Sept. 18, 1928. 1,684,439

H. F. FLOWERS

SNOWPLOW

Filed May 23, 1923 3 Sheets-Sheet 1

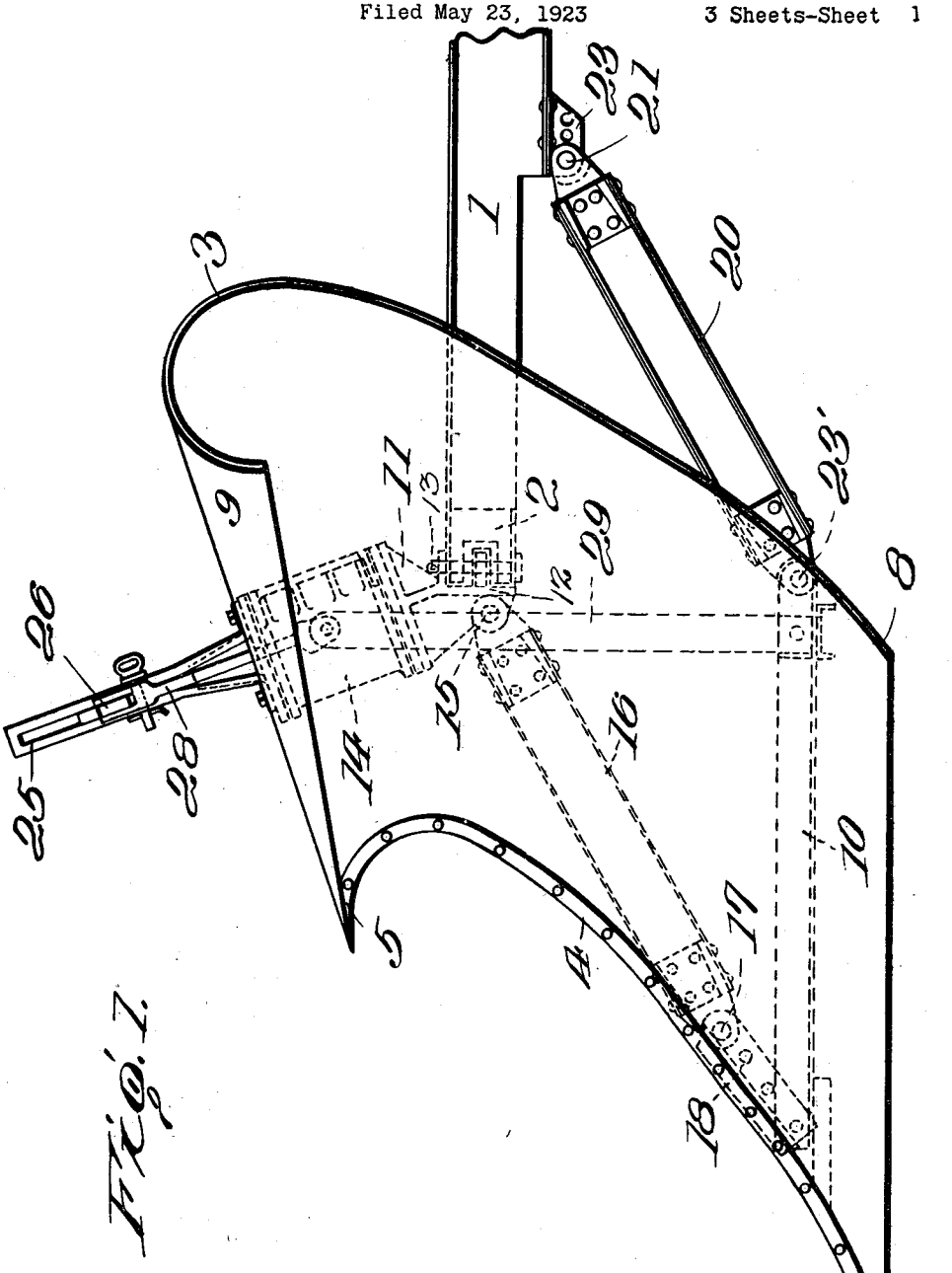


Fig. 1.

Inventor

HENRY FORT FLOWERS.

