

No. 622,432.

Patented Apr. 4, 1899.

J. E. ALMON.
WOOD DRESSING MACHINE.

(Application filed Nov. 25, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 2.

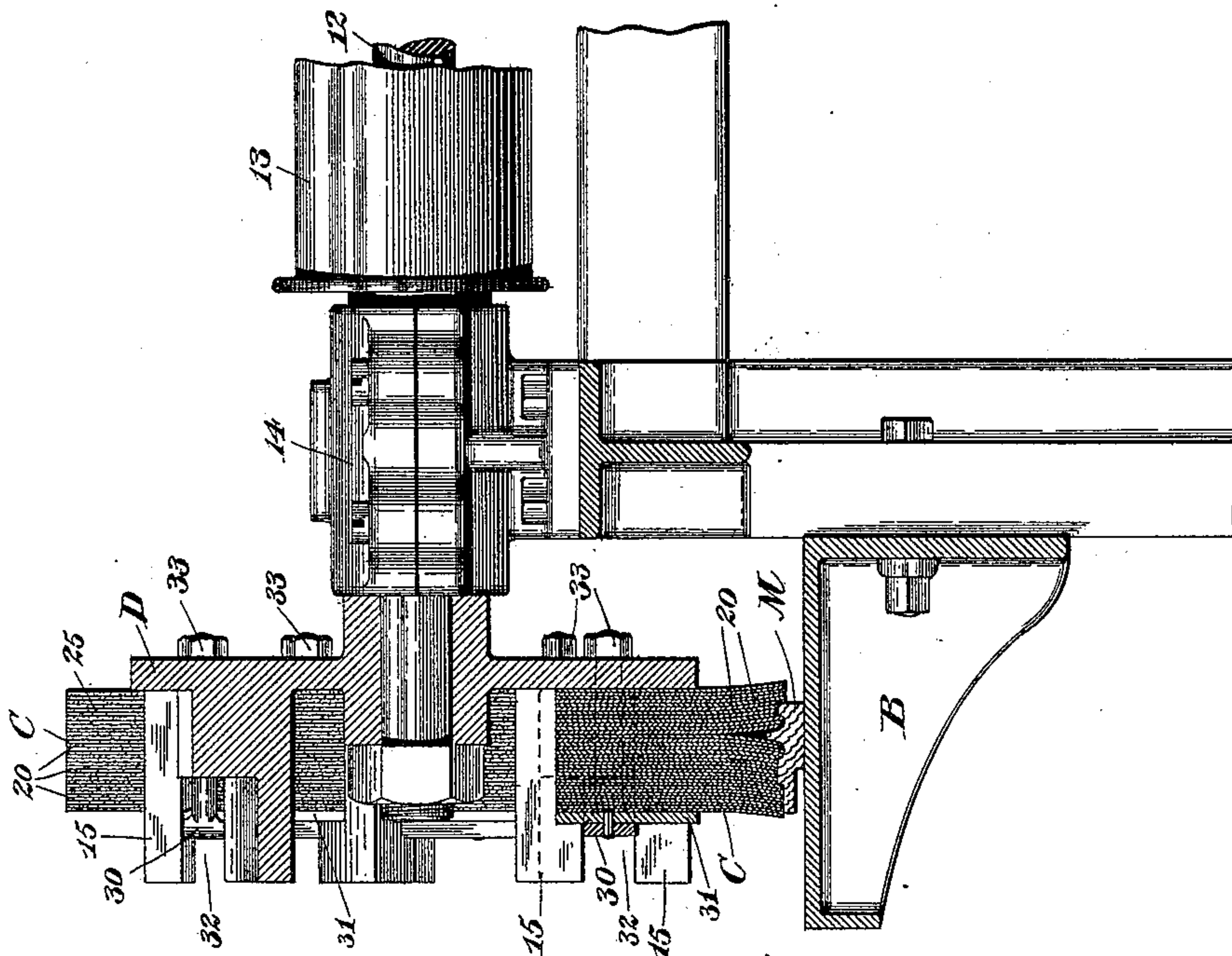
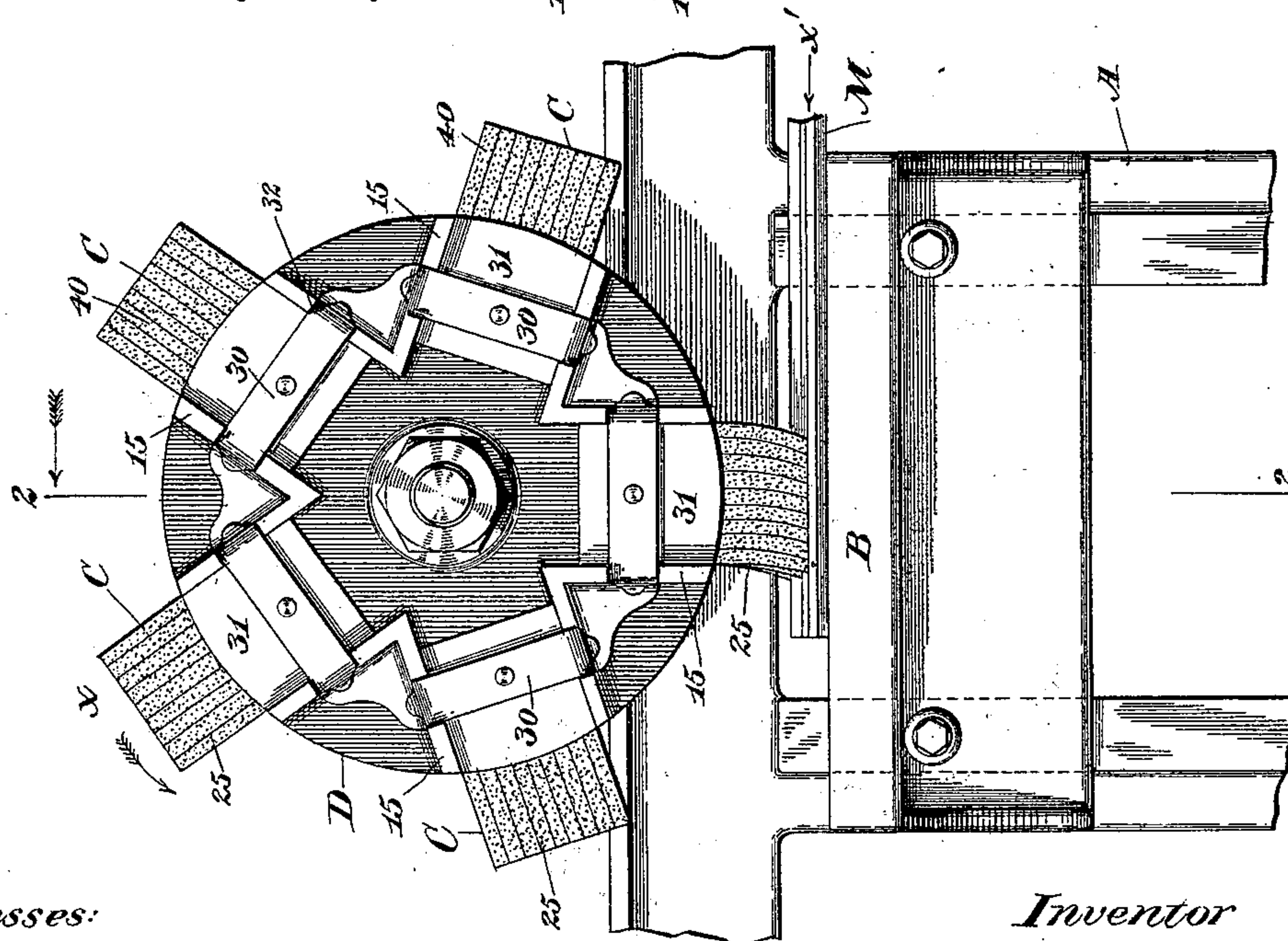


Fig. 1.



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2 Sheets—Sheet 2.

