

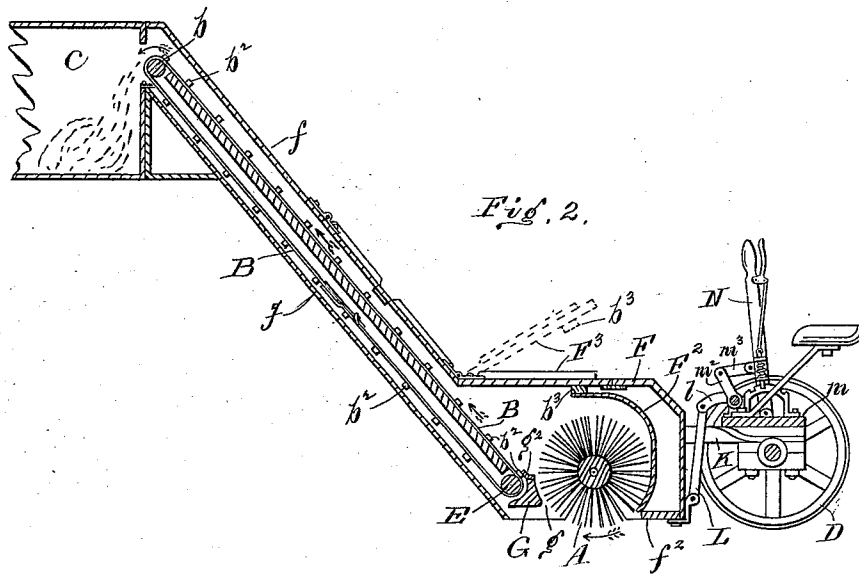
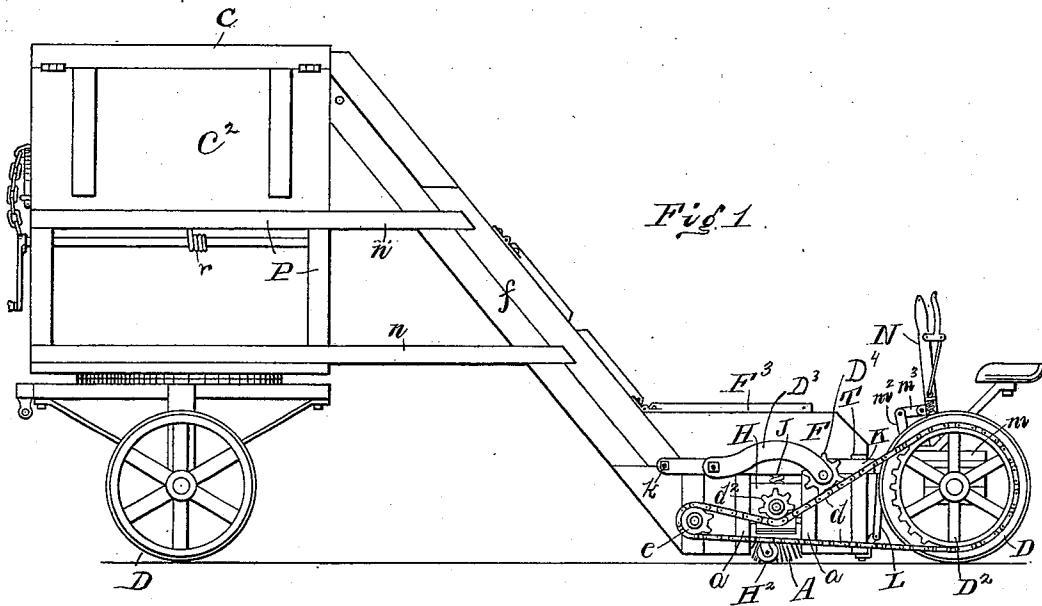
(No Model)

2 Sheets—Sheet 1.

F. C. CURRY.
STREET SWEEPER.

No. 532,870.

Patented Jan. 22, 1895.



