(No Model.) 3 Sheets—Sheet 1.

J. A. STAUFFER.

COMBINED SNOW PLOW, SHOVEL, AND SWEEPER.

No. 588,363. Patented Aug. 17, 1897.

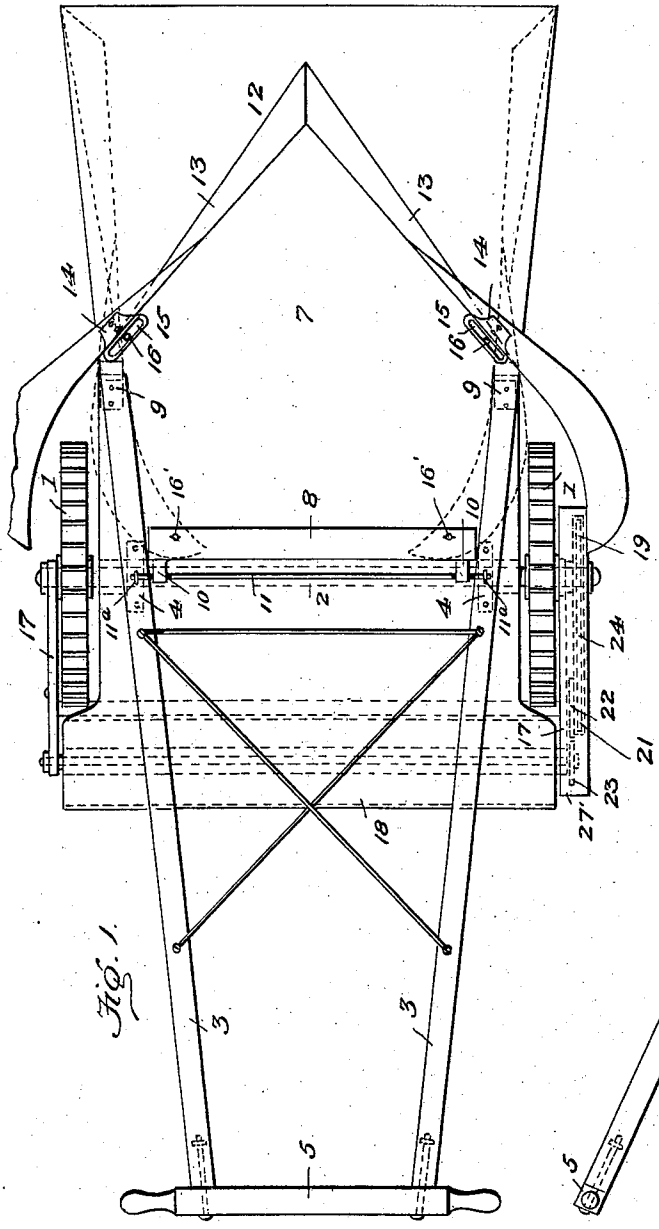


Fig. 1.