Fig. 3.

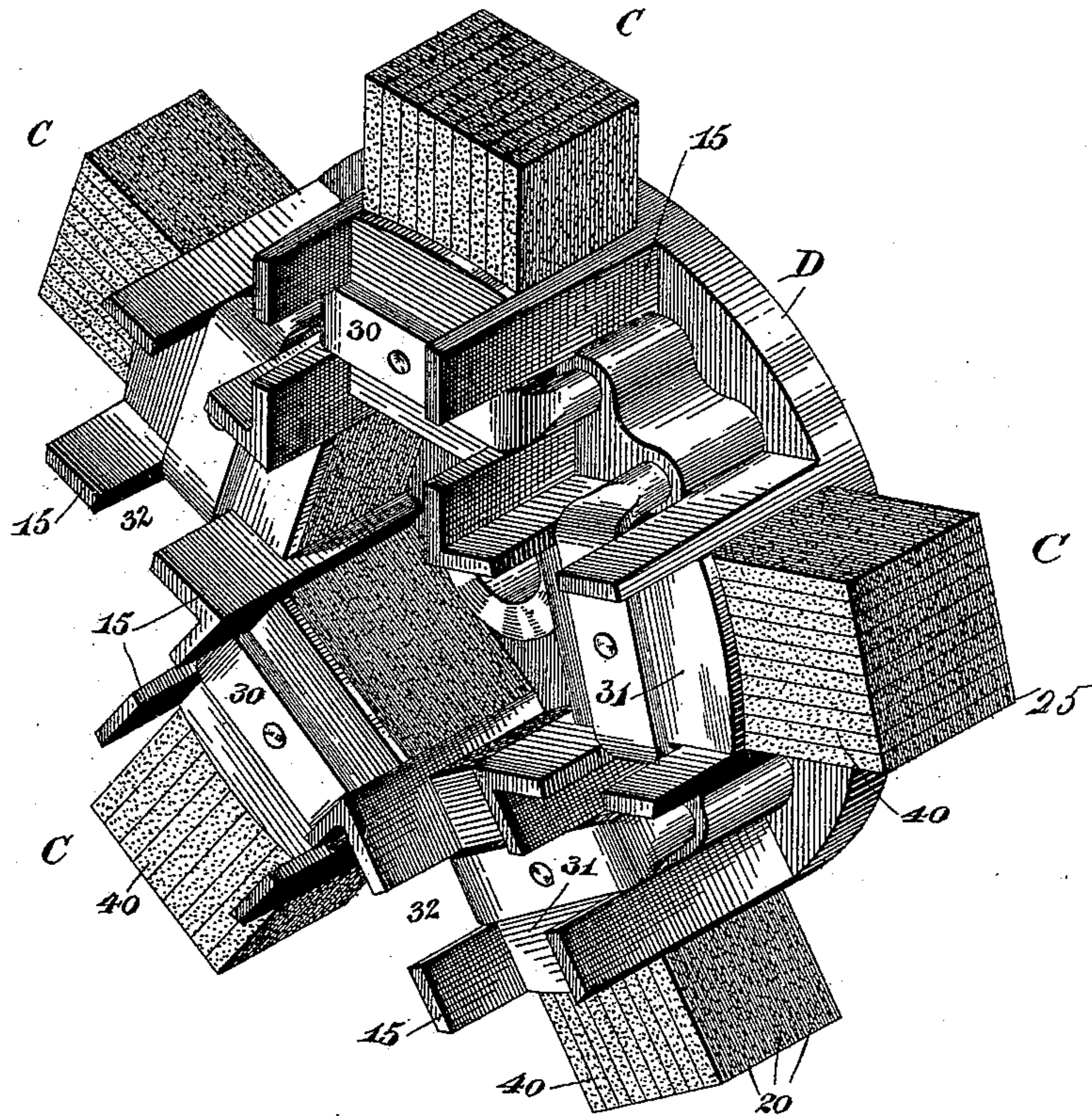
