

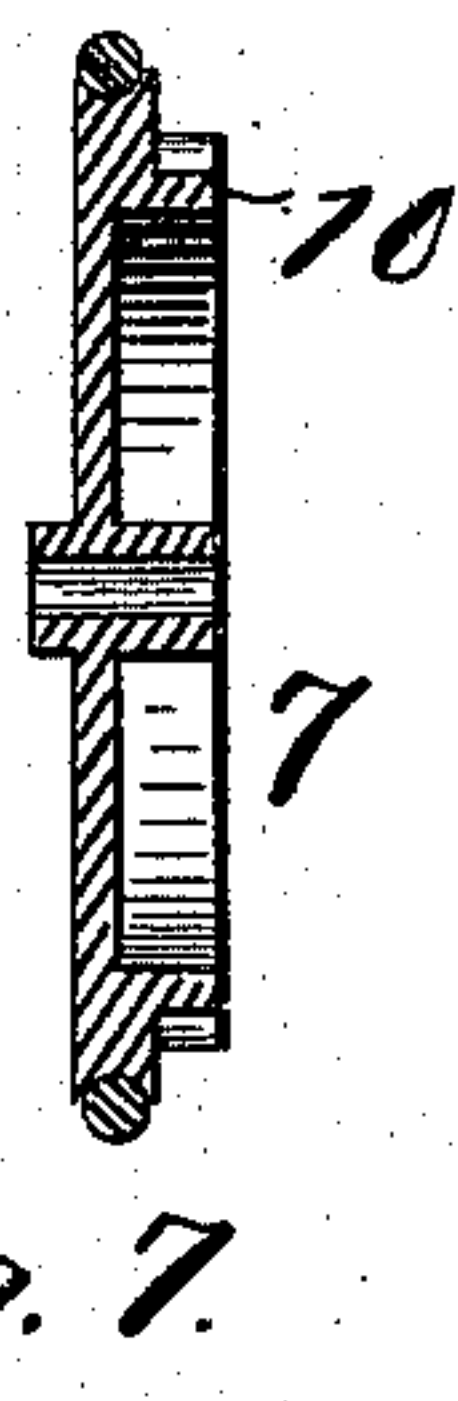
