

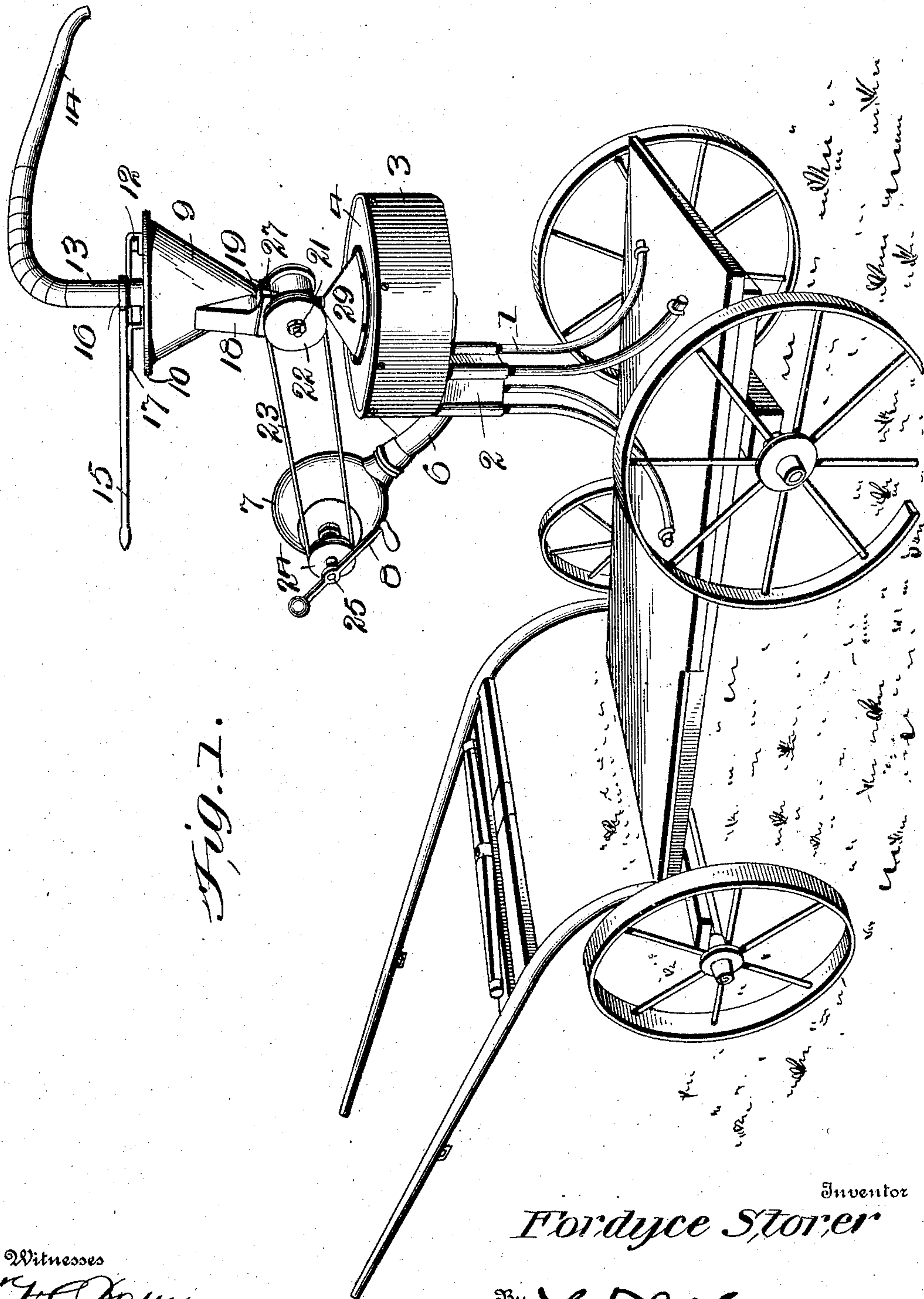
No. 780,832.

PATENTED JAN. 24, 1905.

F. STORER.
DUST BLOWER.

APPLICATION FILED AUG. 13, 1904.

