

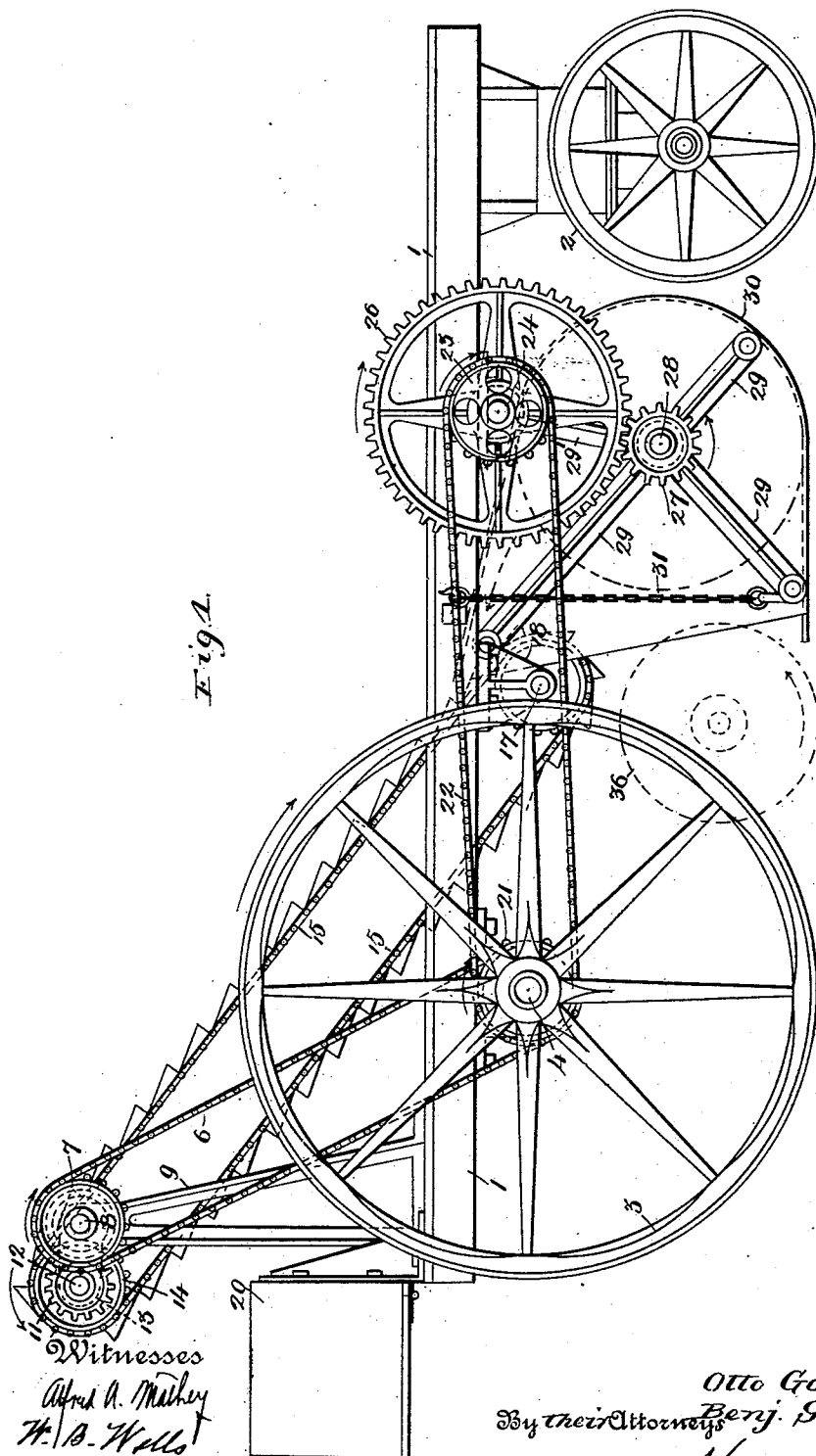
(No Model.)

3 Sheets—Sheet 1.

O. GOSCHEL & B. SUTTER.
STREET SWEEPER.

No. 570,750.

Patented Nov. 3, 1896.