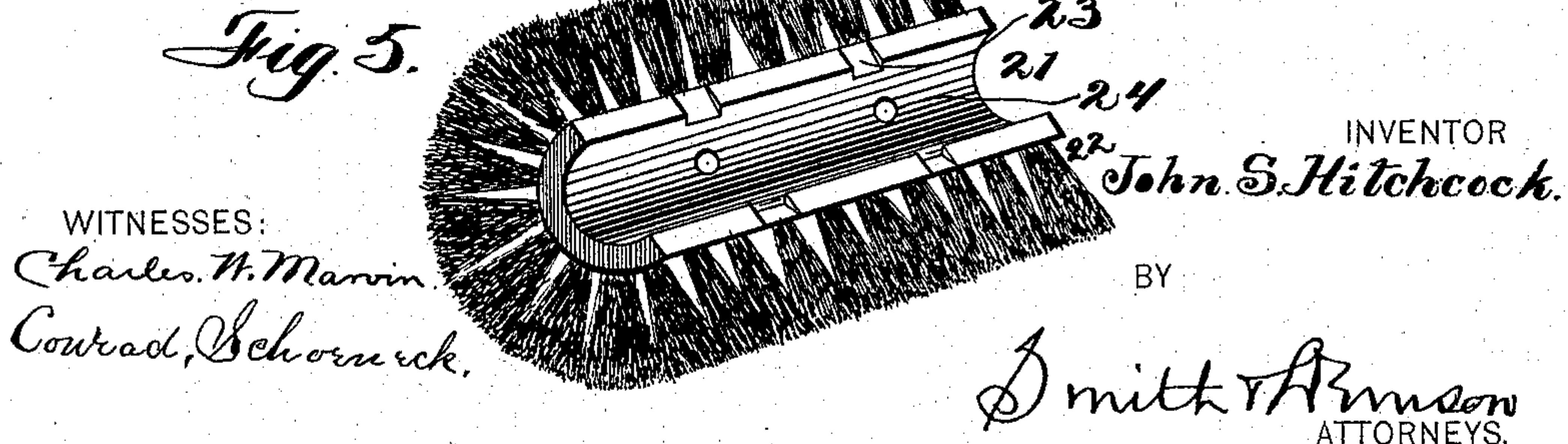
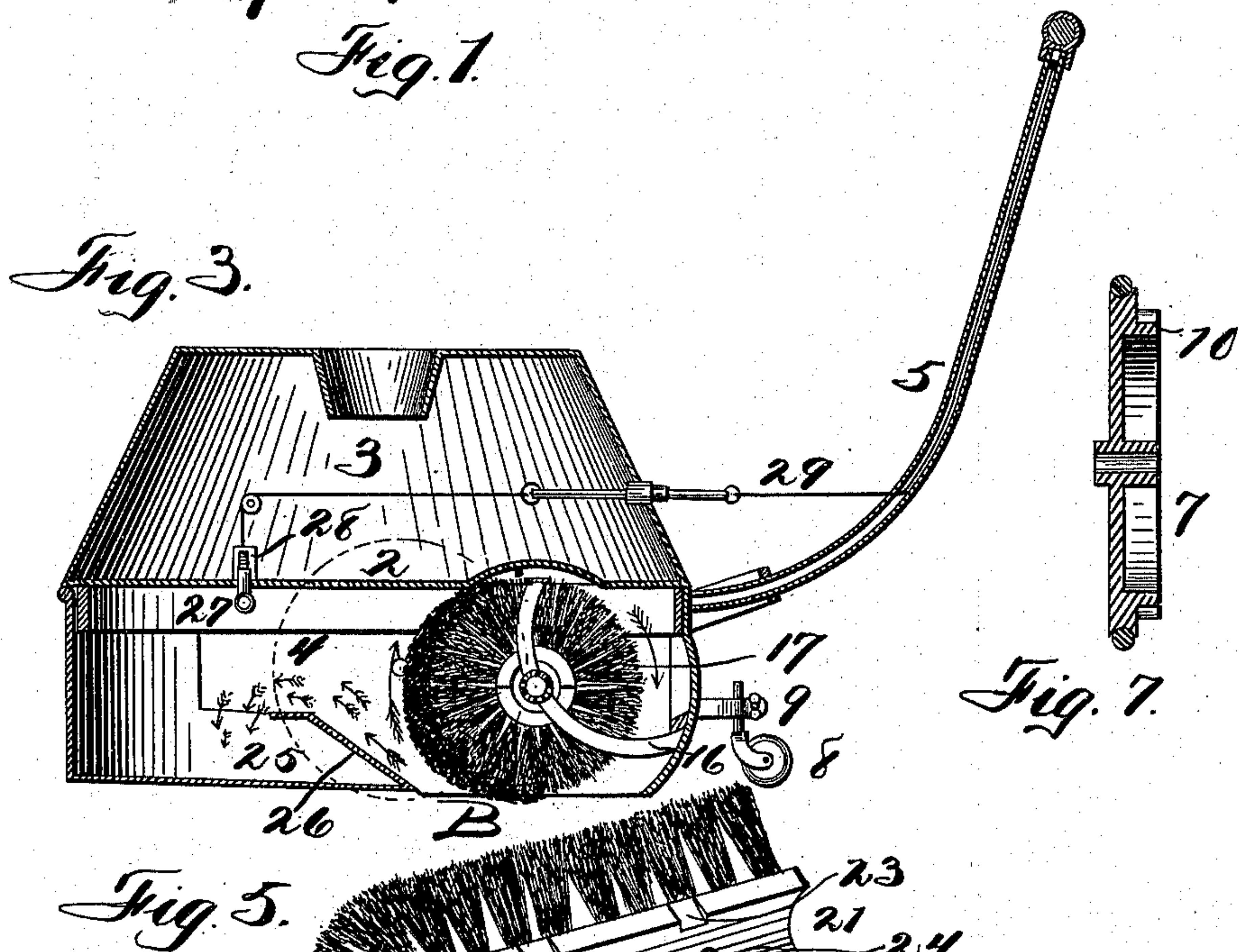