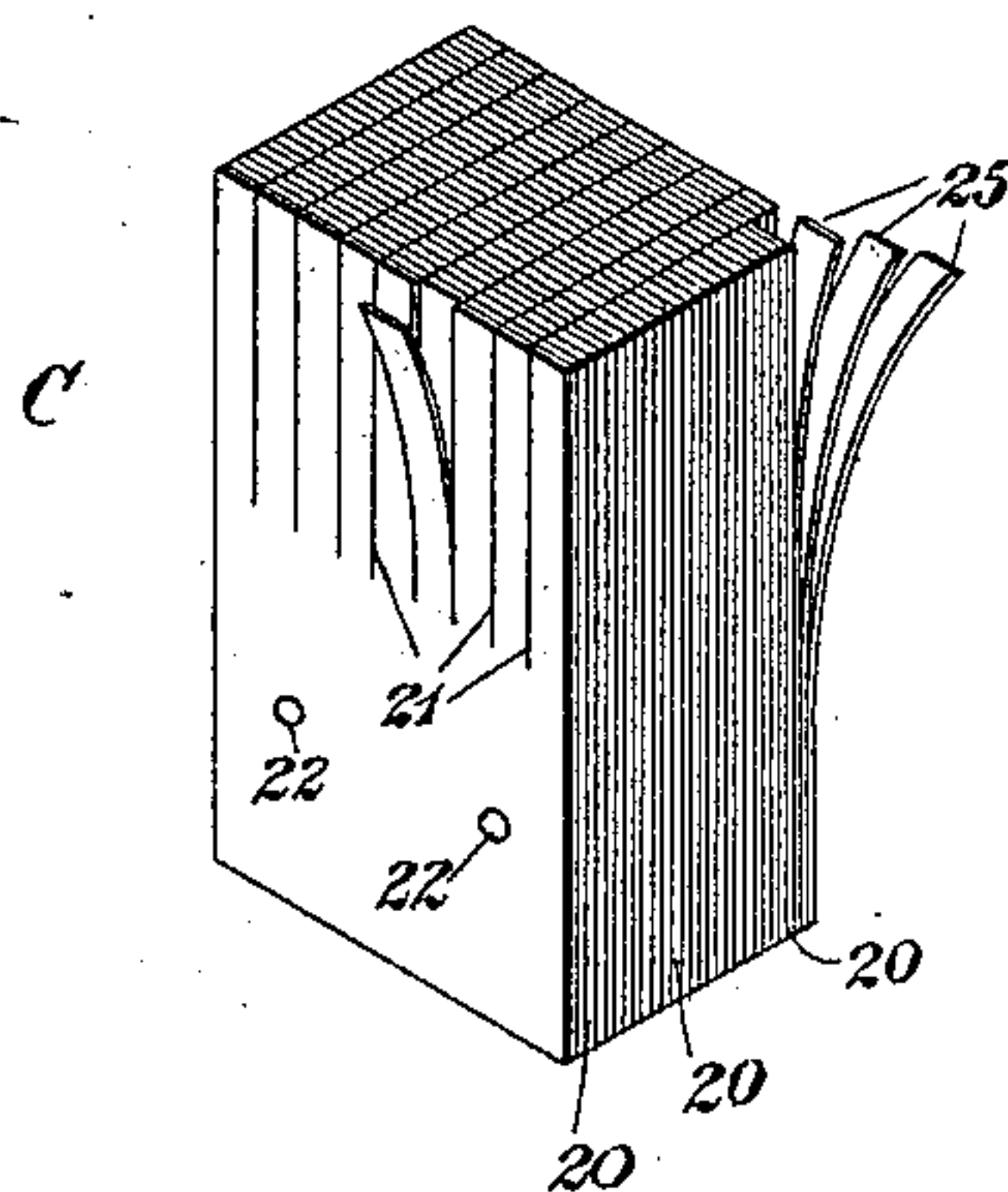


