

(No Model.)

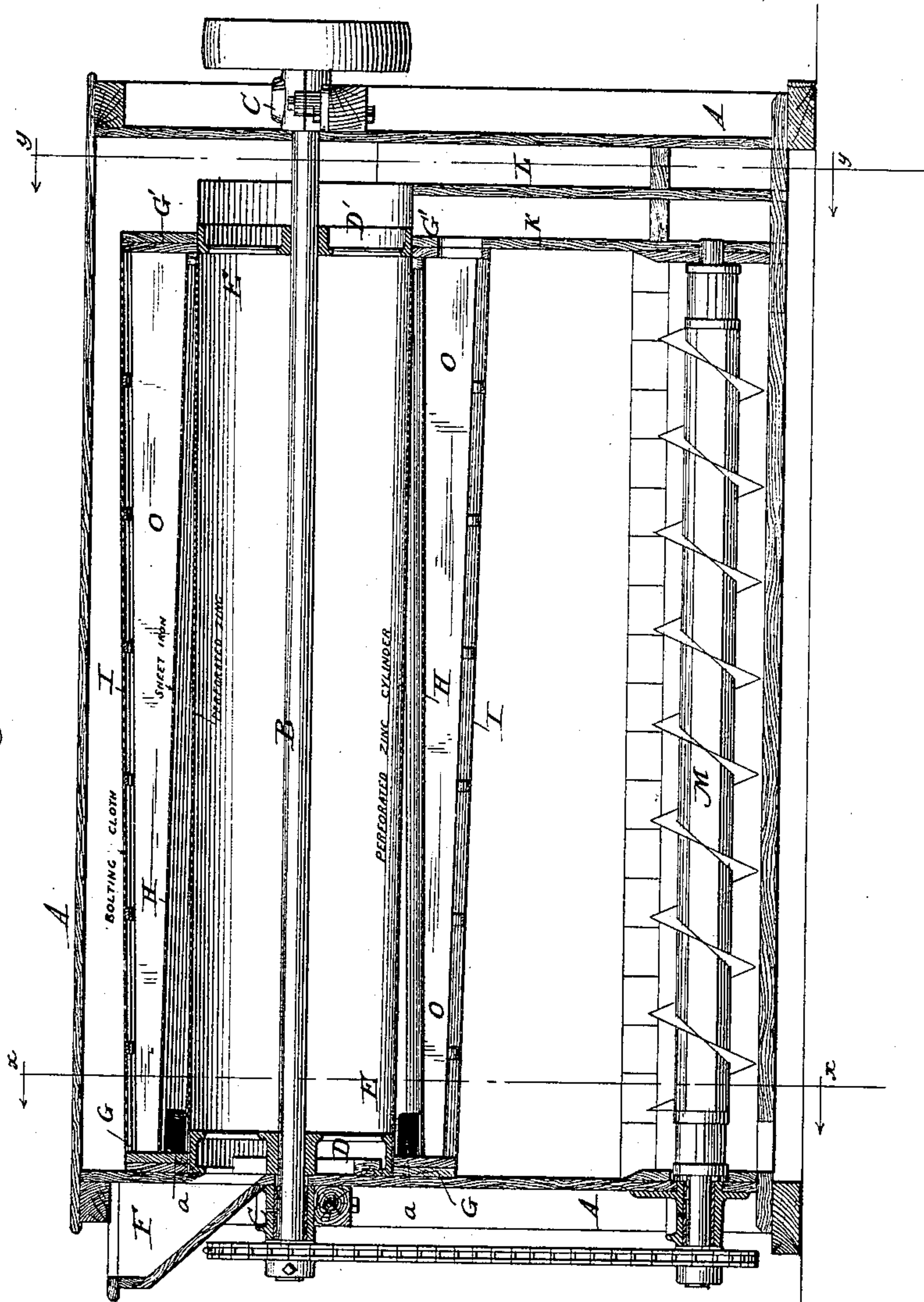
2 Sheets—Sheet 1.

W. D. GRAY.  
SCALPING MACHINE.

No. 332,250.

Patented Dec. 15, 1885.

Fig. 1.



WITNESSES

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2 Sheets—Sheet 2.

