

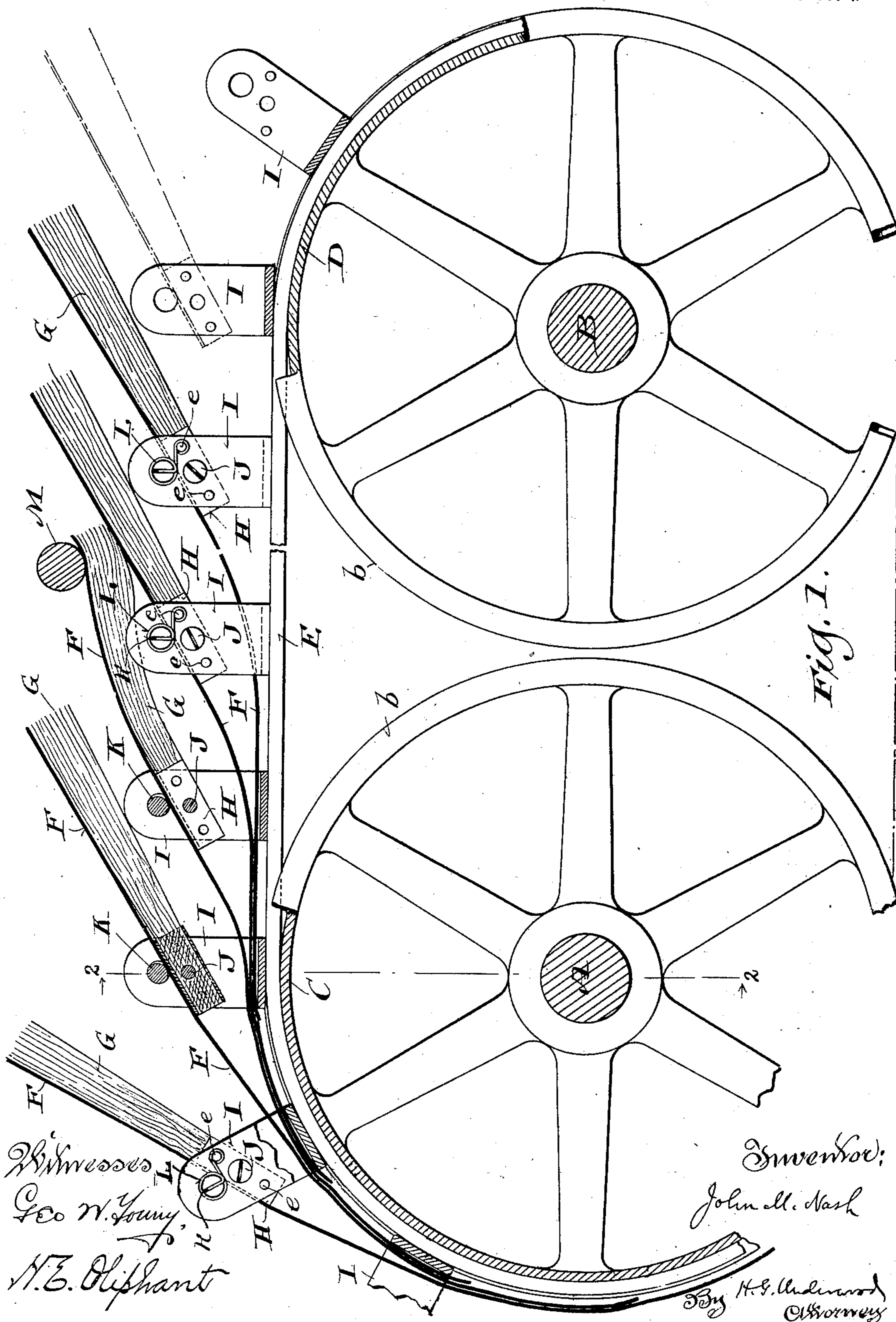
No. 707,621.

Patented Aug. 26, 1902.