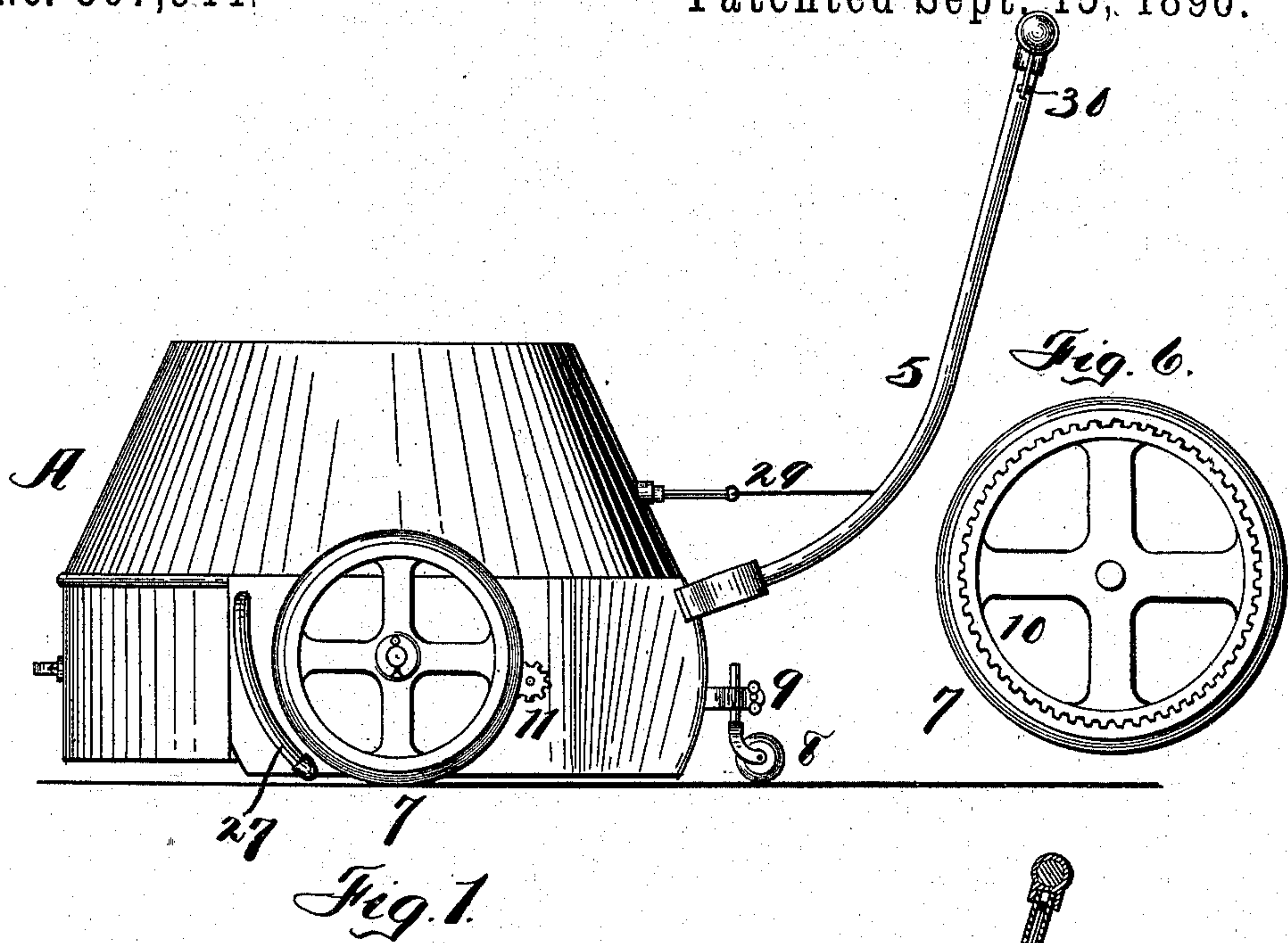
(No Model.)

