

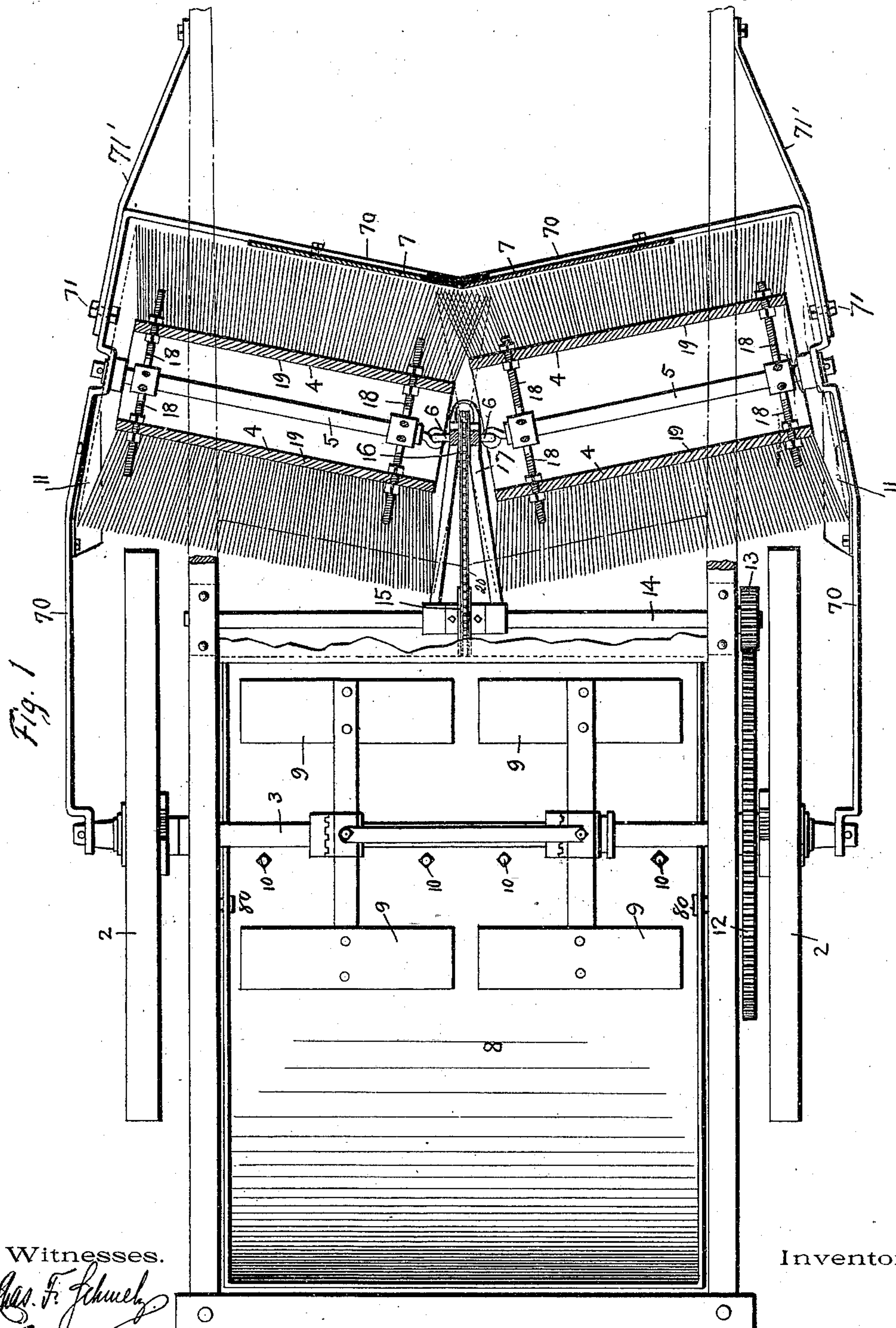
(No Model.)

2 Sheets—Sheet 1.

A. J. REYNOLDS.
STREET SWEEPER.

No. 542,571.

Patented July 9, 1895.



Witnesses.

Chas. F. Schuch
C. S. Yeaw

Inventor.

