patented Feb. 8, 1910.

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To all whom it may concern:

Be it known that I, ONKO J. MENNENGA, a citizen of the United States, residing at Renville, in the county of Renville and State of Minnesota, have invented certain new and useful Improvements in Sleds, of which the following is a specification.

This invention relates to certain new and useful improvements in sleighs, and more particularly to means to be detachably secured in the rear ends of the sleigh runners, whereby the backing and easy operation of the sleigh will be greatly facilitated.

The primary object of my invention is to provide an upwardly curved extension, which may be readily attached or detached to or from the rear ends of the sleigh runners, whereby when two pair of sleigh runners are employed, as in the construction of the ordinary bob sled, there will be no danger of the two sections buckling on encountering an obstruction, thus obviating all danger of seriously damaging the supporting trucks.

A further object is to provide the runner attachment which may be instantly attached or detached to or from the ends of the sleigh runners, which will require no special construction of the runner.

A further object is to provide a runner extension which is of such construction that no securing bolts need be used for the attachment of the same to the ends of the sleigh runners, thus preserving all the original strength and rigidity thereof.

A still further object is to provide an improved construction of sleigh runner, whereby the same may be compactly arranged in large numbers for convenience in transportation.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the appended claims, it being understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a part of this

specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of a bob sled of the ordinary construction, showing my improved runner attachment thereon. Fig. 2 is an enlarged side elevation of one end of the sleigh runner, one of the side flanges of the attachment being partly broken away. Fig. 3 is an enlarged perspective view of the runner plate of the attachment. Fig. 4 is a similar view of the end of the sleigh runner with the attachment removed. Fig. 5 is a transverse section taken on the line 5—5 of Fig. 2.

Referring to the drawings, 1 indicates the sleigh body, which is supported upon the front and rear trucks 2. These trucks are connected by means of the ordinary reach bar 3. Sleigh knees 4 support the trucks and body upon the runners 5 of the sleigh. It will be understood, however, that my invention is applicable to sleighs of various other constructions than that above described. It may likewise be advantageously used upon children's sleds.

My improved runner extension comprises the body portion 6 and the runner or base plate 7. A similar plate 7' is likewise secured to the bottom of the runner proper, of which the member 6 forms a continuation. The plate 7 is bent around the outer end of the body of the extension 6, and is secured to the upper surface thereof as in the ordinary construction of sleigh runner. Vertical side flanges 8 are integrally formed upon the edges of the plate 7, and are secured to the body portion of the extension by means of suitable fastening screws 9. The major portion of the flanges 8 extend in advance of the forward end of the body portion of the extension and are adapted to receive the end of the runner 5 to which the attachment is to be detachably secured. The projecting portions of the flanges are somewhat resilient and normally tend to spring inward toward the longitudinal center of the runner. The rear ends of the runners 5 are reduced in thickness to receive the flanges 8. Thus the sides of the runners and the sides of the flanges present a smooth and unbroken surface.

In the side of the runner end, longitudinally extending recesses 10 are formed, and are adapted to receive the longitudinal ribs 11 formed upon the inner surfaces of the side flanges 8. These ribs extend but a short distance within the outer ends of the flanges, and when in position in the recesses 10, it will be obvious that as the flanges 8 are resilient, the ribs 11 will be securely held within the recesses against any possibility of accidental disengagement therefrom. The plate and flanges of the extension are preferably formed of heavy sheet, spring steel, so that the proper resiliency of the flanges 8 may be secured. It will be noted that the plate 7 and the attaching flanges 8 thereof are stamped from one piece of metal, thus greatly cheapening the manufacture of the attachment. When secured to the ends of the sleigh runners, any longitudinal or vertical movement of the extension is absolutely prevented by means of the ribs 11, as the flanges 8 are sufficiently heavy and of such resiliency that the ribs can only be released from the recesses 10 by the use of the proper tools. The extensions may, nevertheless, be very quickly attached and detached to or from the runners, as no securing bolts are necessary, and the disengagement of the ribs will require but little time and labor. By eliminating the use of bolts in the attachment of the extension, the runners are rendered extremely strong and rigid, which is an essential feature in the construction of sleighs.

From the drawings it will be noted that both ends of the sleigh runners are curved upwardly. The upward curvature of the forward ends of the runners is principally designed to enhance the attractive appearance of the sleigh. This curvature is much greater than that of the rear ends of the runners. By this construction the easy backing of the sleigh is greatly facilitated, and upon encountering an obstruction, the consequent buckling of the runner sections and derangement of the running gear, will be obviated. This is an ever menacing danger, in the use of bob sleds as at present constructed, as the obstructions in the roadway are invisible in the deep snow, and the vehicle is often seriously damaged upon attempting the backward movement of the same.

The great convenience of my improved runner attachment in the packing and shipping of sleighs will be readily seen, as the runners can be compactly massed, in two separate sections, the straight portions thereof being arranged together, and the end sections separately packed. The packing of the sleigh runners as at present constructed, is extremely awkward on account of the curved ends of the same, and require con-

siderable space when packed for transportation. By the use of my detachable extension this inconvenience is overcome, and when the sleighs have been disassembled and suitably packed for shipment, the runners and the extensions therefor may be packed in an extremely small space, and can be easily handled.

From the foregoing it will be seen I have provided an extremely simple construction of runner extension which will materially facilitate the backing of the sleigh, will greatly improve the appearance thereof, and is of great utility in the packing and transportation of the sleigh. It is, moreover, extremely strong and durable in its construction and may be quickly attached to or detached from the ends of the sleigh runners.

What is claimed is:

1. A sleigh runner comprising the runner proper having a runner plate secured to the bottom thereof, a rear extension having a runner plate extension secured thereto formed of sheet material, integral extensions formed at the forward end of said plate extension and turned upwardly, said plate extension extending forwardly of the first named extension and adapted for engagement around the rear portion of the runner proper, and means for detachably engaging said plate extension to the runner proper.

2. A sleigh runner comprising the runner proper having a runner plate secured to the bottom thereof, an upwardly curved end extension having a runner plate secured thereto, longitudinal flanges formed integral with said plate and terminating midway of its length, said flanges being secured to the body of the extension and extending in advance of the forward end thereof, and longitudinal ribs formed upon the opposed surfaces of said flanges and adapted to engage with the end of the runner for detachably securing said extension thereto.

3. A sleigh runner comprising the runner proper having a runner plate secured to the bottom thereof, an upwardly curved end extension having a runner plate secured thereto, side flanges integrally formed with said plate and extending in advance of the forward end of the extension, longitudinal ribs formed on the outer ends of said flanges, and recesses formed in the end of the runner and adapted to receive said ribs.

4. A sleigh runner comprising the runner proper having a runner plate secured to the bottom thereof, an upwardly curved end extension having a runner plate secured thereto, side flanges integrally formed with said base plate and countersunk in the forward end of the extension body, the major portion of said flanges and plate extending in advance thereof, the flanges being resilient,

longitudinal ribs integrally formed upon the inner surfaces of said flanges, and terminating in advance of the extension body, said flanges being countersunk in the end of the runner, and recesses longitudinally formed in the end of said runner adapted to receive said ribs.

In testimony whereof I affix my signature, in presence of two witnesses.

ONKO J. MENNENGA.

Witnesses:

WM. P. SHUPT,
L. MULDER.