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Fig. 4

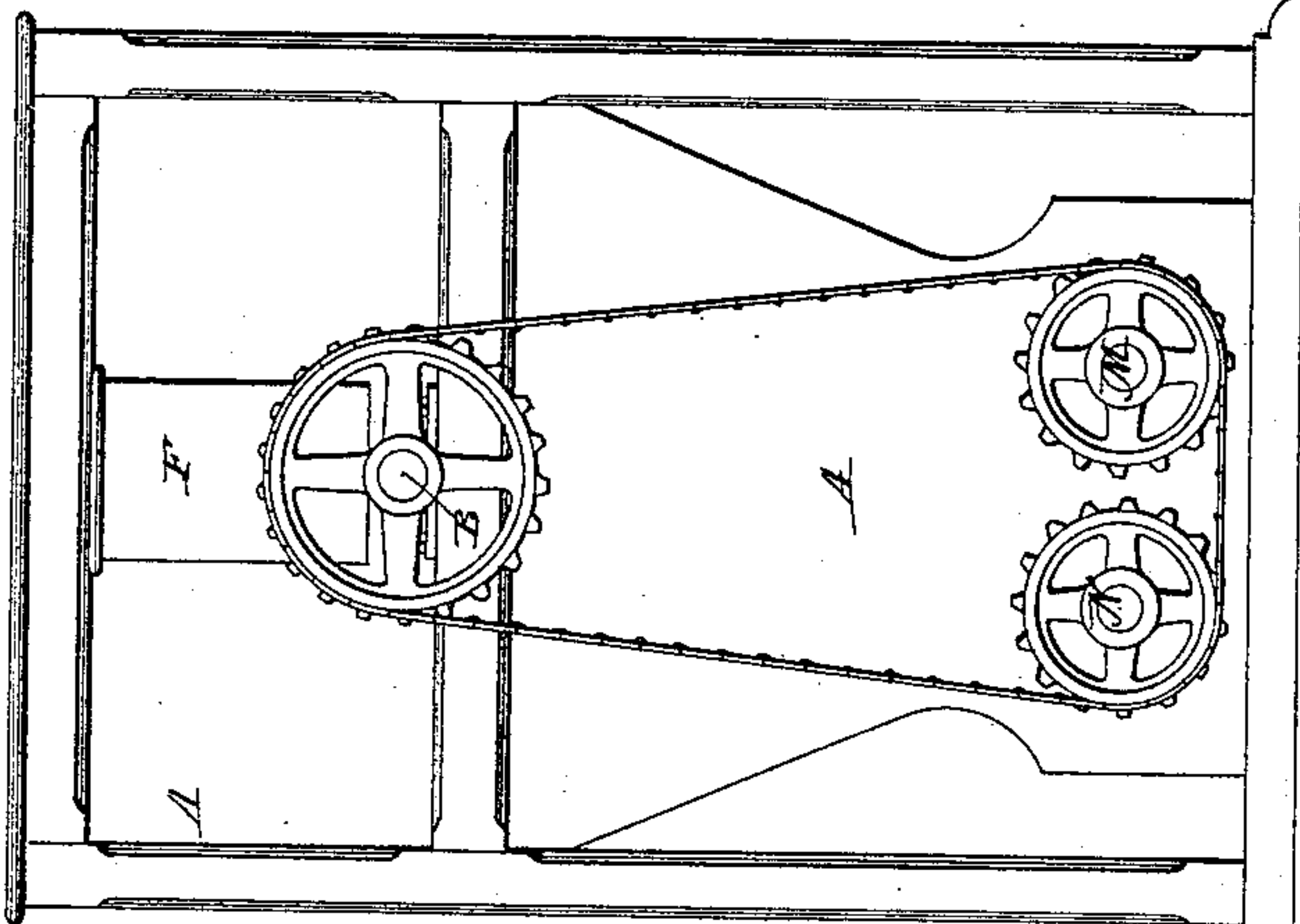


Fig. 3.  
on line y-y

