

J. F. WHITE.
 MACHINE FOR OPENING AND CLEANING FIBERS AND RAG DUSTING MACHINES.
 APPLICATION FILED SEPT. 2, 1909.

1,001,487.

Patented Aug. 22, 1911.

2 SHEETS-SHEET 1.

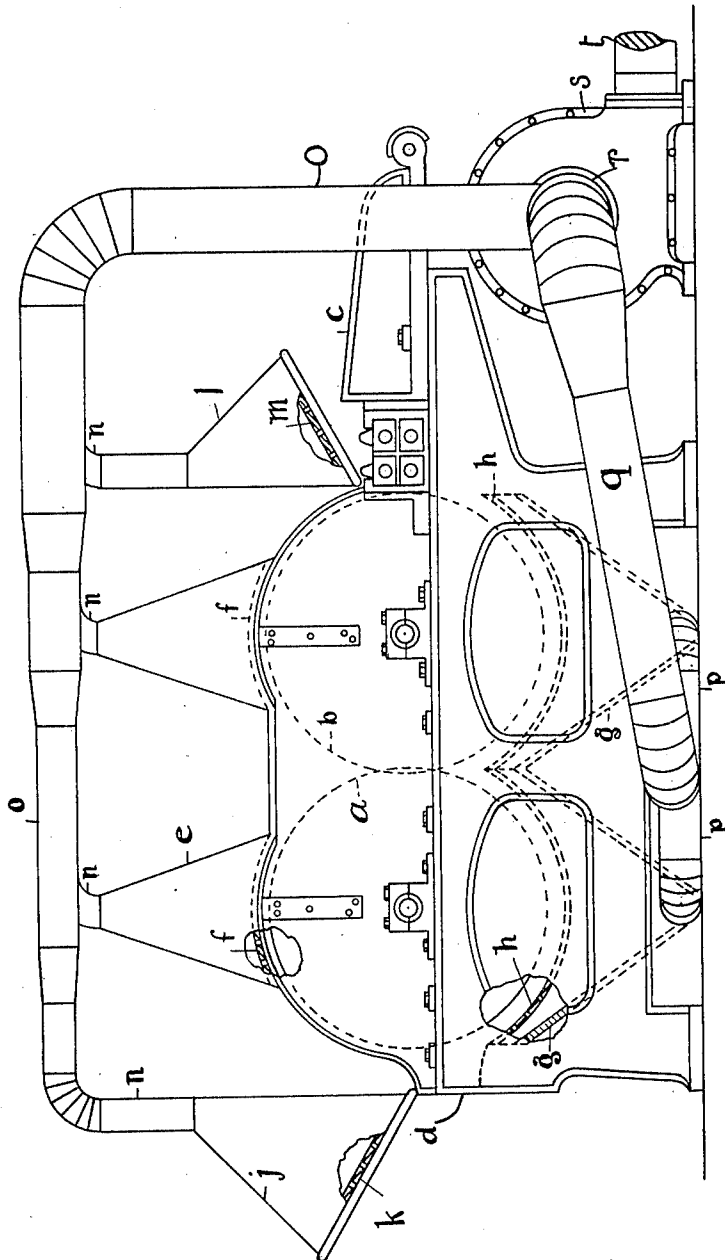


FIG. 1.

Witnesses

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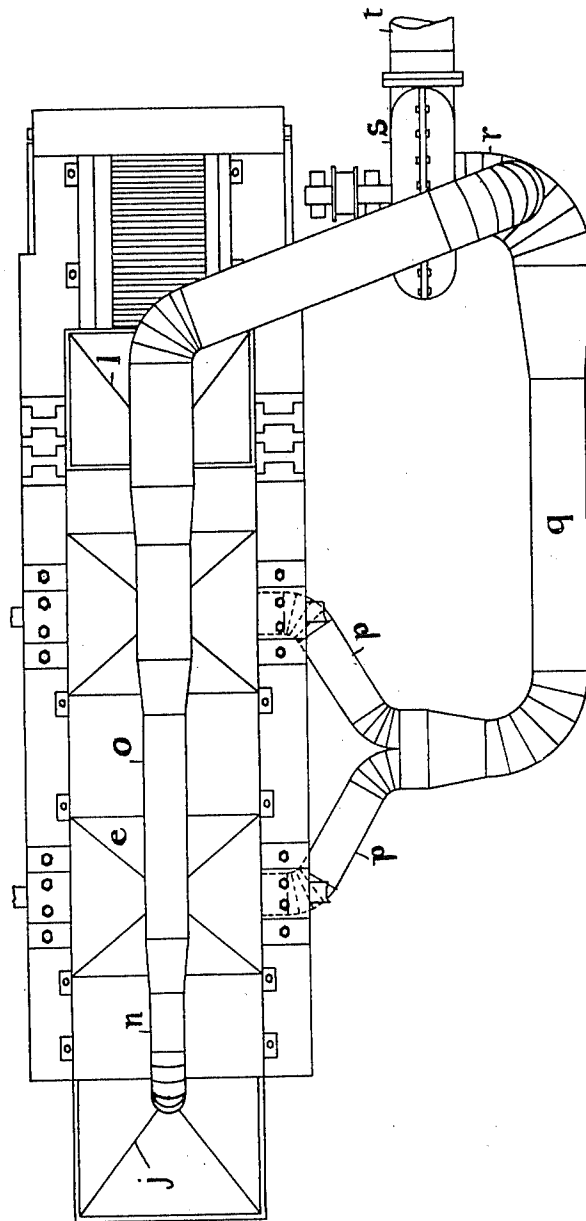


FIG. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN FRANCIS WHITE, OF BRADFORD, ENGLAND.