Andrew J. Reynolds

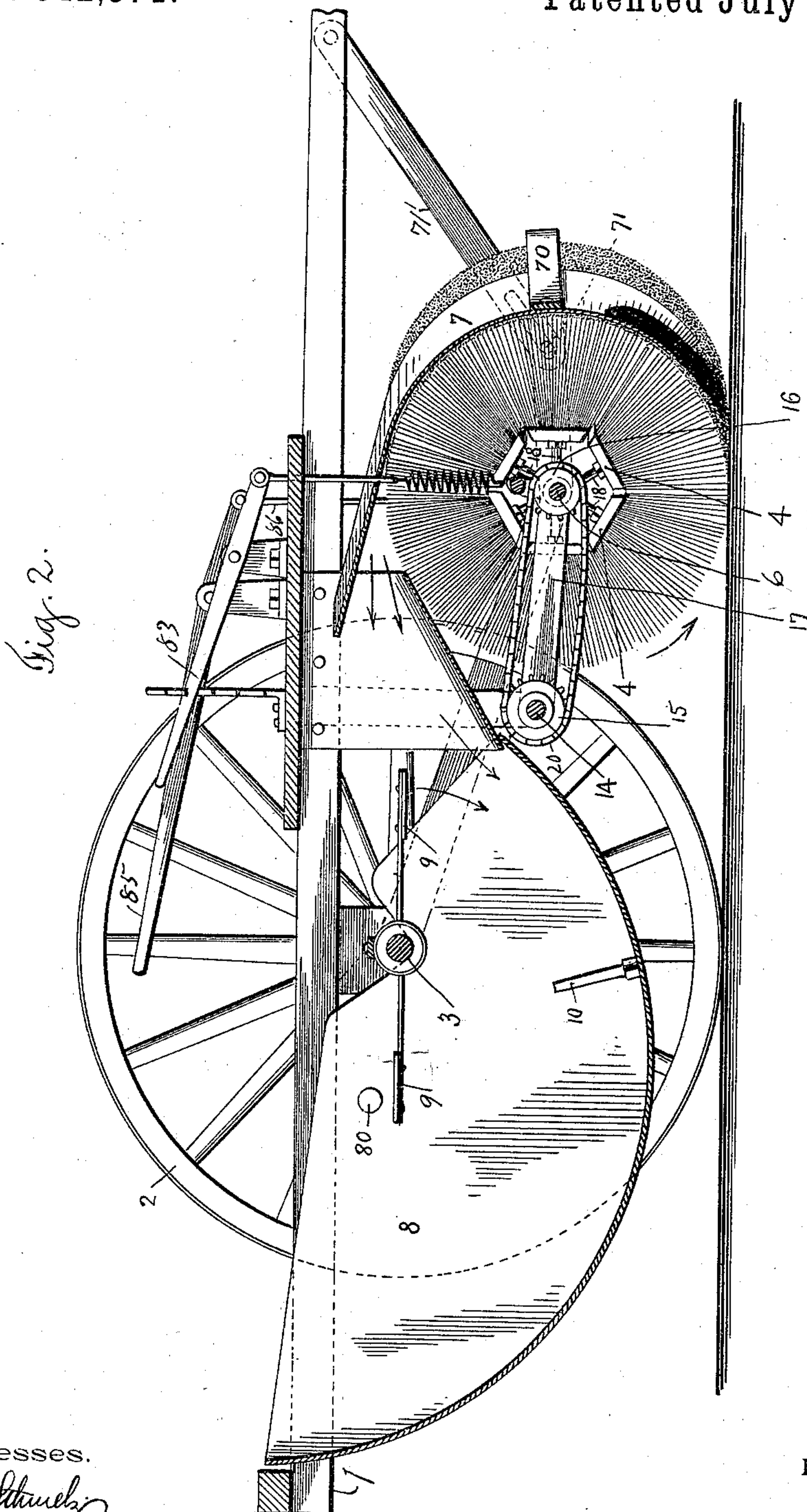
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2 Sheets—Sheet 2.

A. J. REYNOLDS.
STREET SWEEPER.

No. 542,571.

Patented July 9, 1895.



Witnesses.

Chas. F. Johnson
W. J. Baldwin

Inventor.

Andrew J Reynolds

UNITED STATES PATENT OFFICE.

ANDREW JACKSON REYNOLDS, OF WORCESTER, MASSACHUSETTS, ASSIGNOR
OF ONE-HALF TO CURTIS S. YEAW, OF SAME PLACE.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 542,571, dated July 9, 1895.

