C. J. HARVEY.

PNEUMATIC DUSTING AND SWEEPING APPLIANCE.

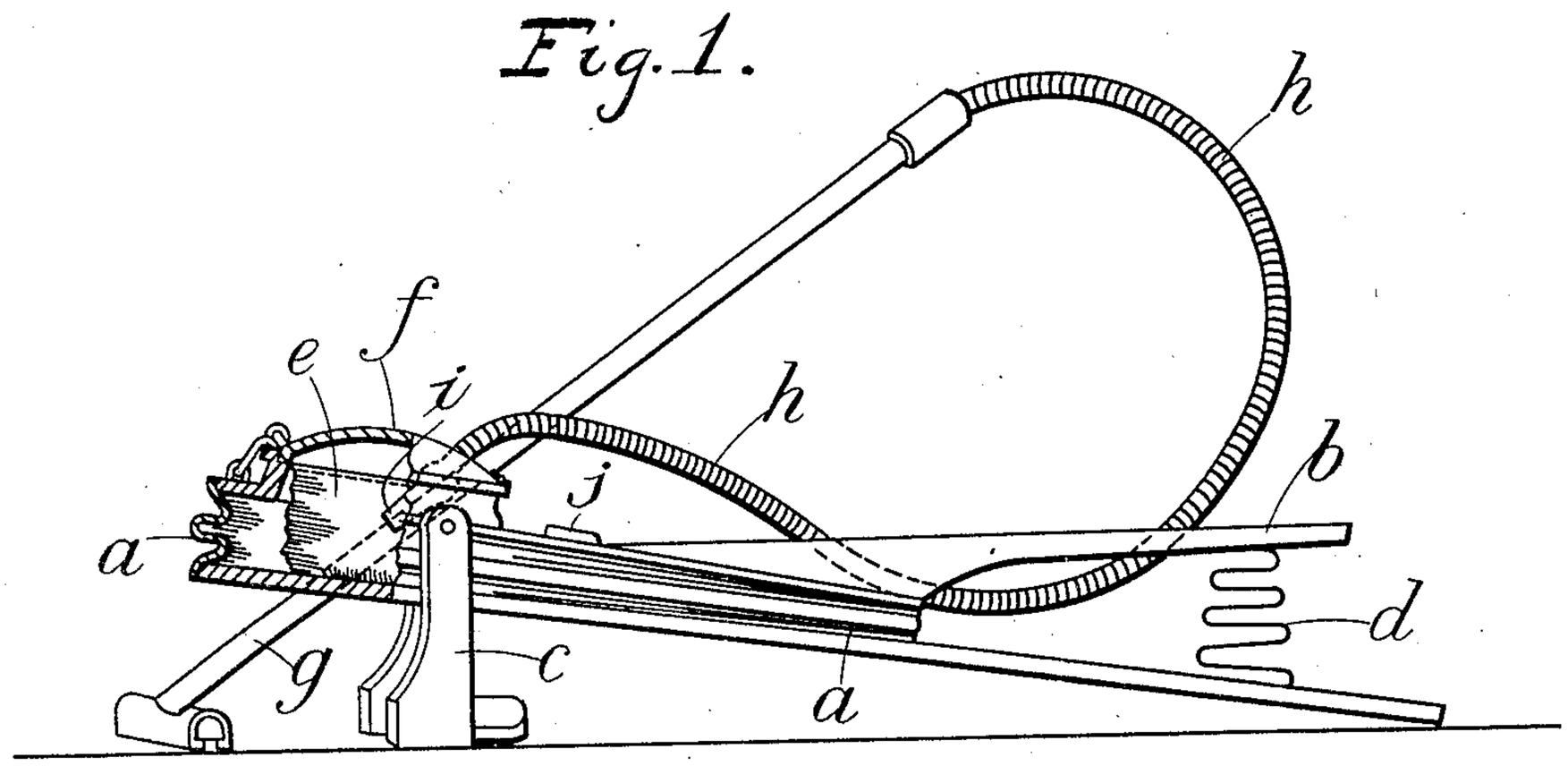
APPLICATION FILED MAR. 8, 1907.

912,956.

