Sept. 30, 1952 W. W. WELLER 2,611,979

SNOWPLOW SHOE

Filed Jan. 28, 1950

Fig. 1

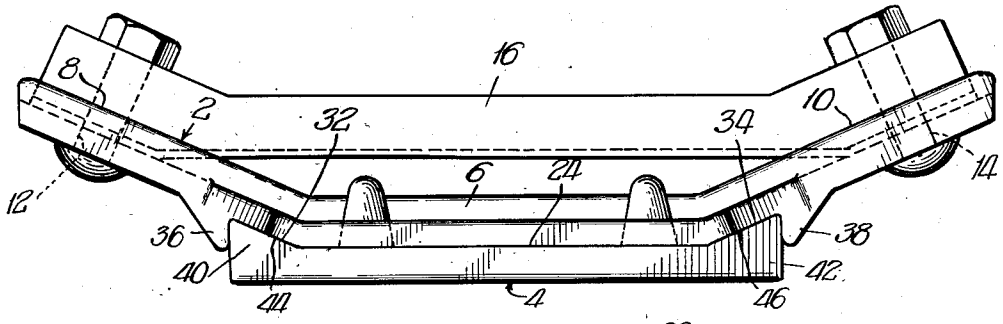


Fig. 2

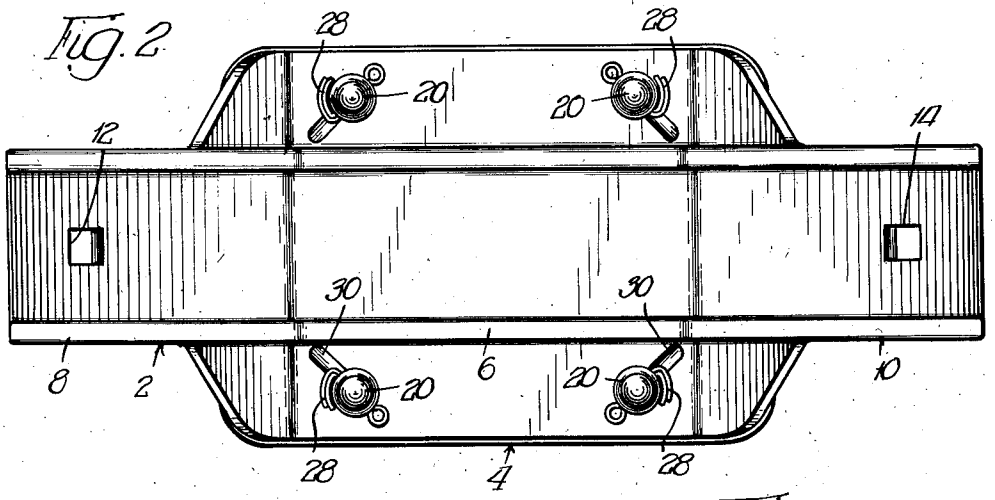


Fig. 3

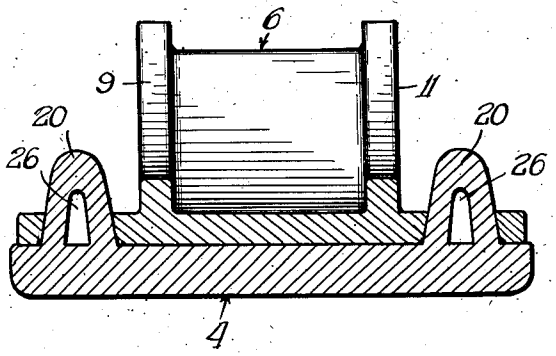
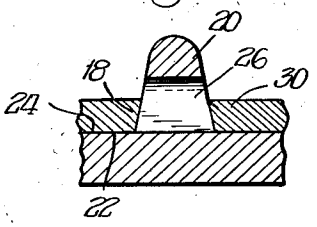


Fig. 4



INVENTOR.
Ward W. Weller,
BY
Wilkinson, Huxley, Byron & Hume
attys.

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SNOWPLOW SHOE

Ward W. Weller, Auburndale, Mass.

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5 Claims. (Cl. 37—41)

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The present invention relates to new and useful improvements in snow plows, and more particularly to snow plow shoe assemblies for use in supporting the blades or mold boards therefor.