Fig. 4.



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UNITED STATES PATENT OFFICE.

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WOOD-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 622,432, dated April 4, 1899.

Application filed November 25, 1898. Serial No. 697,381. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. ALMON, a citizen of the United States, residing in Montpelier, in the county of Washington and State of Vermont, have invented certain new and useful Improvements in Wood-Dressing Machines, of which the following is a specification.

This invention relates to a machine for dressing wood, it being of that class known in the art as "sandpapering-machines;" and it is intended, primarily, for finishing or smoothing moldings and other like ornamental work the surfaces of which are curved or of irregular shapes; and the apparatus is simple in construction and capable of cleanly and evenly removing all imperfections and roughnesses in the surfaces of wood of the character specified.

My improved wood-dressing machine involves as one of its features a carrier, which may be of any suitable construction, and a dressing device thereon, said dressing device usually including a series of sheets roughened on their working faces, and these sheets are preferably slitted for a portion of their length for the purpose of securing a greater amount of lateral flexibility when in action upon the wood or other material. In the present instance a series of these dressing devices is mounted upon the carrier, and they are desirably located at regular intervals apart and in a circuit on the carrier, and the latter is rotated by a suitable driving mechanism and at a comparatively high rate of speed, the centrifugal force developed being usually relied upon to throw the effective portions of the several dressing devices against the work, it being evident from the description that the said dressing devices have a multiplicity of strips and, being laterally yieldable, can automatically conform or shape themselves perfectly to the configuration of the article under operation.

My improved machine therefore includes as one of its fundamental features a dressing device consisting of a series of roughened sheets secured together for a portion of their length to form a unitary article, said sheets being roughened either upon one or both of their surfaces by being coated with sand or

some analogous substance, and while the article may be efficiently employed as thus constructed I prefer to slit or cut the sheets for a predetermined distance, so as to insure a greater amount of lateral or sidewise flexure. Therefore it is evident that the improved machine comprises, broadly, a dressing device including a multiplicity of roughened or sanded strips, a large number of these latter being employed, the device thus formed resembling somewhat a brush, the construction being such that it is adapted to cover and clean a large area, and the dressing operation is accomplished with a facility equal to that of the ordinary hand method.

The several dressing devices are adjustably mounted, by reason of which all wear caused by the rubbing action thereof against the wood may be readily compensated for, and the respective sheets thereof are usually of cloth, and I prefer to coat the same with the abrading material upon both sides, so that said devices can operate in opposite directions.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side elevation of my improved wood-dressing machine. Fig. 2 is a sectional front elevation of the same, the section being taken in the line 2 2, Fig. 1, and looking in the direction of the arrow. Fig. 3 is an isometrical perspective, on an enlarged scale, of the carrier and dressing devices thereon; and Fig. 4 is an enlarged detail of one of the dressing devices.

Similar characters designate like parts in all the figures of the drawings.

The framework for supporting the different parts of the apparatus may be of any suitable or preferred construction, and it is represented as including a main frame A, upon which the shaft or arbor of the carrier is supported, and an auxiliary frame or bracket B, bolted to the main frame, and said bracket serves as a feed-table for the molding or other article to be dressed.

My improved apparatus involves one or more dressing devices, as C, and a carrier therefor, as D, and said carrier may be of any suitable construction, it being represented as consisting of a disk or circular plate fixed

in some suitable manner to the shaft 12, said shaft also carrying a driver, which may be a pulley, as 13, connected by a belt (not shown) with a suitable motor, the shaft being carried by the journal box or bearing 14 upon the framework.

In Fig. 1 I have represented the normal direction of rotation of the carrier by the arrow, although it is understood, of course, that it may be oppositely rotated and the same advantageous results obtained, and for the purpose of obtaining a greater rubbing-surface I prefer to roughen both faces of the sheets composing the dressing devices.

A convenient means for supporting the several dressing devices C upon the carriers consists in devices for clamping the same between the adjacent branches of the angular projections or offsets 15 on the front face of the carrier, as shown clearly in Fig. 1.

In Fig. 4 I have illustrated a dressing device C in detail, the coating or roughening not being shown thereon, but being represented by 40 in the other views; and said dressing device consists of a large number of substantially rectangular sheets 20 of the same size built or laid upon each other to form a block, the separate sheets prior to this step being slitted, as at 21, for about half-way of their length, so that the completed article is of a brush-like structure. Any convenient means may be employed for holding the several sheets or plies together, a simple means being the pins 22.

