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(54) **Suspension system of a snow plough**

(57) The object of the invention is a suspension system of a snow plough used particularly for the snow removal from the surface of roads, yards, car parks and other paved surfaces.

A suspension system of a snow plough wherein a body (1) is connected with a hitch (4) secured against overload by means of connecting elements (7) and (8) and to which a mouldboard (2) with a swivel-mounted blade (2) is attached, characterized in that an overload

protection mechanism is constituted by at least two plates, a front pressure plate (5) and a rear pressure plate (6), connected with each other by means of the connecting elements (7) and (8), whereas the front pressure plates (5) and the rear pressure plates (6) stabilize a plate (1A) of the body (1) with plates (4A) of the hitch (4).

The connection of the body (1) with the hitch (4) is effected by clamping the front pressure plates (5) with the rear pressure plates (6) by means of the connecting elements (7) and (8).

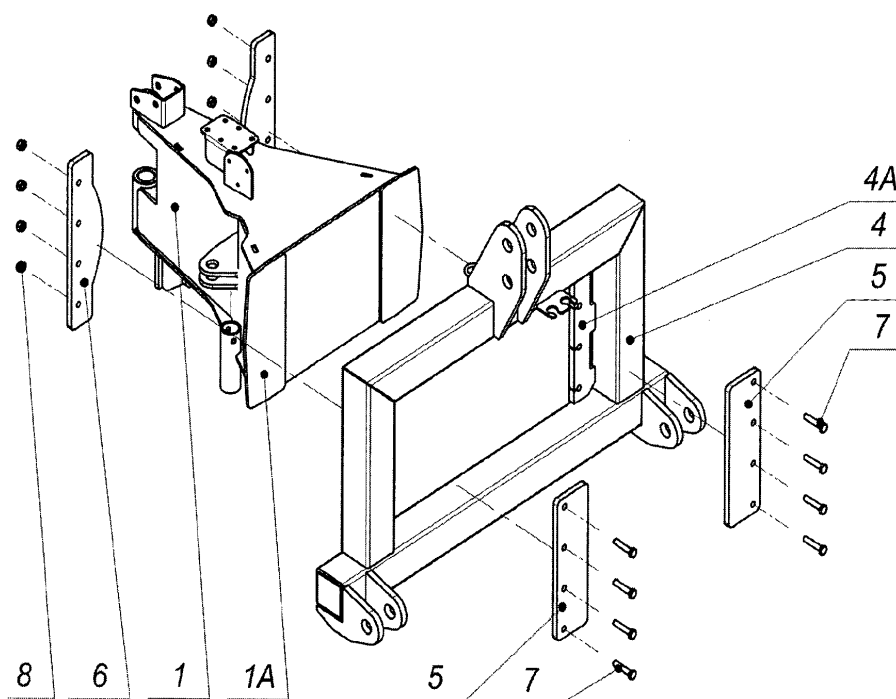


Fig. 1

Description

[0001] The object of the invention is a suspension system of a snow plough used particularly for the snow removal from the surface of roads, yards, car parks and other paved surfaces.

[0002] In snow ploughs, in which the working element is constituted by hydraulically controlled mouldboards, swivel-mounted plough blades cause that the plough is resistant to hits against projecting surface irregularities. If bigger irregularities are encountered, the snow ploughs have overload mechanisms which protect the plough against damage.

[0003] In the US4821436 patent description, the overload protection is constituted by pins which are destroyed under the influence of the overload and consequently prevent the damage of the snow plough and the cooperating vehicle.

[0004] The substance of the invention is a suspension system of a snow plough wherein the body is connected with a hitch secured against overload by means of connecting elements and to which a mouldboard with a swivel-mounted plough blade is attached, **characterized in that** the overload protection mechanism is constituted by at least two plates, a front pressure plate and a rear pressure plate, connected with each other by means of connecting elements, whereas the front pressure plates and rear pressure plates stabilize a plate of the body with plates of the hitch.