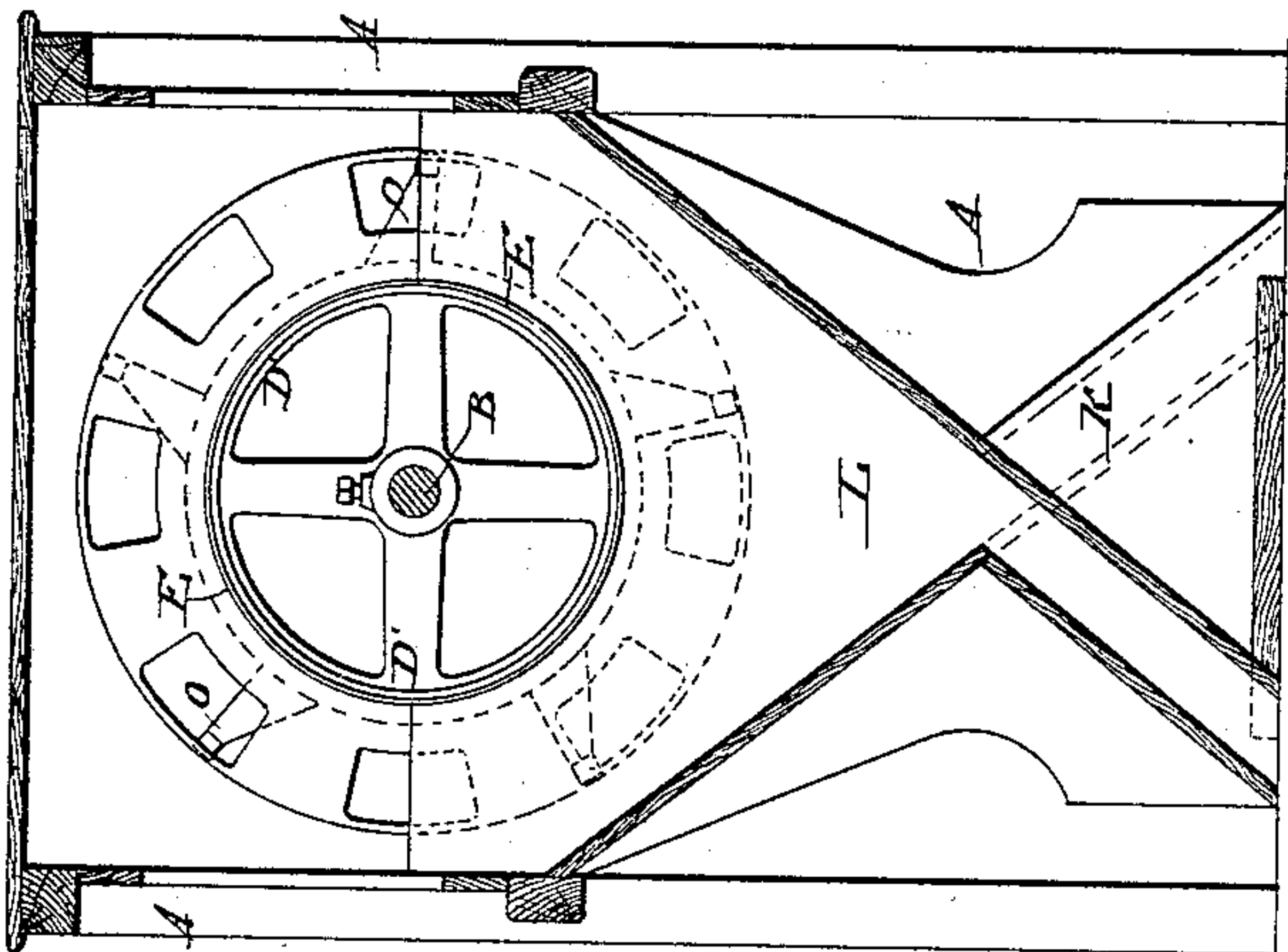
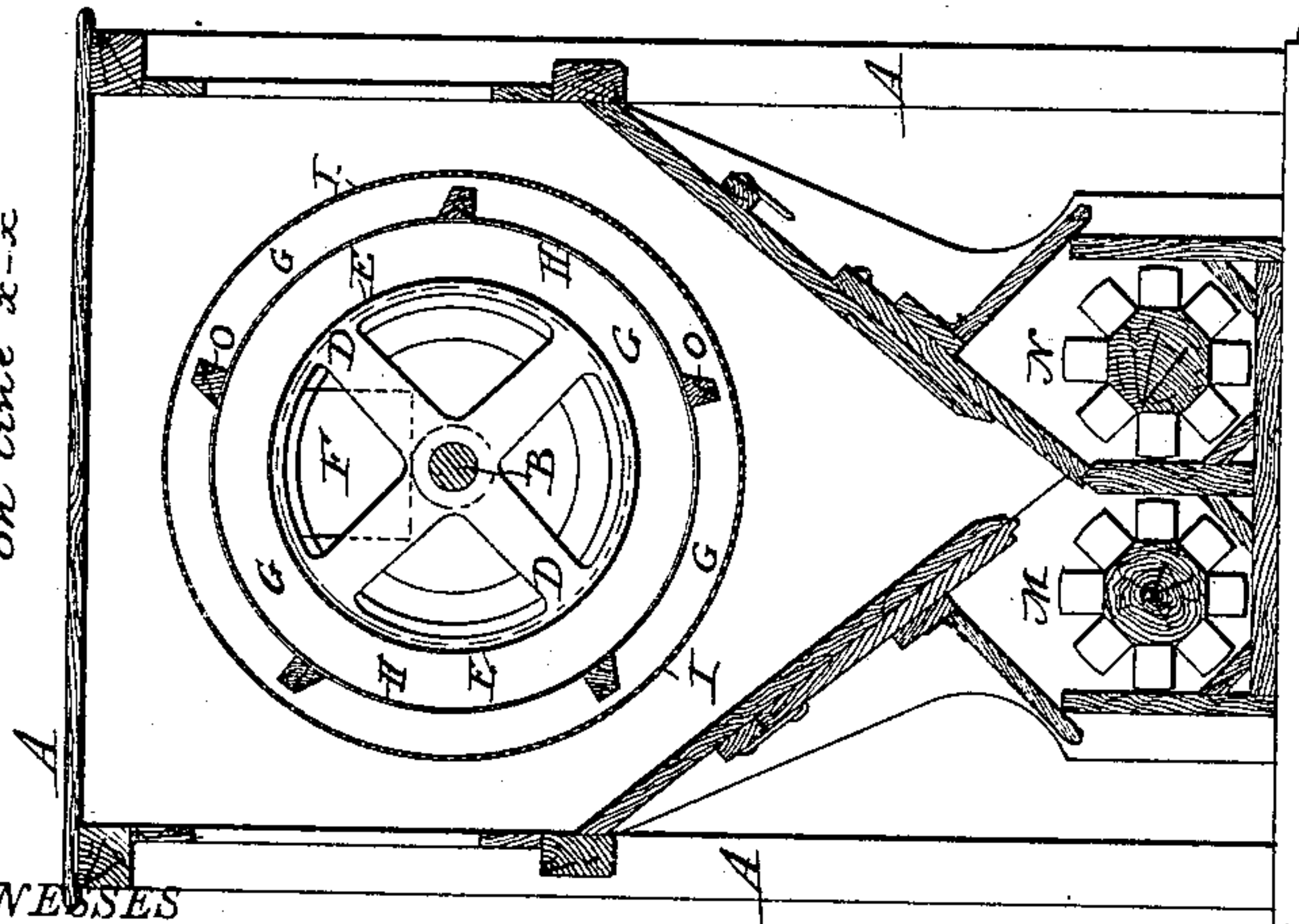