Witnesses
W. Malzer.
Charles J. Ruffin.

Inventor
Frank C. Curry
per O. M. Hill
Attorney.

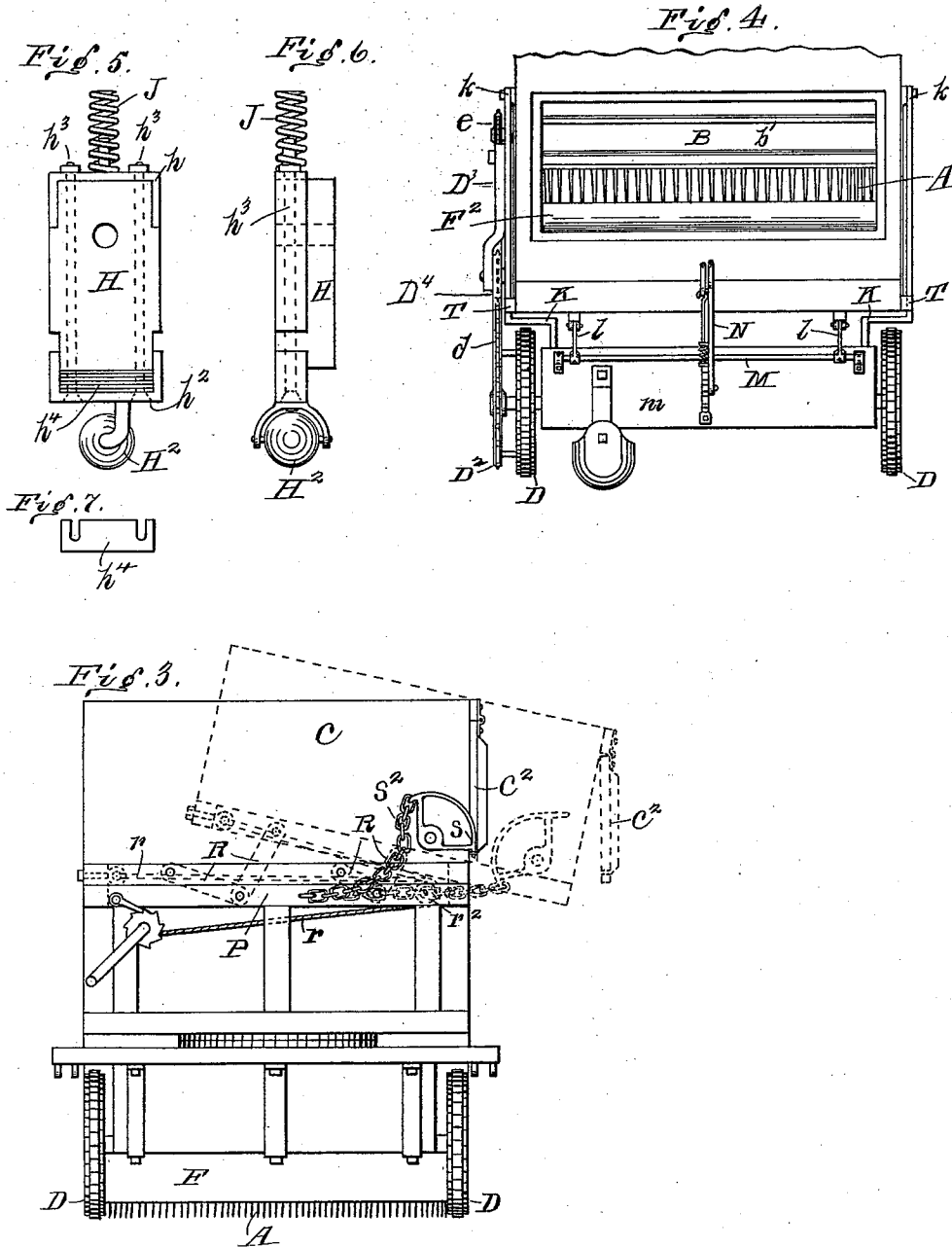
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By his Attorney O. M. Hice

UNITED STATES PATENT OFFICE.