2 Sheets—Sheet 1.

J. S. HITCHCOCK.
SCRUBBING MACHINE.

No. 567,944.

Patented Sept. 15, 1896.



WITNESSES:
Charles H. Marvin.
Conrad, Schornack.

INVENTOR
John S. Hitchcock.
BY
Smith & Armeson
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

J. S. HITCHCOCK.
SCRUBBING MACHINE.

No. 567,944.

Patented Sept. 15, 1896.

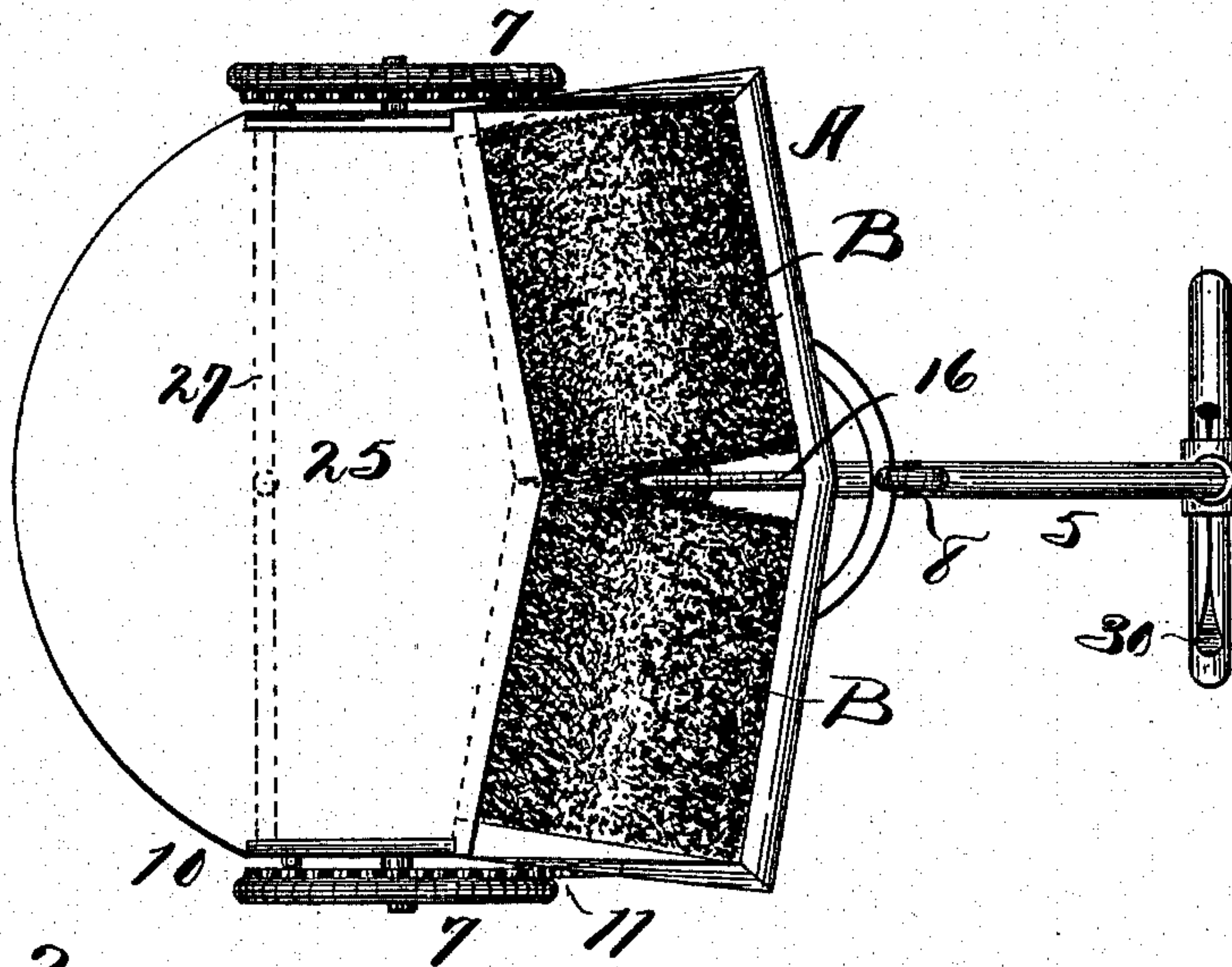


Fig. 2.