J. M. NASH.
ABRADING MECHANISM.
(Application filed Nov. 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 3.

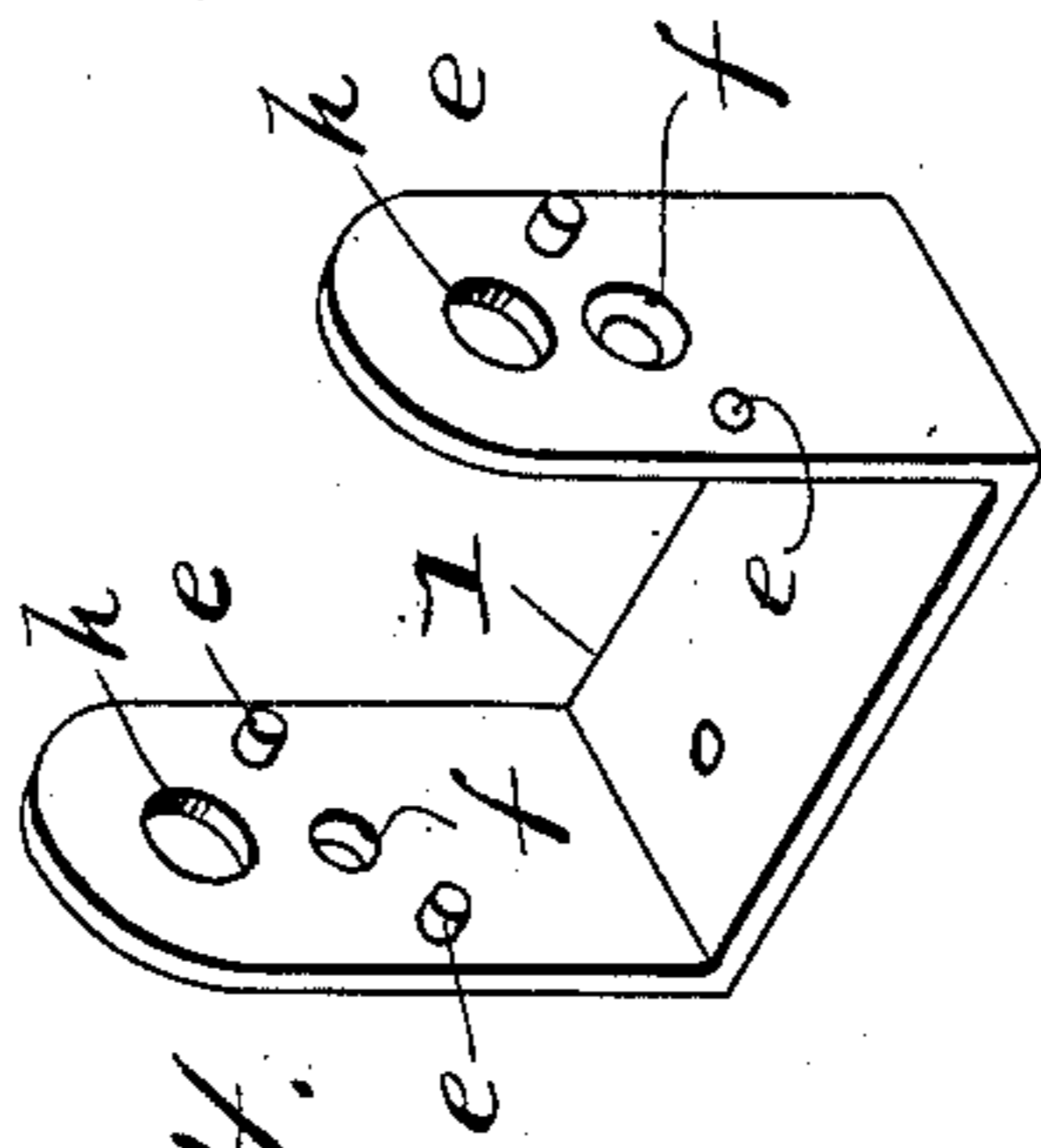
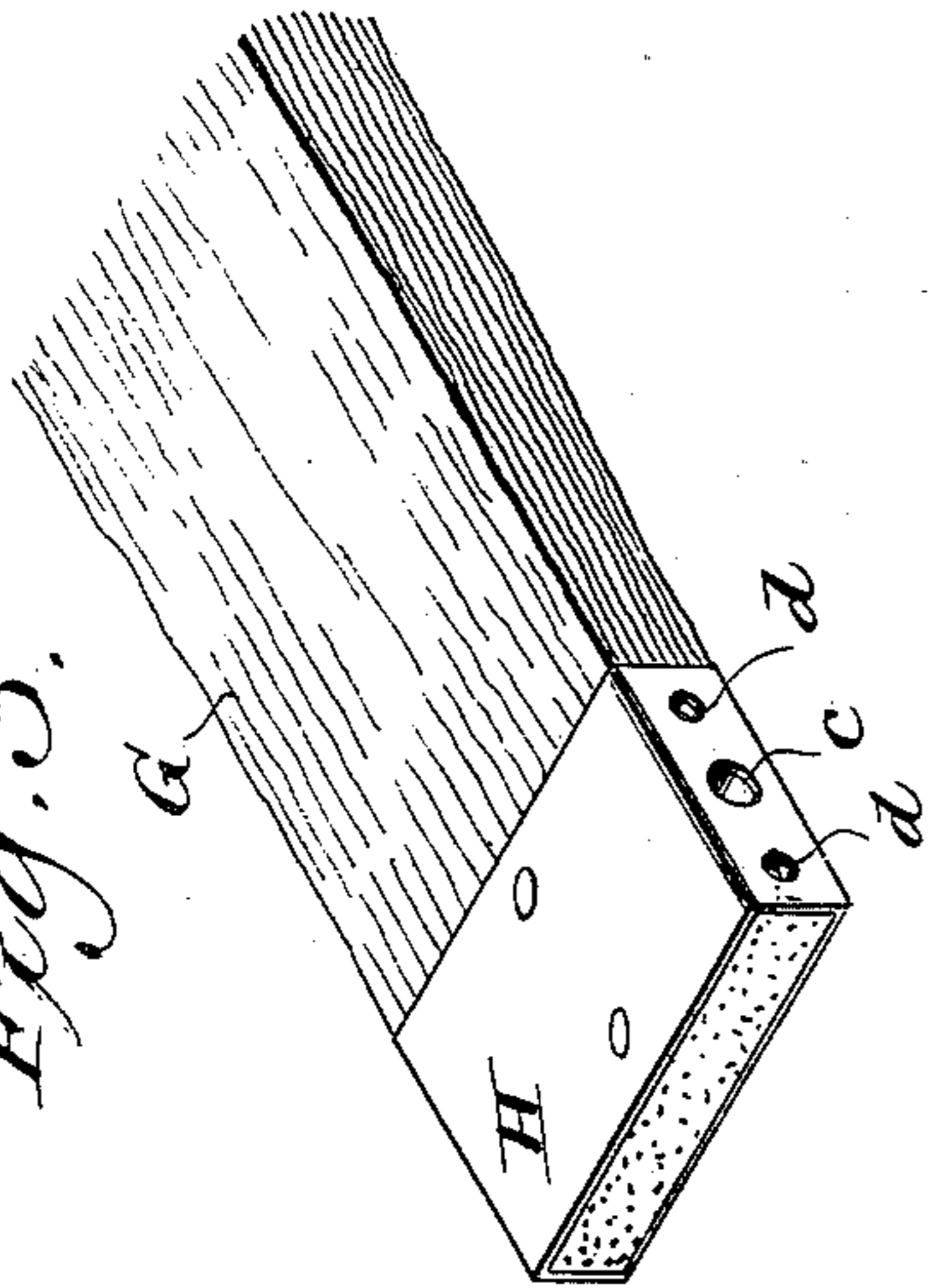


Fig. 4.

