

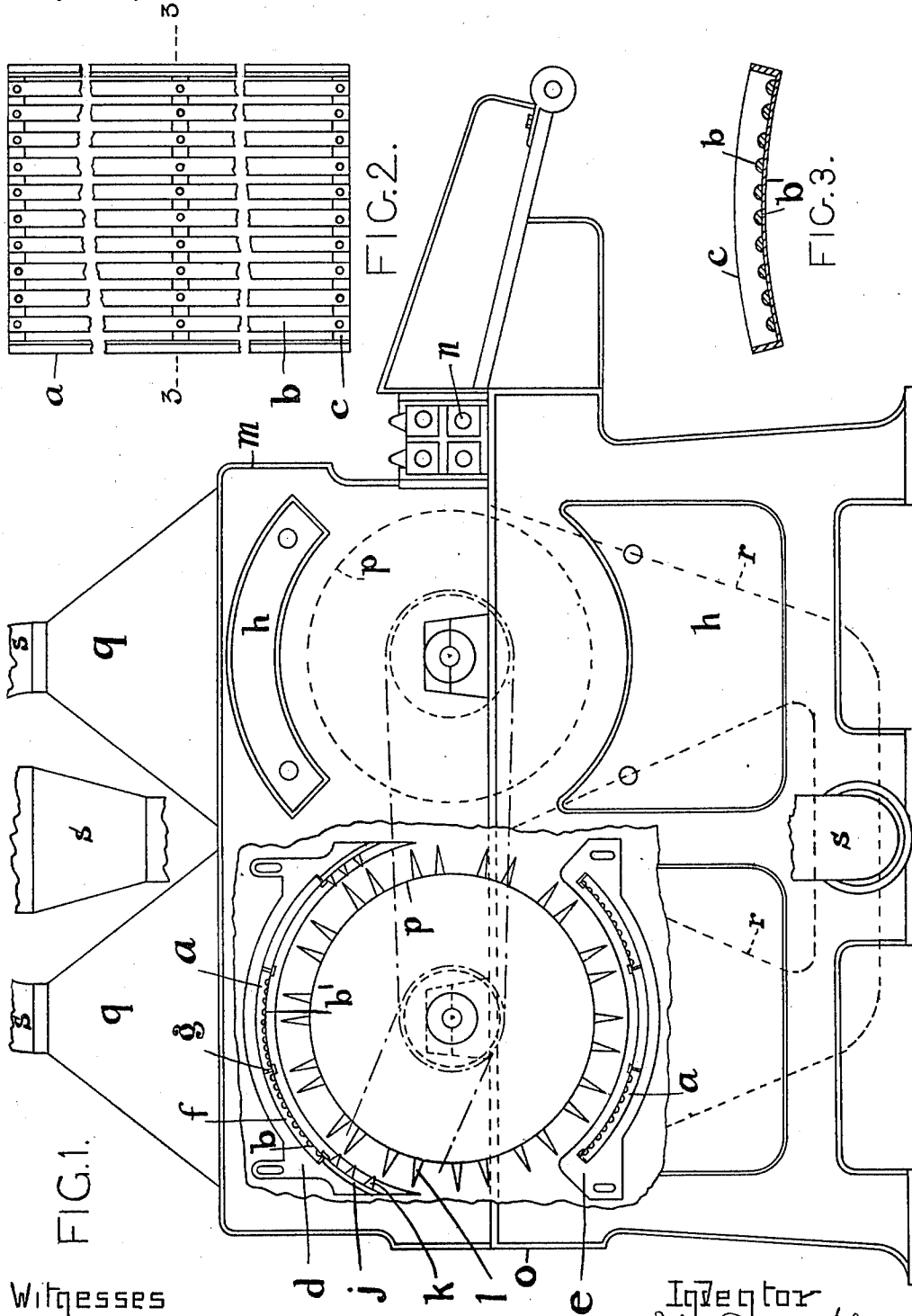
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MACHINE FOR OPENING AND CLEANING FIBERS AND RAG DUSTING MACHINES.

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Patented Aug. 22, 1911.

1,001,488.



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.

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

Application filed September 2, 1909. Serial No. 515,931.

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 fiber opening or cleaning fibers rag dusting machines and the like and has for its object to provide a grid which will facilitate the separation of the dust from the materials being treated owing to the special shape which is given to the bars composing the grid, and to provide at the same time a grid which will be capable of easy and quick removal for cleaning purposes from the machine and easy replacement therein.

In the accompanying drawings the invention is fully set forth.

