(No Model.)

W. L. TOBEY.

STREET SWEEPER.

No. 524,875. Patented Aug. 21, 1894

Fig: 1.

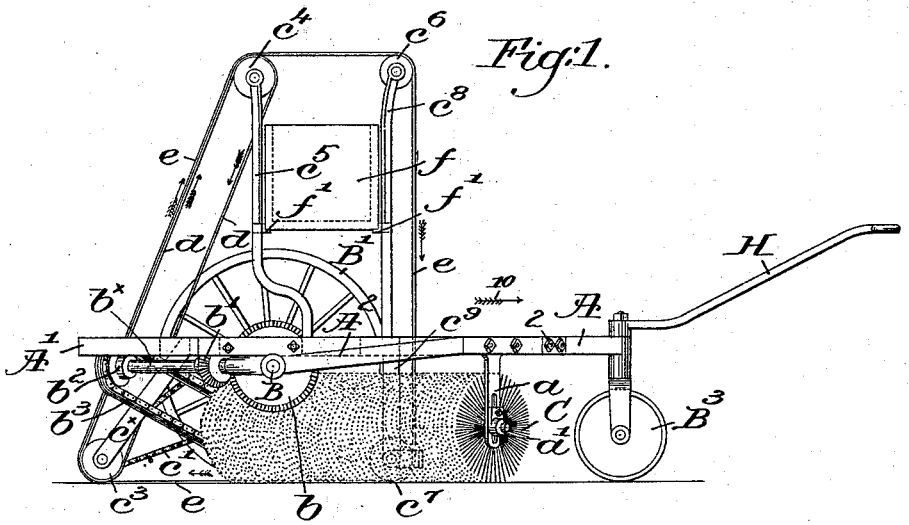
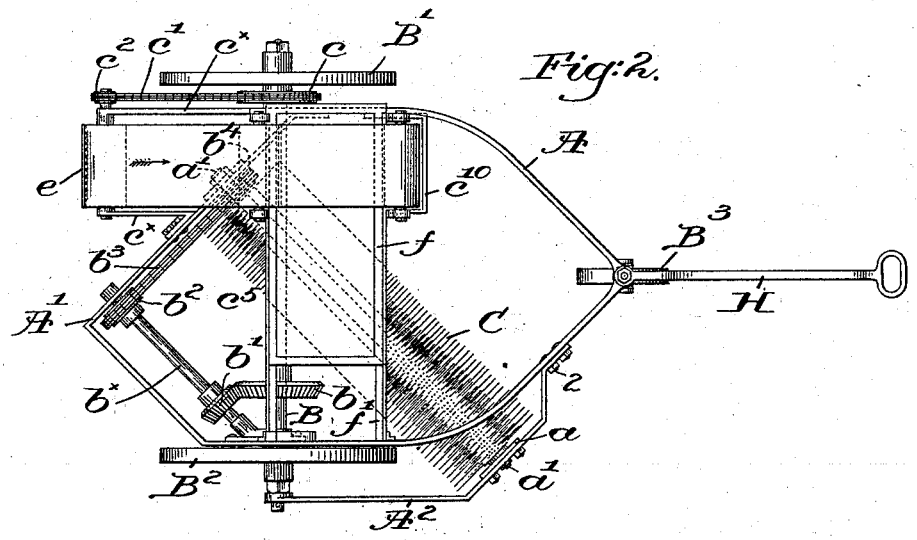


Fig: 2.



Witnesses.
Fred. S. Gunlaf.
Thomas J. Drummond

Inventor:
William L. Tobey
by Crosby & Gregory
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM L. TOBEY, OF BOSTON, MASSACHUSETTS.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 524,875, dated August 21, 1894.

Application filed November 27, 1893. Serial No. 492,188. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. TOBEY, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Sweeping-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a sweeping machine which gathers the dust and dirt by a rotating brush and delivers it upon a traveling apron which in turn conveys it to a suitably supported receptacle, said receptacle being adapted to be readily removed or emptied when necessary.

My invention in sweeping machines therefore consists, in a brush, and means to rotate it, combined with a traveling apron extended under a portion of said brush and in contact with the surface to be swept to receive thereon the sweepings collected by said brush, substantially as will be described.

Other features of my invention will be hereinafter described and particularly pointed out in the claims.

Figure 1 in side elevation represents an apparatus embodying my invention, the wheel at the side nearest the spectator being omitted for the sake of clearness, and Fig. 2 is a top or plan view of the apparatus shown in Fig. 1.

As herein shown the working parts of the apparatus are supported in a suitable frame A, having bearings for a rotatable axle or actuating shaft B to which are secured the wheels B′, B^2, a guide wheel B^3 being swiveled to the front of the frame and provided with a handle H, by which the apparatus may be drawn over the surface to be swept. The frame is extended rearwardly at A′, and a bracket A^2 is secured at one end by suitable bolts 2 to the frame A, its other end embracing the end of the actuating shaft B, as clearly shown.