Fig. 5.

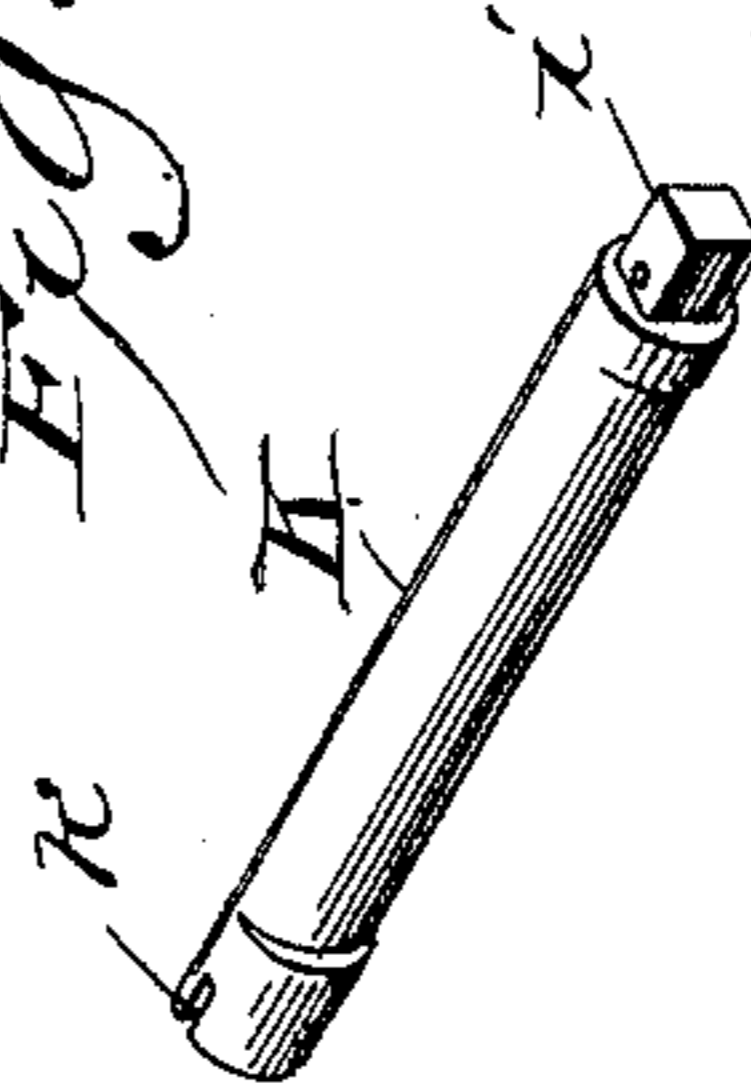
