No. 693,475. Patented Feb. 18, 1902.

Z. WHITTEMORE.

STREET SWEEPER.

(Application filed June 20, 1901.)

(No Model.) 3 Sheets—Sheet 1.

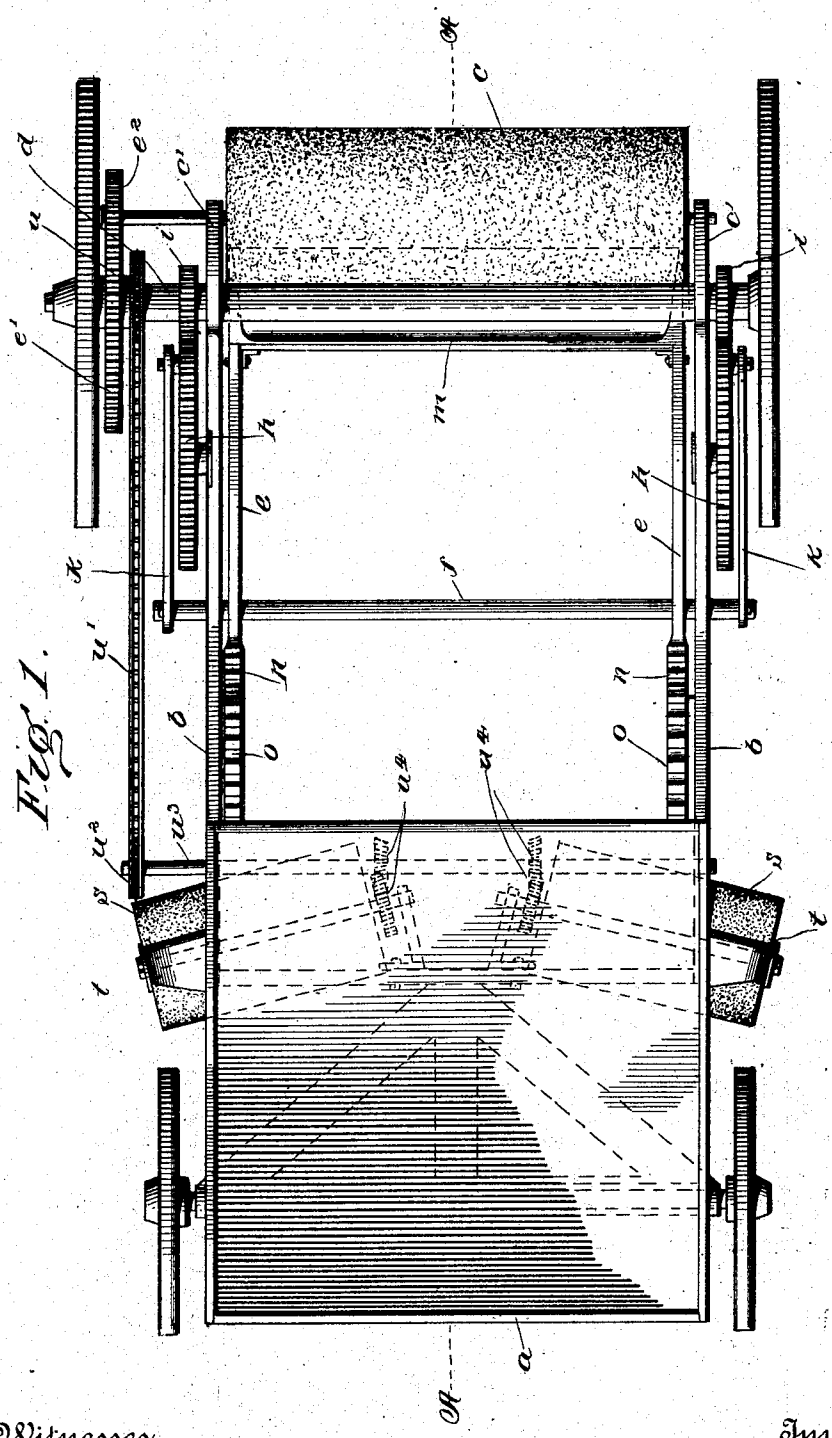


Fig. 1.

Witnesses
Fred J. Haitman.
P. M. Tilly.

