

(No Model.)

2 Sheets—Sheet 1.

H. H. FREEMAN.
AUTOMATIC WAGON SCALE.

No. 601,339.

Patented Mar. 29, 1898.

Fig. 1.

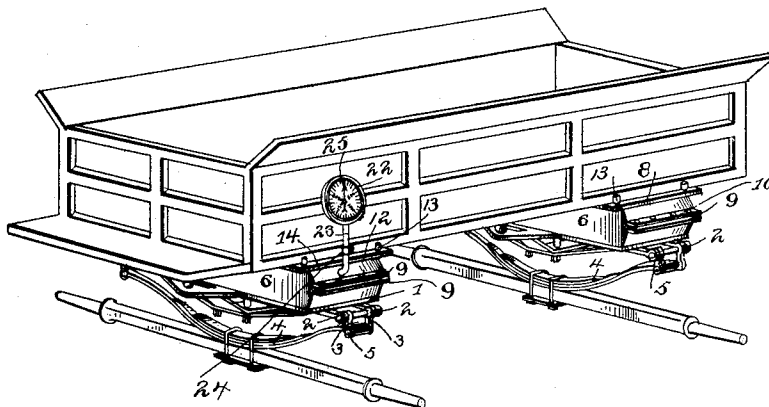
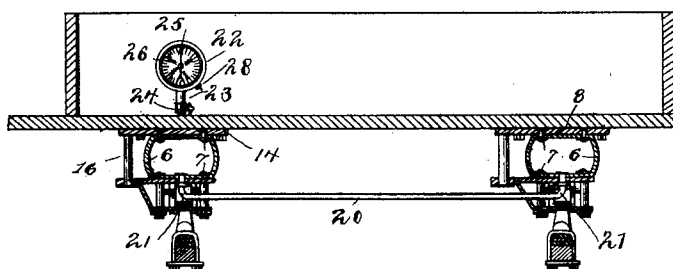


Fig. 2.



Witnesses:

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Inventor:

Herbert H. Freeman,

by A. B. Wilson,

Attorney.

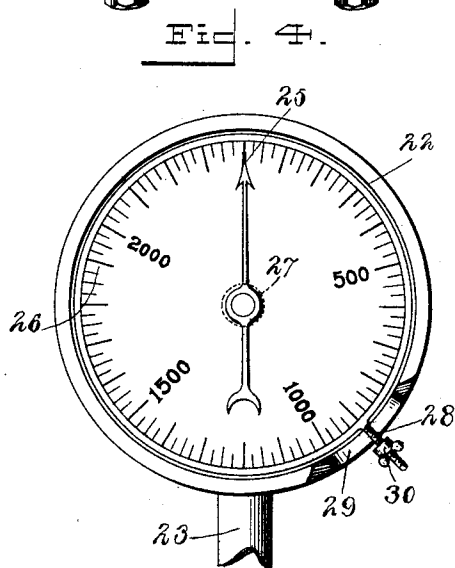
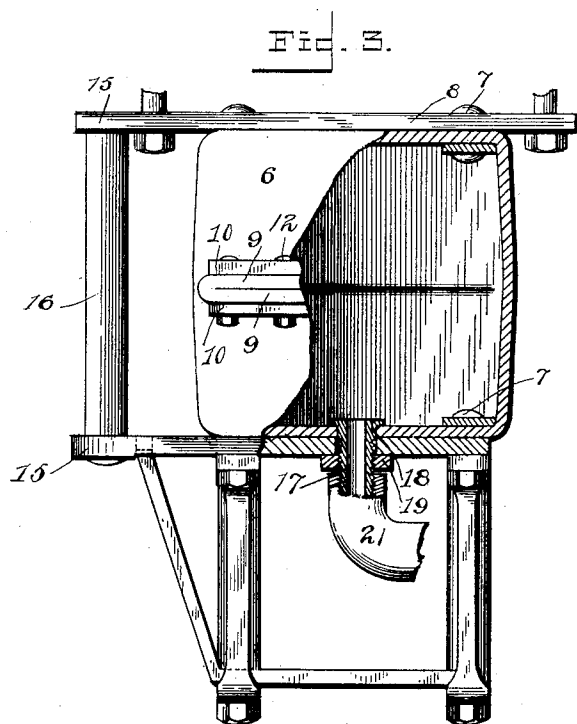
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Witnesses:

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UNITED STATES PATENT OFFICE.

HERBERT H. FREEMAN, OF PIERRE, SOUTH DAKOTA.

AUTOMATIC WAGON-SCALE.