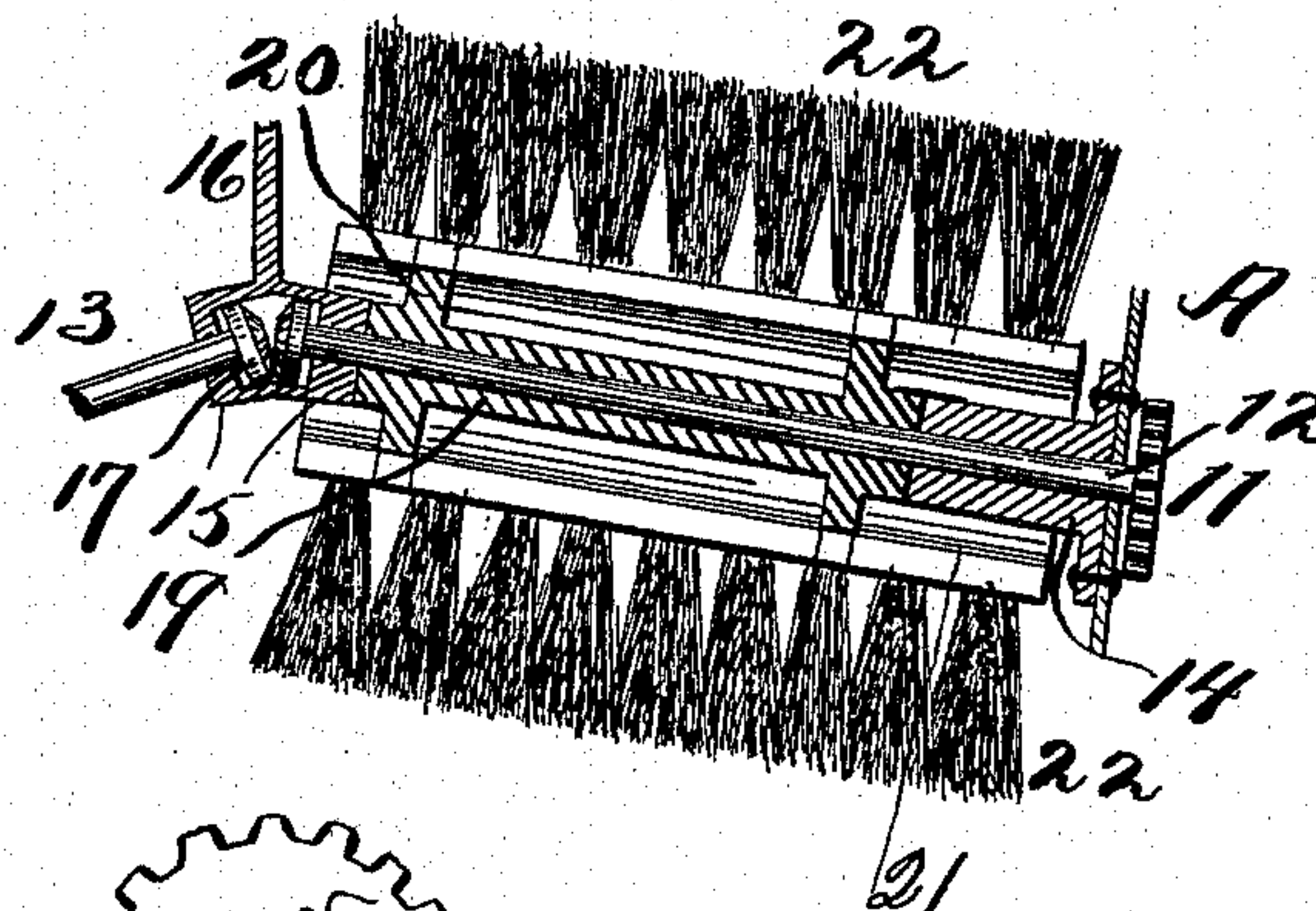
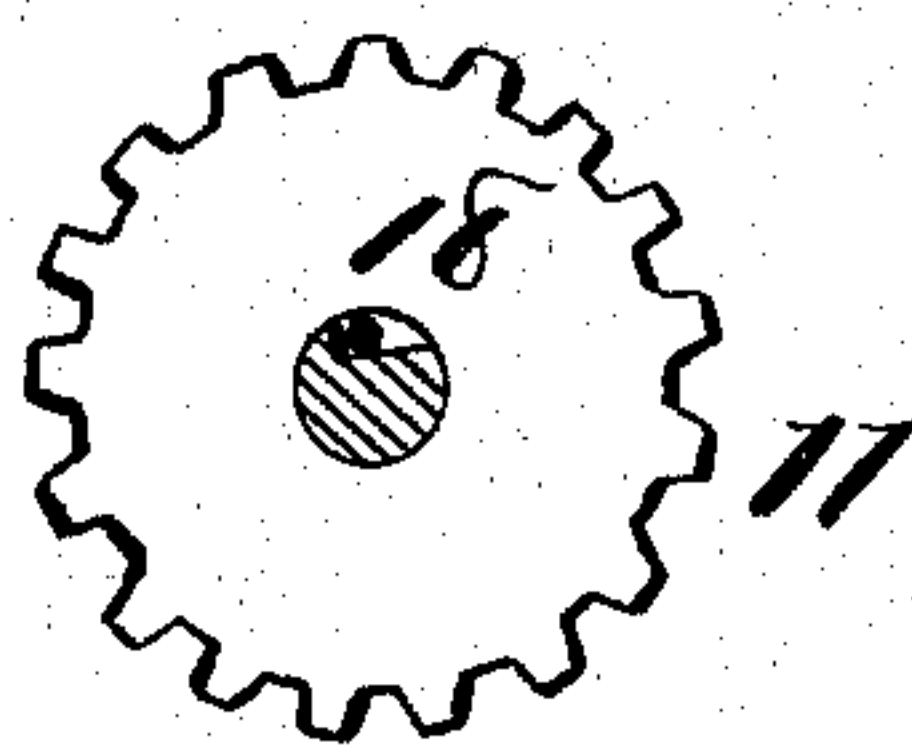


