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DRIVEWAY SNOW PLOW

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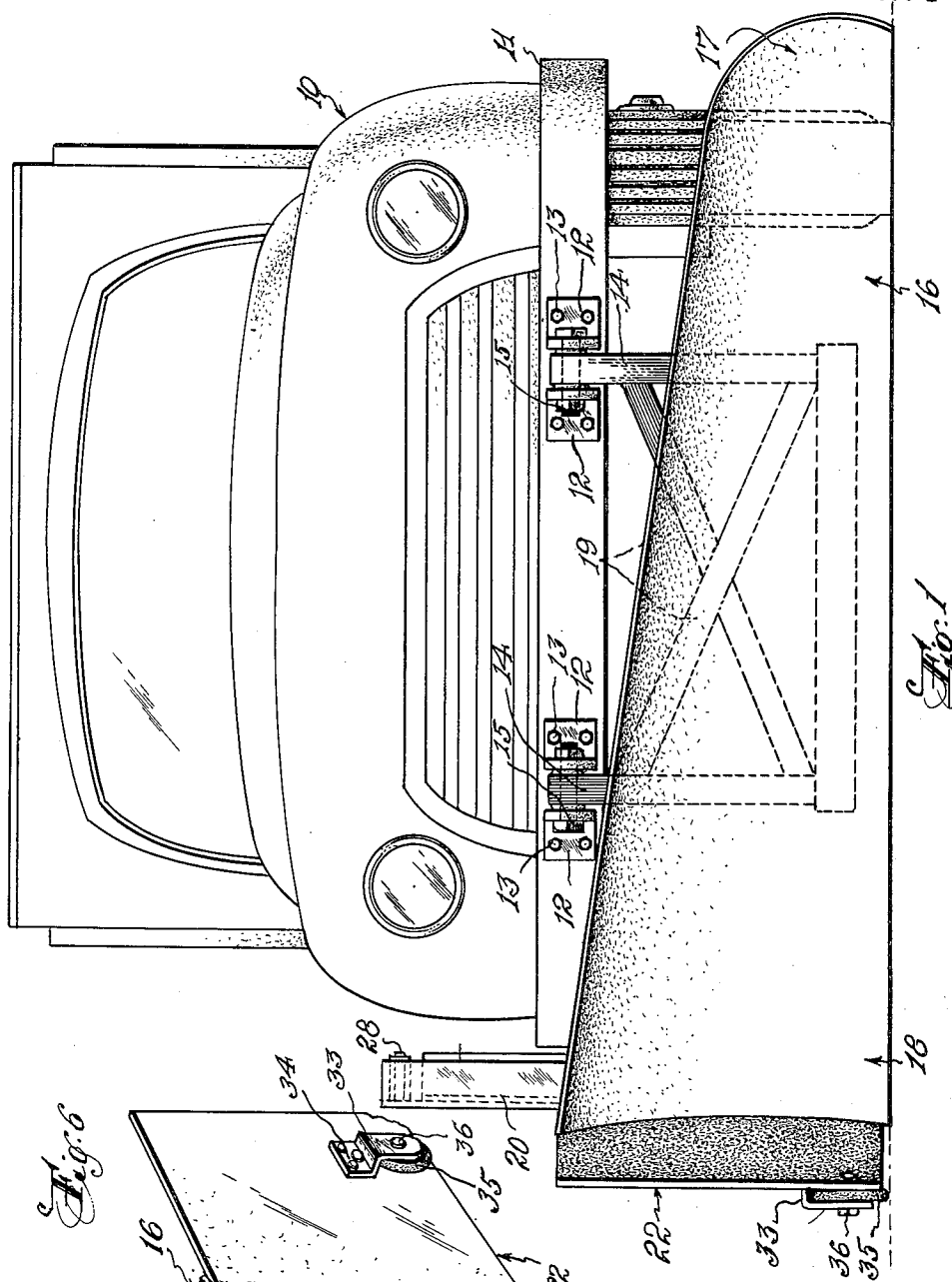


