No. 753,213. PATENTED FEB. 23, 1904.

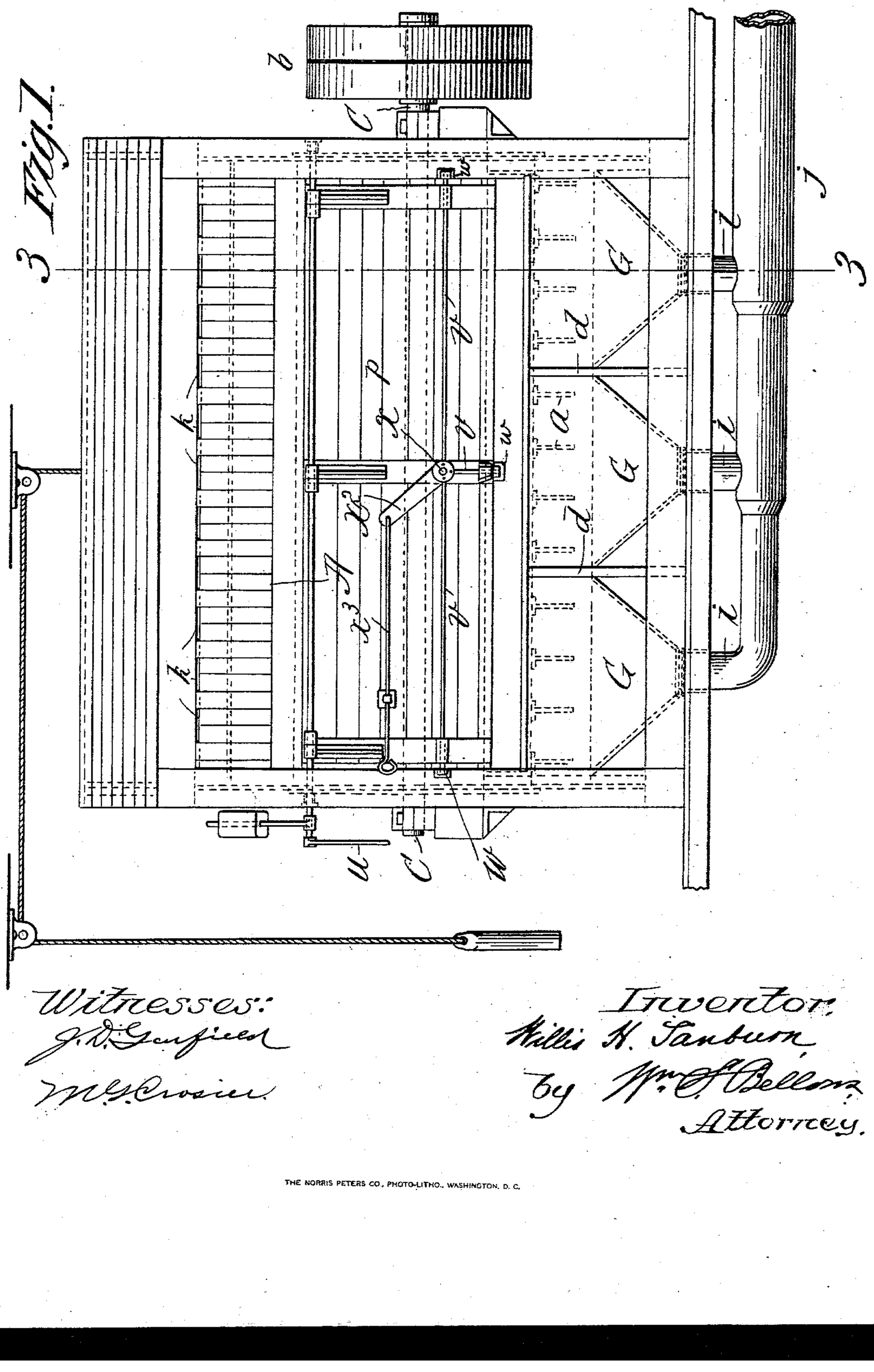
W. H. SANBURN.

RAG DUSTING MACHINE.

APPLICATION FILED JULY 27, 1903.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.



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M. L. Crosier

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NO MODEL. 3 SHEETS—SHEET 2.