Fig. 4.

Fig. 8.



WITNESSES:
Charles H. Marvin
Conrad Schoruck,

INVENTOR
John S. Hitchcock.

BY

Smith & Arison
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN S. HITCHCOCK, OF ONEIDA, NEW YORK.

SCRUBBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 567,944, dated September 15, 1896.

Application filed July 20, 1895. Serial No. 556,569. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. HITCHCOCK, of Oneida, in the county of Madison, in the State of New York, have invented new and useful Improvements in Scrubbing-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to scrubbing-machines, and particularly to that class in which the brushes are driven at high speed to centrifugally throw the water and dirt, or dirt alone when used as a sweeper, into a suitable pan.

The object of my present invention is to provide a scrubbing-machine which shall combine simplicity of construction with efficiency of operation; and to that end the invention consists, essentially, of the combination of two rotary cylindrical brushes disposed axially convergent toward the rear with an inclosing case extending forward from the brushes and formed with corresponding convergent dashboards at the rear of and in proximity to the brushes, a slush-pan in the front extension of the inclosing case, and a water-supply tank carried on the case; and the invention also consists in certain novel features of the details of construction, as hereinafter described, and set forth in the claims.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a bottom plan. Fig. 3 is a sectional elevation. Fig. 4 is a sectional elevation of a brush-section, its mounting upon a drive-shaft section, and of the gearing connecting the shaft-sections. Fig. 5 is a perspective of a brush-section detached. Fig. 6 is an enlarged elevation of the inner face of the combined supporting and driving wheel. Fig. 7 is a vertical section thereof. Fig. 8 is a side elevation of the driving-pinion and showing the shaft in section to detail a clutch mechanism.