Fig. 1

Fig. 6

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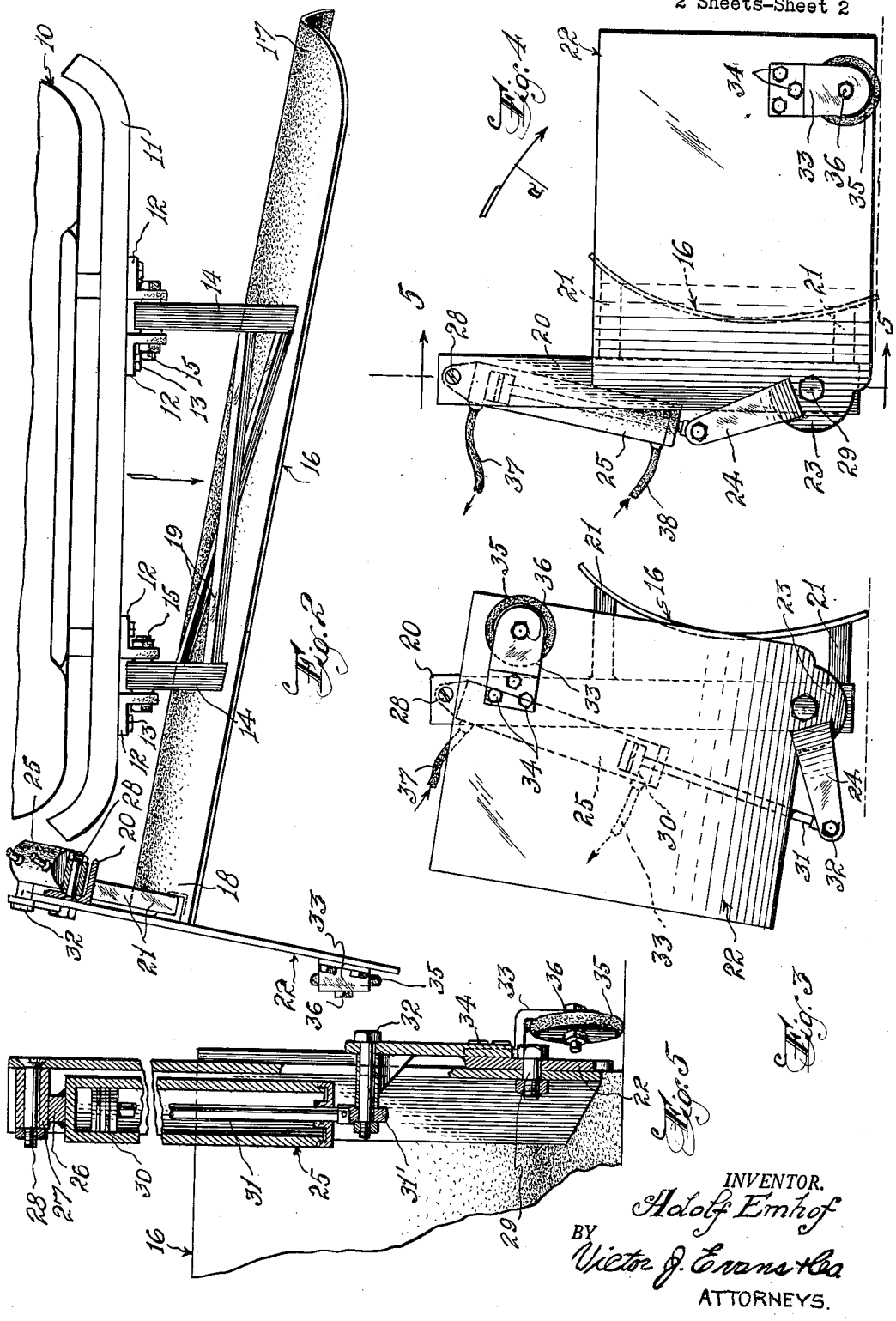


Fig. 2

Fig. 4

Fig. 3

Fig. 5

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DRIVEWAY SNOW PLOW

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This invention relates to a machine for use in dislodging or moving material such as snow, and more particularly to such a machine which is provided with a check off blade as well as a main plow blade so that for example when snow is being cleared from streets, highways or the like, the check off blade can be lowered in order to prevent particular areas such as street intersections from being blocked off by the snow being pushed out of the streets.

The primary object of this invention is to provide a snow plow which includes a main plow blade as well as a check off blade that can be positioned in a raised or lowered position with respect to the plow blade so that with the present invention the formation of a bank of snow across streets, road beds, driveways, or the like which intersect the street or other area being plowed can be eliminated.

A further object is to provide a snow plow of the type which includes a vertically movable or adjustable check off blade that can be readily adjusted as for example by means of a hydraulic control mechanism, so that when the check off blade is not being used it can be positioned in a raised location, and wherein when the check off blade is to be used for preventing blockage of a street or driveway or the like, the check off blade can be readily moved to a lowered position, and wherein the check off blade is provided with a safety wheel for helping to maintain the check off blade in its proper position when it is in lowered operative relation with respect to the main plow blade.