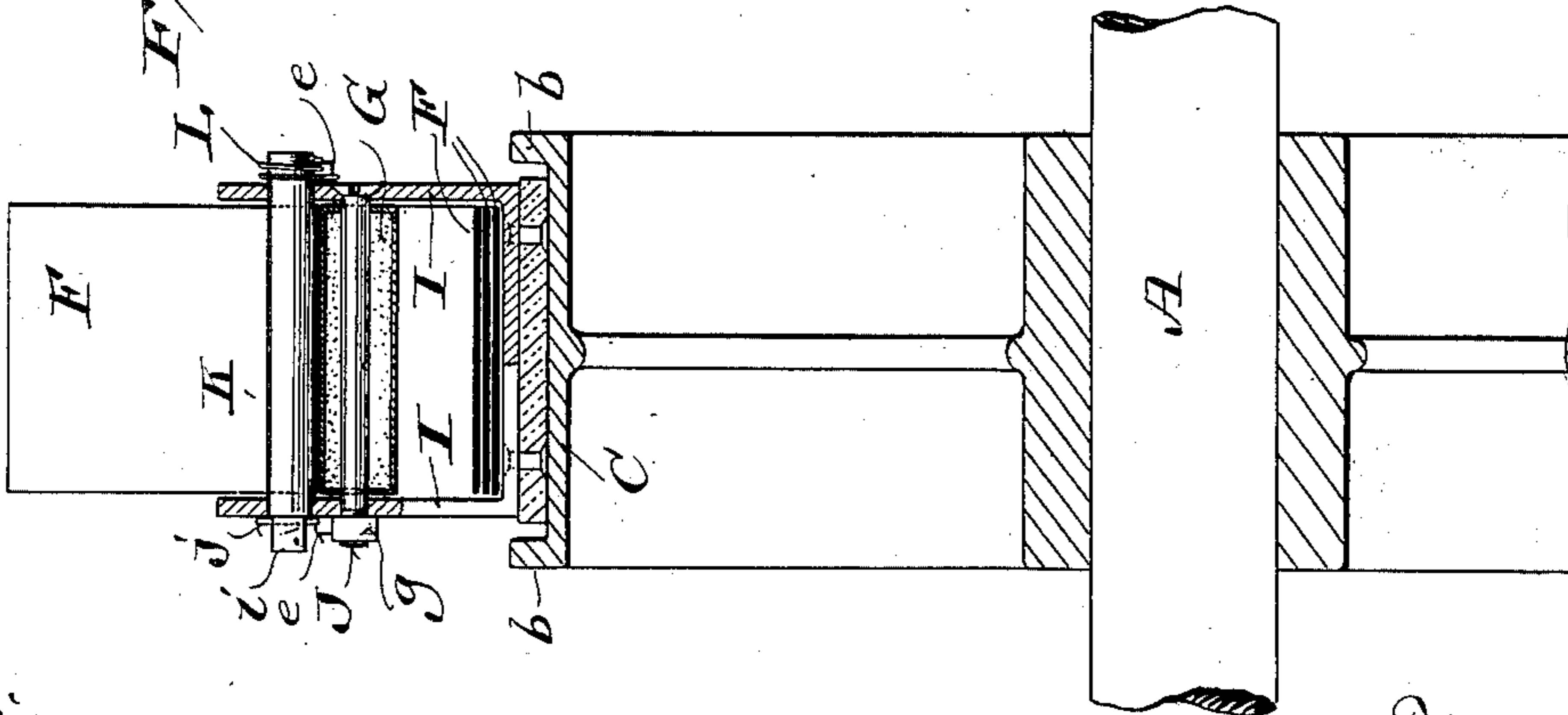