A is the body or inclosing case of the machine, divided by a horizontal partition 2 into the water-chamber 3 and the brush and pan-chamber 4. This body is provided with a suitable handle 5, and is supported by wheels 7 and the idler or caster wheel 8, mounted in a suitable bearing 9 upon the rear of the

body and adjustable, as by a set-screw or in any other ordinary manner. The wheels 7 are journaled upon suitable arbors secured upon the sides of the body, and each comprises a suitable hub, spokes, and rim, and one or both of them is provided with a gear-toothed ring 10, secured to or integral with the rim or spokes. A pinion 11 is driven by said gear, being mounted upon one of the shaft-sections 12 13, each of which is journaled in a bearing 14 in said body, and in a bearing 15, carried by a suitable bracket 16, secured to said body and to the partition 2, in such manner that the bearings 15 are at the rear of the bearings 14, and so that said shaft-sections stand at an obtuse angle to each other and convergently toward the rear of the machine, and the bevel-gears 17 upon them connect the inner ends of the shaft-sections, so that the rotation of one drives the other. Usually both shaft-sections are provided with pinions driven by said wheels, and each pinion is provided with a suitable clutch or ratchet mechanism, as shown at 18, whereby when the machine moves forward both shaft-sections are driven and when moved backward said shaft-sections are not driven, the clutch shown being of the well-known "ball-grip" type, comprising a shouldered recess or concavity in the shaft, the bottom of which is on the line of a cord to the circle of the shaft, and a ball placed therein, so that when the shaft is rotated in one direction it will engage with the gear to drive it and in the other it will not. This style of clutch is well-known in spring curtain-rollers. Upon each shaft-section a tube 19 is secured provided with suitable arms 20.

B B are the cylindrical brushes, each consisting of a body composed of longitudinal and suitably-concaved sections 21, having bristles 22 suitably mounted therein, and having notches 23, which receive the arms 20, and also holes 24, through which suitable screws are inserted into said sleeve to detachably secure each brush-section in place.

The arrangement of the shaft-sections causes the brushes to mesh together, so to speak, and their bristles to come tightly together, so that they will pick up all of the dirt and water, or dirt alone when the machine is used as a sweeper, and thereby pre-

vent the leaving of any streak upon the floor, which would be left if the brushes were in line and not at an angle to each other. These brushes are driven at high speed and centrif-
5 ually throw the dirt and water or sweepings forward into a suitable slush-pan 25, suitably mounted in the front of the machine and comprising a suitable body and an inclined apron 26, coming down close to the floor. A
10 suitable pipe 27 is secured to the partitions 2 and extends across the machine and thence down the sides to a point adjacent to the front outer edges of the brushes, and is also provided with a suitable valve 28, opening into
15 the water-chamber, and a suitable cord or chain 29, leading from the valve through the rear wall of said chamber and up to an ordinary hand-lever 30, mounted upon the handle, so that by operating said lever said valve
20 is opened to permit the water to flow to the floor in such manner that it is all thrown forward and inwardly into the pan and over the floor in front of the brushes and none will
25 flow over the floor outside of the ends of the brushes, part going at once into the pan, part clinging to and wetting up the bristles, and part running back over the apron onto the floor. This angular mounting of the brushes
30 has another effect in that the outer and rearward edges of the brushes are thrown outward substantially, if not actually, into line with the wheels.

In order to guard more effectually against the thrust of dirt and water from the rear of

the inclosing case A, I form the rear wall 35 thereof in proximity to the brushes and correspondingly convergent to serve as dashboards, as clearly shown in Fig. 3 of the drawings.

Having described my invention, what I 40 claim, and desire to secure by Letters Patent, is—

1. In a scrubbing-machine, a receptacle for holding water, means for controlling the flow of water therefrom, and pipes for conveying 45 the water to the outer ends of the brushes, combined with two revolving brushes set at an angle to each other, and means for causing the brushes to revolve as the machine is moved forward, substantially as shown. 50

2. In a scrubbing-machine, a frame mounted on wheels, a receptacle for holding water, means for controlling the flow of water, and pipes for conveying the water from the receptacle to the outer ends of the brushes, com- 55 bined with two revolving brushes set at an angle to each other, means for causing the brushes to revolve as the machine is moved forward, and a receptacle into which the dirty water is thrown, substantially as de- 60 scribed.

In witness whereof I have hereunto set my hand on this 5th day of July, 1895.

JOHN S. HITCHCOCK.

In presence of—

JESSIE E. MURRAY,
HOWARD P. DENISON.