Patented Feb. 16, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



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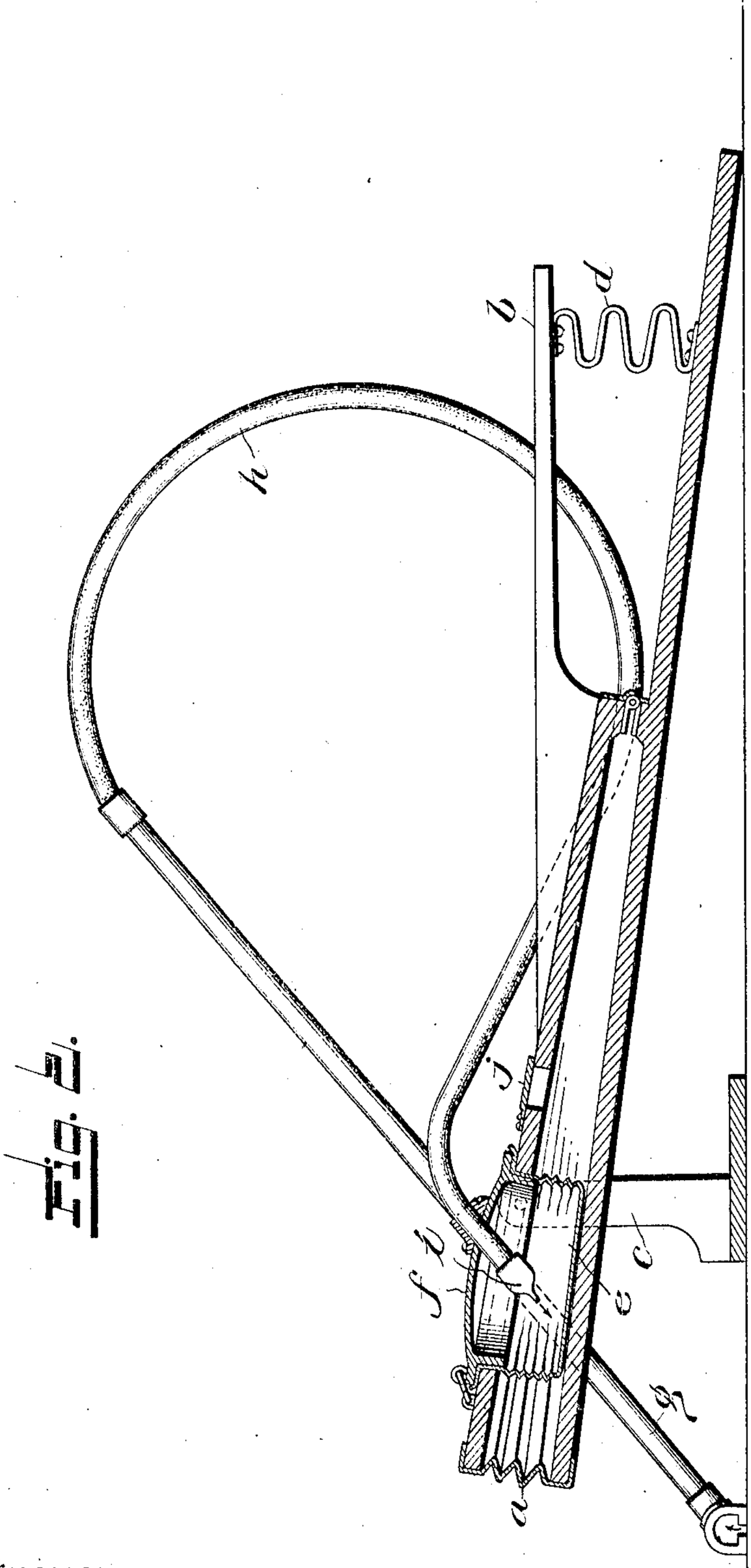

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UNITED STATES PATENT OFFICE.

CHARLES JAMES HARVEY, OF KIDDERMINSTER, ENGLAND.

PNEUMATIC DUSTING AND SWEEPING APPLIANCE.

No. 912,956. Specification of Letters Patent. Patented Feb. 16, 1909.

Application filed March 8, 1907. Serial No. 361,332.

To all whom it may concern:

Be it known that I, CHARLES JAMES HARVEY, a subject of the British King, residing at 9 Church street, Kidderminster, Worcester, England, have invented certain new and useful Improvements in Pneumatic Dusting and Sweeping Appliances; 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.