Application filed November 2, 1894. Serial No. 527,712. (No model.)

To all whom it may concern:

Be it known that I, ANDREW JACKSON REYNOLDS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Street-Sweepers, of which the following is a specification.

My invention relates to street-sweepers, and particularly to that class of sweepers provided with a receptacle into which the dirt is thrown as it is swept from the street.

The object of my invention is to improve upon the construction of street-sweepers of the class referred to as now ordinarily made, and to provide a street-sweeper of very simple construction and operation, in which there are two brushes arranged at an angle to each other and a receptacle at the rear of the brushes, into which the dirt, &c., is thrown by the brushes, the dirt being carried up and over the brushes into the receptacle by the revolution of the brushes, in connection with a curved angular deflector or apron in front of the brushes and in close proximity thereto, the lower part of said deflector being provided with a flexible portion adapted to drag upon the ground in front of the brushes.

My invention consists in certain novel features of construction and operation of my street-sweeper, as will be hereinafter fully described, and the nature thereof indicated by the claims.

Referring to the drawings, Figure 1 is a plan view of a street-sweeper embodying my improvements with the front portion broken away and showing the brushes in section. Fig. 2 is a central longitudinal vertical section through the sweeper shown in Fig. 1.

In the accompanying drawings, 1 is the frame of the sweeper, consisting of two side bars and a rear bar. Extending forwardly from the frame 1 are two bars, which in this instance form the shafts of the sweeper. In the sides of the frame 1 the axle 3 is journaled, and on the ends of said axle are mounted, to turn loosely thereon, the supporting-wheels 2 of the sweeper. The wheels 2 are adapted to be clutched in any ordinary way to the axle 3 to cause said axle to turn

with said wheels or to be unclutched to allow the wheels to turn without turning the axle, as is customary in this class of sweepers.

The receptacle 8, into which the dirt and sweepings are thrown directly from the rotary brushes, consists, preferably, of a metal bucket having a circular bottom, as shown in Fig. 2, and pivotally hung on pins 80, secured in the sides of the frame 1. The bucket 8 is adapted to swing downwardly at its front end, which is next to the brushes, and upwardly at its rear end to discharge the contents of the bucket in the rear of the brushes between the wheels of the sweeper. The top of the front edge of the bucket does not extend as high as the side bars of the frame, as shown in Fig. 2. I have shown in this instance attached to the axle 3, and adapted to revolve therewith, spring paddles or pushers 9, which as they revolve are adapted to strike against pins 10, extending up from the bottom of the receptacle 8, and pass by said pins and push the dirt from the front of the bucket into the rear part thereof. In lieu of the paddles or pushers 9 any other suitable or equivalent device may be employed for pushing the dirt as it is swept into the bucket 8 from the front part thereof into the rear part thereof to properly load the bucket.

There are two rotary brushes 4 arranged at an angle to each other and directly in front of the bucket 8 and of the driving-wheels 2. The brushes 4 are of sufficient length so that the outer ends thereof will extend beyond the wheels 2 and the inner ends at their front portions will intermesh, as shown in Fig. 1. The brushes 4 are provided with central axles 5, which in this instance are supported at their outer ends by means of a supplemental hinged frame 70, which in this instance is pivotally supported at its inner end on the outer ends of the axle 3 and extends around in front of the brushes. The front portion of said frame 70, carrying the brushes 4, is in this instance connected with the shafts by bars 71, bolted at one end to the shafts and pivotally attached at their other ends by bolts 71 to the sides of the frame 70. (See Fig. 1.)

I provide levers pivotally supported on the front portion of the sweeper, as shown in Fig. 100

2. The shorter lever 83 is connected through a spiral spring with the inner ends of the brushes, and the longer lever 85 is connected through a rod 86 with the outer end of one brush, and another similar lever (not shown) is connected with the outer end of the other brush, so that the outer end of either brush may be raised or lowered independently, and the inner ends of the brushes may be raised or lowered independently of the outer ends, as desired.

The rotary brushes 4 are each preferably made up of six separate sections or parts arranged around the axles 5, each part being provided with a back 19 and bristles extending out therefrom, and each part attached separately to the central axle 5 of the brush, in this instance by means of screw-threaded bolts 18, which are screwed into hubs on the axles 5, and at their outer ends are provided with adjustable nuts, one on the outside and one on the inside of the back 19. By turning said nuts in one direction or in the other each section of the brush may be adjusted outwardly or inwardly, as desired. In practice, as the bristles wear down, the sections 19 are moved outwardly, as shown at the right in Fig. 1, to compensate for the wear of the bristles.