Inventor
Zenas Whittemore
By his Attorney
J. Whittemore

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

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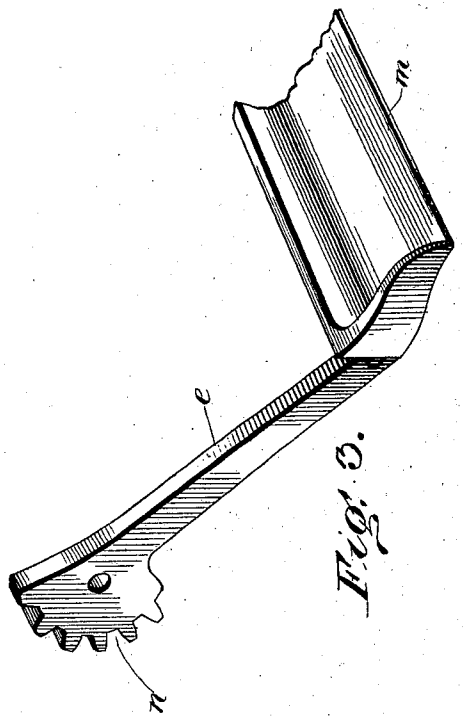


Fig. 3.

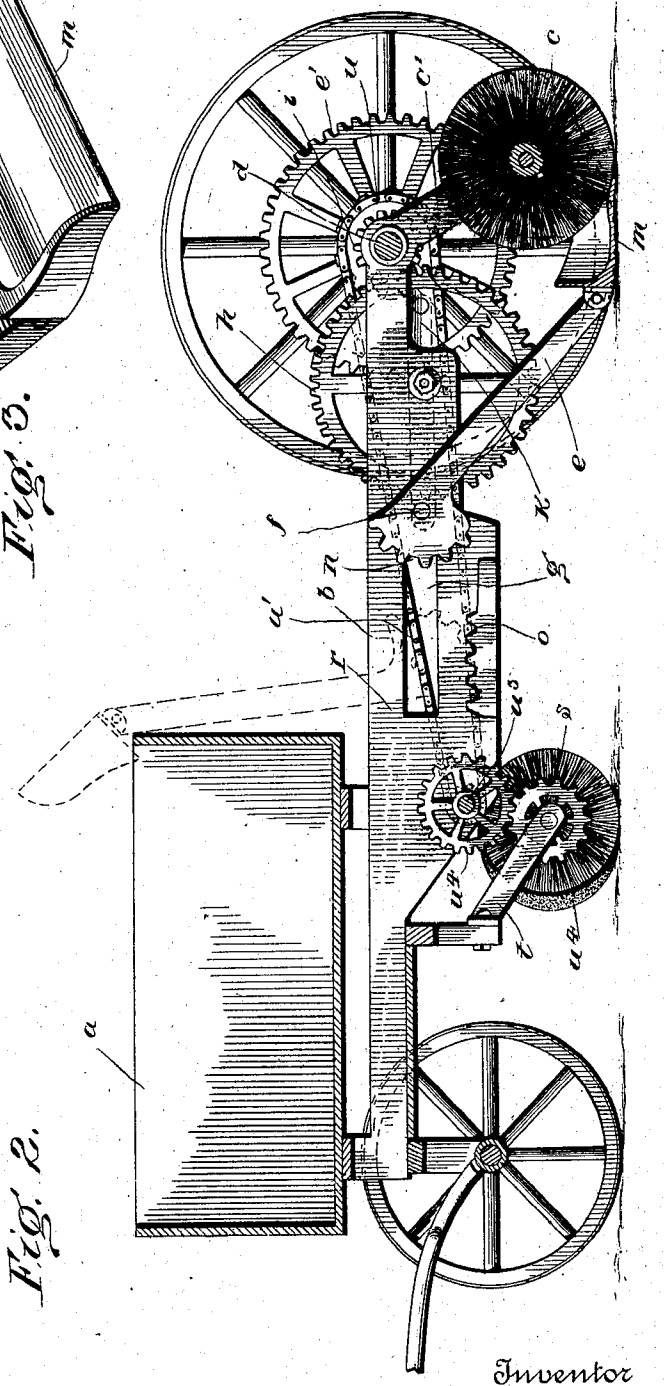


Fig. 2.

Witnesses
Fred. J. Hartman.
R. M. Kelly.

Inventor
Zenas Whittemore
By his Attorney
[illegible]

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

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Z. WHITTEMORE.