Among the objects of the present invention is to provide a novel snow plow shoe assembly adapted to be readily connected to the snow plow frame and which is provided with a wear plate easily replaceable from time to time as occasion demands.

The present invention is characterized by the provision of a snow plow shoe assembly comprising a shoe and a plate which may be readily connected to or removed from the shoe and which shoe and plate have an interlocking wedging connection for holding the wear plate in assembled relation with the shoe.

Still another object of the present invention is to provide a snow plow shoe assembly having a readily replaceable wear plate assembled in wedging relation to the shoe or support therefor and having the further provision of cooperatively interengaging with the shoe to prevent undesirable displacement or movement of the wear plate with respect to the shoe or support.

The present invention further contemplates a snow plow shoe assembly which is simple in construction, strong, durable, and reliable in use, and which may be manufactured at a relatively low cost.

Other objects, features, capabilities and advantages are comprehended by the invention, as will later appear and as are inherently possessed thereby.

Referring to the drawings:

Figure 1 is a view in side elevation of a snow plow shoe assembly made in accordance with the present invention and showing in dotted lines the manner of attachment to the frame of a snow plow;

Figure 2 is a top plan view of the snow plow shoe assembly shown in Figure 1 of the drawings;

Figure 3 is an enlarged transverse cross-sectional view through the snow plow shoe assembly shown in Figures 1 and 2; and

Figure 4 is an enlarged fragmentary view in cross section of the snow plow shoe assembly, disclosing more in particular the connecting or interlocking means for holding the plate and shoe in assembled relation.

Referring now more in detail to the drawings, the snow plow shoe assembly embodying the novel features of the present invention is shown in Figures 1 and 2 as comprising a shoe or support 2 and a removable wear plate 4. The shoe 2 is formed with a central base portion 6 and the outwardly and upwardly extending arm portions 8 and 10, reinforced by the upstanding spaced ribs 9 and 11. The arm portions 8

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and 10 are provided with the openings 12 and 14, respectively, for connecting the shoe to the frame structure 16 for the snow plow, as by means of the bolts disclosed in the drawings, it being understood, however, that the invention contemplates any other form of attachment means such, for example, as a connection involving the welding of the shoe to the snow plow frame or support.

The snow plow frame structure 16 may be of the conventional type used for supporting one or more blades or mold boards constituting the working part or parts of the plow which are suitably mounted in front of, and operated by, any suitable prime mover, such as a motor vehicle or tractor for clearing rights of way such as roads, tracks, sidewalks, and the like. The shoe assembly herein disclosed is adapted to contact the ground or other supporting medium for the plow and its prime mover, and because of its sliding engagement with the said ground or other supporting medium, is subjected to considerable wear in the normal use of the vehicle and the snow plow attached thereto. Because of such wear, it has been found desirable to embody in the assembly herein disclosed a quickly detachable and replaceable wear plate which may be formed of wear resistant metal adapted for service over long periods of time, and to provide a connection or interlocking fitting between the wearplate and the shoe or supporting means for rigidly holding the plate and shoe in assembled relation, and to prevent longitudinal displacement between the two.

The present invention contemplates a connection involving an interlocking wedging relation between the wear plate and the shoe to hold the same in assembled relation and to prevent any appreciable movement between the shoe and plate which would cause excessive wear, whereby the shoe may be used over long periods of time before replacement becomes necessary.

The embodiment shown herein to illustrate the invention contemplates providing a plurality of openings or apertures 18 extending through the base portion 6 of the shoe, each of which is provided with tapered walls adapted to receive a lug 20 extending upwardly from the upper planar surface 22 located centrally of the wear plate 4. The lugs 20 are of tapered construction adapted to wedgingly engage or interlock with the tapered walls of the apertures 18 whereby the wear plate 4 may be drawn into tight engagement with the planar surface 22 in contact with the planar surface 24 forming the central and lower face of the shoe 2. Each of the lugs 20 is formed with a transverse opening 26 extending above the top surface of the base portion 6 adapted to receive a cotter pin 28 which extends therethrough in engaging relation with the top

surface of the shoe 6 and the upper end of the opening 26 to draw the shoe and wear plate together. To facilitate this operation and the bending of the cotter pin into interlocking relation with the lug and shoe, a groove 30 is formed in the upper face of the base portion 6 extending radially from the opening 18 and being formed with an upwardly curved portion at its base for deflecting the split end of the cotter pin upwardly when the same is inserted into its interlocking position with the lug and base portion.