In Figs. 1 and 3 I have represented a series of five of these dressing devices, they being of substantially similar construction and preferably coated upon all sides with the abrading or dressing material, and they are adapted to bear edgewise against the surface of the stock, as shown in Fig. 2.

By constructing a dressing device as aforesaid a multiplicity of roughened strips, as 25, Fig. 4, is formed, and by reason of the large number thereof and their flexibility in all directions they can perfectly conform themselves to the shape of the article being dressed.

The unslitted portions of the several dressing devices C are snugly fitted between the adjacent branches of the several angular projections 15 and bear against the outer face of the carrier or disk D and are shown as held in such positions by a corresponding series of clamping devices, as 30, each of which consists of a substantially U-shaped member secured to a reinforcing or follower plate, as 31, the several plates being adapted to directly engage said uncut portions. The clamping members fit in notches, as 32, in the branches of the angular projections 15, and the legs thereof project through openings in the carrier and are engaged by nuts 33, constituting a convenient means of holding the clamping devices firmly in their seats and against the several dressing devices.

In Figs. 1 and 2 I have represented the

dressing apparatus as operating upon a molding M, which rests upon the feed-table B and is positively fed forward in the direction of the arrow x' in Fig. 1 by mechanism, (not shown,) and the carrier or disk D being rotated in the direction of the arrow the successive dressing devices will be brought into engagement with the molding to clean or remove all imperfections and roughness from the surface thereof, the several strips 25 of each of said dressing devices yielding laterally and edgewise, as represented in Fig. 2, so as to adapt themselves perfectly to the contour of the molding and at the same time to permit the opposite roughened faces of the several strips to come against the molding for dressing the same, the carrier being preferably driven at a high rate of speed, so as to throw the several dressing devices outward by centrifugal force and maintain them in firm engagement with the wood.

It will be evident from the preceding description that the several dressing devices are radially adjustable, they being movable toward and from the axis of the carrier to adapt the apparatus for dressing moldings of different depths and for also regulating the amount of pressure to be applied. This adjustment also permits the movement of the several dressing devices to compensate for wear at the free ends thereof.

To adjust any one of the dressing devices, the nuts 33, engaging the clamping device, which holds the same in position, are loosened, which permits the said dressing device to be moved either forward or from the axis of the carrier, as the case may be, and when said dressing device is set the nuts are tightened to firmly hold the same, and this operation will be repeated with the others of the series.

While the apparatus is peculiarly and primarily adapted for dressing moldings and other irregular stock, it is evident that it can be employed equally as well for smoothing straight work. It is obvious also that the apparatus can operate with the same advantage upon materials other than wood.

It is of course understood that the dressing devices can be manufactured and sold separately and that their working faces may be of different degrees of abrasive effect to suit different kinds of wood, &c.

The invention is not limited to the details illustrated and described, for these may be varied without departing from the scope thereof.

Having described my invention, I claim—

1. In a wood-dressing machine, the combination, with a carrier, of a dressing device thereon including a series of slitted sheets roughened on their working faces.

2. A dressing device for wood and the like including a series of sheets roughened upon one side and slitted, said sheets being secured together to form a unitary article.

3. In a wood-dressing machine, the combination, with a rotatively-supported carrier, of

a radially-adjustable dressing device thereon including a series of slitted sheets roughened on their working faces.

4. In a wood-dressing machine, the combination, with a carrier having a series of angular projections, of a series of dressing devices fitted between the adjacent branches of said projections; U-shaped clamping devices fitted in notches in the projections and extending through openings in the carrier; and nuts on the legs of the clamping devices.

5. In a wood-dressing machine, the combination, with a support for the work, of a shaft; a carrier on said shaft; and a series of dressing devices secured to the carrier and each including a series of roughened slitted sheets adapted to act edgewise against the work, said sheets being laterally yieldable.

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