By Sturtevant & Mason Attorneys

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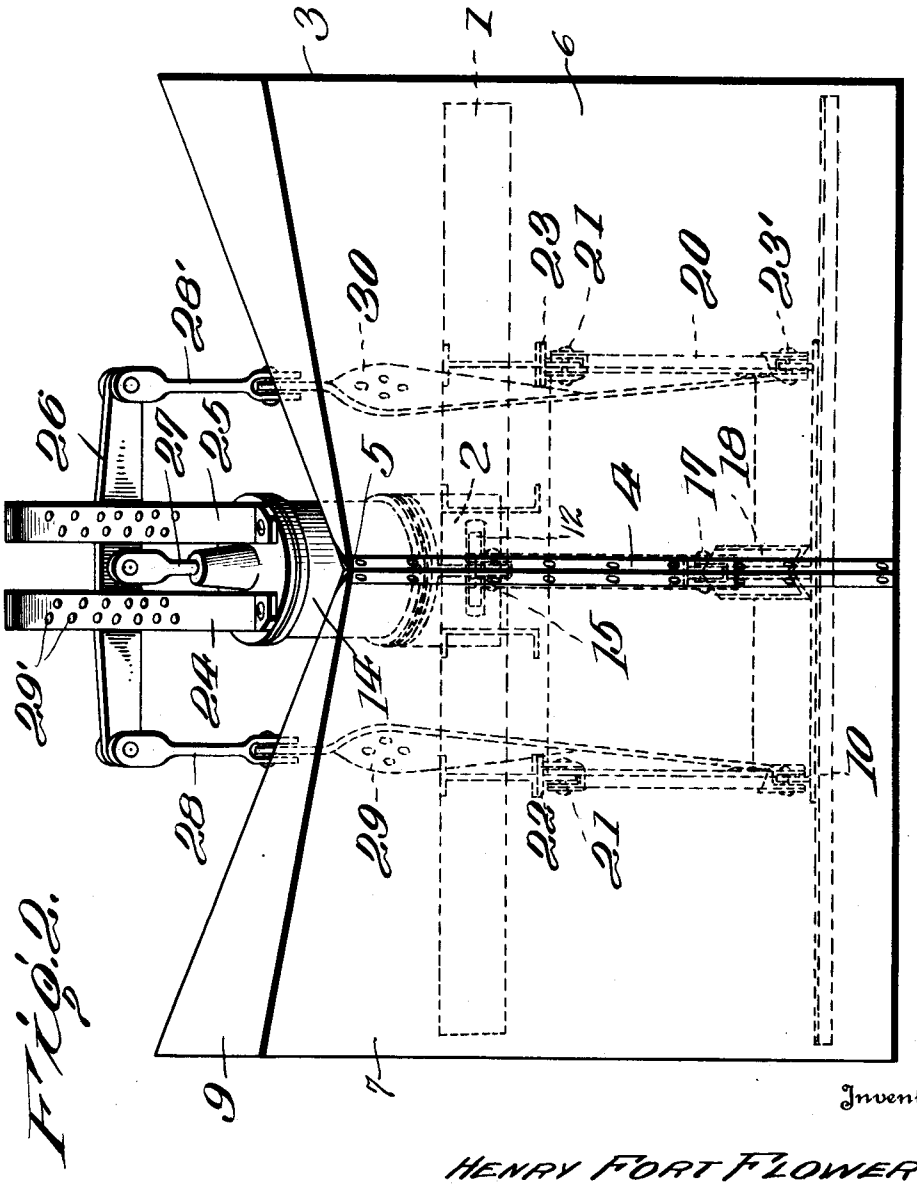


Fig. 2.

Inventor

HENRY FORT FLOWERS.