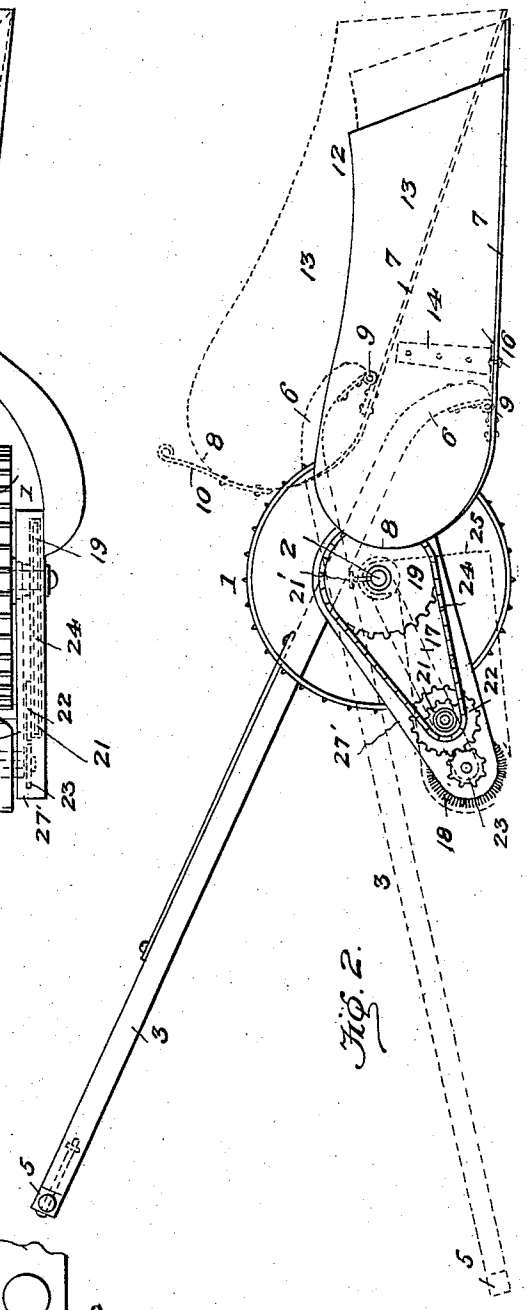


Fig. 2.

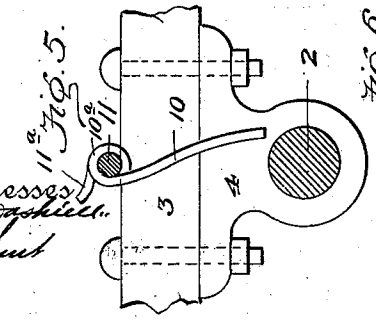


Fig. 5.

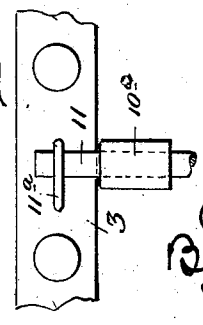


Fig. 6.

Witnesses:
W. E. Baskett.
T. D. Smith

Inventor
Jesse A. Stauffer.
By H. B. Willson.
Attorney

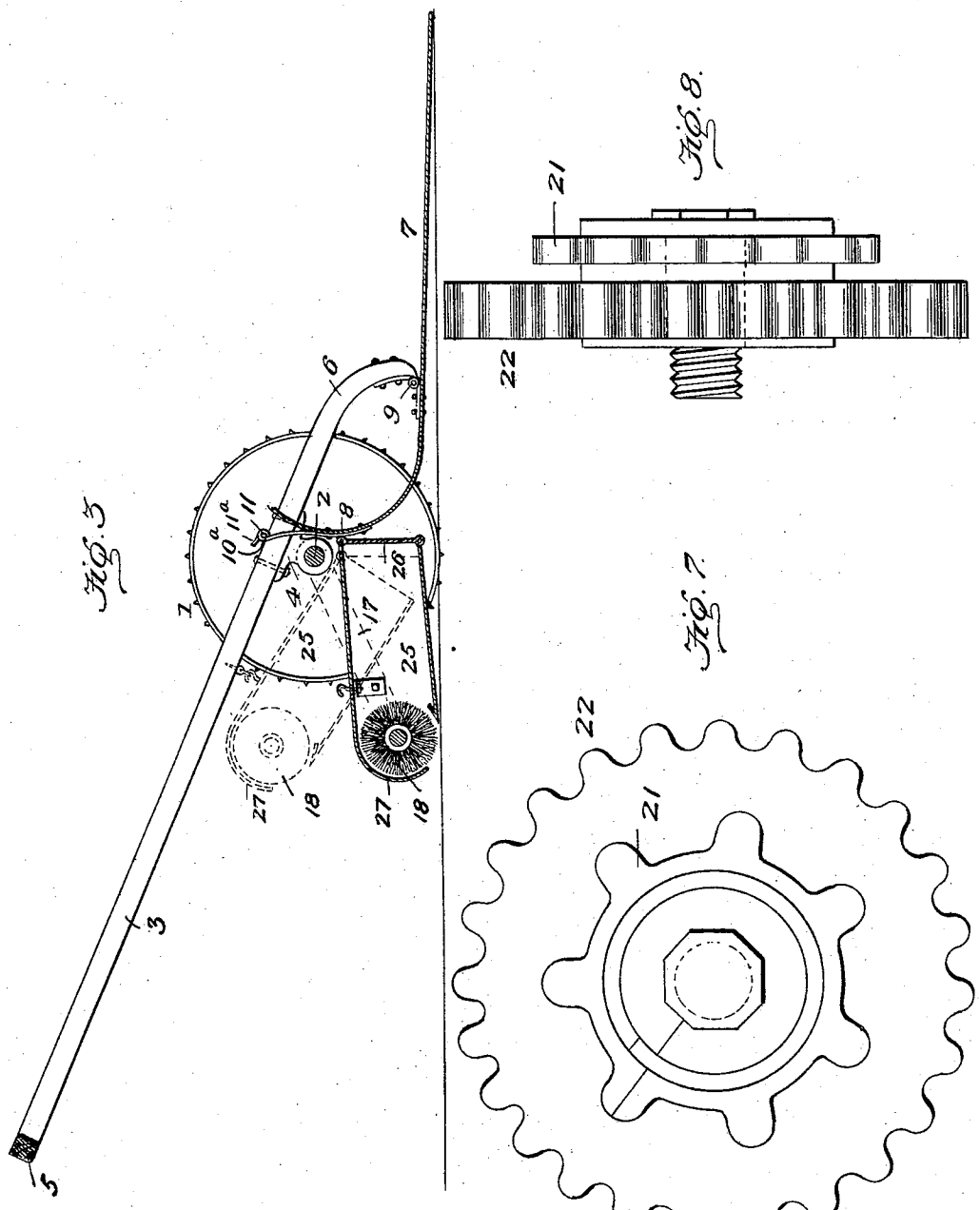
THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 2.

