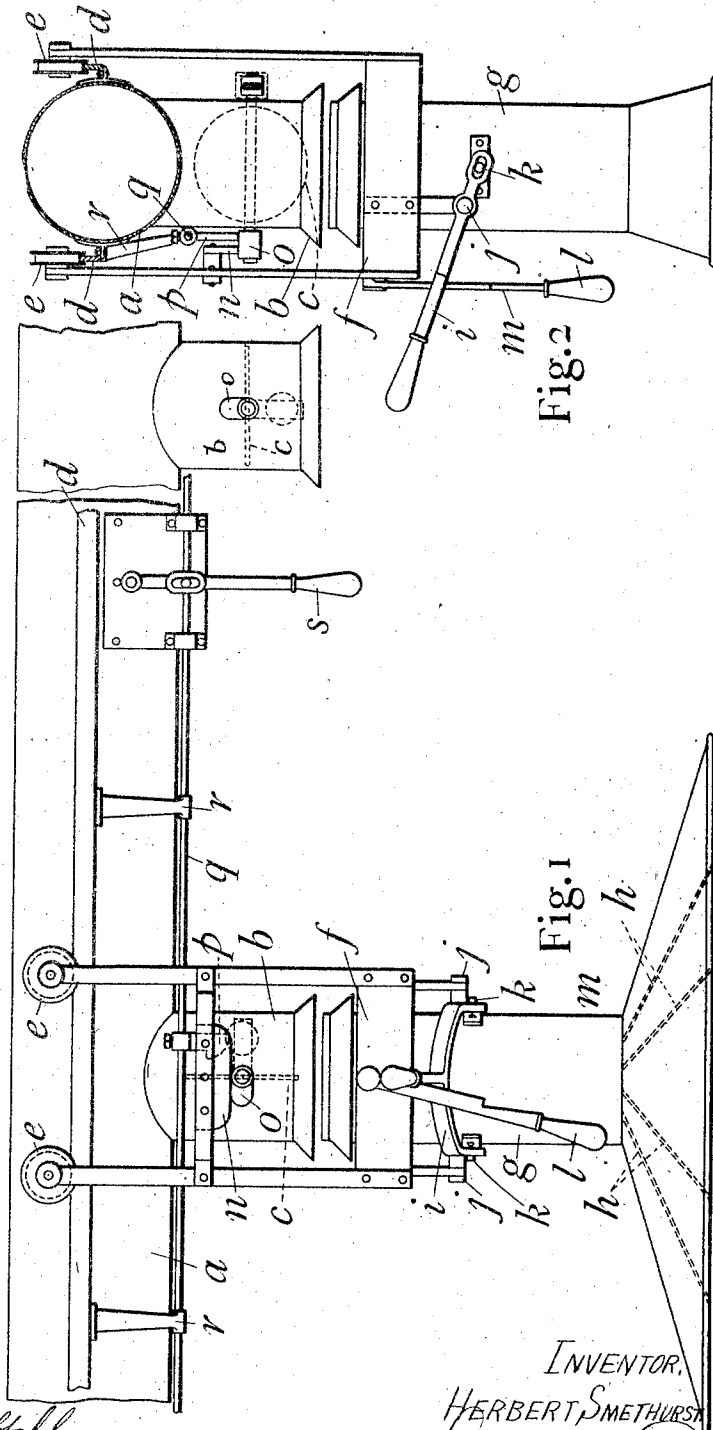


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2 SHEETS—SHEET 1.



ATTEST.

Bent. Mr. Stahl.
Edward N. Sartor

INVENTOR.

HERBERT SMETHURST

By *Wm. Middleton* *Wm. Middleton*
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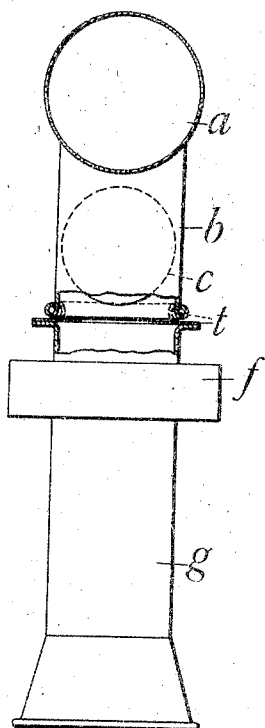