By Sturtevant & Mason Attorneys

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H. F. FLOWERS

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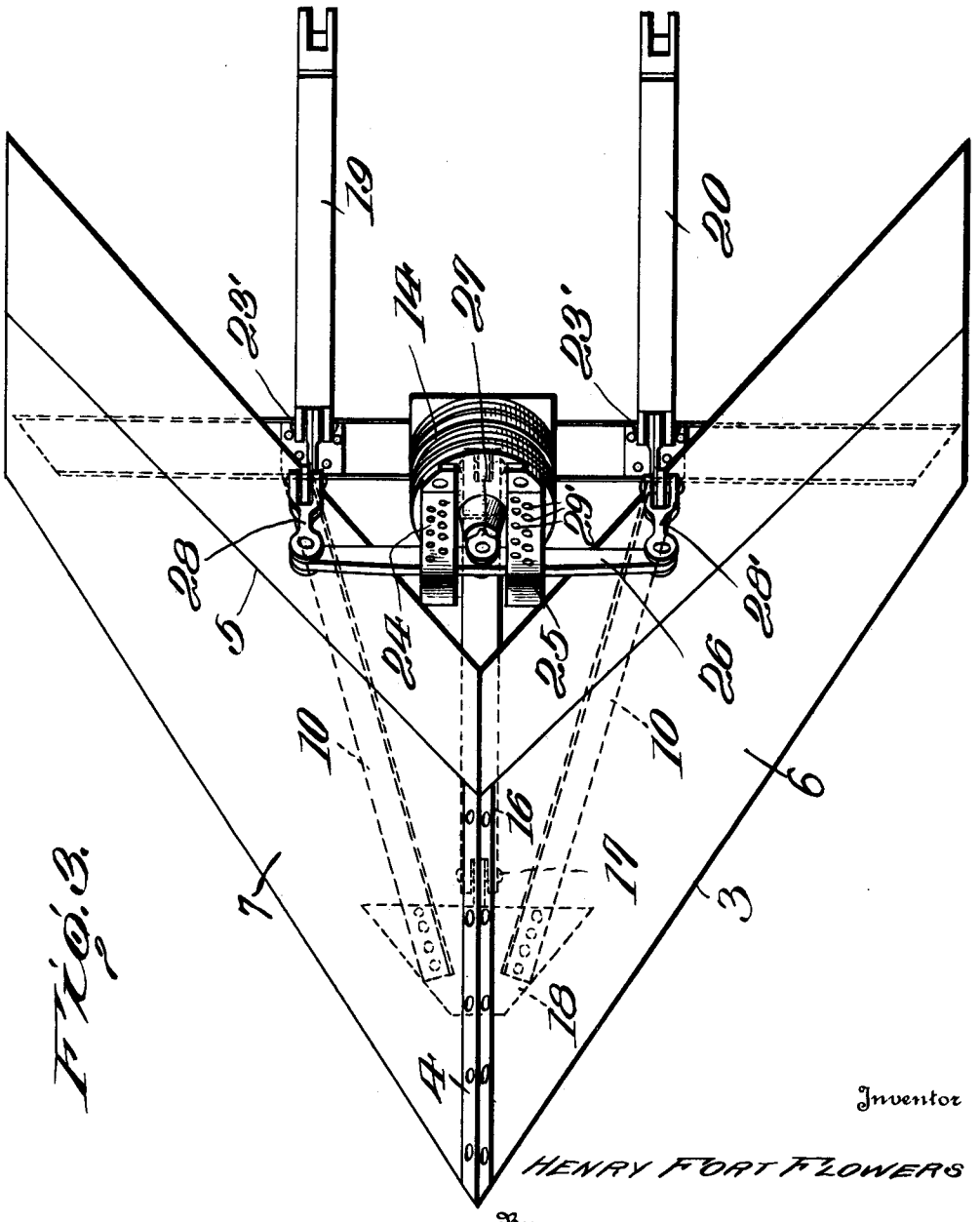


FIG. 3.

Inventor

HENRY FORT FLOWERS

By

Sturtevant & Mason Attorneys

Patented Sept. 18, 1928. 1,684,439

UNITED STATES PATENT OFFICE.

HENRY FORT FLOWERS, OF FINDLAY, OHIO.

SNOWPLOW.

Application filed May 23, 1923. Serial No. 640,902.

The invention relates to new and useful improvements in snow plows, and more particularly to a snow plow which is adapted to throw the snow from the center outwardly to both or to opposite sides of the track.

An object of the invention is to provide a supporting means for the snow plow of the above type which is simple and durable, and whereby the snow plow may be raised and lowered vertically as desired to properly position the same relative to the track or to the road.

A further object of the invention is to provide a supporting means for the snow plow of the above type, which permits the snow plow to be readily detached from the movable support carrying the same.

A still further object of the invention is to provide a supporting means for a snow plow which includes parallel links and devices for holding the plow and parallel links in predetermined positions.

These and other objects will in part be obvious and will in part be hereinafter more fully disclosed.

In the drawings which show by way of illustration one embodiment of the invention—

Figure 1 is a side view of the device, the operating mechanism being shown partly in elevation and partly in dotted lines;

Fig. 2 is a front view thereof, and

Fig. 3 is a plan view.