J. A. STAUFFER.

COMBINED SNOW PLOW, SHOVEL, AND SWEEPER.

No. 588,363. Patented Aug. 17, 1897.



Witnesses
W. E. Dashiell
J. B. Suit.

Inventor
Jesse A. Stauffer.
By H. B. Willson.
Attorney

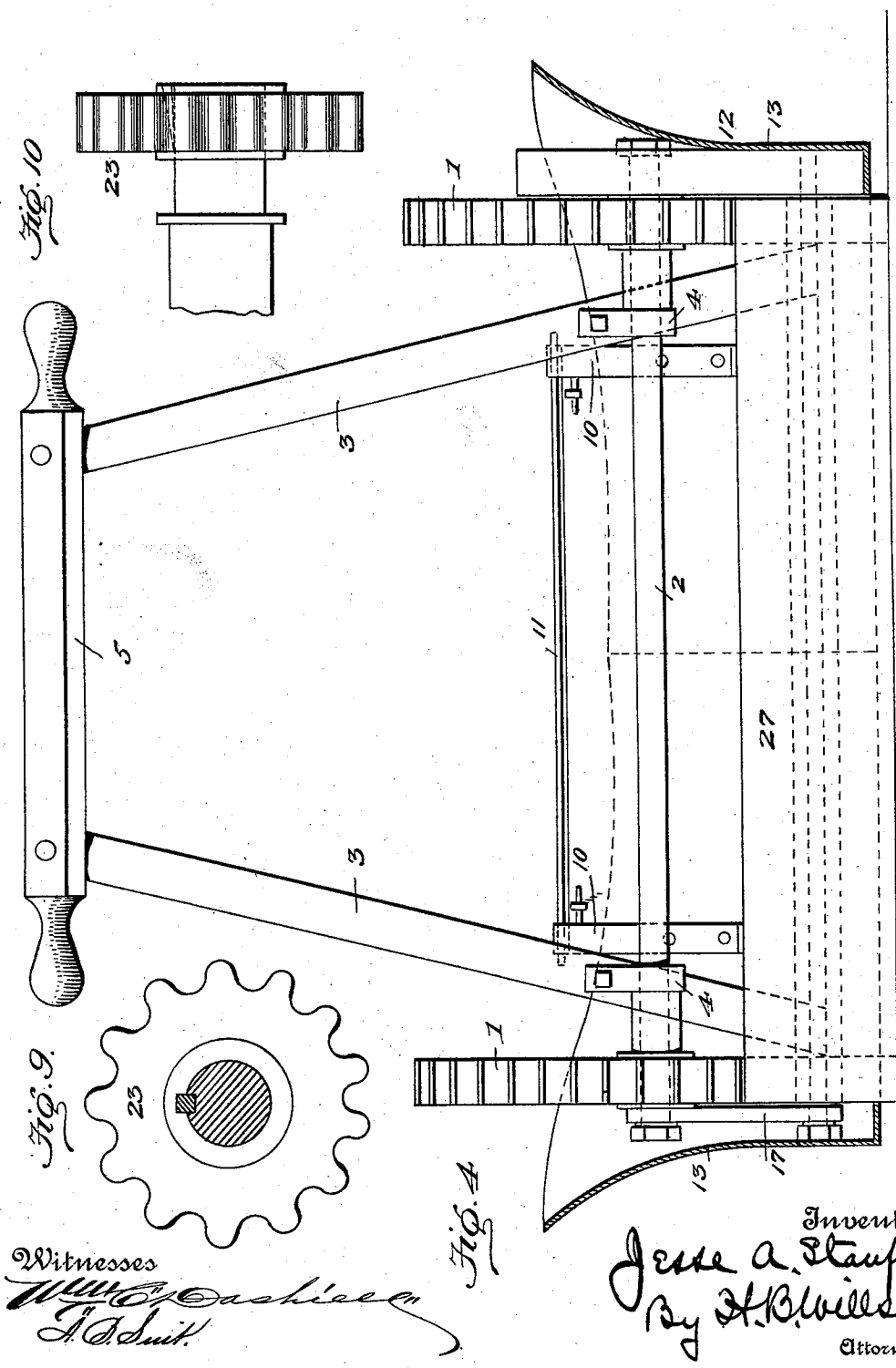
THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 3.