Fig. 3

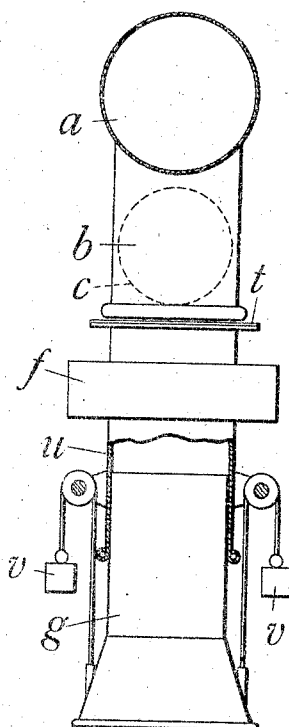


Fig. 4

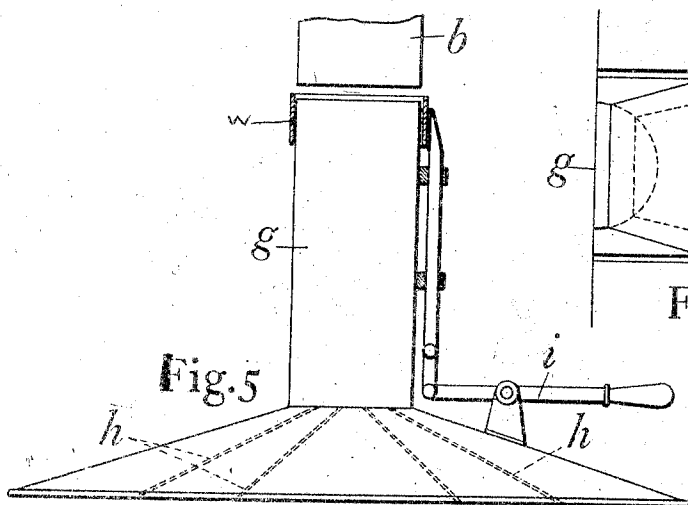


Fig. 5

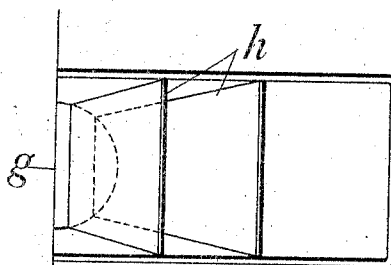


Fig. 6

ATTEST

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UNITED STATES PATENT OFFICE.

HERBERT SMETHURST, OF HOLLINWOOD, ENGLAND.

APPARATUS FOR REMOVING DUST AND FOUL GASES FROM CARDING-ENGINES AND THE LIKE.

No. 928,158.

Specification of Letters Patent.

Patented July 13, 1909.

Application filed November 17, 1908. Serial No. 463,055.

To all whom it may concern:

Be it known that I, HERBERT SMETHURST, a subject of the King of Great Britain and Ireland, residing at Butler Green Metal Works, Hollinwood, in the county of Lancaster, England, have invented new and useful Improvements in Apparatus for Removing Dust and Foul Gases from Carding-Engines and the Like, of which the following is a specification.

This invention relates to the apparatus employed for removing dust and foul gases from cotton or other carding engines, and the like, to prevent objectionable and dangerous contamination of the atmosphere in the rooms where the said machines are situated.

The invention comprises the provision of means adapted to put any one of a series of carding engines into communication with the one common exhaustion pipe or conduit.

Referring to the two accompanying sheets of explanatory drawings;—Figures 1 and 2 are views at right angles to one another illustrating one convenient application of my invention. Figs. 3, 4 and 5 are views showing modified forms of apparatus and Fig. 6 is a detail view of the hood to be hereinafter referred to.

The same reference letters in the different views indicate the same or similar parts.

In the apparatus illustrated at Figs. 1 and 2, the exhaust pipe *a* is provided with inlet arms or bends *b*, each of which has a suitable valve as *c* for controlling the flow of dust and gases to the pipe *a*. At each side of said pipe or conduit *a* I arrange rails or their equivalent as *d* upon which run the wheels *e* of a carriage as *f*. The said carriage supports a hood or like inlet pipe as *g* adapted to be placed over the carding engine of other machine in which the dust and foul gases are generated. The lower end of said hood is preferably made of the form shown, but may be altered to suit any particular requirements. It is provided with division plates *h* (as shown in inverted plan Fig. 6) in order to insure that the suction action shall be equally distributed over the end face of the hood.

