

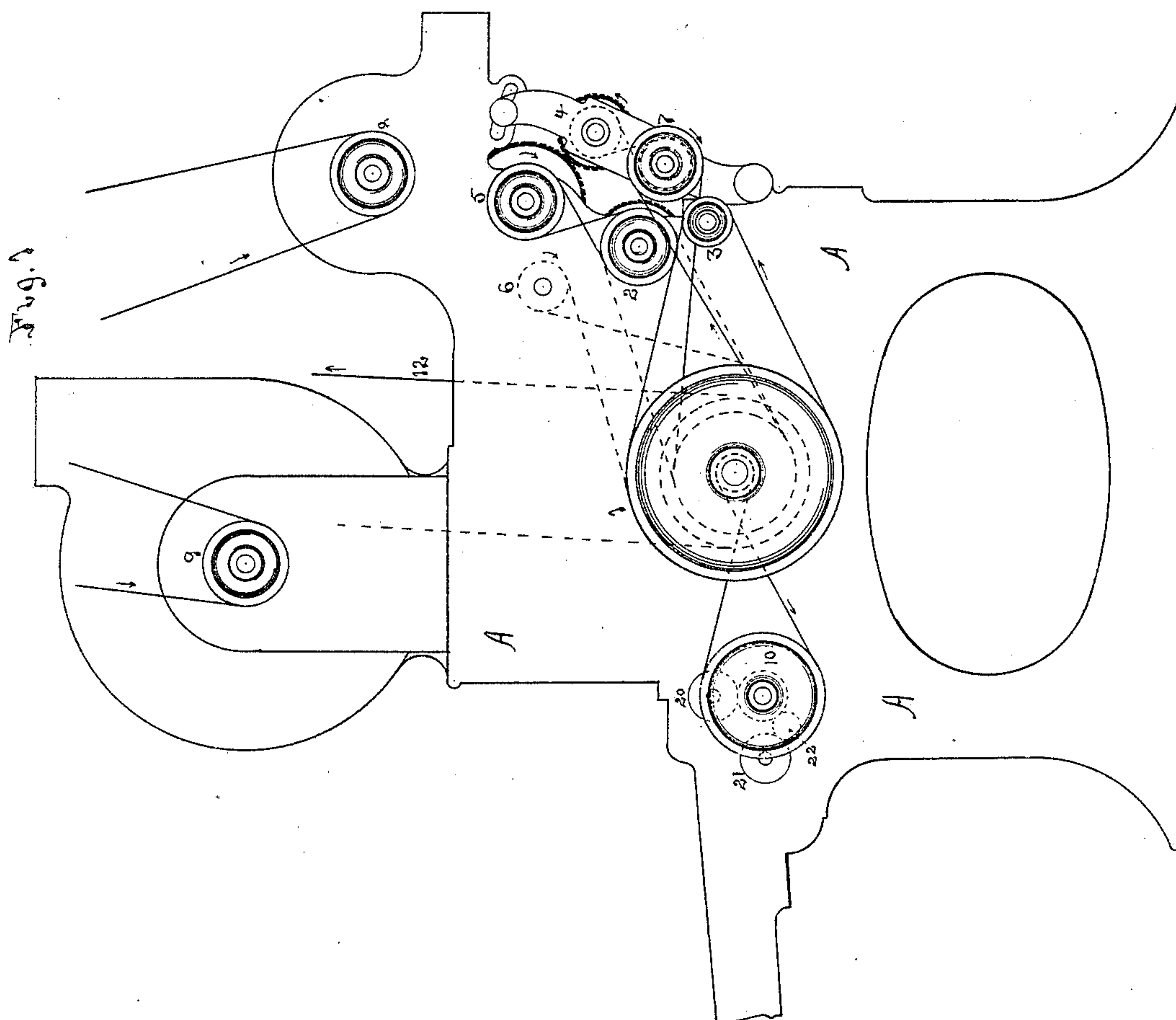
(No Model.)

2 Sheets—Sheet 1.

F. G. & A. C. SARGENT.
MACHINE FOR BURRING WOOL.

No. 433,186.

Patented July 29, 1890.