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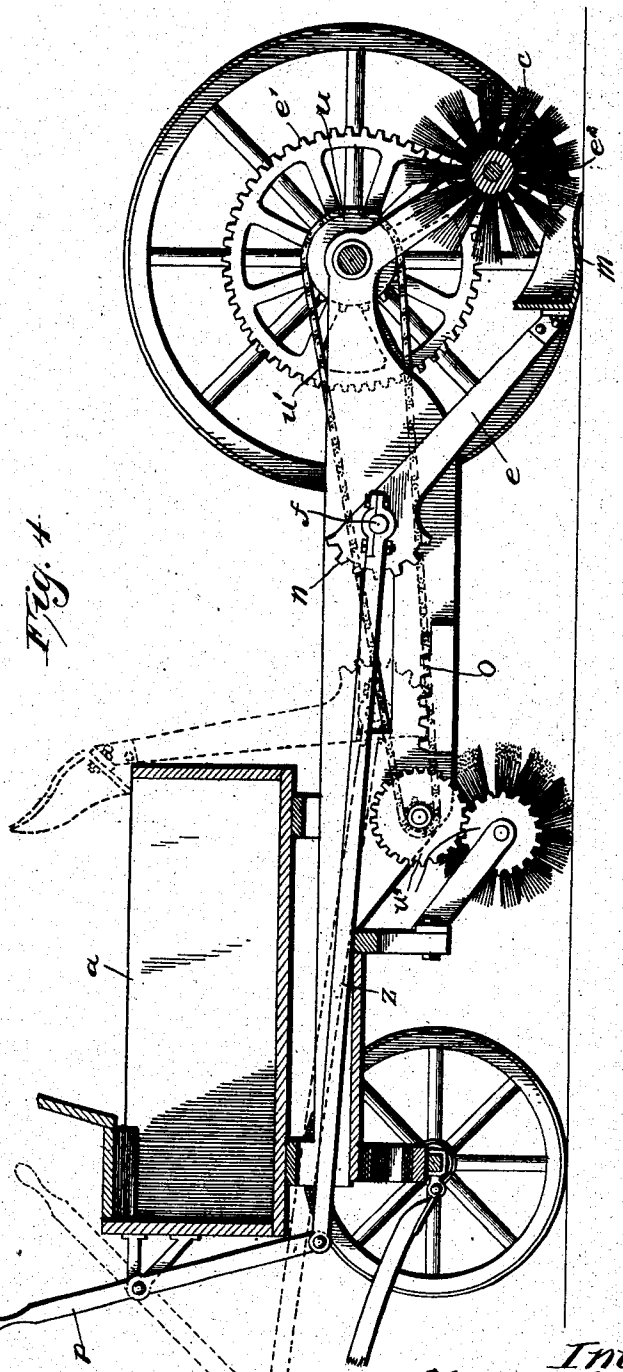


Fig. 4.

Witnesses:
Louis D. Heinrichs
W. H. Flanders.

Inventor
Zenas Whittemore,
By Thos. Hyde & Son
Atty

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

UNITED STATES PATENT OFFICE.

ZENAS WHITTEMORE, OF MORTON, PENNSYLVANIA.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 693,475, dated February 18, 1902.

Application filed June 20, 1901. Serial No. 65,233. (No model.)

To all whom it may concern:

Be it known that I, ZENAS WHITTEMORE, of Morton, Delaware county, Pennsylvania, have invented an Improvement in Street-Sweepers, of which the following is a specification.

My invention relates to street-sweepers; and it consists of the improvements which are fully set forth in the following specification and are shown in the accompanying drawings.

More particularly, my invention relates to that class of street-sweepers which employ a movable pan adapted to receive the sweepings from the brush and convey them to a receptacle.

One of the difficulties that has been experienced in street-sweepers employing a rocking pan is in locating the pan sufficiently close to the rotating brush to receive the sweepings and to enable it to clear the brush when it is rocked to dump the sweepings into the receptacle. This difficulty I overcome by imparting a reciprocating motion to the pan in addition to its rocking motion, whereby the pan is first moved back a sufficient distance to clear the brush and is then rocked to empty the sweepings into the cart or receptacle. These movements may be imparted to the pan either automatically through suitable power-transmitting connections with the running-gear or by devices operated by the hand or foot, as occasion requires. My preferred means for imparting this combined reciprocating and rocking movement to the pan consist of reciprocating segmental gears and toothed racks, over which the gears are moved to reciprocate and rock the pan-frame with which the gears are connected.

My invention embraces other features and combinations of parts, which are fully described hereinafter and are set forth in the claims.

