

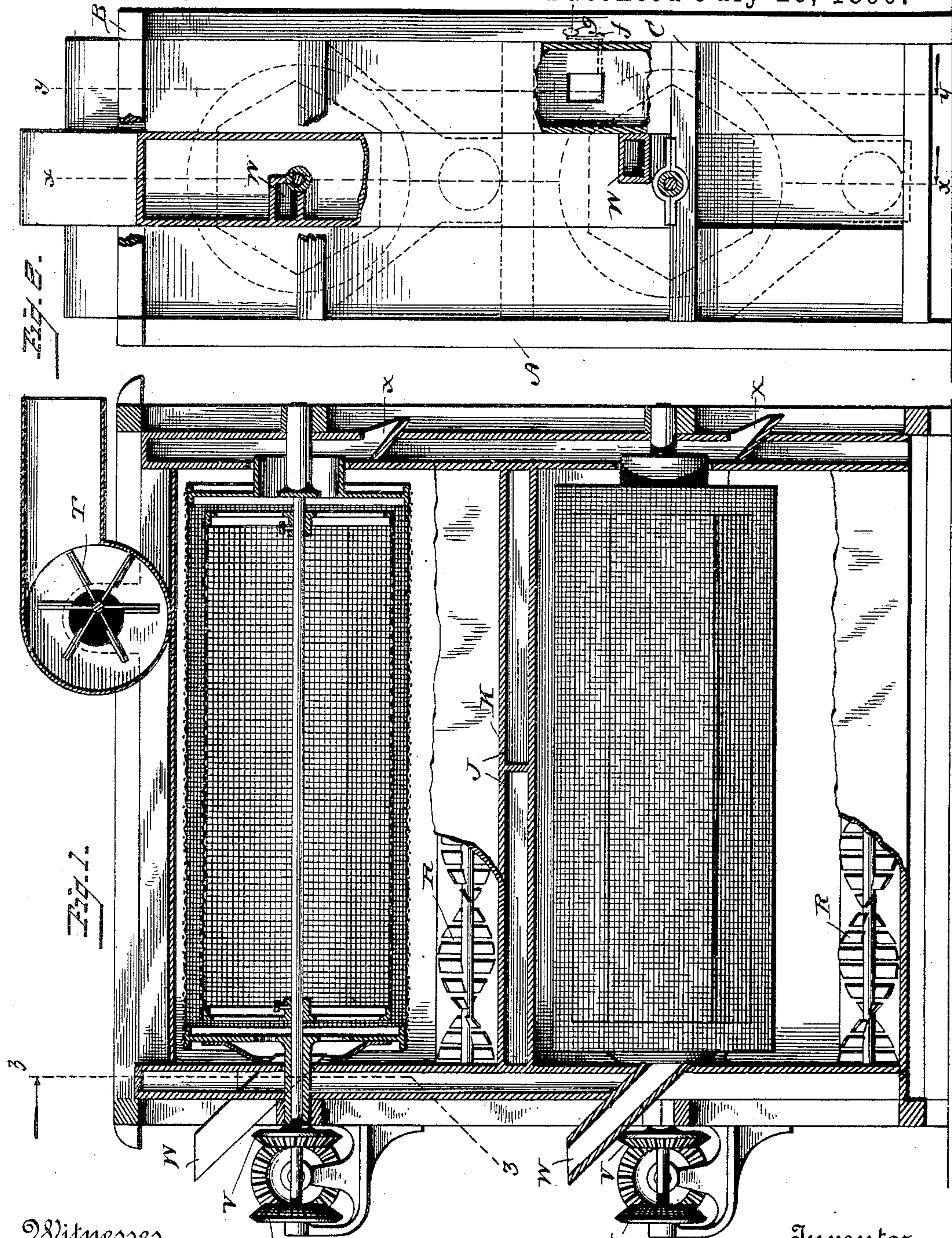
(No Model.)

2 Sheets—Sheet 1.

P. B. SPRENKLE.
SCALPING REEL AND FLOUR BOLT.

No. 433,188.

Patented July 29, 1890.