3 SHEETS—SHEET 1.



Witnesses

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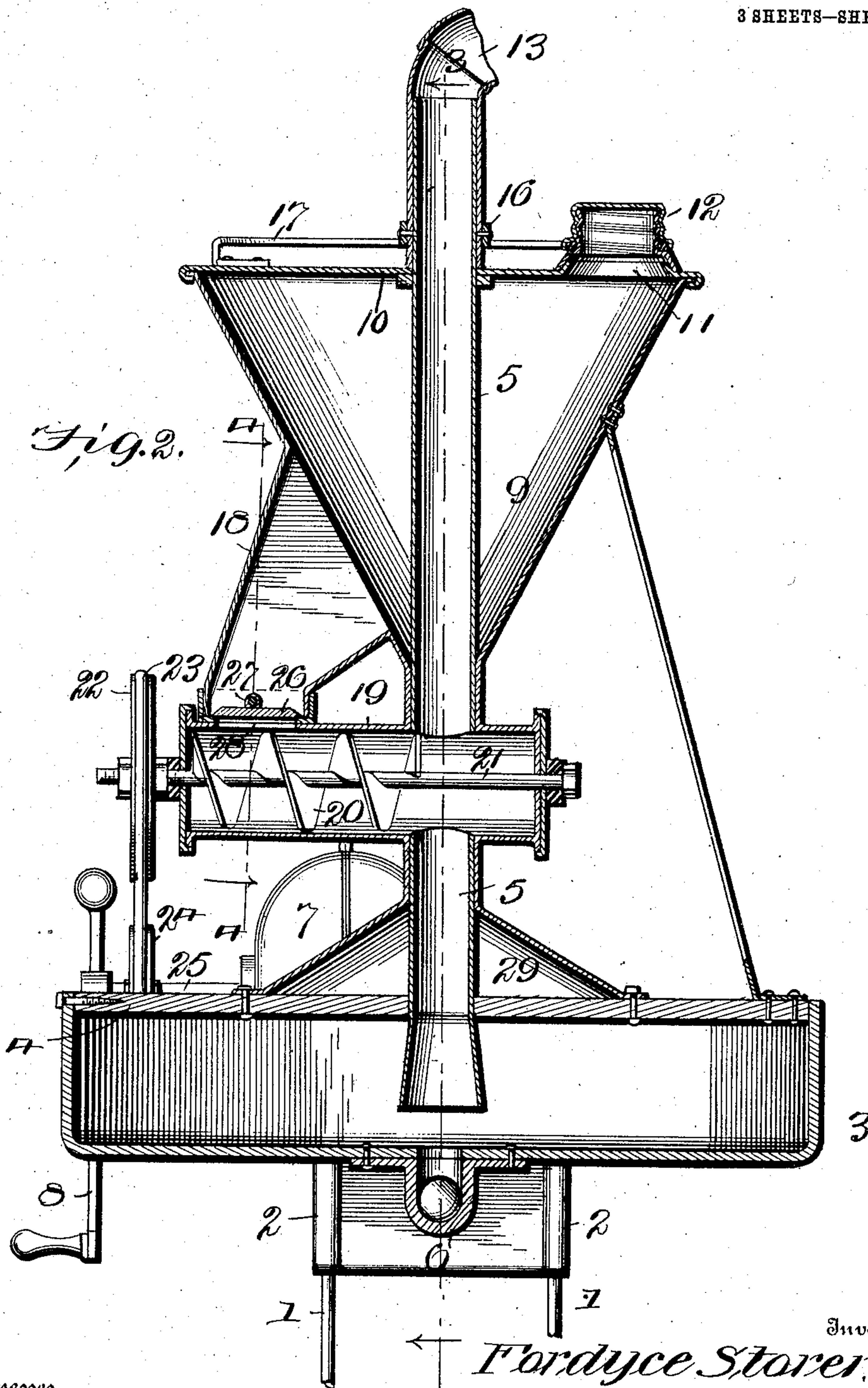
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