Witnesses
Alfred A. Mather
H. B. Wells

Inventors
Otto Goschel and
Benj. Sutter.
By their Attorneys
Kearns & Stier

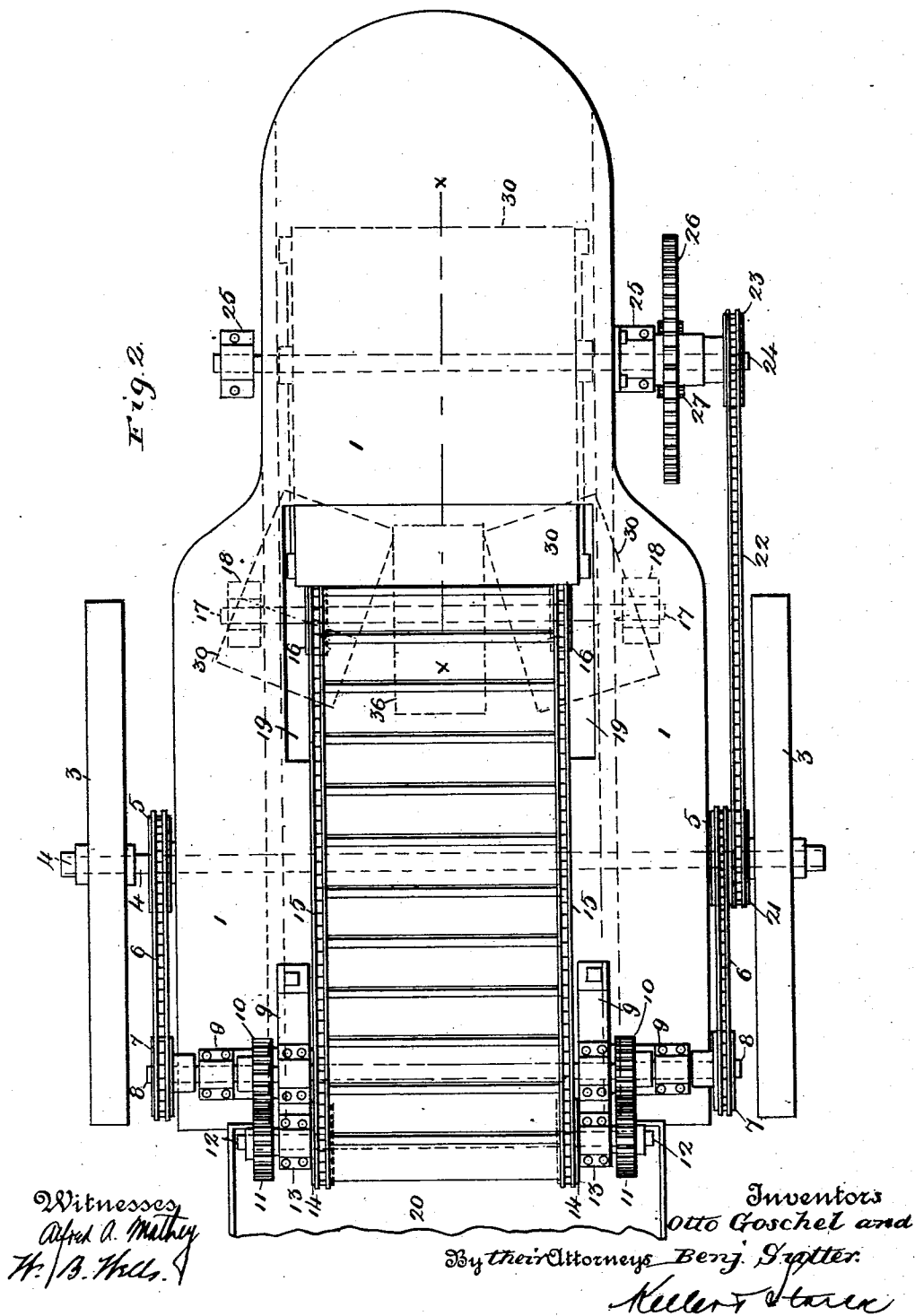
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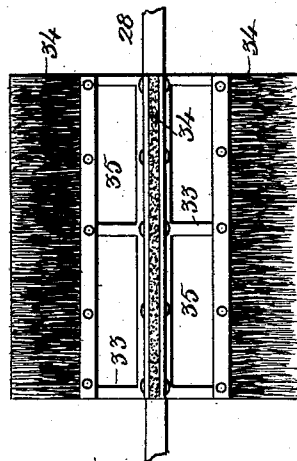
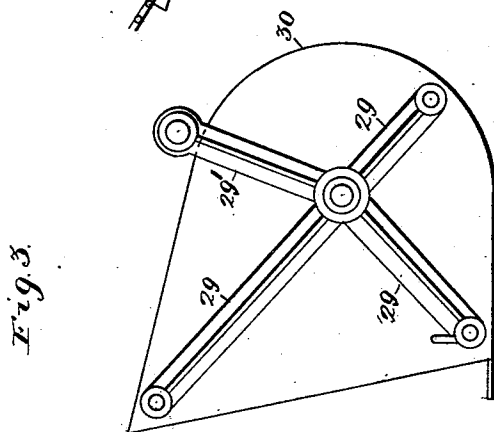
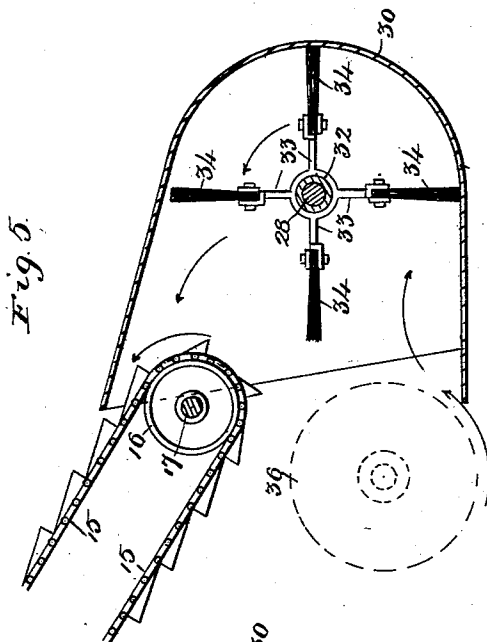
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UNITED STATES PATENT OFFICE.

