(No Model.)

2 Sheets—Sheet 1.

W. B. DUNNING.

Street Sweeper.

No. 229,390. Patented June 29, 1880.

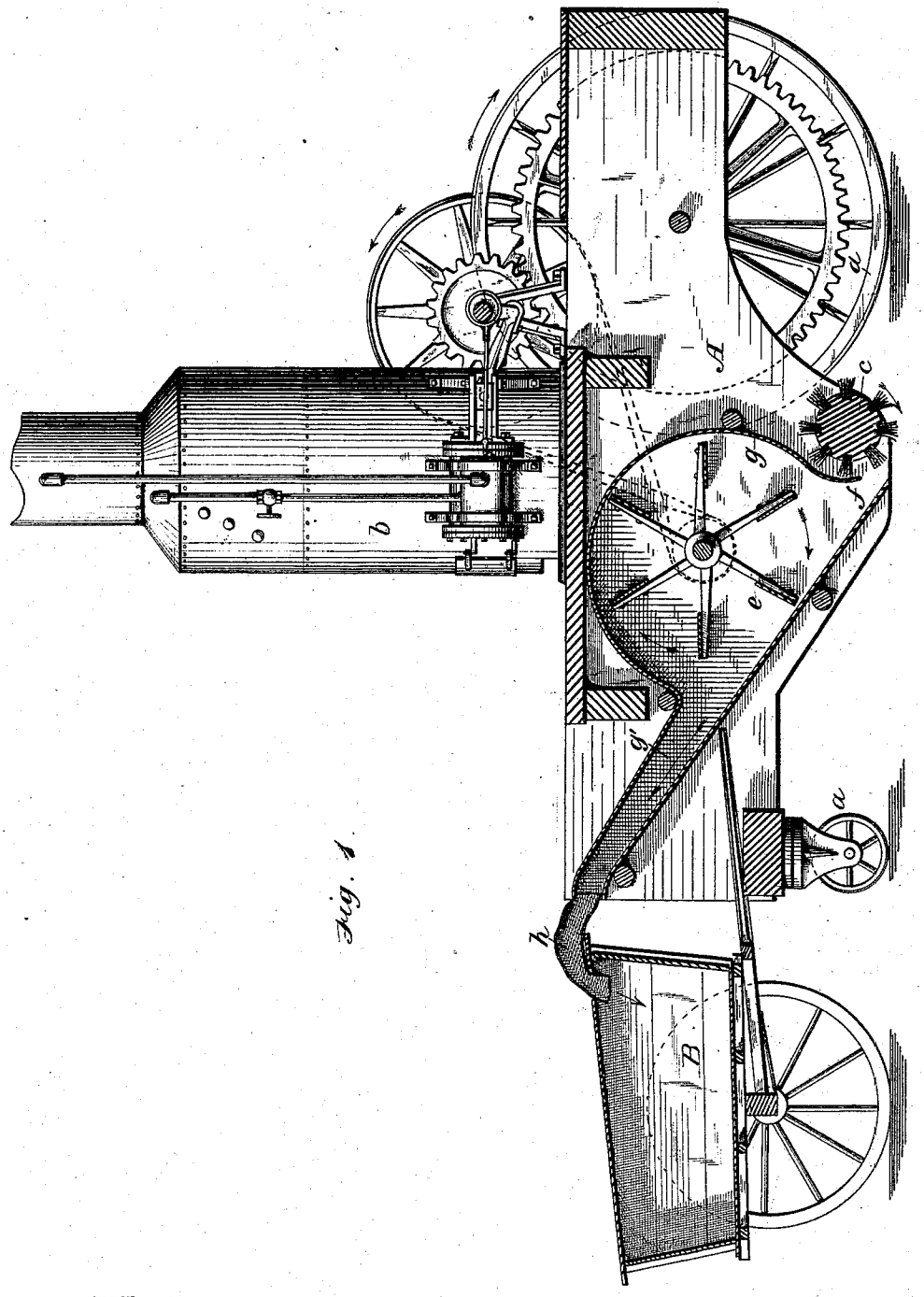

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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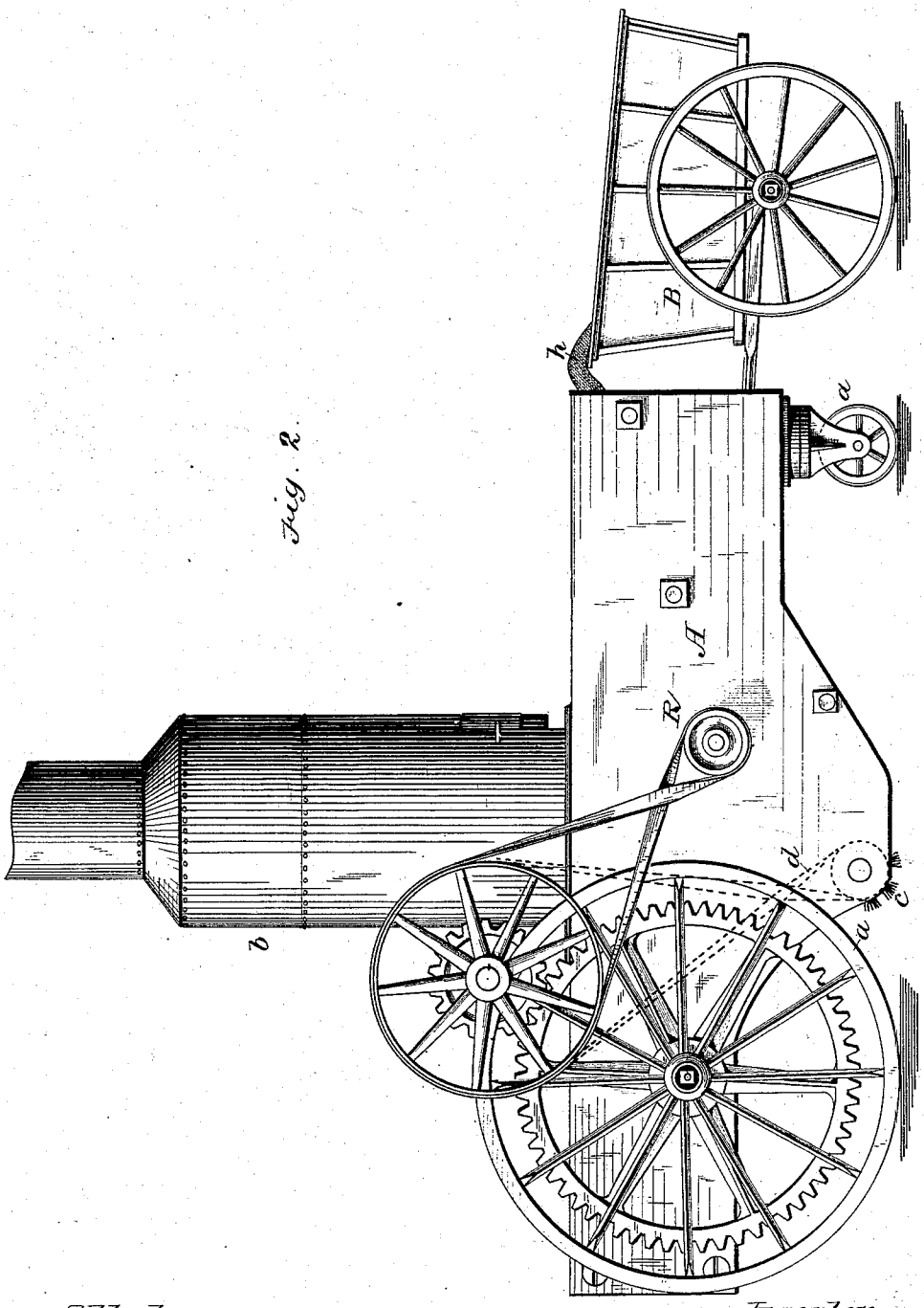
Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM B. DUNNING, OF GENEVA, NEW YORK.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 229,390, dated June 29, 1880.

Application filed April 14, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. DUNNING, of Geneva, in the county of Ontario and State of New York, have invented a new and useful Improvement in Street-Sweepers; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to street-sweepers of that class in which the dirt is swept up and conveyed to a receptacle mounted upon or attached to the sweeper, so as to take up and convey away the dirt swept from the street.

The object of the invention is to provide an effective apparatus by means of which the dirt may be removed from the street by the sweeper itself, and the additional labor of shoveling it into carts be obviated.

