D. S. BROWN.

Insect-Destroyer.

No. 7,663. Patented Sept. 24. 1850.

Fig. 3.

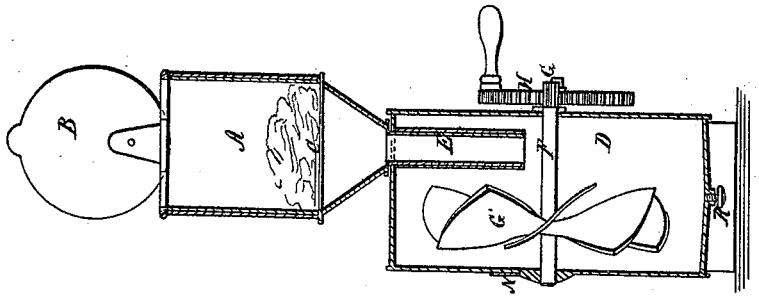



Fig. 1.

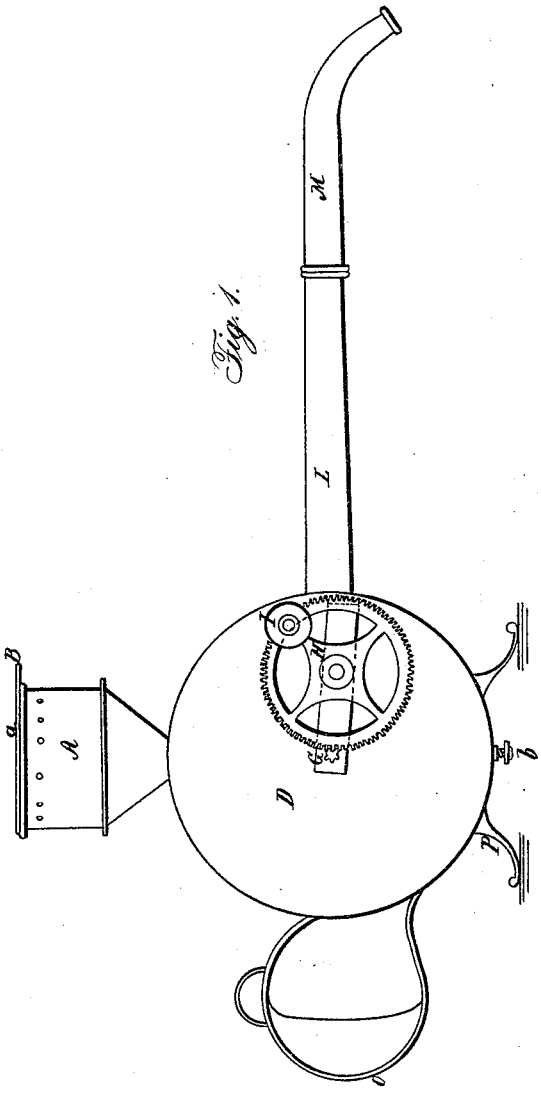
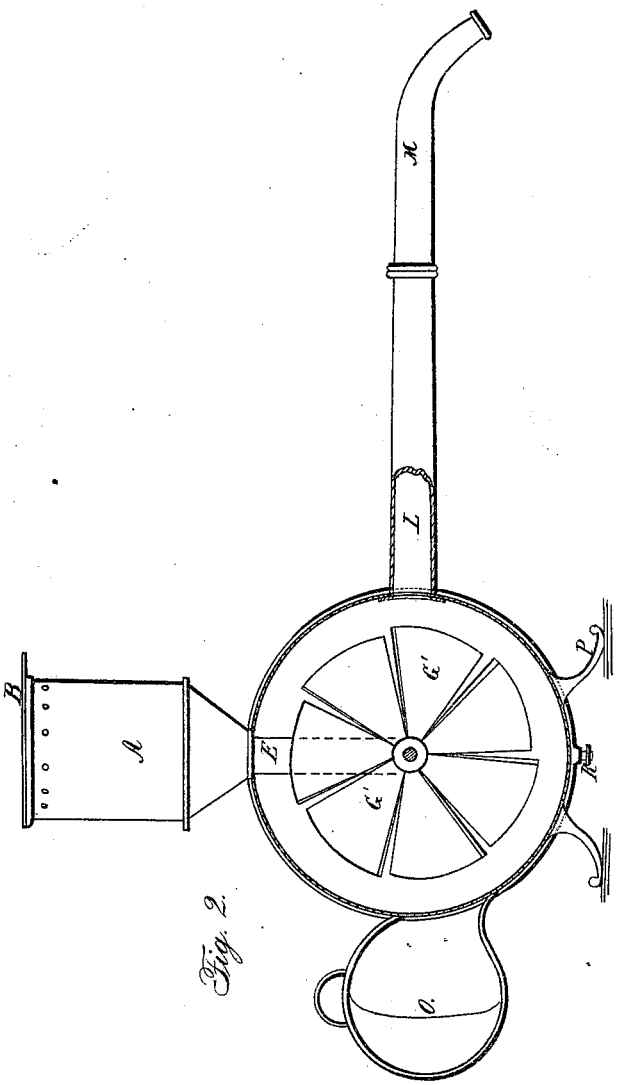



Fig. 2.