In the arrangement shown at Figs. 1 and 2, the hood *g* is supported, as by means of a pin and slot or like arrangement, so as to be capable of a longitudinal movement relatively to the inlet arm or bend *b* for the pur-

pose of making a joint therewith, such movement being effected by means of the bifurcated hand lever *i*, pivoted at *j* to brackets carried by the carriage *f*, and engaging pins *k* upon the hood *g*. *l* is a locking lever attached to the carriage *f* and adapted by its own weight to rest against the handle end of the lever *i* and, when the latter is in its lowest position for holding the hood *g* against the inlet arm or bend *b*, to lock it in such position by means of the notch *m*.

The carriage *f* is preferably provided with a striking plate *n* adapted to engage the arm *o* secured to the spindle of the valve *c*, so that when said carriage brings the hood *g* beneath the inlet pipe *b*, the valve is opened to put said inlet and hood under the suction action in the pipe or conduit *a*. The valve *c* is automatically closed by a weight or its equivalent.

When it is desired to employ the exhaust main *a* for ventilation purposes, the inlet valves *c* are opened by means of strikers as *p* carried by a rail *q* supported in guides *r* and actuated by a hand lever *s*. Said strikers *p* may be so positioned upon the rail *q* that the inlet valve as *c* farthest from the fan or the like producing the exhaustion action in *a* is opened thereby to a greater extent than the inlet valves nearer said fan so that an equal or nearly equal volume of air will pass through each inlet pipe *b*.

Instead of making a joint between the hood *g* and pipe *b* by raising the former as before described, I may provide a flexible washer-like ring *t* at the upper end of said hood portion *g*, the said ring being adapted under the suction action of the main exhaust pipe *a* to rise within the end of the inlet bend *b* as shown in dotted lines and so prevent any large inflow of air from between the ends of *g* and *b*.

In some cases I may, as shown in Fig. 4, make the hood portion of the inlet pipe in two parts *g* and *u*, the one sliding within the other and being if desired balanced by weights *v* or the like. This arrangement will be advantageous when the hood has to be raised in traveling from one machine to another so as to clear driving belts or other parts which would otherwise offer an obstruction to it.

Instead of raising the whole of the hood *g* in order to make a joint between *g* and *b*, I may place a cap like part or socket *w* on the

end of *g* and raise same into contact with the end of the inlet pipe *b* by the hand lever *i* as shown.

By means of my invention I am enabled to employ one hood as *g* for any one of several machines, and to automatically open the valve of the inlet pipe or bend as *b* beneath which said hood is brought. As said valves automatically close when the carriage and hood are removed therefrom, the whole of the suction action of the fan or its equivalent can be concentrated upon the desired points.

Having now described my invention what I claim as new and desire to secure by Letters Patent is;—

1. Apparatus for removing dust and foul gases from carding engines and the like, consisting in part of an exhaust pipe or conduit, a plurality of inlet branches on the said conduit, an inlet connection, a carrier for said connection, and means for detachably jointing the connection with any one of said inlet branches, as set forth.

2. In apparatus for removing dust and foul gases from carding engines and the like, the combination consisting of an exhaust pipe or conduit, a plurality of inlet branches on the said conduit, an inlet connection, a wheeled carrier for the said connection, a rail track for the said carrier, and means for detachably jointing the connection with any one of the said inlet branches, as set forth.

3. In apparatus for removing dust and foul gases from carding engines and the like, the combination consisting of an exhaust pipe or conduit, a plurality of inlet branches

on the said conduit, an inlet connection, a hood with internal equalizing division plates at the lower end of the said connection, a carrier for the hooded connection, and means for detachably jointing the connection with any one of the said inlet branches, as set forth.

4. In apparatus for removing dust and foul gases from carding engines and the like, the combination consisting of an exhaust pipe or conduit, a plurality of inlet branches on the said conduit, an automatically closing valve on each of the said inlet branches, an arm for opening the said valve, an inlet connection, a carrier for said connection, a striking plate mounted on the said carrier for engaging the opening arms of the valves of the respective inlet branches, and means for detachably jointing the connection with any one of the said inlet branches, as set forth.

5. In apparatus for removing dust and foul gases from carding engines and the like, the combination consisting of an exhaust pipe or conduit, a plurality of inlet branches on the said conduit, an inlet connection, a carrier for said connection, a jointing socket on said connection, and means for imparting a movement to said socket relatively to the connection, as set forth.

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

HERBERT SMETHURST.

Witnesses:

ARTHUR HUGHES,
CHARLES CONRAD.