Fig. 3.

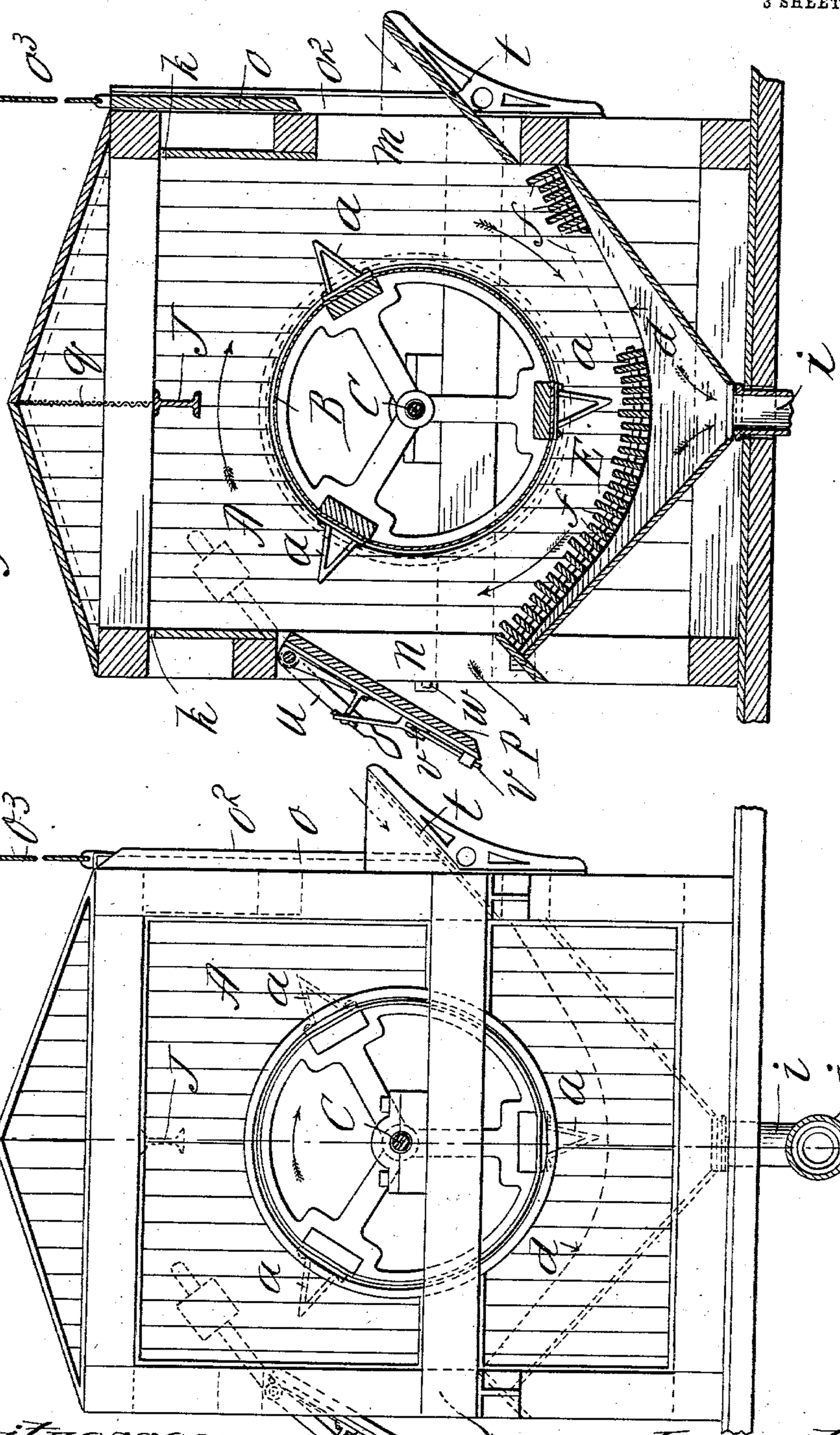

Fig. 4.

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APPLICATION FILED JULY 27, 1903.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 4.