[0005] Preferably the connection of the body with the hitch is effected by clamping the front pressure plates with the rear pressure plates by means of connecting elements in the form of a screw and a nut.

[0006] The solution of the snow plough suspension system having an overload protection mechanism fulfilling the function of an overload safety device safeguards the plough elements against damage because in case of an increase of forces acting on a plough blade the connections of elements connecting the body with the hitch are broken as a result of which the remaining structure is protected against damage.

[0007] A snow plough suspension system according to the invention is represented in a drawing in which Fig. 1 shows a suspension system with an overload protection mechanism in an exploded view, Fig. 2 shows a plough suspension system with an overload protection mechanism in a front view, Fig. 3 shows a cross-section according to the A-A line of Fig. 2, and Fig. 4 shows an embodiment of a snow plough with an overload protection mechanism according to the invention.

[0008] A suspension system of a snow plough, to the body 1 of which a mouldboard 2 with a swivel-mounted plough blade 3 is attached, has an overload protection comprising four plates, two front pressure plates 5 and two rear pressure plates 6, connected with each other by means of connecting elements 7 and 8. The connection of the body 1 with the bearing surface of a hitch 4 is effected by clamping the front pressure plates 5 with the

rear pressure plates 6 by means of the connecting elements 7 and 8, i.e. a screw and a nut. The front pressure plates 5 and the rear pressure plates 6 stabilize a plate 1A of the body 1 with plates 4A of the hitch 4.

[0009] The snow plough suspension system features turning (right-left) and vertical (up-down) tracing.

[0010] If during the operation a big longitudinal force acting on the plough blade occurs, the body 1 transfers the load to the front pressure plate 5 or the rear pressure plate 6, depending on the working direction of the plough. Then the connecting elements 7, 8 and the overload protection are broken, and the plough blade with the body 1 is detached from the hitch 4. It prevents damage to the plough and the vehicle to which it is attached.

Claims

1. A suspension system of a snow plough wherein the body is connected with a hitch secured against overload by means of connecting elements and to which a mouldboard with a swivel-mounted plough blade is attached, **characterized in that** the overload protection mechanism is constituted by at least two plates, a front pressure plate (5) and a rear pressure plate (6), connected with each other by means of connecting elements (7) and (8), whereas the front pressure plates (5) and the rear pressure plates (6) stabilize a plate (1A) of the body (1) with plates (4A) of the hitch (4).
2. A suspension system of a snow plough as in claim 1 **characterized in that** the connection of the body (1) with the hitch (4) is effected by clamping the front pressure plates (5) with the rear pressure plates (6) by means of the connecting elements (7) and (8) in the form of a screw and a nut.