Witnesses
Wm. H. Anderson
Alfred V. Gage

Inventor
Peter B. Sprengle
Wm. H. Anderson
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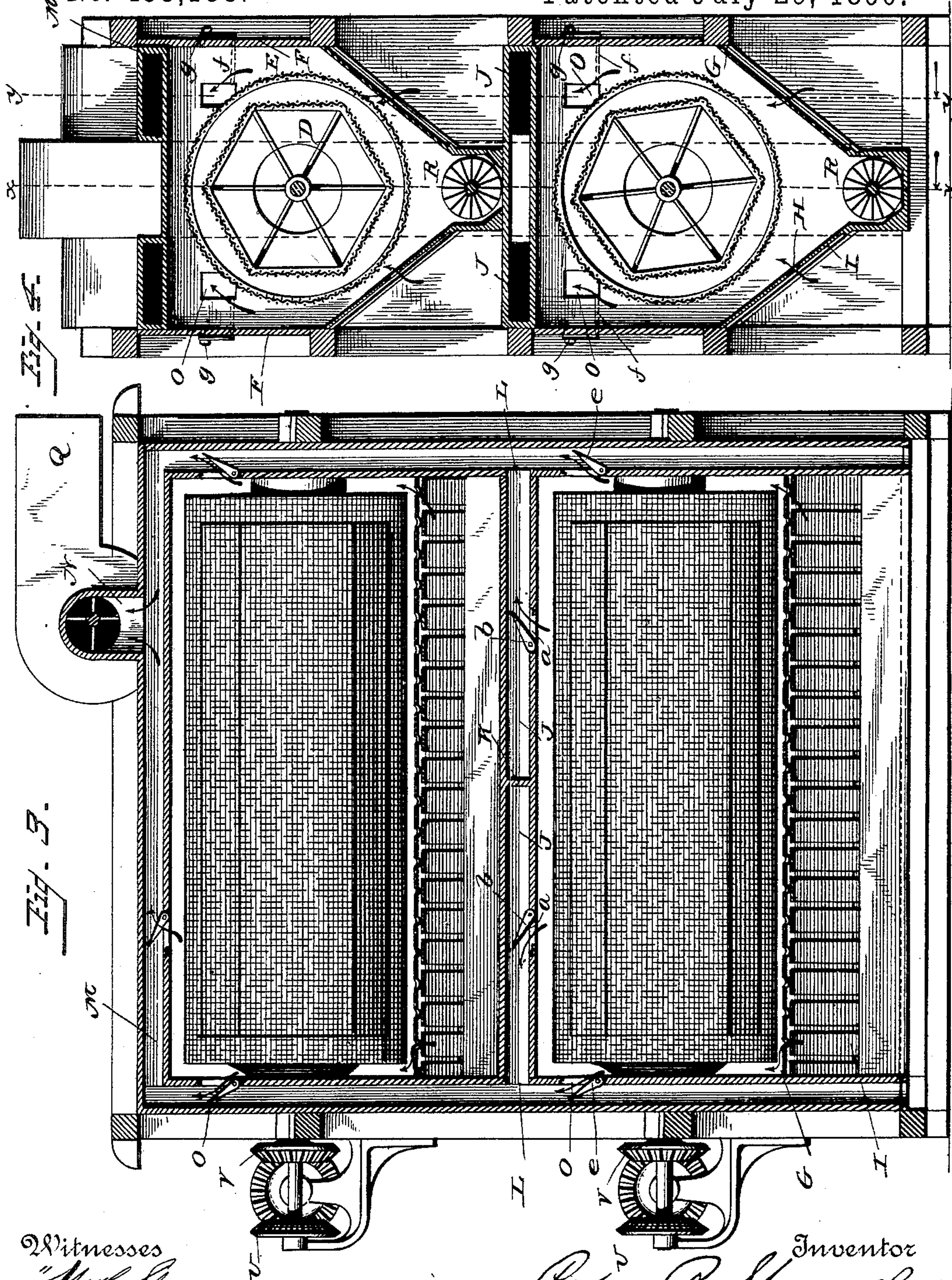
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 W. G. Henderson
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UNITED STATES PATENT OFFICE.

PETER B. SPRENKLE, OF YORK, PENNSYLVANIA.

SCALPING-REEL AND FLOUR-BOLT.

SPECIFICATION forming part of Letters Patent No. 433,188, dated July 29, 1890.

Application filed May 5, 1890. Serial No. 350,640. (No model.)

To all whom it may concern:

Be it known that I, PETER B. SPRENKLE, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Scalping-Reels and Flour-Bolts; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to scalping-reels and flour-bolts, and has for its object to so construct the machine that there will be a circulation of air through the reels and into channels or ducts and through the same to and through the suction-fan that all impurities—such as crease-dirt and the fuzz or fine fiber of the wheat-berry—will be quickly and thoroughly taken up and carried from the material in the reel to the fan and there discharged.

To the accomplishment of these objects and such others as may hereinafter appear the invention consists in the construction and combination of parts hereinafter described, and then pointed out in the claims, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is a side elevation, in section, on line xx of Fig. 4, with parts in full lines. Fig. 2 is an end view, with parts broken away, on line zz of Fig. 1. Fig. 3 is a section on line yy of Fig. 4, with parts in full lines. Fig. 4 is a vertical cross-section through the machine.

In the drawings, the letter A designates the upright timbers, B the longitudinal horizontal timbers, and C the cross end timbers, all of which are properly bolted together, and the whole constitute the frame of the machine. Within this frame is contained the hexagonal or other polygonal shaped reel D, covered with bolting-cloth or wire of four meshes to the inch or other size, and which is surrounded by or inclosed within the outer circular reel E, covered with wire or bolting-cloth of such number as is best suited to the ends in view and the material to be treated, and which is

revolved in the opposite direction to the inner reel or bolt D, the means for revolving the two reels being designated by the letters U and V.

The sides of the reel-chambers are closed by the board F, placed along the upper portion of the chambers, and by the gatherers or inwardly-inclined boards G along the lower portion of the chambers, as is usual, while the ends of the chambers are also suitably closed.