In the drawings, Figure 1 is a plan view of a street-sweeper embodying my invention. Fig. 2 is a longitudinal vertical sectional view of the same on the line A A of Fig. 1. Fig. 3 is a perspective view of part of the dirt-pan and one of its operating-arms; and Fig. 4 is a longitudinal vertical sectional view of my improved street-sweeper, illustrating a different form of dirt-pan-operating devices.

a is the cart-body mounted, on a suitable wheeled frame *b*, in a rear extension of which is journaled a rotary brush *c* in suitable brackets *c'*. The brush may be driven from the axle-shaft *d* of the rear wheels through suitable power-transmitting connections, such as the gears e' e^2.

m is the dirt-pan, which is arranged immediately in front of the brush *c* and is carried by a frame consisting of rocking arms *e e*, pivoted on slides *f*, movable in longitudinal guides *g* in the frame *b*. I have shown the slides *f* formed by the ends of a single transverse rod, upon which the upper ends of the rocking arms are pivoted; but this connection may be omitted. Suitable power-transmitting connections are employed for reciprocating the slide or slides *f*, and these may be operated in any convenient manner, by hand or otherwise. I have shown means for operating the slide *f* from the rear axle, consisting of gears *h h*, journaled in studs on the side frame *b* and driven by pinions *i i* on the rear axle and connected by connecting-rods *k k* with the slide *f*. By these means the slide *f* and rocking arms *e e* are reciprocated back and forth to move the dirt-pan *m* to and from the brush *c*.

n n are toothed segments on the upper ends of the rocking arms *e e*, adapted to engage toothed racks *o o* on the side frame *b* when the arms are reciprocated and rock the arms on their pivots to elevate the dust-pan, as shown in dotted lines in Fig. 2, and cause the contents of the pan to be emptied into the cart-body *a*. The advantage of this construction is that it enables the pan *m* to be brought close up to the brush *e*, as shown in Fig. 2, without interfering with its rocking action. When the arms *e e* are in the position shown in Fig. 2, the pan *m* extends close up to and below the brush, so that the sweepings are delivered directly to it. As the gear *h* rotates the slide *f* is moved back with the arms *e e* and the pan *m* is moved away from the brush until the arc described by its outer edge will pass outside of the outer surface of the brush. At this moment the segments *n n* are brought into engagement with the racks *o o*, and the further backward movement of the slide will cause the segments to travel in the racks and rock the arms into the position shown in dotted lines in Fig. 2 to empty the

contents of the pan into the cart-body *a*. The further movement of the gear *h* will retract the slide and return the arms *e e* and pan to the position shown in full lines. The driving connection with the vehicle-axle shaft will cause a constant motion of the arms and pan. These parts may, however, be operated by hand, as by a lever *p*, connected with the slide *f* by suitable connections *z*, as shown in Fig. 4. With this arrangement the pan may be rocked only when desired.

s s are auxiliary brushes that may be arranged in suitable brackets *t t* under the frame *b* in front of the brush *c*. They may be driven by suitable power-transmitting connections from the running-gear of the vehicle. For this purpose I have shown a sprocket-wheel *u* on the rear axle, transmitting power through a chain u' and sprocket u^2 to a counter-shaft u^3, which is geared, through suitable gearing u^4, with the shafts of the brushes *s s*. By arranging these brushes at a horizontal angle, as shown, they may be employed to throw the dirt toward the center in position to be acted on by the brush *c*.

I do not mean to limit myself to the details of construction shown, as they may be varied without departing from the invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a street-sweeper, the combination with the rotating brush, of a pan arranged close to and extending under the body of the brush, and means to reciprocate said pan to and from the brush and to elevate it after it has been moved away from the brush.

2. In a street-sweeper, the combination with the rotating brush, of a pan arranged close to and extending under the body of the brush, a rocking frame carrying said pan, and means to reciprocate said frame and to rock it upon its axis.

3. In a street-sweeper, the combination with the rotating brush, of a pan arranged close to and extending under the body of the brush, a rocking frame carrying said pan, segmental gears carried by said frame, toothed racks engaged by said gears and means to reciprocate said gears over said racks, whereby a backward and upward movement is imparted to said frame and pan.

4. In a street-sweeper, the combination with a wheeled vehicle and the rotating brush carried thereby, of a pan arranged close to and extending under the body of the brush, a rocking frame carrying said pan, means to reciprocate said frame and to rock it upon its axis, and power-transmitting connections between said means for reciprocating the frame and the running-gear of the vehicle.

5. In a street-sweeper, the combination of a wheeled vehicle provided with a receptacle for sweepings, a rotating brush, a pan arranged close to and extending under said brush, and means to move said pan backward away from said brush and then upward to discharge its contents into the receptacle.

In testimony of which invention I have hereunto set my hand.

ZENAS WHITTEMORE.

Witnesses:
ERNEST HOWARD HUNTER,
J. W. KENWORTHY.