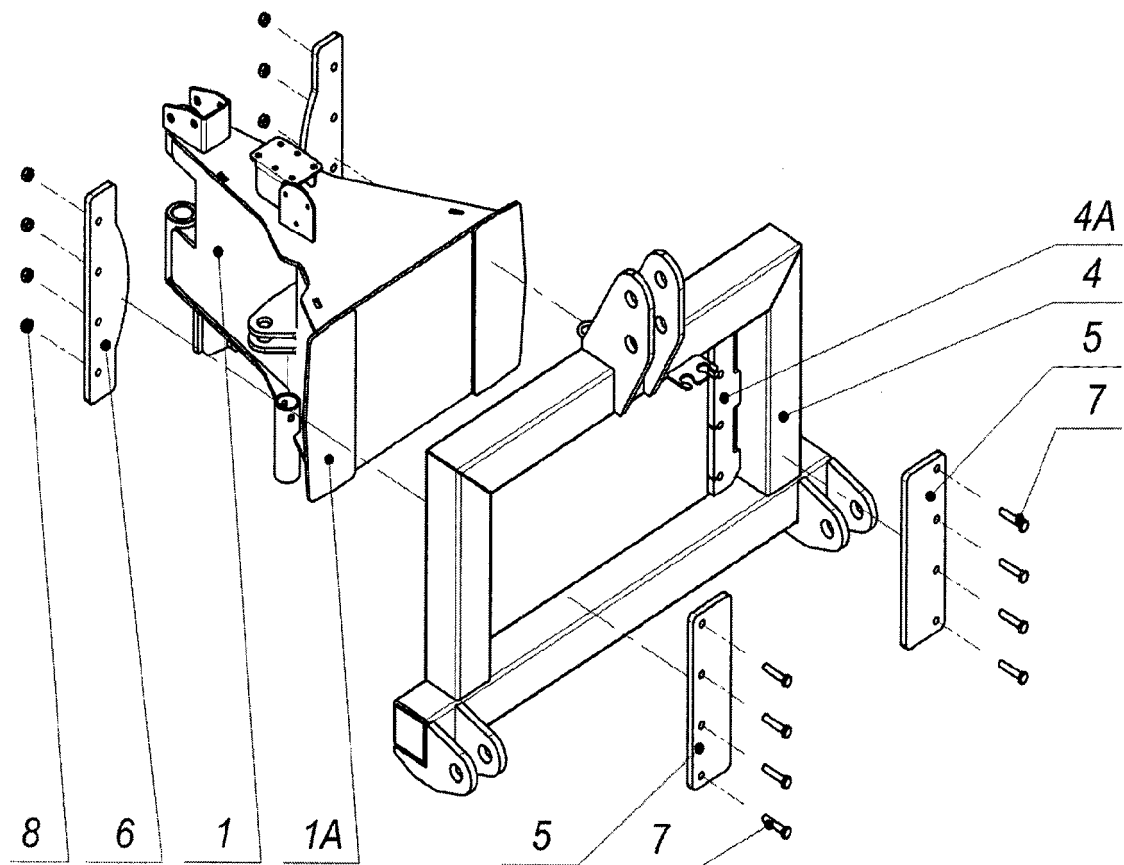


Fig. 1

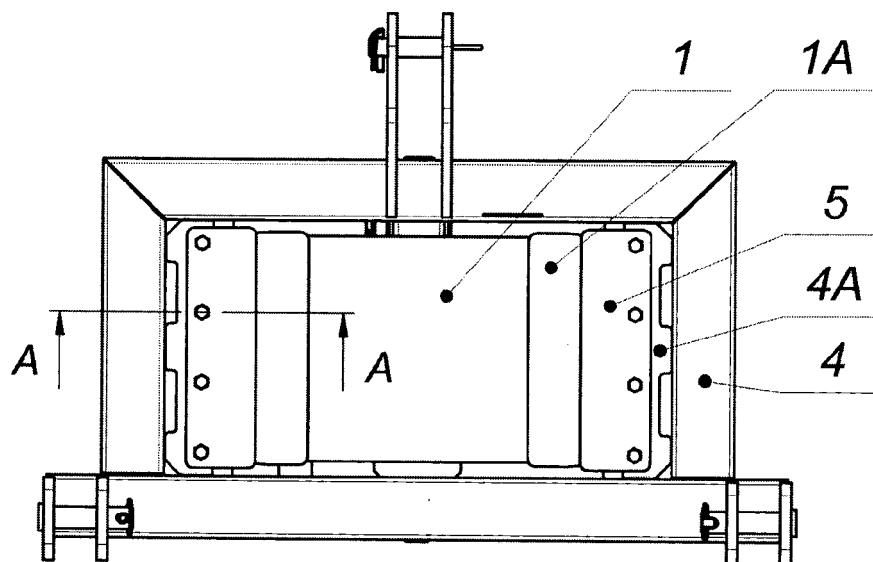


Fig. 2

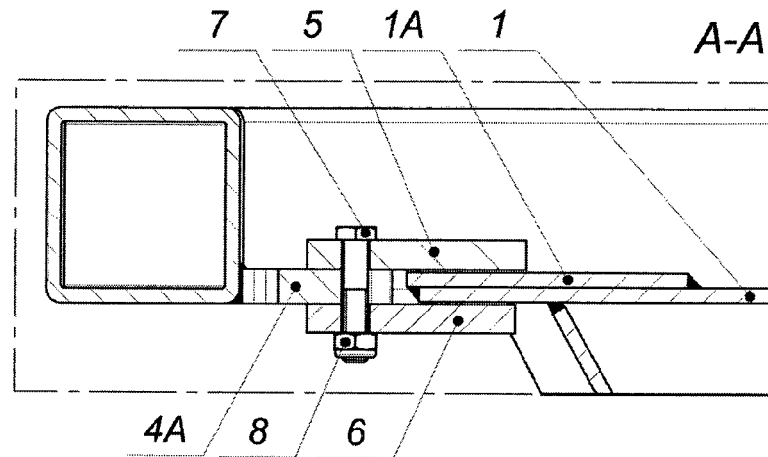