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN M. NASH, OF MILWAUKEE, WISCONSIN.

ABRADING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 707,621, dated August 26, 1902.

Application filed November 4, 1901. Serial No. 81,029. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. NASH, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Abrading Mechanism; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its general object to accomplish the same results set forth in my Patent No. 674,384, granted May 21, 1901, as well as to prevent impact of abrading-strips under centrifugal force against material to be smoothed, whereby greater economy in the use of said strips moving at high speed is had and detrimental striking of the same on said material avoided. Hence said invention consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a partly-sectional side elevation of my improved abrading mechanism having parts thereof broken away; Fig. 2, a transverse sectional view of a portion of the mechanism, this view being indicated by line 2 2 in the first figure; Fig. 3, a perspective view of a brush that serves as a flexible backing for an abrading-strip; Fig. 4, a similar view of a bracket in which the brush is clamped, and Fig. 5 a like view of a clamp-rod engageable with the bracket.

Referring by letter to the drawings, A B indicate parallel shafts, and in practice one or the other of these shafts is rotated by any suitable means. Assuming shaft A to be the driven one, a peripherally-flanged pulley C is made fast thereon, and a similar pulley D is arranged loose on counter-shaft B, this shaft being stationary in its bearings. A belt E is stretched on the pulleys between peripheral flanges *b* of the same, and flexible backings for the outer loose ends of overlapping strips F, of sandpaper or analogous material, are held in connection with the outer face of the belt at intervals of the same at tangents thereto. Each flexible backing herein shown is a brush formed by a mass of broom-corn or other pliant material G, set in a metal band H, the sides of which are riveted together to clamp it on said material. Each end of the

band is provided with a central aperture *c* and other apertures *d* in opposite directions equidistant from the central one. Angularly-bent metal strips constitute L-shaped brackets I, riveted to the outer face of belt E at regular intervals apart, and pins *e*, set fast in ends of the brackets on inclined planes, engage apertures *d* in the bands H to hold the brushes at tangents to said face of the belt, the brackets being sprung to permit engagement of their pins with said band-apertures. A bolt J extends through central openings *f* of each bracket and band-apertures *c* of the corresponding brush, a nut *g* being run on the screw-threaded end of the bolt to prevent automatic spread of said bracket. Other central openings *h* in the ends of each bracket are engaged by round portions of a cam-rod K, one end of which is reduced and squared to form a lug *i*, engageable with a key or wrench, a pin *j* being set in an opening in said lug outside the bracket. The other end of the rod is provided with a kerf *k*, and one end of a spring L, coiled on said rod, is caught in the kerf, its other end being looped on one of the bracket-pins *e*, above specified. The cam-rod in normal position clamps an abrading-strip F against the butt of the adjacent brush, and said rod is turned against spring resistance to obtain sufficient clearance when it is necessary or desirable to draw the strip outward. The several abrading-strips are laid one upon another on the belt and drawn through the brackets between the brushes and cam-rods, these strips being drawn outward from time to time and their worn portions cut off close to the outer ends of said brushes. By slitting the working ends of the abrading-strips these strips will more readily conform to irregular surface of woodwork upon which they operate.

Especial reference being had to Fig. 1, the operation of the herein-described abrading mechanism on a piece M of round woodwork will be readily understood, said woodwork being kept in rotatory motion; but while said mechanism is particularly designed for smoothing round woodwork of regular or irregular contour it is equally well adapted for smoothing flat woodwork, especially such as has irregularity of contour.

While I have shown practical means for connecting the brushes and belt, these means

and those for clamping the abrading-strips against the brushes may be varied indefinitely as mechanical expediency may suggest without departure from my invention in its generic sense, and it will be readily understood that said strips successively attack the material to be smoothed on a straight line parallel to said belt uninfluenced by centrifugal force, regardless of the speed at which the aforesaid belt is run, this being a feature of especial importance in the art to which said invention relates.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An abrading mechanism comprising a belt, a pair of pulleys on which the belt is run, and flexible-backed abrading material carried with said belt to extend tangentially from the same at intervals thereof.

2. An abrading mechanism comprising a belt, a pair of pulleys on which the belt is run, strips of abrading material carried with said belt, brushes that being rigid with the aforesaid belt at intervals of the same tangent thereto constitute flexible backings for the abrading-strips, and means for clamping said strips against the brush-butts.

3. An abrading mechanism comprising a belt, a pair of pulleys on which the belt is run, brackets rigid on the outer face of said belt

at intervals of the same, brushes fast in the brackets tangent to the belt, abrading-strips carried with the aforesaid belt in opposition to the brushes, and means for clamping the strips against the brush-butts.

4. An abrading mechanism comprising a belt run on pulleys, brackets rigid on the outer face of the belt at intervals of the same, brushes fast in the brackets tangent to said belt, abrading-strips carried with the aforesaid belt in opposition to the brushes, and spring-controlled rotarily-adjustable cam-rods mounted in the brackets to clamp said strips against the brush-butts.

5. An abrading mechanism comprising a belt run on pulleys, brackets rigid on the outer face of the belt at intervals of the same, brushes bolted in the brackets, bracket-pins on inclined planes in opposite directions from the brush-bolts engaging brush-butt apertures, abrading-strips carried by said belt, and means for clamping the strips against the brush-butts.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

JOHN M. NASH.

Witnesses:

N. E. OLIPHANT,
B. C. ROLOFF.