Witnesses,
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Inventor,
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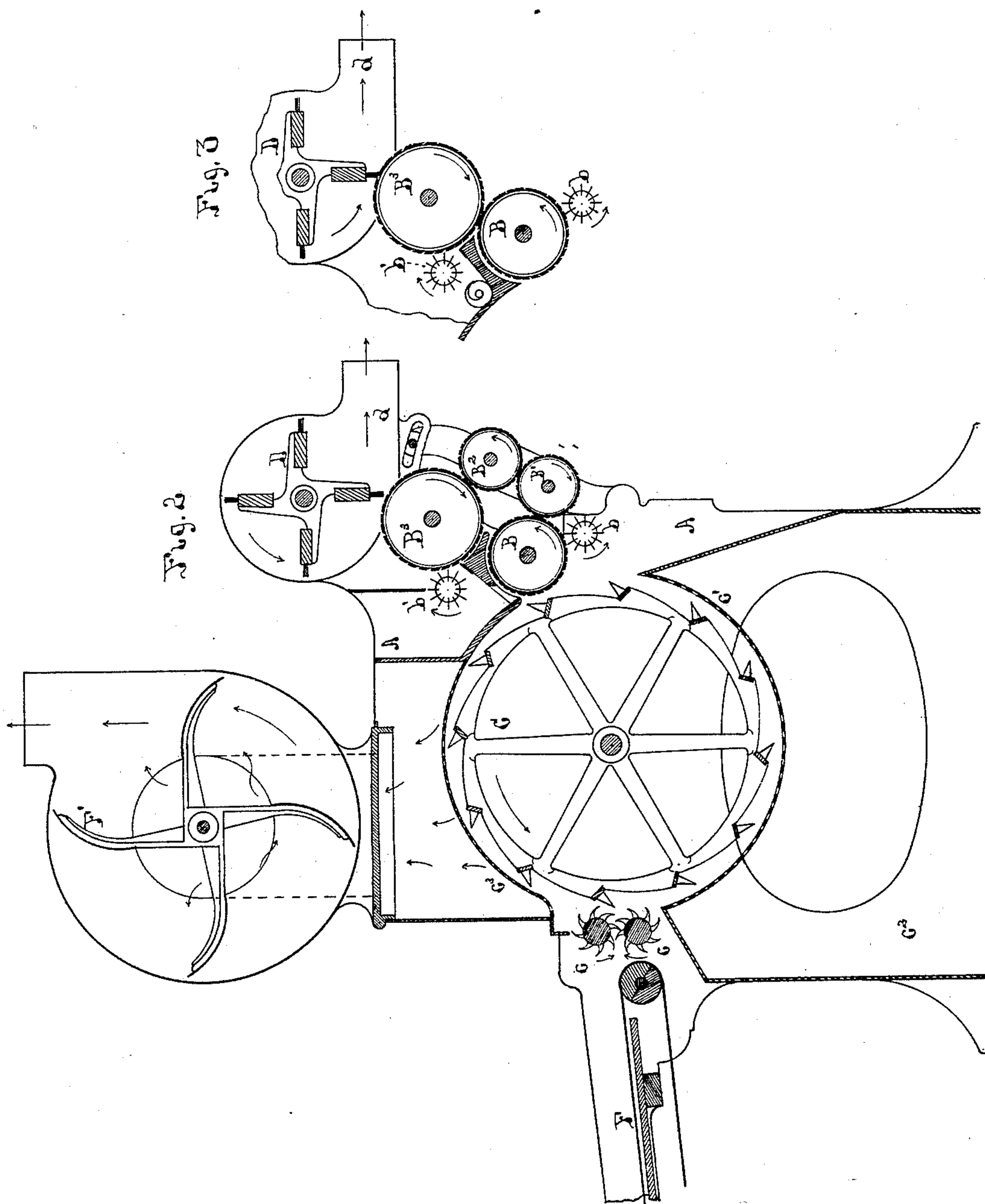
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UNITED STATES PATENT OFFICE.

FREDERICK G. SARGENT AND ALLAN C. SARGENT, OF GRANITEVILLE,
MASSACHUSETTS.

MACHINE FOR BURRING WOOL.

SPECIFICATION forming part of Letters Patent No. 433,186, dated July 29, 1890.

Application filed September 11, 1884. Serial No. 142,770. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK G. SARGENT and ALLAN C. SARGENT, of Graniteville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Machines for Burring Wool, of which the following is a specification.

Our invention relates to machines for burring wool; and it consists of certain improvements in such machines, substantially as hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of part of a wool-burring machine provided with our improvements. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a vertical longitudinal section of part of the machine, showing a modification of our improvements.

A is the casing of the machine.

F is the feed-apron.

C is the picker-cylinder, and *c c* are toothed feed-rolls feeding the wool from the apron to the cylinder.

F' is a fan which draws the dust and fine particles of dirt through the perforated bonnet *c*³, which extends over the picker-cylinder. A screen *c'* underneath the picker-cylinder allows the heavier particles of dirt to fall into the inclosed space *c*² below it. These parts are of ordinary construction, and the arrows show the direction of rotation of the feed-rolls, picker-cylinder, and fan.