It consists, mainly, in the construction of the fan-chamber and exhaust-passages; and, further, in combining therewith a receptacle for dust, and power for operating the device, as fully hereinafter explained.

In the drawings hereunto attached and forming a part of this specification, Figure 1 represents a vertical longitudinal section through the sweeper and cart, and Fig. 2 a side view.

In carrying out my invention I may use an apparatus such as that shown in the drawings, in which A represents a sweeper, mounted upon wheels *a a*. These wheels may be driving-wheels impelled by the force of an engine carried upon the frame of the apparatus, as shown at *b;* or, if it be deemed undesirable to use an engine, the whole apparatus may be provided with a tongue or thills for the attachment of horses. As these machines are commonly employed at night, the use of steam as a motive power is the less objectionable and may be used with great advantage.

The brush in the form shown by me is indicated at *c*. It is represented as driven (so as to throw the dirt backward) by a band, *d*, from one of the drive-wheels of the carriage; but manifestly it may be driven directly from the engine, or in any other suitable way, and the wheels of the carriage may be driven by chain or other gear in the ordinary manner.

The fan *e* is placed within a cylinder conforming thereto, and extends preferably across the machine, equaling the brush in length, though this is not absolutely necessary. It may be driven directly from the fly-wheel of the engine. I have represented it as driven from one of the drive-wheels through an intermediate wheel, R.

The fan-chamber is located slightly above and in rear of the brush, and is provided with a passage, *f*, opening just behind the said brush. A piece of heavy rubber or other suitable material is held in place close to the pavement by the plate attached to the rear wall far enough to catch the dust thrown up by the brush, but sufficiently above the surface to be swept not to be in contact therewith. The rear wall is also extended upward, and forms one side of an upper flue, *g'*, through which the dirt is discharged by the force of the blast. This construction and arrangement of the fan-chamber and flues for ingress and egress of the blast give a direct line of passage to the material to be gathered, and secure more effectually the collection of the same.

In rear of the discharge-flue, and connected therewith, I contemplate locating a dust-chamber. This may be upon the same carriage; but for greater convenience I contemplate generally the use of a separate cart provided with a closed box for the dirt collected and discharged by the brush and fan. The cart may be of ordinary construction, as represented at B, and may be attached to the carriage of the sweeper by means of hooks and staples, or some equivalent device, so that it could be readily detached when filled, and thus be adapted to be drawn by a horse, like an ordinary cart. I prefer, however, to attach the cart to the sweeper by a coupling connecting its rear end with such sweeper so that the thills project out behind, rendering it a matter of more convenience and rapidity to attach the horse. Any number of carts may thus be filled in succession by the same sweeper.

A heavy cloth or leather connection, *h*, is attached to the mouth-piece of the fan-chamber, and extends back into the cart, by means of which the dust is conveyed from the machine and deposited in the receptacle. The cart may be readily connected and disconnected by simply unhooking the thills and withdrawing the cloth or leather connection from the dust-chamber.

I do not limit myself to the form of blowing

mechanism shown, but may use any of the well-known blowers. All that is required is that the blower shall be simple and compact, and that it shall be placed between the brush and the receptacle for the dust, and arranged to exhaust through the mouth of the blower next the brush and discharge into the receptacle.

It will be observed that by the use of a fan the dust and dirt which lodge between the stones of an ordinary pavement, and are inaccessible to a brush alone, are also gathered up and removed.

I am aware that a fan in connection with the revolving brush of a street-sweeper is not new, the same being shown in the patent of Deegan, of June 6, 1854.

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 of the fan-chamber, located slightly above and in rear of the brush, of the passages *f* and *g'*, and of the fan *e*, said fan and passages being constructed in the manner shown, and thereby adapted to impel the dust directly backward and to deliver it to a receptacle in the rear, as set forth.

2. The combination of the carriage provided with a revolving brush and fan and receptacle for the dust or dirt with an engine mounted on said carriage and adapted to propel the carriage and drive the fan and brush, as set forth.

3. The combination, in a street-sweeper, of the brush *c* and passages *f g'*, of the fan-chamber and fan, located on one side and partly between said passages, and of the flexible connection *h*, adapted to lead to a separate cart, as described.

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

WM. B. DUNNING.

Witnesses:
S. SOUTHWORTH,
CHAS. H. RUSH.