Referring to the drawings in detail, any desired type of vehicle such as a railway car or motor truck for street and highway use may be provided with the invention. In the present instance, the sill 1 of the car is shown as provided with the usual slotted coupling 2 at the end thereof. The snow plow 3 is shown at the end of the car sill 1 in lowered position immediately over the tracks (not shown). The shape of the plow may vary, but is preferably designed as illustrated, being provided with centrally arranged ridges 4 which incline backwardly from bottom to top where they curve forwardly and overhang as at 5, the side deflectors 6 and 7 extend laterally beyond the width of the sill and are curled at top and bottom as at 8 and 9. The top curl 9 extends from the central overhang 5 outwardly so that snow which is thrown upwardly will be projected outwardly and will not pass over the plow. The inner face of the plow is braced by suitable cross beams 10 attached thereto by suitable rivets.

Means is provided for mounting the plow on the sill 1. To this end, the usual coupling 2 is utilized to detachably carry a support 11, preferably formed as a casting and provided with slots and flanges 12 interfitting with the slots in the coupling. A suitable pivot pin 13 provides the necessary quick detachment.

The support 11 is formed with a cylinder 14 which may be bolted thereto or made integral therewith, as desired, and in addition, the support 11 is formed with a forward lug or bearing 15 to which is pivoted a central link 16, pivotally connected at its other end as at 17 to the lower inner central portion of the plow, a suitable brace 18 being provided.

A second set of links 19 and 20 are provided. These links are disposed in parallelism to the link 16 so that a parallel linkage is formed. The links 19 and 20 are preferably pivoted as at 21 to plates 22 and 23, riveted to the lower faces of the beams of sill 1 and to the plow at 23′.

The cylinder 14 is preferably disposed in a forwardly inclined position and is provided on its upper face with two upstanding brackets 24 and 25 which are slotted to form a guideway for a cross head 26, in the shape of a bar extending laterally. This bar is pivotally connected to the piston rod 27 of the fluid pressure cylinder. The outer ends of the cross head have pivotally connected thereto the depending arms 28 and 28′ which connect with the rods 29 and 30 in turn pivoted to the beams 10 of the plow.

By means of the foregoing construction when the piston is raised, the rods 29 and 30 raise and lower the plow, the parallel linkage insuring the correct and uniform swinging of the plow toward and away from the track. Any suitable means may be provided for adjustably holding the plow in raised position. A simple means is afforded by providing the brackets 24 and 25 with staggered holes 29′ through which pins may be passed immediately below the cross head. Manifestly any known connection and control may be used for operating the fluid pressure cylinder.

It is obvious that minor changes may be made in the details of construction and the arrangement of the parts, without departing from the spirit of the invention as set forth in the appended claims.

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

1. In a device of the class described, the combination with a supporting member of a

vehicle, a snow plow, parallel links having pivot connections to said member, said connections being spaced apart horizontally, said links in the position for employment extending in parallelism forwardly and downwardly from said connections at a substantial angle to the horizontal, and being pivoted to said snow plow so that the pressure of snow upon the face of said plow during employment will cause said plow to be forced downwardly toward the roadbed, and a fluid pressure mechanism having a cylinder fixedly mounted on said member and having a piston and connections to exert a pull on said plow upwardly and forwardly, substantially parallel to the direction of movement of said plow as determined by said links, whereby to raise the plow.

2. In a device of the class described, the combination with a supporting member of a vehicle, a snow plow, parallel links jointed to said plow and said member at the respective sides and front of the vehicle, a fluid pressure cylinder fixedly mounted on said member in the central plane of the vehicle and having a piston rod actuated therefrom, a crosshead pivoted on said rod, and links connecting the ends of said crosshead with the respective sides of said snow plow.

3. In a device of the class described, the combination with a supporting member of a vehicle, a snow plow, parallel links jointed to said plow and said member at the respective sides and front of the vehicle, said links extending downwardly and forwardly from their connections to said member, a fluid pressure cylinder fixedly mounted on said member in the central plane of the vehicle and having its axis inclined forwardly from a vertical line, a piston and rod cooperating with said cylinder, a crosshead pivoted on said rod, links connecting the ends of said crosshead with the respective sides of said snow plow, a pair of perforated bars carried fixedly with regard to said member and opposite the arms of said crosshead, and means engaging with said arms and in the perforations of said bars to prevent a lowering of said snow plow.

In testimony whereof, I affix my signature.

HENRY FORT FLOWERS.