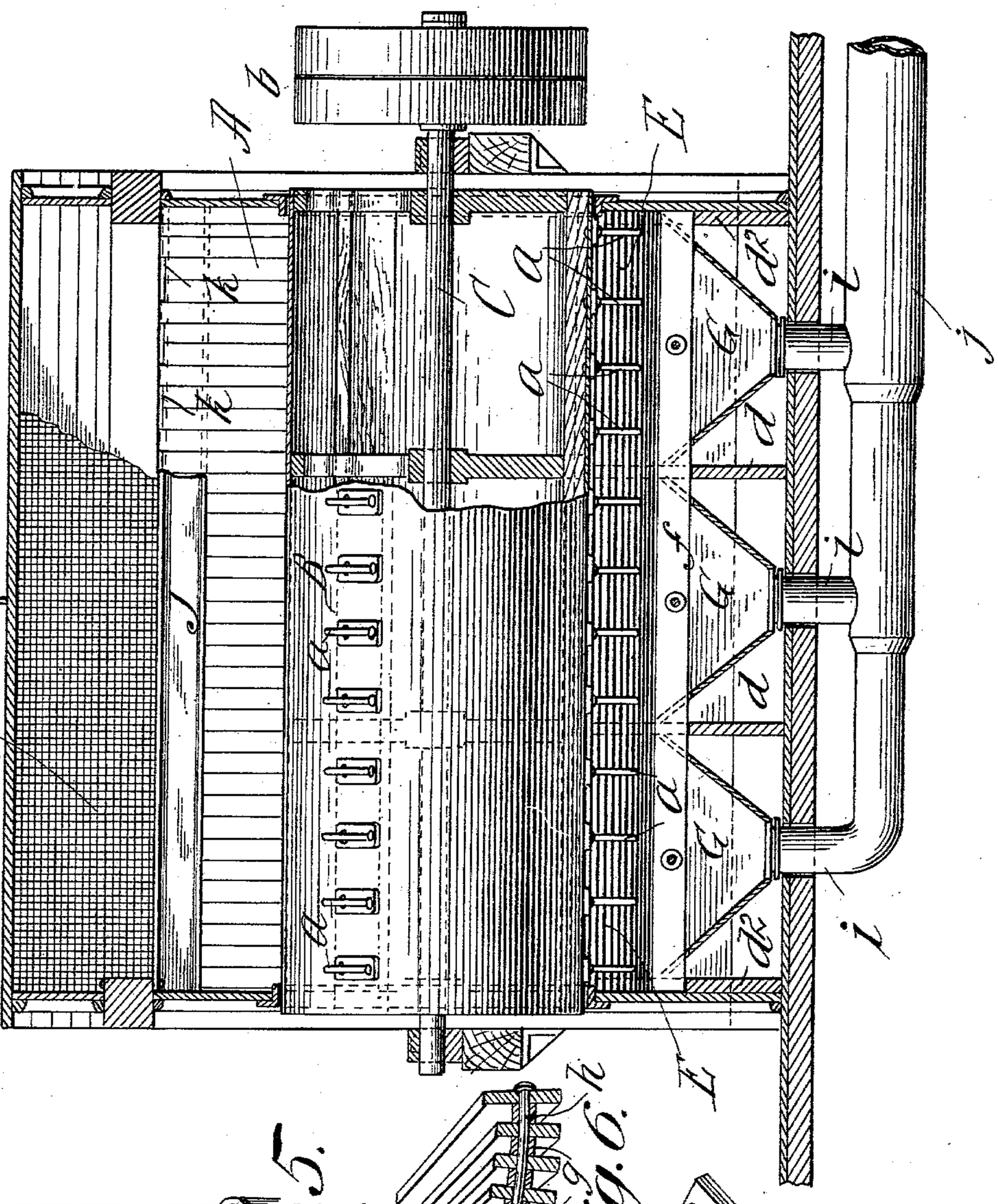

Fig. 5.

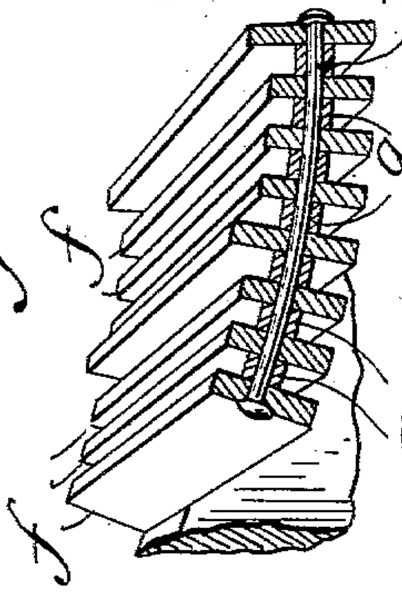

Fig. 6.