B is a burring-cylinder, which takes the wool from the picker-cylinder, and *b* is the striker or knock-off cylinder, which knocks the burrs off the outer surface of the wool as it is carried around by the burring-cylinder, they running, respectively, in the direction shown by the arrows. Whatever burrs are upon the inner surface of the sheet of wool and next to the surfaces of cylinder B will, however, escape the action of the knock-off cylinder *b*, and if the sheet of wool on cylinder B is broken up by doffers or other similar devices these latter burrs will be commingled throughout with the wool and be difficult to remove. We avoid this difficulty by taking off the sheet of wool from burring-cylinder B in such a manner as to present its inner surface, with the burrs thereon, to a second knocking-off cylinder before they are

mixed with the wool, as described, and thereby we remove the burrs from both surfaces of the sheet of wool formed on the burring-cylinder B, instead of from only one side of said sheet, as heretofore. We accomplish this in the following manner: We place a second cylinder B', with burring-teeth, as shown, so as to take off the sheet of wool from the first one B by revolving it in the direction shown by the arrow on it, and at a faster rate of surface speed than the first one. We place a third cylinder B², having burring-teeth in relation to the cylinder B', as shown, so as to take off the sheet of wool from the second one by revolving it in the direction of the arrow upon it, and at a faster rate of surface speed than the second one. We place a fourth burring-cylinder B³ in relation to the cylinder B², as shown, so as to take off the sheet of wool from the third one B² by revolving it in the direction shown by the arrow upon it, and at a greater rate of surface speed than the third one.

In connection with the burring-cylinder B³, we employ a knocking-off cylinder *b'*, revolving in the direction shown by the arrow, which knocks the burrs off of the surface of the sheet of wool exposed by the rotation of cylinder B³. This surface of the sheet of wool is the one not exposed to the action of the first knock-off cylinder *b*, and the burrs are thus knocked off both sides of the sheet of wool, and, as the latter is usually thin enough to leave the burrs exposed on one side or the other, they are substantially all removed, and more effectually than if mixed through the fiber, after each knock-off cylinder has operated upon it. As the wool is carried around the cylinder B³, it is removed from the latter by the doffer D and carried out of the machine by the current of air from the latter through the spout *d*.

In Fig. 3 is shown a modification of the mechanism described above. In this modification the cylinders B' B² are omitted, and the burring-cylinder B³ takes the sheet of wool directly from the surface of burring-cylinder B, cylinder B³ traveling at a greater surface speed than cylinder B and both revolving in the directions shown by the arrows. The knock-off cylinders *b b'* operate to

remove the burrs from both sides of the sheet of wool, as before, as well as the other parts of the machine, as shown in Figs. 1 and 2.

The pulleys and driving-belts of the machine are shown in Fig. 1, and are as follows: 1 is the pulley of cylinder C; 2 is the pulley of cylinder B; 3, the pulley of knock-off cylinder *b*; 4, the pulley of burring-cylinder B^2 ; 5, the pulley of burring-cylinder B^3 ; 6, the pulley of the knocking-off cylinder *b'*; 7, the pulley of burring-cylinder B' ; 8, the pulley of doffer D; 9, the pulley of the fan F' ; 10, the pulley of lower roll *c*, and 12 the main driving-belt of the machine. 20, 21, and 22 are the driving-gears of the upper feed-roll *c* and feed-apron F.

What we claim as new and of our invention is—

1. In a machine for burring wool, the combination of a picker-cylinder, a burring-cylinder adapted to take the fiber from said picker-cylinder and convey it forward in the machine, a knock-off cylinder arranged to knock off the burrs from the fiber on said burring-cylinder as it is carried around the same, and a second burring-cylinder adapted to receive the sheet of fiber after it has left

the first burring-cylinder, and means, substantially as described, arranged to rotate said second burring-cylinder at a greater surface speed than the first one, thereby allowing the sheet of fiber to pass from one to the other uncomminuted, and a knock-off cylinder arranged to knock off the burrs from the fiber as it is carried around the second burring-cylinder, substantially as described.

2. The combination of the picker-cylinder C, the burring-cylinder B, the knock-off cylinder *b*, the burring-cylinder B^3 , the means, substantially as described, adapted to rotate the latter at a greater surface speed than cylinder B, the knock-off cylinder *b'*, and the intermediate transfer-cylinders B' B^2 , placed between burring-cylinders B and B^3 , said cylinders B B' B^2 B^3 being by their relative rotation capable of transferring the sheet of fiber from the former burring-cylinder B to the latter one B^3 without comminuting the same, substantially as described.

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