

No. 671,114.

Patented Apr. 2, 1901.

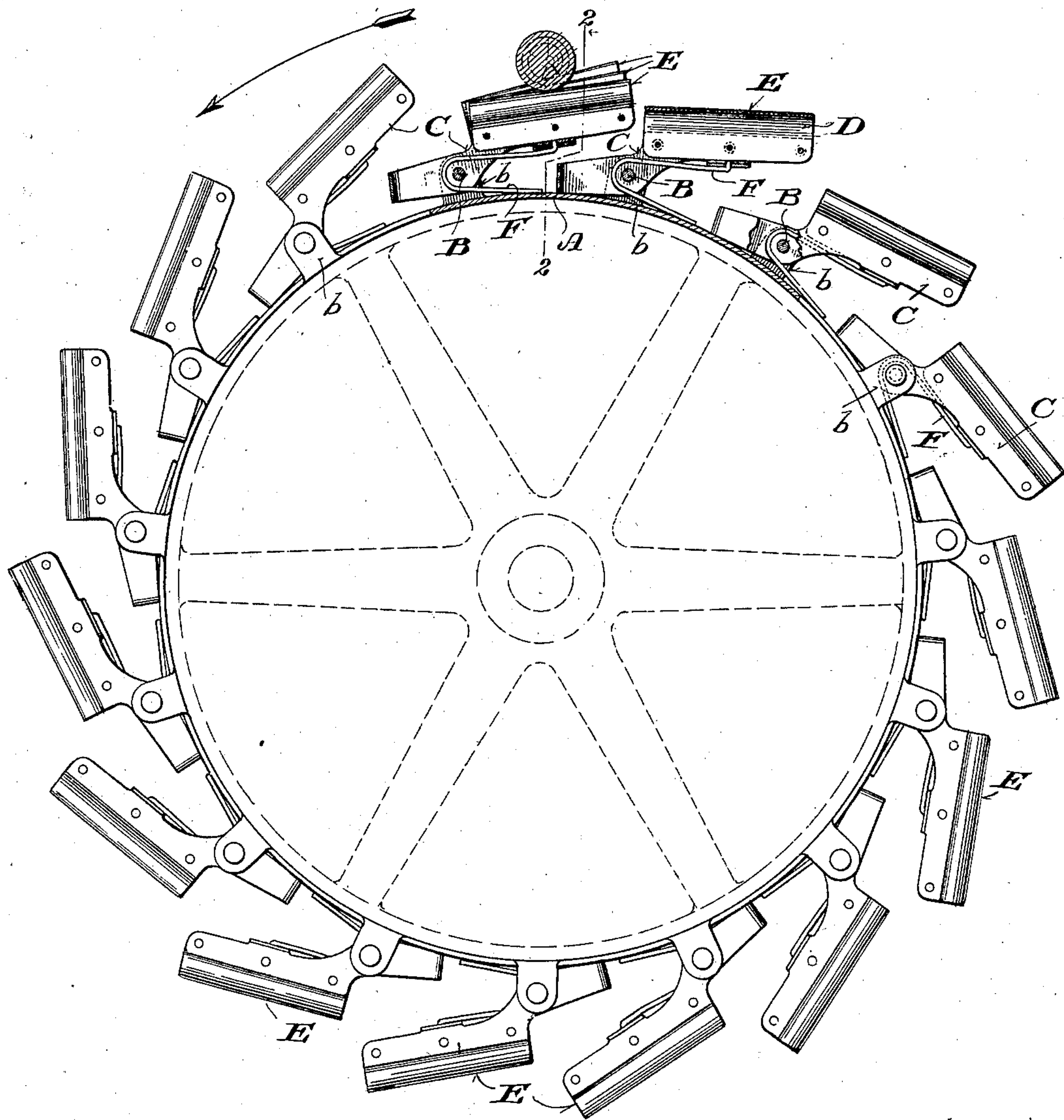
J. M. NASH.  
ABRADING MECHANISM.

(Application filed July 2, 1900.)

(No Model.)