Like lugs or hangers *a*, only one of which is shown in Fig. 1, depend from the extension A′, and the bracket A^2, to form bearings for the journals *a*′, of a rotatable brush or sweeper C, of any usual or suitable construction, said brush extending beneath the shaft B, and at an angle therewith, as best shown in Fig. 2 the wheels B′, B^2, B^3 and the brush or sweeper C being tangential to the surface to be swept. A bevel gear *b* fast on the shaft B engages a smaller bevel gear *b*′ secured to an auxiliary shaft $b^\times$ supported in bearings in the frame and its extension, said shaft being provided with a sprocket or other wheel b^2, connected by a suitable chain or belt b^3, to another sprocket wheel b^4, see dotted lines Fig. 2, fast on the journal of the brush C.

Movement of the apparatus in the direction of arrow 10, Fig. 1 rotates the shaft B which through the intervening connections causes the brush to revolve in the opposite direction, so that as the apparatus moves forward the brush sweeps the dirt up in front of it and toward the rearmost end of said brush at one side of the machine.

A sprocket wheel *c* fast on the shaft B adjacent the wheel B′ is connected by a suitable chain *c*′ to another sprocket wheel c^2 secured to one of the journals of a roll or drum c^3, supported in hangers $c^\times$ attached to the frame, and a broad endless belt *d* is passed around said roll and over a similar roll c^4, supported in uprights c^5.

Rolls c^6 and c^7 are supported in uprights c^8 and hangers c^9 respectively, the roll c^7 having a guard c^{10}, and an endless traveling apron *e* passes over and is supported on said rolls and the rolls c^3, c^4, and outside the belt *d* on the latter, as clearly shown in Fig. 1, the horizontal portion of the apron between the rolls c^3 and c^7 passing underneath the rear end of the brush C, as shown in Fig. 2, and partially resting flat upon the floor or other surface, as best shown in Fig. 1.

The speed transmitted to the belt driving roll c^3 is so regulated that the flat receiving portion of the apron *e* between the rolls c^3 and c^7 is substantially stationary relative to the surface being swept, the speed of the apron being the same as that of the apparatus when moving forward.

As the apparatus moves forward the brush C is rotated by the herein before described means, and the sweepings are thrown upon the subjacent portion of the traveling apron *e*, which latter is moved rearwardly toward the roll c^3 until it meets and passes over the belt *d*, continuing in contact therewith until the roll c^4 is reached, when the belt and apron separate, as shown in Fig. 1, the adjacent

plies forming a conveyer or elevator for the swept up material. The dust or dirt is gradually drawn in between the two superposed plies at the driving roll c^3 and is then carried up to the top of the apparatus, where the plies separate and the dust is released and permitted to drop in a box-like receptacle f, supported on ways f' secured to the uprights c^5 and c^8 and from which it may be withdrawn laterally and removed when filled. The apron passes between the roll c^7 and the guard c^{10} and is thereby kept from running off the rolls.

By the apparatus described the dust or dirt is brushed up and delivered upon the traveling apron and conveyed thence to the receptacle f, so that no subsequent cleaning up of the swept material is necessary, the sweeping and collecting being accomplished simultaneously and in the same apparatus.

My invention is not restricted to the exact construction and arrangement herein described, for the same may be changed or altered in various particulars without departing from the spirit and scope of my invention.

The brush will and may be, made vertically adjustable in any usual or suitable manner common to sweepers.

The invention is not limited to the exact construction or material for the belts, or the wheels carrying them.

I claim—

1. In a sweeping machine, a brush, and means to rotate it, combined with a traveling apron extended under a portion of said brush and in contact with the surface to be swept to receive thereon the sweepings collected by said brush, substantially as described.

2. In a sweeping machine, a brush, and means to rotate it, combined with a traveling apron extended under a portion of said brush, and between it and the surface to be swept to receive thereon the sweepings collected by the brush, a receptacle for said material, and a conveyer, the traveling apron forming a cooperative part thereof to carry the material from the apron to the receptacle, substantially as described.

3. In a sweeping machine, a frame, supporting wheels, a rotatable brush, having its axis inclined to the longitudinal axis of the frame, and means to rotate it as the machine is moved forward, combined with an endless traveling apron extended beneath a portion of the brush at its rearmost end, between it and the surface to be swept, to receive the sweepings, a receptacle for the latter, and an endless belt intermediate the receptacle and the portion of the apron adjacent the brush, one of the sides of said belt being in contact with a portion of the inner face of said apron, to thereby form a conveyer to carry the sweepings to the receptacle, substantially as described.

4. In a sweeping machine, the brush, a traveling belt or apron extended under a portion of the brush and between it and the surface to be swept, to receive the sweepings, and a receptacle for the latter, combined with a belt in contact with the inner face of said apron between the brush and the receptacle, to hold the sweepings there between and convey them to the receptacle, substantially as described.

5. In a sweeping machine, the rotating brush, a traveling apron extended under a portion thereof and adapted to rest upon the surface to be swept, and to receive the sweepings, means to rotate said brush and to move said apron, combined with a moving belt in contact with a portion of the inner face of the apron at the rear of the brush, to receive the sweepings between them and convey the same to a point of discharge, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM L. TOBEY.

Witnesses:
GEO. W. GREGORY,
FLORENCE M. WHITE.