SPECIFICATION forming part of Letters Patent No. 601,339, dated March 29, 1898.

Application filed April 6, 1897. Serial No. 631,001. (No model.)

To all whom it may concern:

Be it known that I, HERBERT H. FREEMAN, a citizen of the United States, residing at Pierre, in the county of Hughes and State of South Dakota, have invented certain new and useful Improvements in a Combined Wagon and Automatic Scale; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to improvements in combined wagons; and the object is to provide an ordinary wagon or dray with compression-bolsters and a scale whereby the load may be indicated at a glance.

To this end the invention consists in the construction, combination, and arrangement of the parts, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same reference-numerals indicate the same parts of the invention.

Figure 1 is a perspective view of a weighing-wagon embodying my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section through the front bolster, and Fig. 4 is a front view of the weight-indicating gage.

1 represents the front bolster-plate, the outer ends of which are formed with the integral ears 2 2, to which are secured the brackets 3 3, which in turn are pivoted to the outer ends of the spring 4 by the connecting-bars 5.

6 represents a flexible rubber cushion, its lower side secured to the bolster-plate 1 by rivets 7, so as to form an air-tight joint. A top bolster-plate 8 is similarly secured to the upper side of said cushion in such a manner as to support the wagon-bed and load in a horizontal position and at the same time allow the top bolster-plate to approach and recede from the bottom plate in parallel lines. These cushions may be made in the usual manner of air-pillows and the like; but in practice I have found the ordinary canvas-and-rubber hose from four to six inches in diameter to answer the purpose. I cut off a section of hose about the length of the bolster-plate and bring the ends 9 9 to form flanges. I then place a metal plate 10 on each side of the

flanges and secure the whole together by a series of rivets 12 12.

13 13 represent standards extending upward from the top bolster-plate to retain the wagon-body in place.

The top bolster-plates 8 and 14 are each provided with a horizontal ear 15, to which is fixed the upper end of a guide-bolt 16, which extends downward through a guide-orifice in the projecting ear 15 on the lower bolster-plates to preserve the parallel motion of the upper and lower bolster-plates when the vehicle is moving.

17 represents a threaded pipe or nipple provided with an integral flange 18, resting on the inner face of the lower side of the cushion, the nipple extending downward through the cushion and lower bolster plate 1, where it receives a threaded collar 19, which forms an air-tight joint in the cushion. One of these nipples is centrally secured in the bottom or side of each cushion, and they are connected to the ends of a horizontal pipe 20 by the flexible elbows 21 21, which are secured to the ends of the pipe and nipples by the usual clamps. This construction equalizes the load or pressure on the cushions and preserves their horizontal parallelism under varying loads.

22 represents a pressure-gage connected to one of the cushion-bolsters by a short pipe 23, provided with a plug-cock 24. This gage may be of any approved form to correctly operate the pointer or hand 25, the only difference being that the dial or scale 26 is centrally mounted on a sleeve 27, through which the pointer-shaft passes. The rim of this dial is provided with a threaded radial stud 28, which projects through a slot 29 in the case of the gage, and its outer end carries a thumb-nut 30, by means of which the dial may at any time be adjusted to correspond to the pointer and the device tested for accuracy whenever the wagon is light, in which condition the dial should always be set so that the pointer will indicate the zero or unison mark on the dial. It will of course be understood that the scale on the dial corresponds to the pound weight, and when the wagon is loaded the total weight of the load is indicated on the dial, and any predetermined amount may be taken off by noting the variations of the gage.

While the device is intended as a pneumatic scale, it is evident that any suitable liquid may be employed in the cushion-bolsters besides air or gas and the same result accomplished.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

Various minor changes in the construction will be made to adapt my invention to different forms of vehicles, and notably in the case of drays for heavy hauling the standards are dispensed with and suitable truss-rods, such as are shown in Fig. 1, extend under the bolsters from end to end to support the load.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. A pneumatic bolster for vehicles comprising a length of hose or tubing having its ends closed by transverse clamping-plates, upper and lower supporting-plates secured to the hose by rivets, said plates extended beyond the surface of the hose and connected by guide-bolts, substantially as described.

2. A wagon provided with compressible pneumatic bolsters made from lengths of flexible hose clamped at the ends to render them air-tight, each bolster having upper and lower supporting-plates riveted thereto, guide-bolts connecting the plates, a pipe extending from one bolster to the other, and a tube connected with one of the bolsters and communicating with a gage for indicating the weight of the load, substantially as described.

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

HERBERT H. FREEMAN.

Witnesses:

WILLIAM A. KING,
JAMES W. MORSE.