

(No Model.)

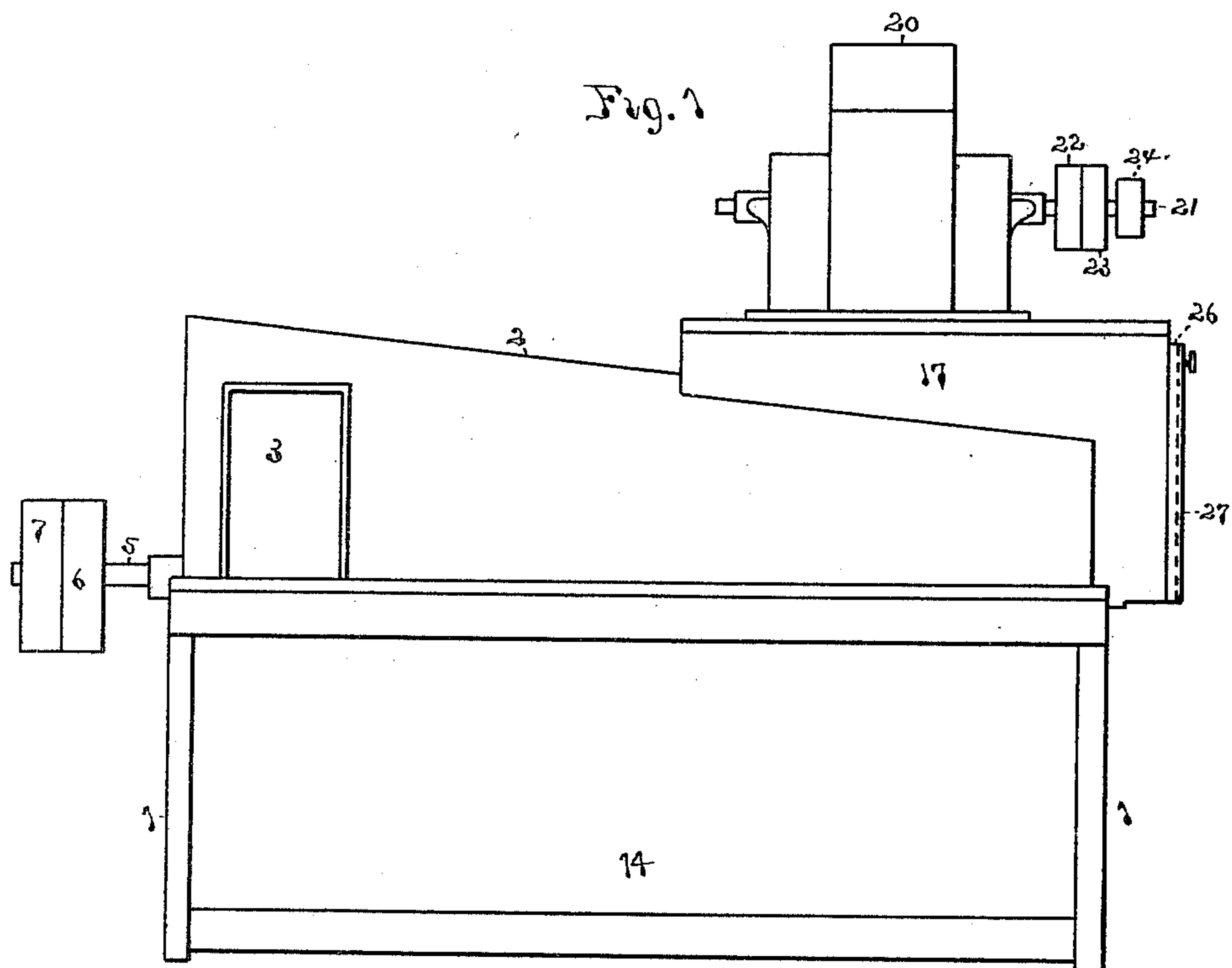
3 Sheets—Sheet 1.

F. G. SARGENT.

MACHINE FOR DUSTING FIBER.

No. 394,017.

Patented Dec. 4, 1888.



Witnesses.

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(No Model.)