The inner ends of the axles 5 of the brushes are jointly connected to a short shaft 6, carrying a sprocket-wheel 16 fast thereon and mounted in the outer end of an arm 17, which is pivotally supported at its inner end on the shaft 14. (See Fig. 1.) A sprocket-chain 20 passes over said sprocket-wheel 16 and over another sprocket-wheel 15 fast on the shaft 14, mounted in the lower front part of the frame 1 and provided at one end with a pinion 13, which meshes with a gear 12 fast on the axle 3. It will thus be seen that as the sweeper is drawn along the revolution of the wheels 2, clutched to the axle 3, will cause said axle 3 to revolve, and through gear 12, pinion 13, shaft 14, sprocket-wheel 15, sprocket-chain 20, and sprocket-wheel 16 the brushes will be revolved. Arranged directly in front of the brushes is a deflector or apron 7, which is of angular shape in horizontal cross-section, as shown in Fig. 1, the angle of said deflector corresponding to the angle of the brushes. The deflector 7 is secured by bolts or otherwise to the front bar of the frame 70, on which the brushes are mounted. The deflector 7 is of curved shape in vertical cross-section, as shown in Fig. 2, and the upper part thereof extends directly back over the top of the brushes toward the receiving-bucket 8. The lower part of the deflector 7 is curved inwardly, and is provided with a flexible portion, which is adapted to extend under the brushes.

The advantages of my improved street-sweeper will be readily appreciated by those skilled in the art. It is of very simple construction and operation, and the dirt, as it is swept from the street, is delivered directly

from the brushes into the receiving-bucket, without the intervention of any intermediate mechanism, such as a fan, &c., between the brushes and the receiving-bucket. When the receiving-bucket is filled the contents are dumped in a pile by simply tipping the bucket on its pivot-support.

It will be understood that the details of construction of my street-sweeper may be varied if desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a street sweeper, the combination with a frame, an axle mounted thereon, two wheels loose on said axle, and adapted to be clutched thereto to cause the axle to revolve with the wheels, to operate through intervening mechanism the rotary brushes, and a collecting receptacle or bucket supported on the frame between the wheels, and at the rear of the brushes, of two rotary brushes arranged at an angle to each other, and means for supporting said brushes, and a deflector or apron supported directly in front of, and in close proximity to said brushes, said deflector of angular shape in horizontal cross section, and of curved shape in vertical cross section, with its upper end extending back over the top of the brushes, and its lower end provided with a flexible portion extending under the lower front part of the brushes, substantially as set forth.

2. In a street sweeper, the combination with the frame, an axle mounted thereon, two wheels loose on said axle, and adapted to be clutched thereto to cause said axle to revolve with said wheels, to operate, through intervening mechanism, the rotary brushes, and a collecting bucket supported on the frame between the wheels, at the rear of the brushes, of two rotary brushes, located in front of the collecting bucket, and extending at an angle to each other, and jointed at their inner ends, to a driven shaft and supported independently at their outer ends, and at their inner ends, so that the outer ends, or the inner ends may be raised or lowered independently, and a deflector or apron supported in front of the rotary brushes, and in close proximity thereto, said apron being of angular shape in horizontal cross section, and of curved shape in vertical cross section, with its upper end extending rearwardly over the brushes, and its lower end provided with a flexible portion adapted to extend under the lower front part of the brushes, substantially as set forth.

3. In a street sweeper, the combination with the frame, and two rotary brushes supported thereon, and arranged at an angle to each other, and jointedly connected at their inner ends to a driven shaft, in such a manner that the bristles at the inner ends will intermesh at their front portions, of an apron or deflector supported in front of and in close proximity to the brushes, said deflector of angular shape

in horizontal cross section, and of curved
shape in vertical cross section, with its upper
end extending rearwardly over the brushes,
and its lower end provided with a flexible
5 portion adapted to extend under the lower
front part of the brushes, substantially as set
forth.

Witness my hand this 15th day of October,
A. D. 1894.

ANDREW JACKSON REYNOLDS.

Witnesses:

CHAS. H. BURLEIGH,
C. S. YEAW.