OTTO GOSCHEL AND BENJAMIN SUTTER, OF ST. LOUIS, MISSOURI, ASSIGNORS
OF TWO-THIRDS TO HENRY MUSELMANN, OF SAME PLACE.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 570,750, dated November 3, 1896.

Application filed August 24, 1896. Serial No. 603,737. (No model.)

To all whom it may concern:

Be it known that we, OTTO GOSCHEL and BENJAMIN SUTTER, citizens of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Street-Sweepers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention has relation to improvements in street-sweepers; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of our complete invention. Fig. 2 is a top plan view thereof. Fig. 3 is an end view of the dirt-receptacle. Fig. 4 is a side view of the series of brushes mounted in the dirt-receptacle, and Fig. 5 is a sectional detail on the line *x x* of Fig. 2.

The present device is an improvement on the construction of sweeper described in our pending application for United States Letters Patent, Serial No. 588,699, filed April 23, 1896, and has for its object to substitute for the horizontally-rotating depositing-plate of said application a receptacle which will positively receive the dirt swept by the broom without undue scattering of such dirt, and in the further substitution of more positive means of delivering the dirt from such receptacle to a suitable conveyer, which conveys the dirt to a box from which it can be dumped at any convenient point.

In detail the present invention may be described as follows:

Referring to the drawings, 1 represents the frame of the machine, 2 the front wheels, and 3 the hind or driving wheels, the latter being secured to the opposite ends of the main drive-shaft 4, as usual. Secured to and carried by the drive-shaft 4, at each end thereof, and located between each wheel 3 and the sides of the frame, is a sprocket-wheel 5, from which passes a sprocket-chain 6, and over a sprocket-wheel 7, located at the opposite ends of a shaft 8, mounted on top of the standards 9, carried by the rear of the frame. Secured to the shaft 8, adjacent to the inner face of each bearing thereof, is a gear-wheel or pin-

ion 10, which meshes with a corresponding pinion 11 at each end of a parallel shaft 12, mounted at the ends of the rearwardly-extending arms 13, forming a part of the standards 9. Carried also by the shaft 12, adjacent to the inner walls of the bearings thereof, are the sprocket-wheels 14, over which pass the lateral sprocket-chains 15 of an endless dirt-conveyer, the laps of the lower ends of said sprocket-chains 15 passing over the sprocket-wheels 16, carried by a shaft 17, mounted below the frame in suitable bearings 18, and located under the opening 19 made in the frame, through which the lower end of the endless conveyer passes. The conveyer may be of any approved construction, the same being composed of a series of buckets properly secured to the drive-chains. Located immediately under the upper end of the conveyer and at the rear of the machine is a box 20, into which the dirt raised by the conveyer is deposited, as subsequently to be seen, and from which said dirt can be removed in any suitable or convenient manner. Carried at one end of the drive-shaft 4 adjacent to one of the sprocket-wheels 5 is a sprocket-wheel 21, over which passes forwardly along the outside of the frame a sprocket-chain 22, the forward end thereof passing over the terminal sprocket-wheel 23 at one end of the forward transverse shaft 24, mounted below the frame in suitable bearings 25. Carried by said shaft 24 adjacent to the terminal sprocket-wheel 23 is a gear-wheel 26, which meshes with the terminal pinion 27, carried by the outer end of a shaft 28, having bearings at the meeting point of a series of arms 29 29', which form the stiffening-ribs for the terminal walls or ends of an open dirt-receptacle 30, suspended from the frame by one of the series of arms (29') at each end thereof, the rear edge of the receptacle being suspended by chains 31, secured, respectively, to the frame and to one of the series of arms 29. Carried by and slipped over the shaft 28 is a sleeve 32, with which are formed integrally a series of radiating arms 33, the free ends of which are connected by a bar, to which are secured the brushes 34, which in their revolution in the drum or dirt-receptacle carry the bulk of the dirt swept into said re-