2 Sheets—Sheet 1.

*Fig. 1.*



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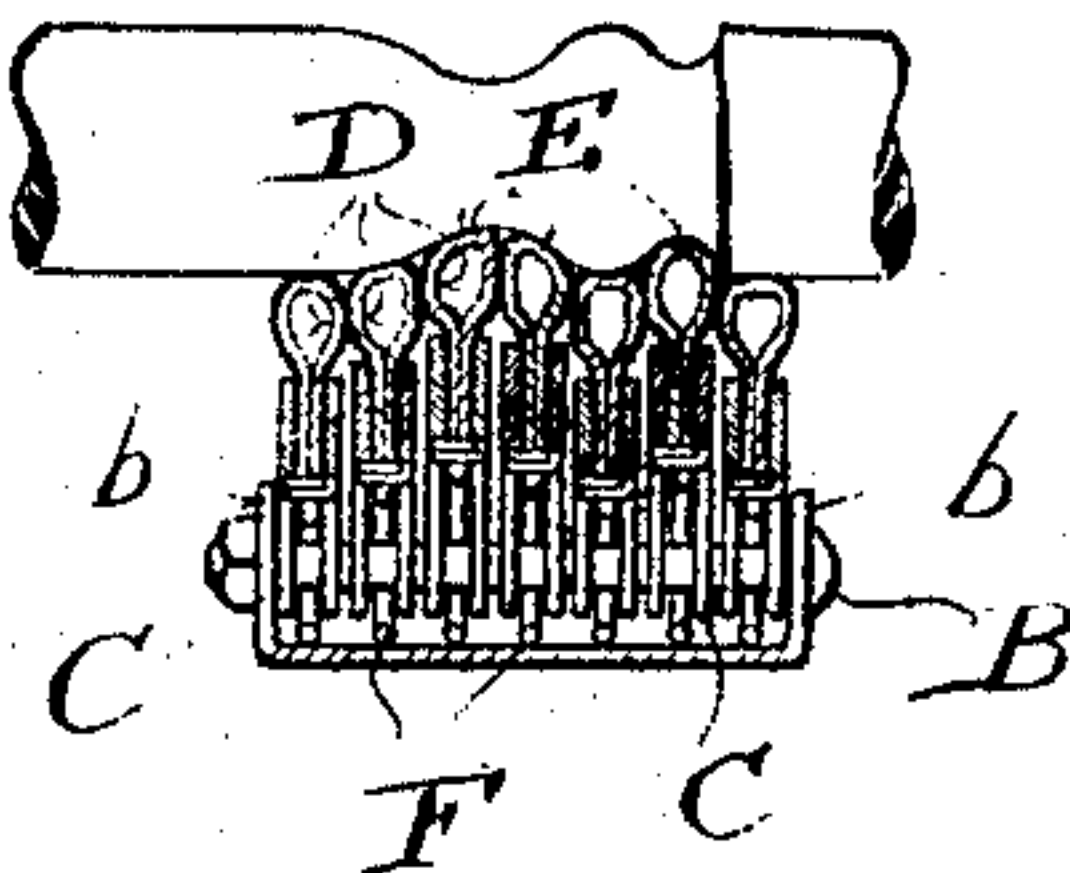
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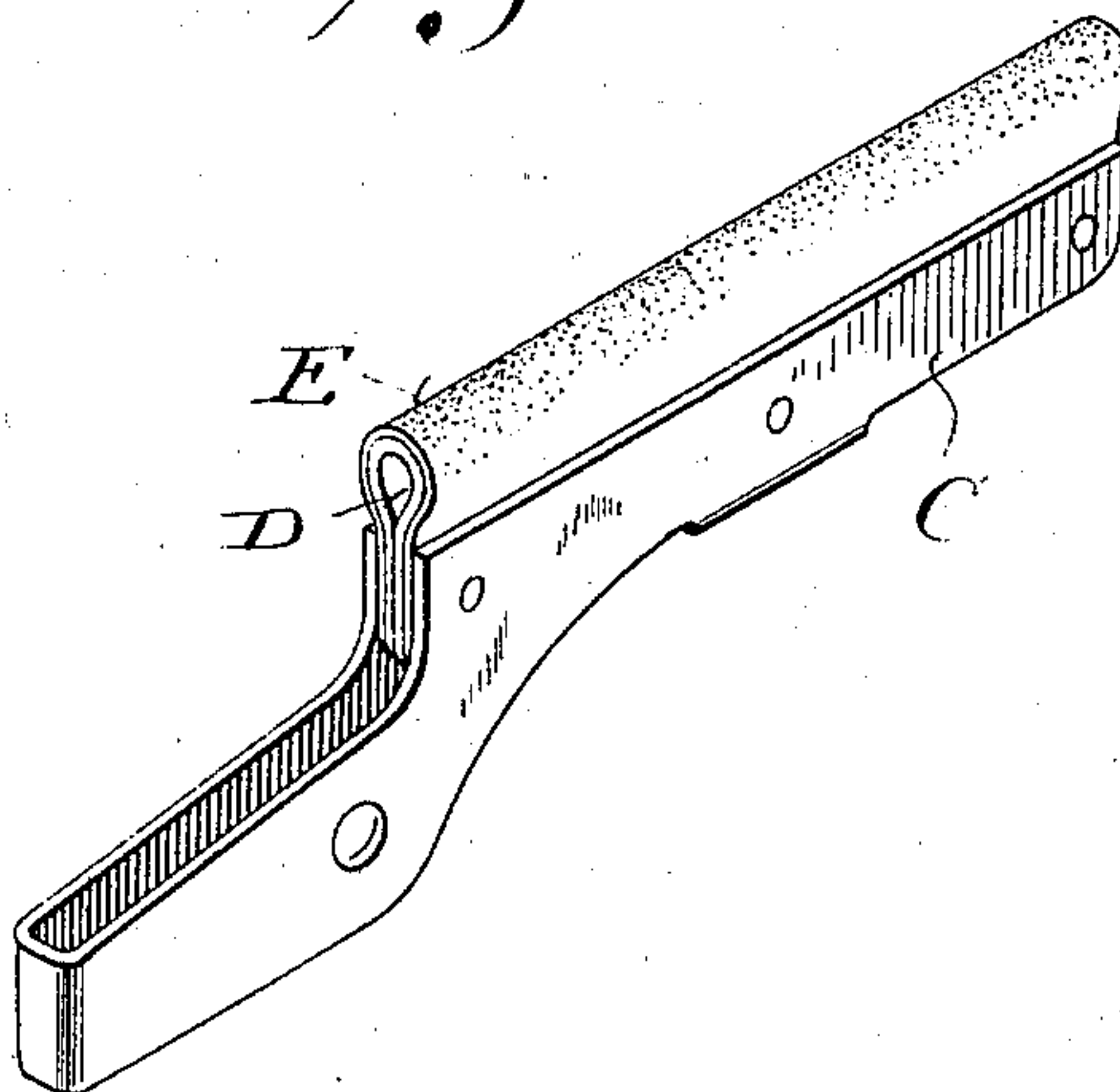