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No. 753,213. Patented February 23, 1904.

UNITED STATES PATENT OFFICE.

WILLIS H. SANBURN, OF MITTINEAGUE, MASSACHUSETTS.

RAG-DUSTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 753,213, dated February 23, 1904.

Application filed July 27, 1903. Serial No. 167,082. (No model.)

To all whom it may concern:

Be it known that I, WILLIS H. SANBURN, a citizen of the United States of America, and a resident of Mittineague, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Rag-Dusting Machines, of which the following is a full, clear, and exact description.

This invention relates to improvements in machines for dusting rags designed to be used for the making of paper, the object being to provide an apparatus within which a quantity of the rags may be placed and therein subjected to a threshing action, whereby the dust and dirt may be dislodged therefrom and exhausted from the apparatus and whereby buttons, other metallic fastenings, and the like may be stripped from the rags and either withdrawn from the apparatus or so lodged therein as not to be discharged therefrom with the threshed rags; and the invention consists in the constructions and combinations or arrangements of parts, all substantially as hereinafter described, and set forth in the claims.

The improved apparatus is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation. Fig. 2 is an end elevation. Fig. 3 is a cross-section as taken on the line 3 3, Fig. 1. Fig. 4 is substantially a central longitudinal vertical section through the apparatus as taken on line 4 4, Fig. 2. Fig. 5 is a perspective view showing a portion of one of the gangs of the bars, a number of which constitute the open-work grate-like bed of the apparatus. Fig. 6 is a perspective view of one of the duplicated projections on the rotary thresher-body

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents a housing of a general rectangular or other suitable form, within which is longitudinally and horizontally mounted a rotatable body B in the form of a closed cylinder, having a plurality of outwardly-projecting beater or threshing projections *a*, the central shaft C of the cylinder being mounted in suitable journal-bearings at the opposite ends of the housing and provided with fixed and loose pulleys *b*. In the lower portion of the housing are partitions *d*, constituted of transversely-arranged boards, the upper edges of all of which are uniformly concave, as are also the upper edges of the boards d^2 at the ends, and supported thereon is a concave grating or open-work bed E, in proximity to which the revoluble threshing projections *a* pass in their revoluble movements. The said grating or open-work bed is constituted by series of separated and longitudinally-parallel bars *f f*, arranged edgewise upward and having spacing-blocks *g g*, which hold them in separation, gangs of these parts being united by the curved tie-rods *h*, the ends of which are riveted or otherwise made for clamping engagements. Certain of the said bars at intervals are, as shown in Figs. 3 and 5, longer and farther upwardly projected than the relatively intermediate ones, and the gangs of these separated and tied bars are supported by resting on the upper concave edges of the aforementioned partitions and end portions d d^2, whereby the grate-like bed having a concaved contour, as shown, is produced. The spaces G below the bed and between the partitions are utilized as suction-chambers, individual pipe connections *i i i*, with the common suction-conduit *j*, being provided. Suitable apertures *k* are provided through the wall or walls of the housing for the admission of air thereinto, and *m* indicates a rag-entrance opening, and *n* a rag-discharging opening, the opening *m* being closed by the sliding door *o*, while the opening *n* is closed by the swinging door *p*.

Located in an upper part of the housing in proximity to the paths of revoluble movement of the threshing projections *a* is a longitudinally-ranging horizontal bar J, which advantageously may be of **I** form in cross-section, whereby the angular portions thereof are presented to the passing projections *a*, and between such bar, which is below the top of the housing and the top thereof, is a screen *q*.