MACHINE FOR OPENING AND CLEANING FIBERS AND RAG-DUSTING MACHINES.

1,001,487.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed September 2, 1909. Serial No. 515,930.

To all whom it may concern:

Be it known that I, JOHN FRANCIS WHITE, a subject of the King of Great Britain, residing at 20 Cunliffe Villas, Bradford, Yorkshire, England, have invented certain new and useful Improvements in Machines for Opening and Cleaning Fibers and Rag-Dusting Machines.

This invention relates to improvements in fiber opening and rag dusting machines whereby the removal of the dust separated from the fiber or material to be treated is more efficaciously effected than hitherto.

The invention contemplates the arrangement over each rotating cylinder of the machine of a tapered dome in combination with a tapered hopper underneath each rotating cylinder and the provision of means for producing a suction up through the upper dome and down through the under hopper.

The invention further contemplates the arrangement of tapered domes over the feed of the machine and over the outlet of the machine. All the domes are connected up by means of proportional pipes, that is to say, by means of pipes which gradually increase in diameter as they are connected up to a further dome or hopper which pipes lead to a fan or other suction producing means.

The accompanying drawings show the application of the present invention to a two cylinder machine with all the domes above referred to in position. The means for driving the fiber opening and rag dusting machine illustrated are omitted for the sake of clearness.

In these figures, Figure 1 represents a side elevation and Fig. 2 a plan view of a fiber opening and rag dusting machine.

In these the cylinders or means for shaking or beating the fibers are indicated by *a* and *b* there being two such cylinders in the type of machine illustrated, while the feed is represented by *c* and the outlet by *d*. Immediately over each of the cylinders *a* and *b* there is arranged a tapered dome or conical hood *e* each of which carries a grid *f* to prevent the escape of fibers with the dust. Under each of the cylinders there is arranged a tapered dome or conical hood *g* which is also provided with a suitable grid *h*. Over the discharge *d* of the machine there is a further dome *j* also provided with a suitable grid *k*. At the feed end of the machine there is also provided a hood *l* with a grid

m. The apices of all the tapered domes are connected up by pipes *n* to a main pipe *o* which gradually increases in diameter as each pipe is connected up therewith, while the bottoms of the tapered hoppers are connected by pipes *p* to a main pipe *q*. The main pipes *o* and *q* are connected together and to the inlet *r* of a fan *s* having an outlet *t*.

I declare that what I claim is:—

1. In fiber opening and rag dusting machines, the combination of a plurality of cylinders, a grid above and a grid below each cylinder diametrically opposite each other, said grids being arranged longitudinally of the cylinders and formed in a curve concentric thereto, a tapering dome projecting from each upper grid, a tapered hopper extending from each lower grid, a grid above the inlet to the machine, a grid above the outlet of the machine, tapering domes projecting from the last mentioned grids, a central suction producing means, and proportional pipes leading from the apexes of the domes and the lowest points of the hoppers to the suction means, substantially as described.

2. In fiber opening and rag dusting machines, the combination of a plurality of rotating cylinders, a grid above and a grid below each cylinder diametrically opposite each other, said grids being arranged longitudinally of the cylinders and formed in a curve concentric thereto, a tapering dome projecting from each upper grid, a tapered hopper extending from each lower grid, a fan, and pipes leading from the domes and the hoppers to the fan, whereby the suction is divided and the impurities from the upper and lower halves of the cylinders are drawn through the domes and hoppers respectively, substantially as described.

3. In fiber opening and rag dusting machines, the combination of a plurality of cylinders, a grid above and a grid below each cylinder diametrically opposite each other, said grids being arranged longitudinally of the cylinders and formed in a curve concentric thereto, a tapering dome projecting from each upper grid, a tapered hopper extending from each lower grid, a central suction means, and proportional pipes leading from the domes and from the hoppers to the suction means whereby the suction is divided and acts to draw impurities from the upper and lower half of each cylinder, substantially as described.

4. In fiber opening and rag dusting machines, the combination of a rotating cylinder, grids in spaced relation to the cylinder and arranged diametrically opposite each
5 other, said grids being formed in a curve concentric to the cylinder, a tapering dome extending from each grid, a suction producing means, and pipes leading from the apexes
10 whereby the suction is divided and the im-

purities from the diametrically opposite halves of the cylinder are drawn through the domes, substantially as described.

In witness whereof I have hereunto signed my name this 19th day of August 1909, in 15 the presence of two subscribing witnesses.

JOHN FRANCIS WHITE.

Witnesses:

HUBERT PUMPHREY,
FRED HAMMOND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