J. A. STAUFFER.

COMBINED SNOW PLOW, SHOVEL, AND SWEEPER.

No. 588,363. Patented Aug. 17, 1897.



Witnesses
W. E. Dashiell
A. D. Suit.

Inventor
Jesse A. Stauffer.
By H. B. Willson.
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JESSE A. STAUFFER, OF McKEESPORT, PENNSYLVANIA.

COMBINED SNOW PLOW, SHOVEL, AND SWEEPER.

SPECIFICATION forming part of Letters Patent No. 588,363, dated August 17, 1897.

Application filed January 21, 1897. Serial No. 620,130. (No model.)

To all whom it may concern:

Be it known that I, JESSE A. STAUFFER, a citizen of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Snow Plow, Shovel, and Sweeper; 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 relates to a combined snow plow, shovel, and sweeper.

The object of the invention is to provide a machine of this character which may be used as a sweeper, or as a sweeper and excavator, or as a sweeper and plow, and which when used as a plow will press down the snow at the sides and prevent it falling back into the path made.

A further object is to provide means by which the snow or dirt after having been swept may be collected in a pan.

With these objects in view the invention consists of certain features of construction and combination of parts, which will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a top plan view of my invention, illustrating in full lines the position of the parts the machine assumes when used as a plow. Fig. 2 is a side elevation showing in dotted lines the position the parts assume when acting as a shovel or excavator and in the act of dumping the snow. Fig. 3 is a longitudinal vertical sectional view. Fig. 4 is a rear view. Fig. 5 is a detail view of the axle-hanger and of the hooked springs and cross-rod by means of which the body of the shovel or excavator is held in position. Fig. 6 is a top plan view of the same. Figs. 7 and 8, respectively, are side and end views of the combined sprocket and gear wheel; and Figs. 9 and 10 are similar views of the gear-wheel on the end of the brush-shaft.

In the drawings, 1 denotes the supporting-wheels, which have traction-faces in the form of rims or rubber tires.

2 denotes the axle connecting the wheels, 3 the side pieces of the handle, and 4 the brackets connecting the side pieces with the axle. The upper ends of the side pieces of the handle are connected by a cross-grip 5, while the lower ends of the side pieces forward of their supporting-brackets are curved downward, as shown at 6.

7 denotes the bottom of the excavator or shovel, the rear end of which is curved upwardly and forwardly, as shown at 8. To the bottom 7 the curved ends of the side pieces of the handle are hinged, as shown at 9. The curved rear portion of the shovel has projecting upwardly from it two spring-arms 10, having eyes 10^a at their upper ends which engage the cross-rod 11, removably connected to the handles by screw-hooks 11^a. By this construction the shovel will be held in proper relation to the handles and be prevented from tilting.

12 denotes the plow, which consists of two moldboards 13, to the sides of which are secured two angle-plates 14, the lower ends of which are provided with slots 15, through which project clamping-bolts 16. As shown in Fig. 1, the machine is used as a plow, but by simply loosening these bolts and unhooking the back of the shovel from the cross-rod to allow the rear end of the moldboards to be elevated above the supporting-wheels the moldboards may be swung outward in the position shown by dotted lines in said figure, and when in this position the bolts may be tightened to prevent further movement of the moldboards. Additional means may be employed for locking the moldboards in this position, such as the screw-bolts 16′, which extend down from the upper curved rear end of the shovel.