FRANK C. CURRY, OF MILFORD, OHIO.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 532,870, dated January 22, 1895.

Application filed July 20, 1894. Serial No. 518,074. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. CURRY, a citizen of the United States, residing at Milford, Clermont county, State of Ohio, have invented certain new and useful Improvements in Street-Sweepers, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to construct a street-sweeper which shall be capable of thoroughly cleaning the street and at the same time take up the accumulations thereon and elevate said accumulations into a suitable receptacle, the latter being so mounted as to be capable of dumping its contents into a cart or wagon, or upon a dump.

The nature of my invention will be apparent from the detailed description hereinafter contained.

In the accompanying drawings:—Figure 1, is a side elevation of a street-sweeper embodying my invention, and Fig. 2, is a longitudinal section of the sweeper shown in Fig. 1, the front portion being broken away. Fig. 3, is a front end elevation of the sweeper shown in Fig. 1, illustrating the deposit-box (in dotted lines) in the act of being dumped. Fig. 4, is a top view of the rear end of the sweeper shown in preceding figures, the top lid or cover being removed. Figs. 5 and 6 are enlarged side and edge views, respectively, of the preferred form of journal-box within which the shaft of the cylinder brush is mounted, at each side of the machine, and Fig. 7, is a top view of one of the detachable plates removed from the journal-bearing shown in Fig. 5.

My improved street-sweeper is mounted upon suitable trucks, and consists of a suitable cylinder-brush, A, which is adapted to rotate and take up any dust or dirt upon the street over which it travels, and deposit the particles so taken up upon an endless carrier, B, the front end of the carrier, or rather the roll, *b*, over which it travels, being so located with reference to the box, C, as that all matter taken up by the brush and deposited upon said carrier will fall into said box, as shown. Any suitable operative mechanism may be employed for rotating said brush and for driving said carrier, that shown being preferred,

which is as follows, viz: One of the wheels, D, of the rear truck, is provided with a sprocket-wheel, D², which latter, through the medium of chain, *d*, drives the smaller sprocket-wheel, *d*², attached to one end of the brush-shaft. D³ is a pivoted arm carrying a sprocket-wheel D⁴, which engages with and rests upon the chain *d* to adjust and tighten the latter. The lower roller, E, which drives the carrier, is provided with a sprocket-wheel, *e*, which is also driven by chain *d*, when constructed as shown in Figs. 1 and 4.

The brush and carrier are mounted within a suitable casing consisting, respectively, of the rear portion, F, and angular portion, *f*, said casing being provided with a suitable hinged lid or lids. The angular portion, *f*, is formed closed on all sides, while the enlarged portion, F, is open across a portion of its bottom face to permit the brush to come into contact with the street. The rear inner portion of casing, F, is provided with a strip, F², of metal or other suitable material, said strip extending across the inner face, and being of an elliptical outline in part in cross-section (see Fig. 2) the periphery of the cylinder brush impinging against said strip, as shown at *f*². The purpose of this construction is to stop any back-draft and to force the current of air, generated by the rapid rotation of the brush, to pass out over the carrier through the angular portion, *f*, of the casing. The hinged lid, F³, is shown as provided with a packing-strip, *b*³, across its lower face, which strip rests upon the top edge of strip F², when said lid is closed, as shown. The purpose of this packing-strip is to assist in preventing any back-draft, for the purpose afore stated. The brush-casing is also provided with a strip, G, which extends across the inner face thereof in front of the brush, and a slight distance above its lowest point of contact with the street, sufficient space, *g*, intervening between said strip and brush to permit of suction to draw up any dust, or fine particles, loosened by the brush. This strip is preferably formed concave on two of its sides, as shown, to accommodate the outline of the brush and the adjacent roller, E. It is also preferred to attach a flexible strip, *g*², along the top edge of strip, G, the former acting in

conjunction with the carrier-strip, b^2 , to prevent any particles from dropping down between the strip G and roller E.