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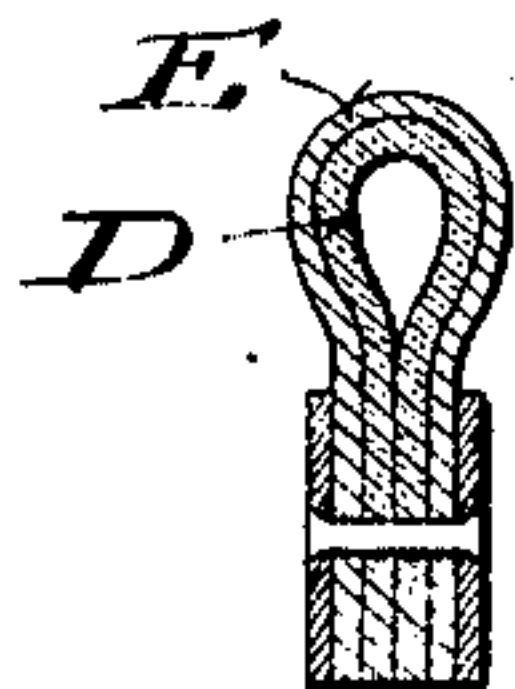
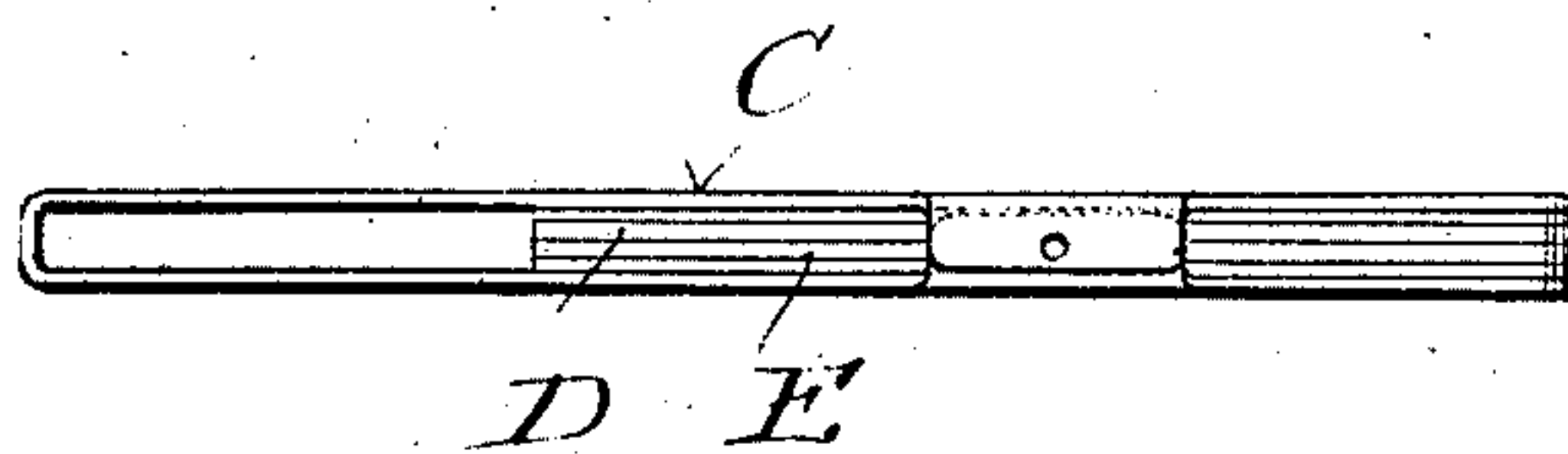
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Fig. 5.*