The opening *m* has a downwardly-leading chute *t* to guide the rags properly into the receptacle, and the closing door *o* for the opening moves in vertical slideways o^2 and has a cord o^3 therewith connected, the same being sheave-guided and counterweighted. The other door is shown as hinged at its upper edge and has

a counterweighted handle-lever *u* therewith connected, and there are three bolt-rods *v*, arranged for movements in the directions of their lengths, to engage into and disengage from sockets *w* on the outer side of the housing near the margins of the opening *n*. The inner ends of the several bolt-rods are connected to a pivotally-mounted disk *x* on the outer face of the door *p*, said disk having a lever extension x^2, to which a hand-rod x^3 is connected, so that when the door is in its closed position the endwise movements of the hand-rod will cause the locking or unlocking of the door.

A quantity of rags being introduced into the apparatus, the rotatable body or cylinder B is speeded, the radially-extending projections *a a* thresh, knock, and tumble the rags around within the housing, and the rags, by being thrown against the bar J, are retarded in their revoluble movements and thereby subjected to increased threshing action by the rapidly-turning projections *a*, and by being thrown up against the screen with more or less violence the dust therein is thrown through the screen, settling into the bottom of the machine and withdrawn through the suction-conduit, as is also much of the dust and dirt which is withdrawn from the rags while agitated and before the same are carried against the upper screen. It is to be especially explained that the open-work or grate-like bed below and in proximity to the threshing members by reason of having some of the bars thereof longer than others, as pointed out, is very efficient for stripping, as the rags are dragged over and past them, buttons, buckles, or other metallic fastenings which may be secured to the rags therefrom, such metallic parts generally falling through the grating and being withdrawn through the suction-chambers and conduit, or, if unusually large, lodging in the grate, so that they may be extracted once in a while when the machine is cleaned. After the rags have been subjected to the sufficiently protracted threshing action the door *p* is swung open and the rags will be driven out from the machine, whereupon such door will be closed and locked, the opposite door will be opened, and a new quantity of rags introduced into the machine, and the door *o* will then also be closed during the time of threshing and cleansing the new batch of rags.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for dusting rags, in combination, a housing having, in a lower portion thereof, a concave grating, provided with upwardly-projecting members, a longitudinally-extending bar located in an upper part of the housing, and a rotatable body having outwardly-extending projections arranged in their revoluble movements to pass in proximity to said grating and to said bar, and a suction-chamber and suction-conduit below the grating.

2. In a machine for dusting rags, in combination, a housing having, in a lower portion thereof, a concave grating provided with upwardly-projecting members, a rotary body mounted to turn within the housing having radial projections, a longitudinal bar arranged within the housing below its top and above the path of revoluble movement of said radial projections, and a screen extending between the top of said bar and the top of the housing.

3. In a rag-dusting machine, in combination, a housing having a rag-entrance and a rag-discharge opening, and closing means therefor, and having, in a lower portion thereof, a plurality of separated upwardly-extending partitions, the upper edges of which are of concave form, the curvature of each corresponding to that of the others, a suction-chamber in the lower portion of the housing, a plurality of grating sections or gangs composed of longitudinally-parallel bars having spacing-blocks therebetween, and curved bolts or tie-rods penetrating and holding together the series of bars and spacing-blocks, said gangs of said separated connected bars being supported on the upper edges of said partitions constituting a concave grating-bed next above the suction-chamber, and a rotatable body mounted to turn within the housing, having outwardly-extending projections, the ends of which are revoluble in proximity to the said grating-bed, for the purpose set forth.

4. In a rag-dusting machine, in combination, a housing having a rag-entrance and a rag-discharge opening, and closing means therefor, and having, in a lower portion thereof, a plurality of separated upwardly-extending partitions, the upper edges of which are of concave form, the curvature of each corresponding to that of the others, a suction-chamber in the lower portion of the housing, a plurality of grating sections or gangs composed of longitudinally-parallell bars, some of which are further upwardly extended than others, having spacing-blocks therebetween, and curved tie-rods penetrating and holding together the series of bars and spacing-blocks, and said gangs of said partitions constituting a concave grating-bed next above the suction-chamber, and a cylinder mounted to turn within the housing, having outwardly-extending projections, the ends of which are revoluble in proximity to the said grating-bed, for the purpose set forth.

Signed by me at Springfield, Massachusetts, in presence of two subscribing witnesses.

WILLIS H. SANBURN.

Witnesses:

WM. S. BELLOWS,

A. V. LEAHY.