Still another object is to provide such a snow plow that is economical to manufacture and efficient in operation and which is rugged in structure and foolproof in use.

These and other objects of the invention will become apparent from a reading of the following specification and claims, together with the accompanying drawings, wherein like parts are referred to and indicated by like reference characters and wherein:

FIGURE 1 is a front elevational view illustrating the snow plow of the present invention and showing the check off blade in lowered position with respect to the plow blade.

FIGURE 2 is a top plan view showing the parts in the position of FIGURE 1, and with parts broken away.

FIGURE 3 is a side elevational view showing the check off blade in raised position.

FIGURE 4 is a view similar to FIGURE 3 but showing the check off blade in a lowered position.

FIGURE 5 is a sectional view taken on the line 5—5 of FIGURE 4.

FIGURE 6 is a fragmentary perspective view showing the check off blade in lowered position.

Referring in detail to the drawings, the numeral 10 indicates a movable support member which may be a conventional truck, as for example as shown in FIGURE 1, and the member 10 is provided with the usual front bumper 11. Pairs of spaced apart L-shaped lugs 12 are adapted to be secured to the bumper 11 as for example by means of securing elements 13, and a pair of beams 14 have their upper ends pivotally connected between the pairs of lugs 12 by means of pins or securing elements 15.

The numeral 16 indicates a main plow blade which is adapted to be secured to the beams 14 in any suitable manner, as for example by welding and as shown in the

drawings the plow blade 16 is arranged at an angle with respect to the front of the vehicle 10, so that the end portion 18 is closer to the vehicle than the end portion of the blade as indicated by the numeral 17, FIGURE 2. The numerals 19 indicate braces which are arranged in crisscross relation with respect to each other and these braces 19 may be secured to the beams 14 and to the rear of the plow blade 16 so as to help maintain these parts in their proper position.

The numeral 20 indicates a vertically disposed post which is spaced rearwardly behind the end portion 18 of the plow blade 16, and the post 20 is secured in place by means of bars or braces 21 which extend between the blade 16 and the post 20 and these bars 21 may be affixed to the plow blade and post as for example by means of welding.

The numeral 22 indicates a check off blade which is pivotally or hingedly connected to the lower portion of the post 20 by means of a pivot pin 29. The check off blade 22 is provided with an enlarged shoulder 23, and the numeral 24 indicates a link which is secured as by welding to the shoulder 23, FIGURE 3.

As shown in the drawings a hydraulic cylinder 25 is arranged adjacent the post 20, and the cylinder 25 is connected to a bushing 27 by means of a supporting section 26, and the bushing 27 is swivelly or hingedly mounted on a pin or securing element 28, the securing element 28 being affixed to the upper end of the post 20. The numeral 30 indicates a plunger or piston which is movably mounted in the cylinder 25, and a piston rod 31 is suitably affixed to the piston 30, the lower end of the piston rod 31 being provided with a portion 31' which is pivotally connected as at 32 to the link 24.

The numeral 33 indicates a bracket which is affixed as at 34 to the check off blade 22, and a safety wheel 35 is journaled to the bracket 33 as for example by means of an axle or pin 36.

The numerals 37 and 38 indicate conduits or hoses which are connected to the upper and lower ends of the cylinder 25 whereby an actuating medium such as hydraulic fluid can be introduced into the cylinder or removed from the cylinder and these conduits may be connected to a reservoir or supply tank, pump or the like.

With the parts arranged as shown in the drawings, it will be seen that normally the check off blade 22 is adapted to be positioned in an elevated or raised position, as for example as shown in FIGURE 3, so that as the truck 10 is driven along a street or highway, snow on the highway will be pushed off of the highway or other surface by means of the plow blade 16 and due to the angular arrangement of the blade 16 as for example as shown in FIGURE 2, this snow will have a tendency to move off of the blade 16 in the vicinity of the end portion 18 of the blade 16. When an intersecting street or crosswalk, circle or the like is arrived at by the snow plow, the check off blade 22 can be moved from the raised position of FIGURE 3 to a lowered position such as that shown in FIGURE 4 in order to temporarily block off the end portion 18 of the blade 16 so that a bank of snow will not be formed across the intersecting street.

When the check off blade 22 is in a lowered position as shown in FIGURE 4, the wheel 35 will engage the street or other surface over which the apparatus is being used so that the wheel 35 will help support the check off blade 22 in the lowered or operative position of FIGURE 4, and this wheel 35 is connected to the bracket 33 as at 36, the bracket 33 being suitably affixed as at 34 to a portion of the check off blade 22.