This invention relates to certain improvements in pneumatic dusting and sweeping appliances, and has for its object to produce a simple and inexpensive machine for the purpose which shall be portable and easily operated by one person only, so as to be particularly suited to the requirements of small households, shops, and offices.

Heretofore pneumatic dusting appliances for various purposes have been provided that were operated by pumps or bellows, but so far as I am aware they were not provided with a bellows adapted to rest on the surface to be cleaned or other support, and to be actuated by the foot of the operator, while his hands were left free to manipulate the suction nozzle to seek out obscure and inaccessible spots, all as will appear below.

My apparatus consists essentially of a single acting exhaust bellows actuated by a pedal and provided with a dust collecting nozzle and flexible connecting tube with suitable inlet and outlet valves, and carrying a dust retaining device; all as hereinafter described with reference to the accompanying drawings in which—

Figure 1, represents an elevational view partly in section of my apparatus and Fig. 2, a longitudinal sectional view of my invention.

In carrying the same into effect I make use of a single foot bellows, *a*, of the ordinary hinged shape, the pedal, *b*, of which is fixed at a slight angle to, and forms an extension of, the upper bellows board. This board is supported sufficiently off the ground by the bracket, *c*, between the arms of which it is pivoted. The said bracket, *c*, is of a suitable height to allow for the full expansion of the bellows and the base may be sufficiently broad to enable it to stand upright on the ground, or any convenient means may be employed for fixing it in an upright position. The bottom bellows board is extended to a point sufficiently beyond the rear of the pedal to prevent tipping. A compression spring, *d*, is inserted between this extension and the pedal, *b*, and is of sufficient strength to normally keep the bellows closed.

I employ no separate dust collector, but I use a dust retaining bag or screen, *e*, which may be extended over the air exit or inlet or elsewhere in the passage of the air current providing it fulfils its function of filtering the dust from the air; but I prefer it to be carried inside the bellows (as shown) and inserted through an aperture in the upper board, the mouth of the bag, *e*, being preferably extended round the edge of the aperture and closed by an air tight lid, *f*, or the like.

A dust removing or collecting nozzle, *g*, is in connection with the bellows by means of a suitable length of tubing, *h*, as usually employed. The dust may be collected within the bellows, *a*, but I prefer to collect it within the bag, *e*, aforesaid for convenience of removal.

The inlet valve *i* should be of soft collapsible material such as rubber, calico, or the like, to prevent any back rush of dust, and the exit valve *j* or valves may be made of any material allowing easy action.

The operation of my device is as follows: The bellows and its bracket *c* is placed on the floor or ground, and pressure applied to the pedal *b* by means of the foot. This is made the more easy on account of the pedal *b* being supported off the ground by means of the bracket *c*, and by reason of the said bracket being of a suitable height to allow for the full expansion of the bellows, as stated above. The power being applied through the foot, and the bracket *c* being of suitable dimensions to steady the bellows, the hands of the operator are free to manipulate the nozzle *g*, as also stated above, and when the air and dust is sucked into the nozzle, it is delivered to the bag *e*, which allows the air to escape, but retains the dust. On raising the foot, the pedal *b* is returned by the spring *d*.

It will thus be seen that by employing a foot-operated bellows suitably supported by the bracket *c*, I am enabled to operate the same by the foot alone and thereby leave the hands free to manipulate the nozzle and seek out any otherwise inaccessible places. This I consider an important feature of my invention.

In the accompanying drawing a nozzle, *g*, is shown suitable for use in dusting a carpet or floor, but nozzles of various shapes or de-

signs may be connected to the tube, *h*, to suit different requirements such as for dusting shelves, furniture, and the like.

Claim.

The combination in a pneumatic dusting and sweeping appliance, of the bellows *a*, having its top board extended to form a pedal *b*, and its lower board extended to form a support; the bracket stand *c* pivotally attached to the top board of the bellows *a*; the compression spring *d*, between the top and lower board extensions; the dust retaining bag *e*, inserted within the bellows *a*, through an aperture in the upper board and having its mouth extended around the edge of the aperture and closed by the air tight lid *f*; the dust collecting nozzle *g*, and connecting tube *h*, with suitable inlet and outlet valves *i* and *j*, substantially as shown and described.

In testimony whereof, I affix my signature in presence of two witnesses.

CHARLES JAMES HARVEY.

Witnesses:
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GEO. W. COOKE.