The shoe 2 is further formed with planar surfaces 32 and 34 extending angularly and upwardly from the bottom face 24 of the base portion 6 and which terminate in the depending shoulders 36 and 38, respectively, extending transversely of the shoe on the under side of arm portions 8 and 10. The wear plate 4 is formed with upwardly extending end marginal portions 40 and 42 having the angularly and upwardly extending planar surfaces 44 and 46, respectively, engaging the surfaces 32 and 34 of the shoe. The upwardly extending end marginal portions of the wear plate dove-tail into the shoe in abutting relation with the shoulders 36 and 38, respectively, whereby the wear plate and shoe are interlocked in wedging relation at the ends of the wear plate to prevent relative longitudinal displacement of the wear plate and shoe during operation of the device.

From the above disclosure, it will be apparent that the assembly is characterized by the provision of a wear plate which may be readily replaced as occasion demands. Because of the novel structure incorporated in the assembly, the replacement of a wear plate which has become worn to such an extent as to make it ineffective for further use may be done quickly under the most adverse conditions, thus minimizing the time during which the snow plow is idle.

The assembly is further characterized by an interlocking connection between the wear plate and shoe which prevents the wear plate from becoming loose or displaced with respect to the shoe. By providing for a separate wear plate, the same may be formed of any desired wear resistant material, such as manganese steel, thus adapting the same for use over long periods of time under the most exacting conditions.

While I have herein described and upon the drawings shown an illustrative embodiment of the invention, it is to be understood that the invention is not limited thereto, but may comprehend other constructions, arrangements of parts, details and features without departing from the spirit of the invention.

It is claimed:

1. A snow plow shoe assembly comprising a shoe formed with a central base portion and outwardly and angularly disposed arm portions having means for securing the assembly to the frame of said plow, said base portion having a plurality of apertures provided with tapered walls, a wear plate for said shoe having tapered lugs received by said apertures and cooperating with said walls in wedging relation, and means interengaging said base portion and said lugs for holding said shoe and plate in assembled relation.

2. A snow plow shoe assembly comprising a shoe having means for securing the assembly to the frame of said plow, a wear plate for said shoe, said shoe and plate having interlocking lugs and apertures cooperating in wedging relation to provide a tight fit therebetween, means for holding said shoe and plate in assembled relation, and means providing a dove-tailed connection between the end of said plate and shoe to prevent longitudinal displacement therebetween.

3. A snow plow shoe assembly comprising a shoe formed with a central base portion and outwardly and angularly disposed arm portions having means for securing the assembly to the frame of said plow, said base portion having a plurality of apertures provided with tapered walls, a wear plate for said shoe having tapered lugs received by said apertures and cooperating with said walls in wedging relation, means interengaging said base portion and said lugs for holding said shoe and plate in assembled relation, and means providing a dove-tailed connection between the end of said plate and shoe to prevent longitudinal displacement therebetween.

4. A snow plow shoe assembly comprising a shoe formed with a central base portion and outwardly and angularly disposed arm portions having means for securing the assembly to the frame of said plow, said base portion having a plurality of apertures provided with tapered walls, said arm portions each having a depending transversely disposed shoulder spaced from said base portion, a wear plate for said shoe having tapered lugs received by said apertures and cooperating with said walls in wedging relation, and means interengaging said base portion and said lugs for holding said shoe and plate in assembled relation, said wear plate having upwardly extending marginal end portions adapted to cooperate with said shoulders to prevent longitudinal displacement between said shoe and plate.

5. A snow plow shoe assembly comprising a shoe formed with a central base portion and outwardly and angularly disposed arm portions having means for securing the assembly to the frame of said plow, said base portion having a plurality of apertures provided with tapered walls, said arm portions each having a depending transversely disposed shoulder spaced from said base portion, a wear plate for said shoe having upstanding tapered lugs received by said apertures and cooperating with said walls in wedging relation, said lugs being provided with transverse openings extending above the upper surface of said base portion, and means extending through said openings and cooperating with said base portions and lugs for holding said shoe and plate in assembled relation, said wear plate having upwardly extending marginal end portions adapted to cooperate with said shoulders to prevent longitudinal displacement between said shoe and plate.

WARD W. WELLER.

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