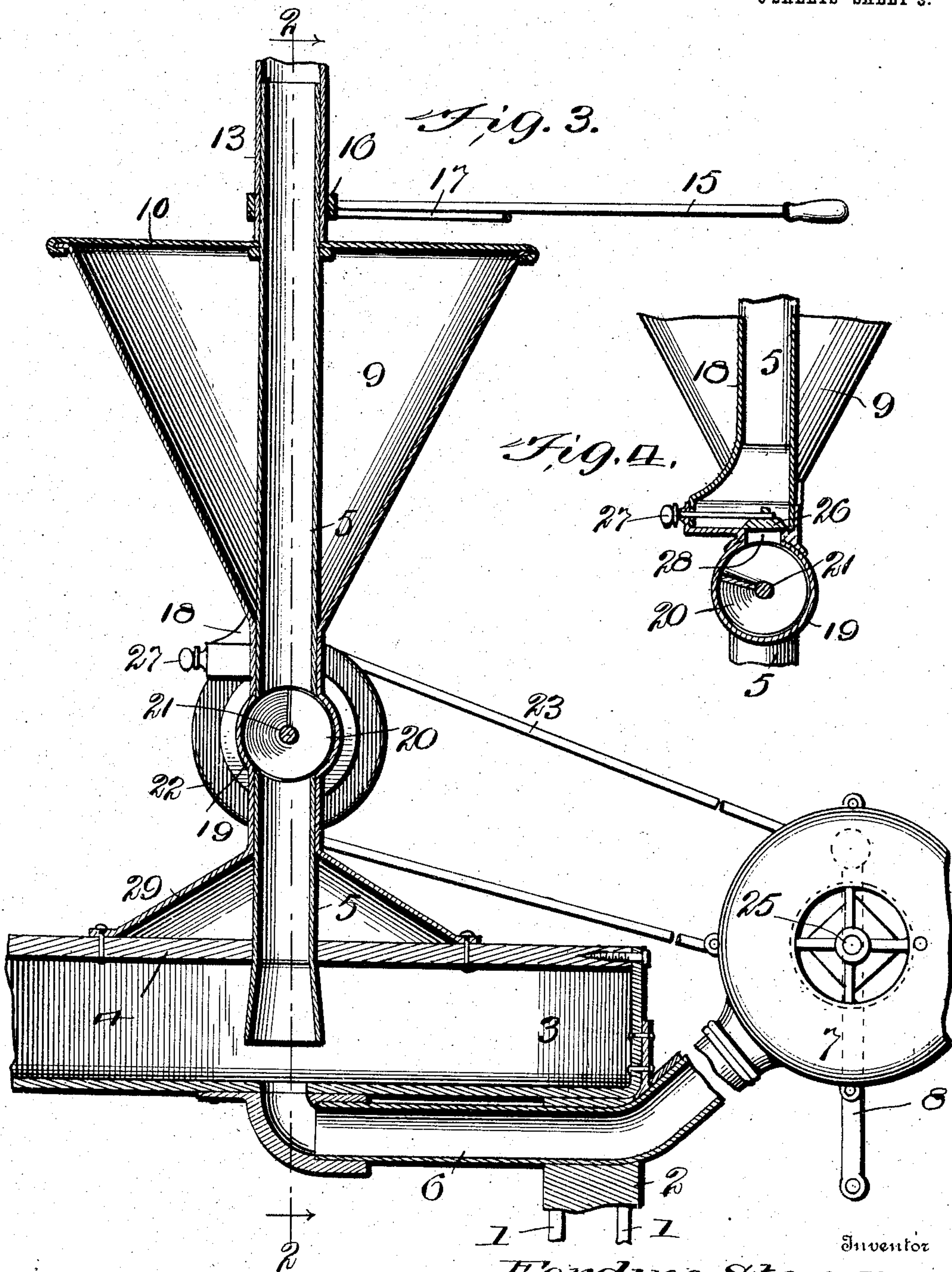
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

FORDYCE STORER, OF PLYMOUTH, ILLINOIS.

DUST-BLOWER.