ceptacle on to the traveling series of buckets at the lower end of the endless conveyer, it being understood that the lower end of said conveyer is located adjacent to the brushes 34 and extends into the receptacle a slight distance below and adjacent to the upper rear edge of the said receptacle.

The direction of the arrows in Fig. 1 indicates the relative direction of travel of the several parts thus far described, it being obvious that the dirt swept into the dirt-receptacle is swept into the conveyer-buckets, which latter deposit the same into the box 20, located at the rear end of the frame of the machine. The free edges of the brushes 34 brush along the concave bottom of the dirt-receptacle, the arms 33 being sufficiently separated along the sleeve 32 to form openings or spaces 35, through which such dirt as may not be bodily swept into the conveyer may readily drop back into said receptacle without unduly resisting the rotating action of the brushes. As seen in Fig. 5, the lower end of the conveyer extends partially into the open mouth of the dirt-receptacle.

36 represents the knuckle-jointed sweeper-broom by which the dirt is swept from the street into the dirt-receptacle. The manner of coupling such a broom to the main drive-shaft is immaterial, such being within the skill of the ordinary mechanic, and as such manner of coupling is old and forms no part of the present invention the same is not here entered into in detail. Suffice it to say, however, that any form or character of broom may be employed to sweep the dirt into the receptacle, and any manner of gearing may be used to accomplish the rotation of such broom in the proper direction.

By our present improvement the dirt when once swept into the dirt-receptacle is retained therein without giving such dirt any opportunity to scatter, said dirt being subsequently swept to the advancing series of buckets constituting the endless conveyer, which latter then delivers the dirt into the box 20 at the rear of the machine, from which box the dirt can then be dumped or otherwise removed by the operator. The rotating brushes confined within the receptacle may of course have their full equivalent in any series of arms adapted to eject the dirt from the receptacle and deposit the same onto the endless conveyer.

Having described our invention, what we claim is—

1. In a street-sweeper, a suitable frame,

driving-wheels for the same, a dirt-receptacle depending from the frame into which the dirt from the street is adapted to be swept, a series of brushes mounted in the dirt-receptacle, an endless conveyer having the lower end located in proximity to the brushes, and intermediate gearing between the drive-wheels and the brushes and conveyer for operating the several parts, substantially as set forth.

2. In a street-sweeper, a suitable frame, driving-wheels for the same, an open dirt-receptacle depending from the frame into which the dirt from the street can be swept, said receptacle having a concave bottom, a series of brushes mounted in said receptacle and adapted to sweep along the said concave bottom, an endless conveyer having the lower end located in proximity to the brushes in the receptacle, and intermediate gearing between the drive-wheels and the brushes and conveyer for operating the several parts, substantially as set forth.

3. In a street-sweeper, a suitable frame, driving-wheels for the same, a dirt-receptacle depending from the bottom of the frame, into which the dirt from the surface passed over by the machine is adapted to be swept, said receptacle having a concave bottom, a shaft mounted between the opposite ends or walls of the receptacle, intermediate gearing between said shaft and the driving-wheels for imparting rotation in proper direction to said shaft, a series of radiating arms carried by the shaft within the receptacle, said arms being separated by sufficient spaces, brushes carried by the free ends of the arms, said brushes being adapted to sweep along the concave bottom of the receptacle, an endless conveyer having its lower end projecting a suitable distance into the receptacle and below the upper rear edge of the open end thereof, and in proximity to the series of rotating brushes confined within the receptacle, suitable gearing between the driving-wheels and the conveyer for imparting rotation to the latter in proper direction, the parts operating substantially as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

OTTO GOSCHEL.
BENJAMIN SUTTER.

Witnesses:

ALFRED A. MATHEY,
EMIL STAREK.