The gatherers or boards G are provided with apertures H at suitable distances apart for the admission of air to the chambers and to the reels or bolts contained therein, and over these boards and at a distance therefrom so as not to close the openings in such as may have the same are placed metal caps or plates I, with their adjacent edges apart from each other to leave spaces between for the entrance of the air that is to pass between them and the gatherers and through the openings H into the reel-chambers. By such construction the air is made to pursue a circuitous course and more thoroughly diffuse itself through the reels in the chambers without unduly disturbing the material therein.

Between each upper and lower reel-chamber is an air duct or channel J, the width of the reel-chamber or less, and extending the length thereof and divided transversely by a vertical partition K, which forms it into two compartments, each opening at its outer end into one or more vertical flues or air-ducts L, extending up to the top of the machine and opening into horizontal flues or ducts M, leading to and opening into the fan-chamber N.

The air ducts or channels J are provided at suitable intervals with any desired number of openings a , controlled by valves b , operated from the outside by means of levers held at any adjustment by set-screws or fastenings similar to other valves hereinafter described. These valved openings, being in the top or ceiling of the reel-chamber, permit an upward suction of air charged with impurities to pass through the openings into the air-duct above, and from thence into the vertical flues, and thence through the top horizontal flues to the fan-chamber. The partition in these ducts J causes the upward suction to divide, as shown by the arrows, some passing to one

end and some to the other, whereby choking of the duct is prevented and a better distribution of the air and carrying off of impurities effected.

5 In addition to the openings in the ceilings of the chambers, openings O are formed in the end walls of the reel-chambers and open into the vertical flues or ducts L, these openings being controlled by close-fitting valves *e*,
10 controlled by levers *f*, passing to the outside of the machine and held to any desired adjustment by thumb-nuts *g* or other suitable fastening device. These openings being controlled by the valves, the egress of the air
15 through the same can be regulated to the extent desired. The valved openings O at both ends of the reel-chamber open into the two outer ducts L at each end of the machine. These valve-controlled openings O in the end
20 walls of the reel-chambers bring the discharge of the dust-laden air more directly under the control of the operator. They also enable the operator to control the amount of dust-laden air that shall pass from the chamber.
25 By closing the valves entirely none of the dust-laden air will escape, except what may pass through the opening around the cylinder-shaft. It will thus be seen that not only is the control of the dust-laden air in the chamber brought under the will of the operator, but
30 it can be drawn from both or only one of the chambers, as desired or necessary. In the particulars specified it is different from the mere location of valves in the vertical flues,
35 which will only control the passage of the air through the vertical flues and not from the reel-chambers.

Each of the vertical flues at both ends of the machine communicates with one of the
40 separate horizontal flues M on top of the machine, each of which communicates, as previously mentioned, with the exhaust-fan, into which the impurities are drawn and discharged through the exit-pipe Q. What im-
45 purities are not carried up and out by the suction-fan drop down into the conveyer R in the bottom of each reel-chamber. Each vertical flue is provided at one or more points, preferably at their lower and also at their upper
50 ends, with valves S, so that the suction may be cut off either at the top or bottom, as desired, and in that way the suction-current can be regulated or entirely cut off or made to act at the desired point or points by simply moving the valves. I prefer to arrange the fan T
55 nearer to one side of the casing than the other, as illustrated in Figs. 1 and 3, as I find that I

obtain more power when it is so located and effect a better separation of the impurities from the material in the reels or bolts. 60

The material is fed to the reels through spouts W and delivered from the machine through the spouts X.

I have described and shown what I consider to be the best construction and arrangement 65 of parts; but they can be varied, as is obvious, without departing from the spirit of my invention.

Having described my invention and set forth its merits, what I claim is— 70

1. In a scalping-reel and flour-bolt, the combination, with the reel-chambers and vertical flues at both ends thereof having a valved opening to form a communication between the flues and chambers, of horizontal flues over 75 the ceilings of the reel-chambers communicating with final-exit flues and having valve-controlled openings to effect a communication between them and the top of the reel-chambers, substantially as and for the purposes set forth. 80

2. In a scalping-reel and flour-bolt, the combination, with the reel-chambers and vertical end flues communicating with the interior thereof through valved openings, of a horizontal flue communicating with the top of the 85 reel-chamber through valved openings in the ceiling thereof and leading into the end flues, substantially as and for the purposes set forth.

3. In a scalping-reel and flour-bolt, the combination, with the reel-chambers and vertical 90 end flues communicating with both ends thereof and with a final-exit flue, of horizontal flues communicating with said end flues and with the top of the reel-chambers through valved openings in the ceilings of the chambers and divided by a transverse partition to cause the 95 suction-draft to pass in opposite directions through said horizontal flues, substantially as and for the purposes set forth.

4. In a scalping-reel and flour-bolt, the combination, with the reel-chambers and vertical 100 end flues communicating therewith and final-exit flues, of horizontal flues over the top of the reel-chambers and communicating therewith, and valves located at points to cut off 105 the suction-draft from either the upper or lower portion of the vertical flues, as desired, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PETER B. SPRENKLE.

Witnesses:

HENRY C. GREENAWALT,
W. F. LINK.