In these Figure 1 is a side elevation of the willow with a portion of the side plate broken away and a portion of each grating removed. Fig. 2 is a plan view of a section of a grid and Fig. 3 is a section of Fig. 2 taken about the line 3—3.

In these drawings *m* represents the willow as a whole, *n* the feed rollers and *o* the outlet. The cylinders of which there are two are indicated by *p*. The grids indicated by *a* are as will be seen arranged one above and one below each cylinder *p*. These grids are formed in sections indicated as a whole by *a* which sections run on T irons *g* supported by brackets *d* for the upper grids and brackets *e* for the lower grids, which brackets are secured to the inner sides of the walls of the willow *m* by any suitable means. The grids rest on the T-irons *g* which act as guides or runners for the different sections *a*. These sections *a* are built up of bars *b* suitably spaced by being secured to the cross pieces *c* which bars in cross section form the segment of a circle and preferably are semicircular and are arranged with their flat surfaces *b'* facing the axes of the cylinders *p*. The willow shown in the drawing is provided with a dome *q*, above each cylinder *p* and grid *a* with a hopper *r* below each cylinder, the grids being arranged at the mouths of the respective domes and hoppers. These domes and hoppers are provided with pipes *s* through which air can be drawn so as to withdraw dust and dirt falling or drawn through the

grids. The sides of the willow *m* are provided with removable plates *h* so that access can be had to the different grids and sections *a* of the same to withdraw them at will. At both ends of the upper grid is arranged a plate or the like *j* which has secured to it inwardly projecting teeth *z* which lie with a small amount of clearance out of the path of the teeth *l* of the cylinders *p*.

In action the specially shaped bars of the grids are found to be very efficacious in allowing the passage of the dust shaken out of the material treated without hindering the movement of the fibers over the grids as a whole. The reason that the dust has such an easy passage through the grid is that there is no surface on the sides of the bars even at the ends of the grids on which the dust can lie. The dust is in fact allowed practically a straight passage through the grids at all points. Owing to the arrangement of the grids in sections resting on the guides *g* within the machine and the plates *h* any section of the grid can be easily and quickly removed for cleaning purposes. The effect of the teeth *z* at the left-hand side of the top grid is to tease or further open the material or fiber which is being treated before it is drawn against the upper grid while the teeth at the right hand side further tease and open the fiber before it is thrown against the lower grid. As these teeth are only arranged in connection with the upper grid they naturally point downward somewhat and prevent a collection of fiber on or between them as would be the case were they provided also on the lower grid.

I declare that what I claim is:—

1. In fiber and rag dusting machines, the combination of a rotating cylinder, a grid in spaced relation thereto, and said grid being composed of bars semi-circular in cross-section and arranged with their flat sides toward the cylinder to provide a strong bar offering a minimum obstruction to the dust and dirt as it leaves the machine, substantially as described.

2. In fiber and rag dusting machines, the combination of a rotating cylinder, a slidably removable grid in spaced relation thereto, said grid being composed of bars extending longitudinally of the cylinder, and the bars having flat surfaces facing the cylinder and curved surfaces on the side

away from the same to provide a strong bar offering a minimum obstruction to the dust and dirt as it leaves the machine, substantially as described.

5 3. In fiber and rag dusting machines, the combination of a rotating cylinder, a grid concentric with the periphery of the cylinder and composed of bars extending longitudinally thereof, and said bars being semi-
10 circular in cross-section and arranged with their flat surfaces toward the cylinder to provide a strong bar offering a minimum obstruction to the dust and dirt as it leaves the machine, substantially as described.

15 4. In fiber and rag dusting machines, the combination of a rotating cylinder, a grid formed in sections concentric with the periphery of the cylinder and each section composed of bars extending longitudinally
20 thereof, and runners for supporting the sections of the grid whereby the same may be slidably removed, substantially as described.

25 5. In fiber and rag dusting machines, the combination of a rotating cylinder, a grid formed in sections concentric with the periphery of the cylinder and each section composed of bars extending longitudinally

thereof, runners for supporting the sections of the grid whereby the same may be slidably removed, and end brackets secured to
30 the interior walls of the machine carrying said runners, substantially as described.

6. In fiber and rag dusting machines, the combination of a rotating cylinder, a grid above the cylinder, a grid below the cylinder, the grids being concentric with the periphery of the cylinder and composed of bars extending longitudinally thereof, runners for supporting the grids whereby the same may be slidably removed, end brackets
40 secured to the interior walls of the machine carrying said runners, plates at the sides of the upper grid supported by the end brackets, and said plates being provided with inwardly projecting teeth, substantially as
45 described.

In witness whereof I have hereunto signed my name this 19th day of August, 1909, in 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."