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Fig. 2

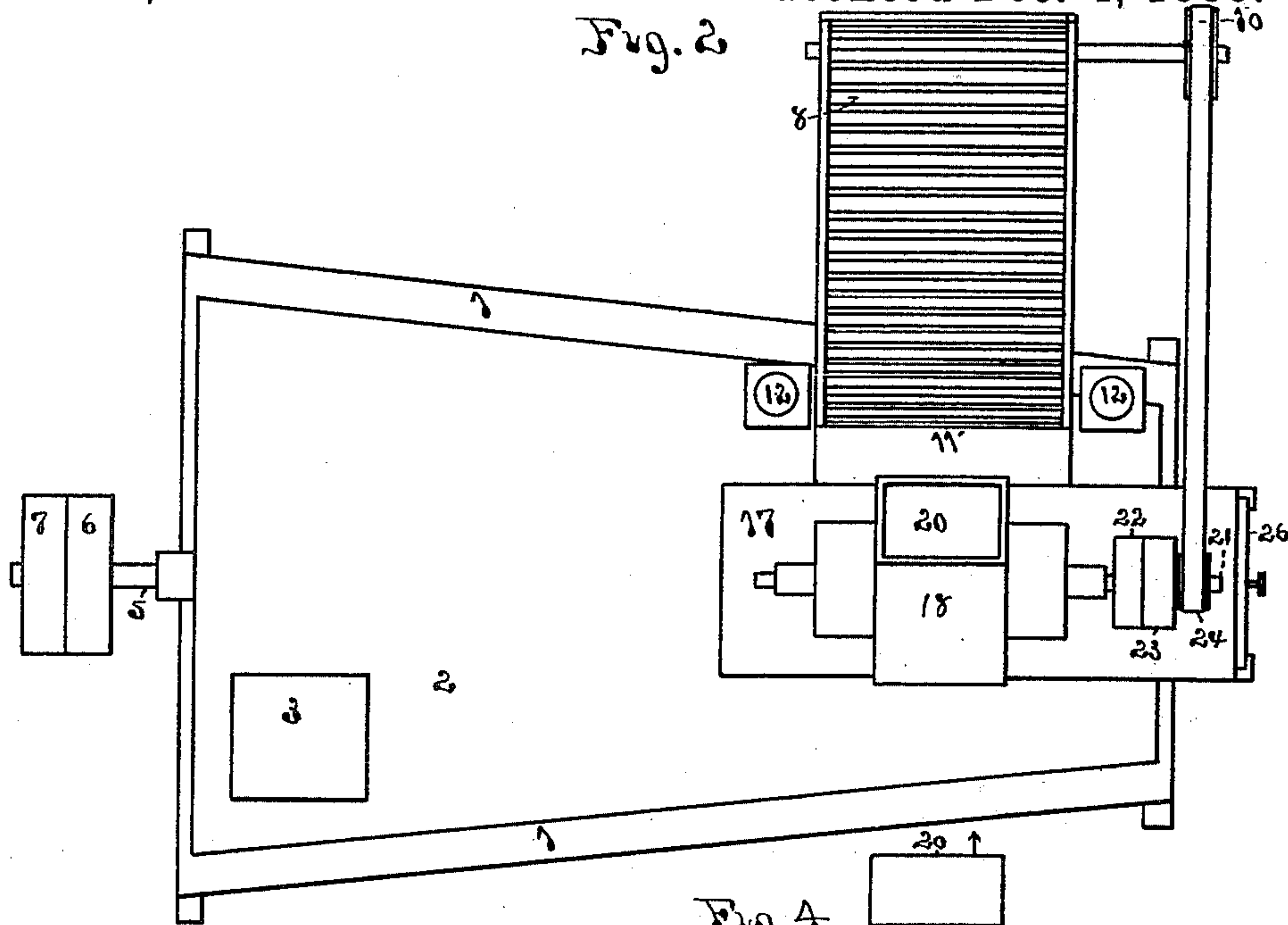
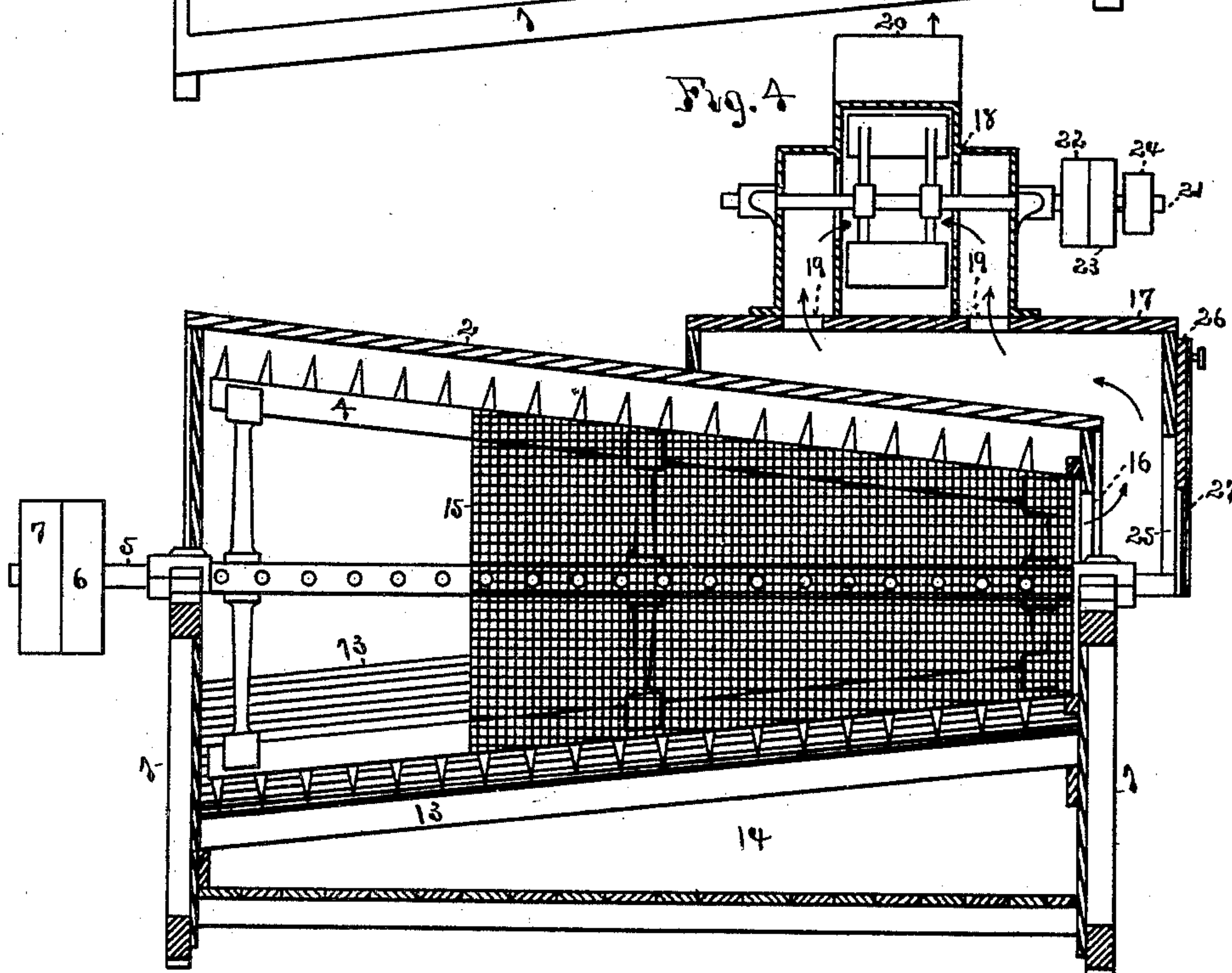