Fig. 3

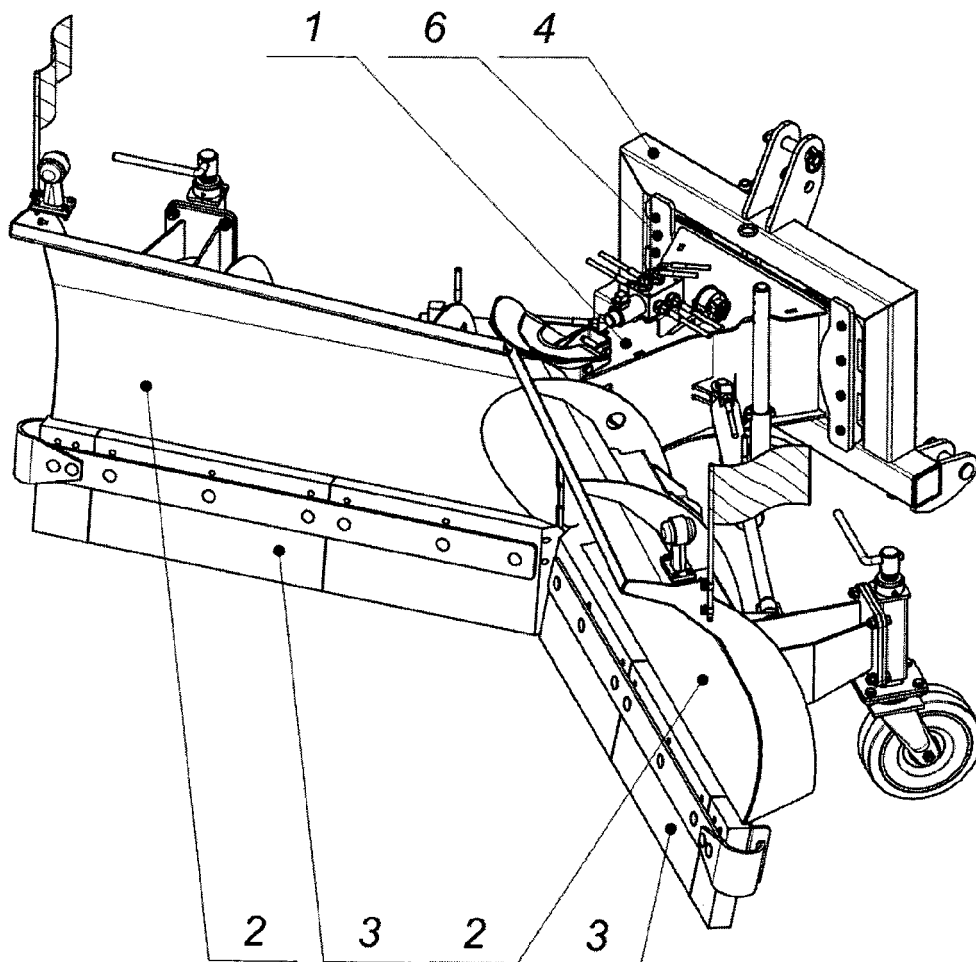


Fig. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 4821436 A [0003]