The check off blade 22 is pivotally connected as at 29 to the post 20, and the post 20 is supported by means of

bars or braces 21, these bars 21 being secured to the post 20 as well as to the plow blade 16.

The hydraulic cylinder 25 is provided whereby the check off blade 22 can be raised or lowered, and it is to be understood that suitable control valves and the like can be provided for regulating the flow of hydraulic fluid to and from the hydraulic cylinder 25 through the conduits 37 and 38. For example by introducing hydraulic fluid through the conduit 37 from a suitable source of supply and with the parts in the position of FIGURE 5 for example, the piston 30 will be moved downwardly in the cylinder 25 and this will cause the piston rod 31 to move downwardly, and since the piston rod 31 has its lower portion 31' swivelly connected to the pin 32, it will be seen that this will result in swinging movement of the check blade 22 in view of the fact that the link 24 is connected as shown in the drawings.

The main plow blade 16 is secured in the usual manner to the beams such as the beams 14, and a suitable hydraulic mechanism can be provided for adjusting the position of the plow blade 16 to the desired location.

The hydraulic fluid can be introduced into the cylinder 25 in such a manner as to raise or lower the check off blade 22 as desired, and as stated previously this check off blade 22 provides a means of preventing snow from being pushed into a street intersection or the like so that when desired the check off blade 22 can be used as a blocking member for the blade 16.

The parts can be made of any suitable material and in different shapes or sizes.

According to the present invention it will therefore be seen that there has been provided a driveway clearance snow plow which includes the hydraulic cylinder 25 for raising and lowering the check off blade 22 so that the snow can be selectively prevented from filling a driveway or the like. As soon as the driveway is passed, the check off blade is raised so that for example the check off blade can be operated or lowered whenever desired or required. With the present invention it is not necessary for the snow plow to stop or turn around when a street or highway is being cleared since the check off blade will permit the snow plow to move down the highway in the usual manner.

The check off blade or attachment can be used on various types of snow plow blades as for example when state, county or village highways are being cleared, and when the plow is operating on a straight surface, the check off blade will be in an upright location, and when a driveway or intersection is reached, the check off blade is lowered to prevent the snow from flowing off the end of the main blade 16 while going past such a driveway, and then the check off blade can then be raised to permit to permit the snow to continue off the side as usual.

A suitable hydraulic control mechanism can be provided in the front of the truck so that the operator can control the movements of the check off blade, whereby the operator need not leave the truck in order to efficiently operate the parts such as the adjustable check off blade.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

What is claimed is:

1. In a device of the character described, a movable member including a front bumper, pairs of L-shaped apertured lugs affixed to said bumper, a pair of spaced apart beams having their upper ends pivotally connected to said lugs, a curved plow blade secured to said beams, criss-cross braces extending between said beams, a vertically disposed post spaced rearwardly from said plow blade, horizontally disposed bars extending between said post and plow blade and secured thereto, an adjustable check off blade pivotally connected to said post, an enlarged shoulder on said check off blade, a link secured to said shoulder, a hydraulic cylinder having its upper end swivelly connected to said post, a piston rod depending from said cylinder and said piston rod being swivelly connected to said link, a bracket affixed to said check off blade, and a safety wheel connected to said bracket.

2. In a snow clearing machine, a plow blade, a vertically disposed post spaced rearwardly from said plow blade, horizontally disposed bars extending between said post and plow blade and secured thereto, an adjustable check off blade pivotally connected to said post, an enlarged shoulder on said check off blade, a link secured to said shoulder, and means for raising and lowering the check off blade, said means comprising a hydraulic cylinder having its upper portion swivelly connected to said post, a piston rod depending from said cylinder and said piston rod being swivelly connected to said link.

3. In a snow clearing machine, a plow blade, a vertically disposed post spaced rearwardly from said plow blade, horizontally disposed bars extending between said post and plow blade and secured thereto, an adjustable check off blade pivotally connected to said post, an enlarged shoulder on said check off blade, a link secured to said shoulder, and means for raising and lowering the check off blade, said means comprising a hydraulic cylinder having its upper portion swivelly connected to said post, piston rod depending from said cylinder and said piston rod being swivelly connected to said link, a bracket affixed to said check off blade, and a safety wheel connected to said bracket.

4. The structure as defined in claim 3 wherein said plow blade is arranged angularly with respect to its support member so that one end of the plow blade is closer to the support member than the other end of the plow blade, and wherein said check off blade is arranged adjacent the end of the plow blade that is closest to the support member.

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