The journals of the brush are mounted in suitable bearings, H, one at each side of the casing, F; and, in order that said brush may accommodate itself to any undulations in the street, it is preferred that said bearings be loosely connected to said casing in such a manner as that they may freely slide up or down thereon. With this object in view, I have illustrated said bearings as being constructed in the following preferred manner, viz: H, represents a block having a journal-opening (said block being preferably made of hard wood) with a top metal binding h and a bottom binding, h^2 , said binding-strips being connected to said block by means of the rods, h^3 , the latter passing through said block and strips, and secured thereto in any suitable manner.

Between the bottom of block H and the lower strip, h^2 , are provided the detachable plates, h^4 , which may be removed or inserted by loosening the nuts on rods h^3 , and again tightening them when the proper adjustment is made. These plates are for the purpose of lowering the brush and its bearings to accommodate any wear on said brush.

To the lower binding-strip, h^2 , is riveted or otherwise attached a caster, H^2 , the latter being, preferably, ball-shaped or round, as shown, to prevent its entering the groove of tram-rails; but, the caster of each bearing may be formed of any other desired configuration.

The opening formed in each side of the casing, F, is provided at each vertical side with two projecting guide-plates, a , between which plates the edges of the bearing H engage, in which position the latter is free to slide, vertically.

A suitable spring, J, or other elastic packing, is interposed between the top of each bearing, H, and the casing. This spring or other packing, is of sufficient resiliency to permit the brush to adjust itself to any slight undulations in the street, without any adjustment of the casing or body of the sweeper.

From the foregoing description it will be seen that the cylinder-brush is mounted on casters which are connected to the bearings of said brush,—said bearings being loosely connected to the casing, by means of which construction said brush is free to automatically adjust itself independent of any adjustment of the casing; but, it has been found to be desirable to provide some means for elevating and lowering the rear portion, F, of the casing, and with this object in view, I have provided the following preferred means: K, represents a supporting-bar, the front end of which is pivoted at k to the sweeper-casing, as shown in Figs. 1 and 4, the rear end of said bar being suitably connected and mounted upon the axle of the rear truck, as

shown in Figs. 1 and 2. Two of these supporting-bars are preferably provided, one at each side of the rear casing, as shown in Fig. 4, the said casing being mounted and suspended upon the pivot-connections, k . T, represents a flanged-plate attached at each rear side of the casing, the flanges of which are adapted to rest upon the bars K when said casing is at its lowest point—in other words said flanges limit the downward movement of said casing. L, represents a bar or rod pivotally connected to the rear end of the casing, the top of said rod being pivoted to a short bar, l , which latter is rigidly attached to the horizontal rod, M, mounted on the platform, m , over the rear axle of the truck, as more clearly shown in Figs. 2 and 4. It is preferred to provide two of the bars L and l , as shown, but one pair of such bars would be operative. To the rod, M, is rigidly attached one end of a bar, m^2 , the opposite end of the latter being pivoted to the bar m^3 , the latter at its opposite end being in turn pivoted to the operating-lever, N, which latter is provided with some suitable device for holding it at any desired angle, according as it is desired to raise or lower the casing. The carrier-portion, f , of the casing is rigidly connected to the frame of the front trucks by means of suitable braces, n .

From the foregoing, it will be seen that the whole frame and casing of my improved sweeper is mounted upon the front axle and the pivot-connections, k ; and, to elevate or lower the rear portion of the casing, the operator simply moves the lever N in the proper direction, which movement, through the medium of bars m^3 , m^2 , l and L, and rod m , will cause the said casing to be correspondingly raised or lowered. The raising of the rear end of the casing on its pivot-points, k , will cause the frame-work of the front truck to tilt slightly forward on its axle, and the lowering of said casing will cause a reverse movement on said axle.