Fig. 2  
on line x-x



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# UNITED STATES PATENT OFFICE

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## SCALPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 332,250, dated December 15, 1885.

Application filed January 19, 1885. Serial No. 153,291. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM D. GRAY, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain  
5 Improvements in Scalping and Bran-Dusting Machines, of which the following is a specification.

My invention relates to improvements applicable in machines for dressing the successive "breaks" which are produced in the  
10 "gradual-reduction" system of producing flour, and also applicable in centrifugal bran-dusting and flour-dressing machines.

The improvements have reference to a novel  
15 arrangement of reels or screening-cylinders, one within another, with an intermediate cone for returning the material from one end of the machine to the other in the form and manner hereinafter explained in detail.

Referring to the accompanying drawings, Figure 1 represents a longitudinal vertical section through the center of my improved machine; Fig. 2, a vertical cross-section of the  
20 same on the line *x x*, looking toward the head of the machine; Fig. 3, a cross-section on the line *y y*, looking toward the head of the machine. Fig. 4 is an elevation of the head of the machine as viewed from the exterior.

Referring to the drawings, A represents the  
30 exterior body or casing, which may be of any appropriate form and construction.

B represents a horizontal shaft extending through the machine from end to end and seated in suitable bearings, C, thereon.

DD' represent two skeleton wheels or heads secured to opposite ends of the shaft within the body, and giving support to the opposite ends of a horizontal perforated sheet-metal tube, E. This tube is of conical form, increasing in diameter from the head or delivery end toward the tail. At the head of the machine there is a feed-spout, F, through which the material entering the machine is delivered directly into the central cone or tube, E. The  
45 skeleton wheels DD' are surrounded by annular flanges or collars G G', which support the opposite ends of an imperforate sheet-metal cone, H, which encircles the perforated cone E and tapers in the opposite direction, for the  
50 purpose of returning the material which passes through the perforated cone to the head of the

machine. The collars G also support the ends of a bolt or screen, I, which is also of conical form, increasing in diameter toward the tail. This external bolt consists of a skeleton frame  
55 of any suitable character clothed with bolting-cloth or other appropriate pervious material, either of a uniform mesh from end to end or of transverse sections graded in fineness, as occasion may demand.

The external bolt, I, communicates at its tail-end through openings in the collar G' with a vertical chamber, K. The central cone, E, is extended through and beyond the chamber K, and communicates with an independent vertical  
60 chamber, L. The two chambers K and L are provided, as shown in Fig. 3, with spouts for the discharge of the material therefrom.

On the outer surface of the intermediate cone, H, I secure longitudinal ribs O, extended preferably its entire length. These ribs or blades may be of the sectional form represented in Fig. 2, or of any other appropriate form, a backward inclination of their forward faces being recommended in order that they may  
75 act the more effectively in directing the material and air outward to the inner surface of the reel I. These blades are arranged with their outer edges at a uniform distance from the bolting-cloth throughout their entire length,  
80 as plainly represented in Fig. 1.

The material to be treated is introduced at the head of the machine through the spout F, and passes into the smaller end of the perforated cone E, through which it passes to the  
85 tail. The middlings and flour pass through the perforations in this cone, while the bran and coarse particles pass over the tail of the cone into the chamber L. The flour and middlings are arrested by the intermediate cone, H, and returned thereby to the head of the machine, where they escape through ports or openings *a* into the head of the external screen or bolt, I, which, by reason of its conical form, urges them toward the tail of the machine.  
95 The flour passes through the bolting-cloth, while the middlings retained thereon pass over the tail into the chamber K. The blades or ribs O serve to lift and agitate the material and direct the same, together with the air, to  
100 the bolting-surface in a very efficient manner.

Under the construction represented in the



drawings the three cones revolve in unison; but it is to be understood that the outer cone or reel may be revolved in the opposite direction from the inner cone, if desired.

5 Below the screens the two sides of the body are inclined inward, forming, as usual, gathering-boards, by which the material passing through the outer screen or bolt is directed to the center. In the base of the machine there  
10 are located two parallel screw-conveyers, M and N, communicating with the interior of the body by valves or returning-boards in the manner fully described in my application for Letters Patent filed on the 22d day of September, 1884, No. 143,722. In place of this peculiar arrangement of conveyers a single conveyor, or two conveyers arranged one above the other in the manner in which they are commonly used, may be employed.

20 Having thus described my invention, what I claim is—

1. In combination with the internal and external pervious cones, the intermediate imperforate cone and the longitudinal blades or  
25 wings.

2. In combination with the external conical

reel and the internal imperforate cone tapered in the opposite direction, the longitudinal blades secured externally to the cone, their outer edges being parallel with the surface of the reel. 30

3. In a scalping-machine, the receptacles K and L, located in one end of the machine, in combination with the outer screen, communicating directly with the receptacle K, the inner  
35 screen, E, extended to communicate directly with the receptacle L, and the intermediate imperforate cone, as described and shown.

4. The two annular heads G G' and skeleton wheels D D', in combination with the two  
40 conical screens, and the intermediate cone, H, having the imperforate body portion, and provided at one end with openings a, whereby the material is permitted to pass from its interior to the inner surface of the outer reel. 45

In testimony whereof I hereunto set my hand, this 16th day of December, 1884, in the presence of two attesting witnesses.

WILLIAM D. GRAY.

Witnesses:

ALBERT HOPPIN,  
RICHARD HOPPIN.