# UNITED STATES PATENT OFFICE.

DAVID S. BROWN, OF SURREY COUNTY, ENGLAND.

## MACHINE FOR FUMIGATING PLANTS.

Specification of Letters Patent No. 7,663, dated September 24, 1850.

*To all whom it may concern:*

Be it known that I, DAVID STEPHENS BROWN, of the Old Kent Road, in the county of Surrey, England, gentleman, a subject of the Queen of Great Britain, have invented or discovered certain new and useful Improvements in Apparatus or Instruments for the Fumigation of Plants and Destruction of Vermin; and I, the said DAVID STEPHENS BROWN, hereby declare that the nature of the said invention and in what manner the same is to be performed are fully described and ascertained in and by the present specification thereof, reference being had to the drawings hereunto annexed, that is to say—

Figure 1 of the annexed drawings is an external elevation. Fig. 2 a sectional elevation and Fig. 3 a cross section on the line *a*, *b* of a portable instrument suitable for fumigating plants.

A is a magazine similar to the bowl of a smoking pipe made with air holes at top and has a lid or cover B to open and shut. In this magazine is placed the tray or diaphragm C made of perforated metal or woven wire, to hold the tobacco or other substance intended to be used for fumigation or destruction of vermin. The magazine A is placed on the cylindrical chamber D with which chamber it has a communication by means of the pipe or tube E. The chamber D is traversed by the shaft or spindle F which has its bearings in the sides of the chamber D and which is made to revolve by having affixed to one end of it the pinion G which pinion receives motion from the wheel H revolving on a separate axle and to which wheel a handle I is attached in order that it may be turned by hand. On the spindle F is placed a fan or windwheel G′ having its vanes or leaves straight or of any suitable curve or set at any angle which when rotating will cause a draught, or draw the smoke of the tobacco when ignited in at one part of the chamber D and drive it out at another. That part of the chamber D where the smoke can be best drawn in is near to and on a level with the center of the fan G′ and therefore the pipe E leading from the bottom of the magazine A is made to terminate at that part while on the contrary the part of the chamber D where the smoke can be best driven out is near and on a level with the circumference of the leaves of the fan G′. Accordingly the pipe or nozzle L through which the smoke issues is placed in the circumference of the chamber D. M is a curved pipe which fits onto the pipe L and may be turned upward, downward or sideways according to the direction that it is desirable the smoke should issue. The curved pipe may be removed when required. The fan is also intended to draw in cold air, to mix with the smoke which it may be made to do through any suitable aperture as seen at the valve N if said air is at any time required.

O is a handle by which to hold the machine while operating and P P are feet for the instrument to rest upon when not in immediate use.

R is a recess which may be formed in the bottom of the chamber D for the reception of the oil and dust from the tobacco and which is fitted with a movable cap of common construction which may be removed in order that said oils and dust may be taken out when required. The smoke being thus drawn first into the chamber D and afterward driven out therefrom it is cooled by coming in contact with the cold sides of the machine and mixed with the air and whereby it is thus rendered harmless to the plant. In the case of very large instruments being required they may be mounted on wheels for the convenience of moving about. In lieu of a fan a wheel may be substituted having a hollow axle with tubes radiating from it like the spokes of a coach wheel which tubes are open at one of their ends and the others terminate in the said hollow axle. When this wheel is made to revolve the air will be discharged from it into the chamber D by centrifugal action, and if the said hollow axle is made to communicate with the magazine A a constant draught will be maintained. The smoke may be thus raised to a high pressure in the chamber D and will consequently issue out of it at any part that may be required.

The spaces between the radiating tubes

may be filled up with any solid substance in order to diminish the resistance to the motion of the wheel.

I claim—

The combination in apparatus or instruments for fumigating purposes of a destroying magazine containing the fumigating or obnoxious substance with a cylinder and exhausting fan or wheel whereby the smoke is drawn in at one part of the cylinder and driven out at another and whereby also the atmospheric air necessary for the combustion of the substance is drawn into it by the said fan or wheel both as before described.

D. S. BROWN.

Witnesses:
R. A. BROOMAN,
G. H. BYERLEY.