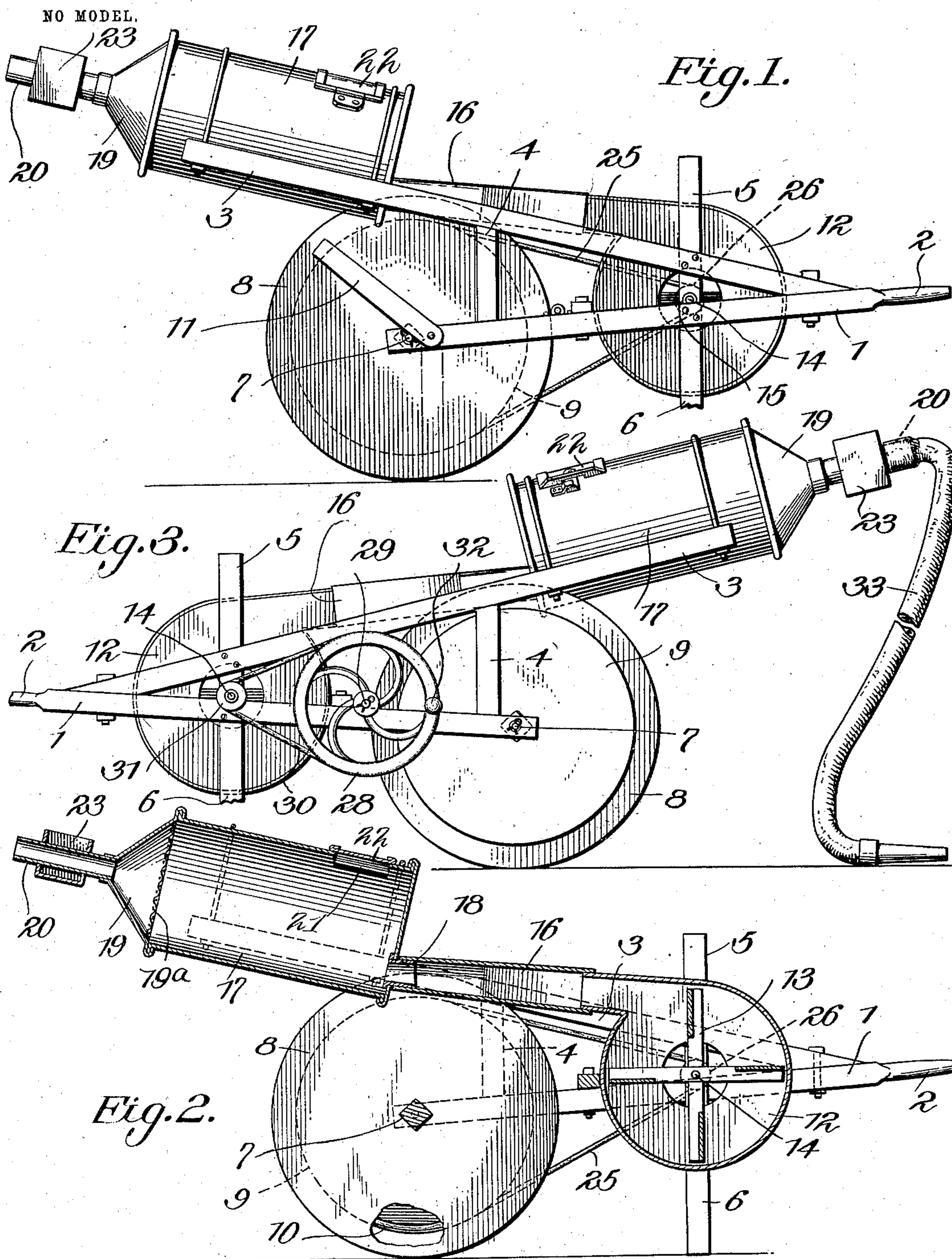


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W. B. CUNNINGHAM.
FUMIGATOR.

APPLICATION FILED AUG. 20, 1903.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM B. CUNNINGHAM, OF HOUSTON, TEXAS.

FUMIGATOR.

SPECIFICATION forming part of Letters Patent No. 752,657, dated February 23, 1904.

Application filed August 20, 1903. Serial No. 170,197. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. CUNNINGHAM, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented a new and useful Fumigator, of which the following is a specification.

This invention relates to fumigators of that class which are mainly utilized as insect and germ destroyers; and it has for its object to provide an apparatus of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view my invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a fumigator constructed in accordance with the principles of my invention. Fig. 2 is a side elevation illustrating a modification. Fig. 3 is a longitudinal vertical sectional view.

Corresponding parts in the several figures are indicated by similar numerals of reference.

The frame of my improved fumigator is composed of side pieces 1 1, which are extended forwardly to form the handles 2 2. Supporting-pieces 3 3 are attached to the side pieces 1 near the handles and are inclined upwardly and forwardly, being supported by means of braces 4. Vertical brace-pieces 5 are also provided, which connect the side pieces 1 and supporting-pieces 3, the lower ends of said brace-pieces forming legs 6, which may be used to support the rear end of the structure.

At the front ends of the side pieces 1 1 is journaled an axle 7, carrying a transporting or ground-engaging wheel 8, with which is connected a band-wheel 9, which has a peripherally-inclined groove 10 adjacent to the face of the wheel 8, thus forming a band-wheel from which the belt or band cannot be accidentally displaced in operation. The transporting-wheel 8 and the band-wheel 9 are preferably made of wooden disks, the wheel 8 being of a diameter sufficiently larger than that of the band-wheel 9 to enable it to engage the

ground without the band-wheel 9 being obstructed during the progress of the machine. This construction will be found exceedingly simple and effective, as well as durable, especially when the grain in the wood of which the two disks are composed is arranged crosswise.