17 denotes two arms, which are hung on the axle of the machine and extend rearward. A rotary brush 18 is journaled in the rear ends of these arms and is rotated in the opposite direction to the advance movement of the machine by a system of multiplying-gears, which consists of a sprocket-wheel 19, secured to the drive-shaft 2 by a set-screw 21′, the sprocket-wheel 21, provided with a large gear-wheel 22, both of which are journaled in the rearwardly-extending arms, a pinion 23, secured to the shaft of the rotary brush, and a sprocket-chain 24, passing around the sprocket-wheels.

Arranged immediately in advance of the rotary brush is a receptacle 25, which is pro-

vided with a hinged front door 26 and with a shield 27 at the rear of the brush. As the machine is shoved along there will be depressions in the pavement or road that the shovel or plow will not touch, but when the brush reaches these depressions it will, owing to its pivoted connection with the axle, fall into them and sweep the snow into the receptacle.

When it is desired to dump the receptacle, the rear end is elevated and its front door swung open. If it is not desired to employ the brush and its receptacle, it may be thrown out of gear by loosening the set-screw 21′ and be swung up out of position, as shown in Fig. 3, and held by a hook and eye to the handle-bars.

If desired, the gearing may be protected from snow and sleet by a shield 27′.

When in use as a plow, the machine is pushed along and the moldboards will make a path and force the snow outward and bank the same, so that it will not fall into the path after the plow has passed.

When used as an excavator or shovel, the moldboards are adjusted to form the sides of the shovel, and when the shovel has been filled with snow the same may be dumped by releasing the hooks at the back of the shovel and pressing downward upon the outer ends of the handles.

Although I have described the invention as being operated by hand, it is evident that if made on a larger scale horse-power would have to be substituted, and this could be done without materially changing the nature or character of the invention.

Many means may be employed to propel the machine, and I do not therefore wish to be restricted to any particular means.

Having thus described my invention, what I claim is—

1. In a combined snow plow and shovel, the combination with the bottom of the shovel, of a plow the moldboards of which are connected to the bottom of the shovel and capable of being spread apart to form sides for the shovel, substantially as set forth.

2. In a combined snow plow and shovel, the combination with the supporting-wheels and their axle, of handles pivoted to the said axle, the shovel pivoted to the front ends of the handle, and a plow having moldboards pivoted to said shovel and capable of being swung out to form sides for the shovel, and means for locking the moldboards to the shovel in their position as a plow, or in their position as the sides of the shovel, substantially as set forth.

3. In a combined snow plow and shovel, the combination with the supporting-wheels and axle, the handle-bars hung on said wheels, a shovel-bottom having its rear end curved upward, spring-hooks projecting upward from said curved portion, a cross-rod connected to the handles and adapted to be engaged by the spring-hooks, a hinged connection between the front ends of the handle-bars and the bottom of the shovel, and moldboards pivoted to the shovel-bottom to serve either as a plow or as sides for the bottom, substantially as set forth.

4. In combination, the supporting-wheels, an axle, handle-bars hung on said axle, a shovel connected to said handle-bars in advance of the supporting-wheels, a rotary brush arranged at the rear of the supporting-wheels and having a geared connection with the axle of the same, and a receptacle hung from the axle immediately in advance of the brush, and provided with a curved shield at the rear of the brush, substantially as set forth.

5. In a combined snow plow and shovel, the combination with the bottom of the shovel, the rear end of which is curved upward and forwardly, of moldboards pivoted to the shovel and adapted to have their rear ends swung inwardly under the upwardly and forwardly curved end of the shovel, and means for clamping the rear ends of the moldboards in that position, substantially as set forth.

6. In combination, the supporting-wheels and their axle, the handle-bars, the combined plow and shovel hinged to the forward end of the handle-bars, hanger-arms journaled on the axle and carrying at their rear ends a rotary brush, a receptacle hung from the axle and arranged immediately in advance of the brush, and a hook and eye for supporting the brush and the receptacle from the handle-bars when not in use, substantially as set forth.

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

JESSE A. STAUFFER.

Witnesses:

P. J. LOHMAN,

H. J. LOHMAN.