SPECIFICATION forming part of Letters Patent No. 780,832, dated January 24, 1905.

Application filed August 13, 1904. Serial No. 220,654.

To all whom it may concern:

Be it known that I, FORDYCE STORER, a citizen of the United States, residing at Plymouth, in the county of Hancock and State of Illinois, have invented certain new and useful Improvements in Dust-Blowers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a dust blower or spraying apparatus; and it consists of certain novel features of combination and construction of parts, the preferred form whereof will be hereinafter clearly set forth, and pointed out in the claims.

The prime object of invention, among others, is to provide a simple though reliably efficient mechanism designed for the purpose specified, the parts of which may be cheaply and expeditiously manufactured and readily assembled in their respective operative positions.

A further object of my invention is to provide a dust-blowing machine which may be used for distributing insecticides of any desired character and disposing the same upon growing plants, &c., in the most efficient and least expensive manner.

Other objects and advantages will be hereinafter made clearly apparent, reference being had to the accompanying drawings, which are made a part of this application, and in which—

Figure 1 is a perspective view of my invention, showing the same mounted upon a vehicle and ready for use. Fig. 2 is a central vertical view as seen from the dotted line 2 2 on Fig. 3 and looking in the direction indicated by the arrow. Fig. 3 is a vertical section of the same, taken on line 3 3 of Fig. 2 and at right angles to the showing made in Fig. 2. Fig. 4 is a detail sectional view as seen from the dotted line 4 4 on Fig. 2.

For convenience of reference to the various details of my invention and coöperating accessories numerals will be employed, the same numeral applying to a similar part throughout the several views, and, referring

to the numerals on the drawings, 1 designates a suitable supporting-legs having a body portion or supporting member 2 at the upper ends thereof. Upon the upper end of the body portion 2 I mount the substantially bowl-like receptacle or vessel 3, which is provided with a tight-fitting lid-section 4, having a single preferably central opening in which is seated the upwardly-directed discharge-pipe 5.

It may be stated in this connection that in order to produce my improved dust-blowing machine at a minimum cost I have in the present application illustrated a portion of my dust-blower improvised as from a simple portable forge commonly used by blacksmiths, the receptacle therefore being nothing more than the fire-chamber or forge, the lower side of which is operatively connected with the blower-pipe 6, leading from the casing 7, within which is rotatably mounted the blower proper, and as the blower is operated by the crank or handle 8 and constructed in the usual manner I deem it unnecessary for the purposes of this application to enter into a detail description of the construction thereof.

Upon the closure member 4 of the receptacle 3 I erect and permanently secure the dust receptacle or hopper 9, which is provided with the closure 10, completely covering the upper end of said hopper. The closure 10 is provided with a port 11, through which the dust is introduced into the hopper 9, said port having a screw-cap 12, adapted to close said port.

The air-conveying-tube 5 extends upwardly through the hopper 9, as clearly shown, and is provided at its upper end with an elbow 13, to the outer end of which is secured a delivering tube or nozzle 14. The elbow 13 is rotatably mounted upon the upper end of the tube 5, whereby the nozzle 14 may be disposed at any point around the machine and the contents of the hopper delivered at any desired point.

To facilitate the rotation of the elbow 13, I dispose a collar 16 around the same, to which is attached a lever 15, said lever being supported and adapted to travel upon a suitable supporting member 17, secured in any preferred manner to the closure 10.

The hopper 9 is provided at a proper point with a downwardly-projecting chute 18, the lower end of which communicates with a horizontally-disposed cylinder 19, in one end of which is disposed a worm 20, which in turn is carried by the horizontally-disposed shaft 21. The opposite end of said drum intersects the discharge-pipe 5, so that the dust, &c., entering the drum through the chute 18 is conveyed by the worm 20 directly into the blast of air passing through said discharge-pipe. It will therefore be seen that I provide a positive feed for the contents of the hopper 9, whereby said contents will be fed into the blast of air, and thereby conveyed through the nozzle 14.