The opposite side of the machine is provided with a leg 11, suitably secured to the side piece 1, said leg being preferably secured pivotally, so that when the machine is being propelled over the ground it may be thrown into an inactive position, resting upon the projecting end of the axle 7, while when the device is stationary it may be lowered, so as to assist in supporting the machine in such stationary position.

Suitably mounted between the uprights or braces 5 5 is the casing 12 of a fan 13, the shaft of which, 14, is mounted in suitable boxings 15 upon the side pieces 1 of the frame. The discharge-spout 14 of the fan-casing faces in a rearward direction and is connected by a funnel-piece 16 with a fire-box 17, which is supported upon the upper front ends of the side piece 3 of the frame. Said fire-chamber in the present instance is shown as a cylindrical casing provided at its rear end with an opening surrounded by a flange 18, whereby it is connected with the contracted end of the funnel 16. The front end of the fire-chamber is likewise contracted or funnel-shaped, as shown at 19, terminating in a discharge-spout 20 of comparatively small diameter. A screen (designated 19^a) is disposed within the fire-pot in order to prevent sparks from passing into the discharge-spout 20. The upper side of the casing has an opening 21, for which a hinged door or closure 22 is provided. Upon the discharge-spout 20, near the front end of the same, is mounted a tank or reservoir 23, which in practice is to be filled with water for the purpose of cooling the smoke passing from the fire-chamber through the spout 20, which latter passes through the water contained in the tank 23.

The operation of my invention will be readily understood from the foregoing description taken in connection with the drawings hereto annexed. A fire, preferably of charcoal, is

built in the fire-chamber 17, and the fan is then set in motion by trundling the machine over the ground, motion being transmitted from the band-wheel 9 to the fan by means of a band 25, connecting said band-wheel 9 with a pulley 26 upon the fan-shaft. It is obvious that by the strong draft thus created combustion will be sustained and promoted in the fire-box and the products of combustion will be blown out forcibly through the discharge-tube 20. The operator may thus by slowly trundling the machine along direct the poisonous vapors from the spout 20 against plants—such as cotton, tomato vines, tobacco-plants, and the like—which are infected with insect pests of any kind, such pests being of necessity instantly killed and exterminated. The preferred time for performing this operation is during the night or early morning when the atmosphere is heavy and dew-laden.

The utility of my improved fumigator does not, however, stop with the fumigation of smaller plants; but it will be found extremely useful for fumigating fruit and other trees and also the rooms of dwelling-houses which have become infested with insects, such as flies or mosquitoes and other pests or with the germs of disease. In such cases the machine is supported in a stationary position adjacent to the tree or trees that are to be fumigated or in or adjacent to the room or rooms which are to be similarly treated. I then provide a band-wheel 28, journaled upon a stub-axle 29, which is suitably supported upon one of the side pieces of the frame, and connect said band-wheel by a belt 30 with a pulley 31 upon an extended end of the fan-shaft. The band-wheel 28 may be driven by hand by means of a crank 32, with which it is provided. In this case I also prefer to attach to the end of the discharge 20 a hose 33, of rubber or other suitable material, by means of which the fumes from the fire-box may be directed in the cracks and crevices and other places where insects are liable to congregate or in any desired direction. It is when the machine is used in this manner that the tank containing water, through which the discharge-pipe passes, becomes especially useful, for the reason that it is desirable, if not necessary, to cool the smoke prior to permitting it to pass into such flexible tube or pipe.

It is obvious that while in many cases the poisonous fumes of charcoal consumed in the fire-box will be sufficient for the extermination of insect pests, germs, and the like I do not limit myself to the use of charcoal alone, inasmuch as sulfur or any other material capable of developing poisonous or disinfecting fumes may be substituted when desired.

I desire it to be understood that while I

have in the foregoing described a simple and preferred form of my invention it is not, therefore, necessarily understood that I limit myself to the precise structural details herein described, but reserve to myself the right to any changes, alterations, and modifications that may be resorted to within the scope of my invention and without departing from the spirit or sacrificing the utility of the same.

Having thus described my invention, I claim—

1. In a device of the class described, a frame comprising side bars elongated to form handles, forwardly and upwardly inclined supporting-bars connected with the side bars near the handles, braces supporting said supporting-bars, vertical supporting-braces extended downwardly to form legs, a blower mounted between said braces, a fire-box supported upon the front ends of the inclined braces, a funnel connecting said fire-box with the discharge of the blower, a transporting-wheel, and means for transmitting motion from the latter to the fan-shaft.

2. In a device of the class described, a frame including braces which are extended downwardly to form supporting-legs, a blower mounted between said braces, a traction-wheel, means for transmitting motion from said traction-wheel to the blower, and a leg pivotally connected with the frame of the machine and adapted to be supported in inactive position upon a projecting end of the axle carrying the traction-wheel.

3. In a device of the class described, a fire-box having a discharge-tube, in combination with a tank mounted upon said tube and adapted to contain water surrounding the portion of said tube extending through the tank.

4. In a device of the class described, a frame, a traction-wheel and a blower supported by said frame, means for transmitting motion from said traction-wheel to said blower, a fire-box having a discharge-tube, a tank supported upon the latter, and connecting means between the fire-box and the discharge of the blower.

5. A portable fumigator comprising a frame, a transporting-wheel, a blower, means for operating the latter, a fire-box supported upon the frame, connecting means between said fire-box and the discharge of the blower, a discharge-tube extending from the fire-box, and a tank supported upon said tube.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM B. CUNNINGHAM.

Witnesses:

W. S. PORTER,
W. H. THOMAS]