P, represents a suitable frame-work mounted upon the fifth-wheel of the front truck, upon which frame the deposit-box C is mounted, the latter being adapted to receive the sweepings elevated by the carrier, as afore stated. It is preferred that this box be mounted on its support in a dumpable position; and, for that purpose I have illustrated one means, which consists of the bars, R, one end of each bar being pivoted to the frame, P, the opposite end being pivoted to the inner face of the bottom sill of the box. It is preferred to employ two pairs of said bars at each side of the box and frame,—one pair at front and one pair at rear of the said box, the latter having a suitable rope or cord, r , (see dotted lines, Fig. 3) attached to its rear bottom portion, said cord passing over a pulley, r^2 , on the frame, and attached to a suitable reel or windlass mounted on the opposite side of the frame, as shown.

S, represents a hook pivoted on the side of

the box, C, said hook being adapted to engage within a suitable staple or eye on the edge of the lid C².

S², represents a chain attached at one end to the outside of the frame P, the opposite end being attached to said pivoted hook, said chain remaining slack at all times except when the box is in position to dump, at which time said chain will act to release said hook and permit the lid to swing outward, as shown by dotted lines in Fig. 3.

The endless-carrier, B, is preferably formed of canvas-cloth with the strips *b* connected thereto, the meeting ends of said canvas being connected in any suitable adjustable manner which will permit of taking up any slack occasioned by the stretching of the canvas.

The primary advantage of my invention consists in the means and facility afforded for taking up, elevating, depositing and dumping the street-sweepings, all of which is accomplished in my device without the aid of shovelers. The automatic adjustment of the brush, independent of its casing, is a valuable feature of my invention, as is also the feature of adjustment provided for raising and lowering said casing.

While it is preferred to employ the detailed mechanism hereinbefore specified for operating the brush and carrier, and for dumping the deposit-box, I do not confine myself to said detail mechanism, excepting as specifically hereinafter claimed.

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

1. In a street-sweeper, the combination of a forward truck, a deposit-box mounted thereupon, an inclined casing connected therewith, a cylinder brush and an endless carrier within said casing, a rear truck, bars K connecting the lower end of the casing and the rear truck, bars L pivoted to the lower end of the casing, and means upon the rear truck for elevating and lowering said latter bars all substantially as described.

2. In a sweeper, the combination of a casing, a cylinder brush and an endless carrier suitably mounted therein, said brush being

journalled within bearings which latter are mounted to slide vertically in the sides of the casing, a caster for each bearing, and suitable mechanism for operating the brush and carrier.

3. In a sweeper, a cylinder brush mounted on bearings, a casing for said brush, said bearings engaging between flanges attached vertically to the sides of the casing, a caster attached to each bearing with detachable plates interposed between the top of said caster and the bottom of the bearing-blocks, trucks on which said casing is mounted, and suitable mechanism for rotating said brush.

4. In a sweeper, the combination of a casing, a cylinder brush mounted on bearings therein, the latter being mounted to slide vertically in the sides of the casing, a caster for each bearing, an elastic packing interposed between the top of each bearing and the casing, and suitable mechanism for rotating the brush.

5. In a sweeper, the combination of a casing, a cylinder brush mounted on bearings therein, the latter being mounted to slide vertically in the sides of the casing, a caster attached to each bearing, an elastic packing interposed between the top of each bearing and the casing, and means for adjusting each bearing-block on its caster, for the purposes set forth.

6. In a sweeper, the combination of a forward truck, a deposit box mounted thereupon, an inclined casing connected therewith, an endless carrier and a cylinder brush within said casing, a rear truck, bars K connecting the lower end of the casing and the rear truck, stop-flanges T upon the casing for the bars K, and suitable mechanism mounted upon said rear truck and attached to said casing for elevating and lowering the same, and suitable mechanism for operating said brush and said carrier, all substantially as described.

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Witnesses:

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