One end of the shaft 21 is elongated and has secured thereto a belt-wheel 22, around which takes a belt 23, said belt also passing around a similar wheel, 24, upon the shaft 25 of the blast-fan 7, so that when the blast-fan is operated the worm 20 will continuously convey the contents of the hopper into the path of the blast produced by said fan.

If deemed desirable to curtail or limit the passage of the dust or medicated substance through the chutes 18, I place in the lower end thereof a sliding valve or cut-off 26, to which is secured a suitable controlling-handle 27, which projects through the wall of said chute and is disposed in reach of the attendant operator, whereby when desired the valve may be so disposed in relationship with the opening 28 in the cylinder 19 as to admit a greater or less flow of the dust into said cylinder.

The form of nozzle herein shown is designed to be used more particularly in delivering the contents of the hopper 9 upon the trees, bushes, and the like; but I desire it to be understood that it may be used as judiciously in connection with smaller plants. If desired, however, the extreme outer end of the discharging-tube 14 may be provided with a plurality of nozzles (not shown) whereby two or more rows of growing plants may be sprayed at the same time.

The hopper 9, chute 18, cylinder 19, and base members 29 are preferably integrally formed, whereby an air-tight device is produced and the air caused to find an outlet through the nozzle 14.

In Fig. 1 of the drawings I have shown my device as mounted upon a wagon or truck; but said truck forms no part of my invention and is only shown to illustrate a convenient mode of transportation therefor. I have also shown my device as manually operated; but I desire it to be understood that other means of operating the same may be employed when desired.

In operation the dust particles or medicated substance is placed into the hopper 9 through the port 11. Power is then applied to the blast-fan 7, and through the medium of the

wheels 22 and 24 and the belt 23 the worm 20 is caused to rotate at the same time, thus conveying the dust particles entering the cylinder 19 through the opening 28 directly into the blast of air passing through the pipe 5 and after becoming thoroughly commingled with the air is carried out through the nozzle 14 and delivered upon the trees or plants.

My dust-blowing machine is thus rendered useful for acting upon all manner of vegetation, as upon plants and bushes of every description, and by having the tubular extension or nozzle 14 of proper length apple-trees and the like may be efficiently sprayed or covered with any desired substance which will act as an insecticide.

It will thus be seen that I have produced a device whereby the blast of air passing there-through will be thoroughly charged with a proper amount of dust particles and delivered directly upon the plants with a minimum amount of labor and expense.

Believing that the advantages and manner of using my invention have thus been made clearly apparent, further description is deemed unnecessary, and while I have described the preferred combination and construction of parts deemed necessary in carrying out my invention I wish to comprehend in this application all substantial equivalents and substitutes which may be considered as falling fairly within the scope and purview of my invention.

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

1. The herein-described dust sprayer or blowing machine comprising suitable supports; an air-chamber 3 mounted upon said support and a blower of suitable character having communication therewith; a receptacle for the insecticide having a closure and also having a discharge-chute; a cylinder at the lower end of said chute; a worm mounted in said cylinder; means to rotate said worm; a tubular air-conveying section 5; an elbow rotatably mounted upon the upper end of said air-conveyer; means to rotate said elbow and additional means to convey the dust-laden air from the receptacle to growing plants, trees or the like, all combined substantially as specified and for the purpose set forth.

2. A dust sprayer or blower comprising supports, an air-chamber mounted upon said supports, a blower communicating with said chamber, a receptacle for the insecticide having a closure at one end and a discharge-chute at the other end, a closure for said discharge-chute, a cylinder communicating with the lower end of said chute, a worm mounted in said cylinder, means to rotate said worm and blower, a tubular air-conveying section communicating with said cylinder, the lower end of said air-conveying section extending downwardly into said air-chamber, the opposite

end thereof extending through the insecticide-
receptacle, an elbow mounted upon the upper
end of said air-conveying section, a lever to
rotate said elbow, and means to convey the
5 dust-laden air from said air-conveying section
to the growing plants, all combined substan-
tially as set forth.

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

FORDYCE STORER.

Witnesses:

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W. F. BODENHAMER.