Fig. 4



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(No Model.)

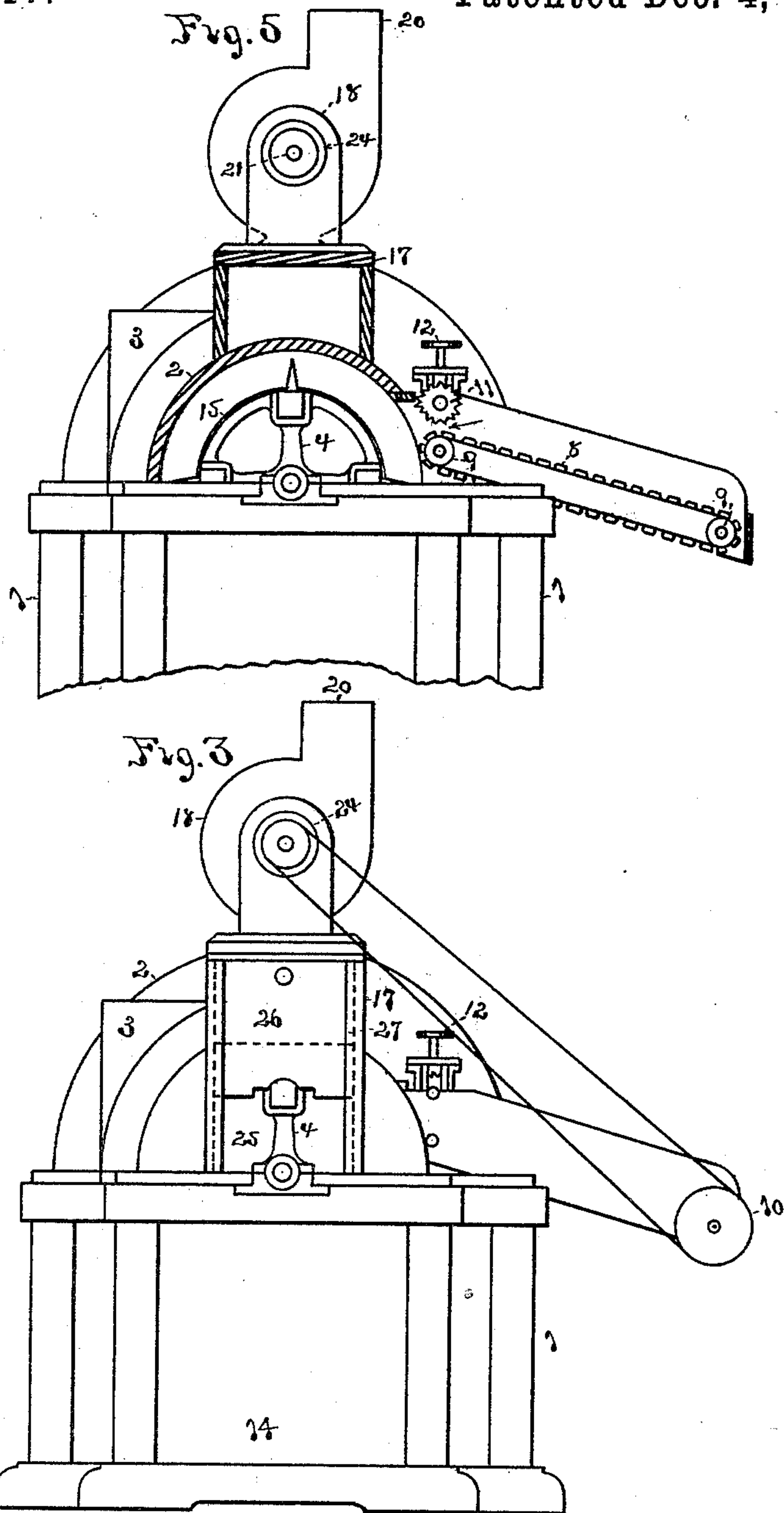
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# UNITED STATES PATENT OFFICE.

FREDERICK GRANDISON SARGENT, OF GRANITEVILLE, MASSACHUSETTS.

## MACHINE FOR DUSTING FIBER.

SPECIFICATION forming part of Letters Patent No. 394,017, dated December 4, 1888.

Application filed July 10, 1888. Serial No. 279,557. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK GRANDISON SARGENT, of Graniteville, in the county of Middlesex and State of Massachusetts, have  
5 invented a certain new and useful Improvement in Machines for Dusting Fiber, of which the following is a specification.

My invention relates to cone-dusters; and it consists in certain new improved constructions and combinations of the several parts  
10 thereof, substantially as hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a cone-duster provided with my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is an end elevation of the same. Fig. 4 is a vertical longitudinal section through the same. Fig. 5 is an end elevation of a portion of the same, with the end casing of the  
20 cylinder and feed-apron removed to show the relation of certain of the working parts.

1 is the frame-work of the machine.

2 is the conical casing of the cone-duster.

3 is the opening through which the fiber is  
25 delivered from the cone-duster after being operated upon.

4 is the cone-duster cylinder, composed of bars sustained upon arms, so as to have its exterior path in the form of the frustum of a  
30 cone, corresponding to the shape of the casing. This cylinder is mounted upon the shaft 5, which is sustained in boxes upon the frame, and has the tight and loose pulleys 6 7 attached thereto, by which it is driven from any  
35 suitable counter-shaft. The outer faces of the bars forming the cone-duster cylinder are provided with teeth or spikes, as shown in Figs. 4 and 5, for the purpose of working the fiber and opening it up and removing the dust  
40 and dirt therefrom.

The fiber is fed into the machine by means of the feed-apron 8, which is mounted upon rollers 9 9 at each end, in the usual manner. Upon the shaft of one of the rollers 9 is attached the pulley 10, by which the feed-apron  
45 is driven. A squeeze-roll, 11, is placed over the apron at the point where it feeds the fiber into the casing of the cone-duster cylinder. This roller serves to compress the fiber at that  
50 point and present it more certainly to the action of the cone-duster cylinder. This squeeze-

roll is adjusted and held in position at a certain height above the feed-apron by the set-screws 12 12, which bear upon the upper side of its boxes and prevent its rising more than  
55 a certain distance. The construction of the feed-apron and roller 11 and its set-screws 12 is of the ordinary character and well understood, as is that of the other parts of the machine heretofore described. 60

The lower portion of the casing of the cone-duster cylinder is formed of slats 13, opening into an inclosed space, 14, underneath the machine, and through these slats the heavier dirt and impurities removed from the fiber by the  
65 cone-duster cylinder drop downward and are thus permanently removed from the fiber; but there is a certain amount of fine dust which is too light to drop downward of its own weight and continues to float within the casing of the  
70 cone-duster, and is delivered through the opening 3 with the fiber remaining in it to a large extent. To remove this light floating dust, I surround the cone-cylinder with the wire-screen netting 15, as shown in Figs. 4 and 75 5, and in the end of the casing, opening within the inclosing screen-covering and at the end of the cone-duster cylinder, I provide the opening or passage 16. Outside of the opening 16 and inclosing the same I provide the box 17, 80 which extends downward past the end of the casing of the cone-duster cylinder and over the top of the same for some distance toward its larger end. On top of this box I mount the fan 18, and provide passages 19 19, formed 85 by casing the ends of the fan and opening this casing into the box 17, as shown. The fan takes the air in from these passages at its center and delivers it outward through the spout 20, attached thereto. The fan 18 is of  
90 ordinary construction, mounted upon the shaft 21, which is supported in boxes in the casing of the fan in the ordinary manner, and is provided with a tight and loose pulley, 22 23, on one end of it for driving it from a suitable  
95 counter-shaft. Outside of these another pulley, 24, is attached to the shaft, to which the pulley 10 of the feed-apron is belted, thus providing for the driving of the latter. The squeeze-roller 11 is rotated by the friction of  
100 the fiber which is carried underneath it by the feed-apron.



In order to regulate the draft of the fan from the center of the cone-cylinder, I provide an opening, 25, through the end of the box 17, which is covered by a slide or valve, 26, working up and down in grooved strips 27, attached to the face of the box 17, which are rabbeted on their inner edges to allow the valve 26 to slide behind them. The valve is provided with a knob to raise and lower it. By opening the valve 26, the draft of air to the fan will be partially supplied through the opening 25 and partially through the opening 16, and the draft of air from the center of the cone-duster cylinder may be thus increased or diminished by this valve, as desired.

What I claim as new and of my invention is—

1. The combination of the cone-duster cylinder provided with teeth or spines on its exterior and surrounded by the screen-covering 15, the box or inclosure 17, opening into the center of the cone-duster cylinder within its screen-covering, and the fan 18, connected by

suitable passages with the box 17, and adapted to exhaust the air through the same from the center of the screen-covering of the cylinder and to deliver it outside of the casing of the machine, substantially as described.

2. The combination of the cone-duster cylinder provided with teeth or spines on its exterior and surrounded by the screen-covering 15, the box or inclosure 17, opening into the center of the cone-duster cylinder within its screen-covering, the fan 18, connected by suitable passages with the box 17, and adapted to exhaust the air through the same from the center of the screen-covering of the cylinder and to deliver it outside of the casing of the machine, and the opening 25 into the box 17, provided with the valve 26, arranged to cover the said opening or expose more or less of it, substantially as described.

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Witnesses:

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