*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

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## ABRADING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 671,114, dated April 2, 1901.

Application filed July 2, 1900. Serial No. 22,268. (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 is especially designed for economical smoothing of round woodwork, particularly such as has irregularity of configuration, the object being to operate in depressions and upon elevations of the work with uniform pressure, so as not to mar its outline, said invention consisting in abrading mechanism such as is hereinafter set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a partly-sectional side elevation of an abrading mechanism in accordance with my invention; Fig. 2, a detail sectional view of a portion of the mechanism, the plane of the section being indicated by line 2 2 in the preceding figure; Fig. 3, a perspective view of one of a series of flexible back abrading-fingers employed in that form of my invention herein specifically set forth; Fig. 4, a plan view of the finger inverted; Fig. 5, a transverse section of said finger, and Fig. 6 a diagram illustrating the preferred relative disposition of the abrading-fingers in adjacent series.

Referring by letter to the drawings, A indicates a circular band that may be made with a hub and spokes to form a drum attachable to a power-shaft or the band may be made fast on the rim of an ordinary flat-face pulley. At intervals of its circumference the band is provided with opposite registering radial side ears *b*, engaged by pivot-bolts B, that also engage offset shanks of clamps C, arranged in series between each pair of said ears.

Riveted or otherwise secured between the jaws of each clamp to project therefrom is a fold D of rubber or other suitable pliable fabric covered with another fold E of cloth, paper, or other suitable material having sand or other abradant adherent upon its exposed surface. Each clamp is independent of all the others in a series on parallel planes trans-

versely of band A, and with the projecting folds of pliable material it constitutes an abrading-finger, the inner fold of said material being a flexible back for the outer fold, upon which the sand or other abradant is adherent. If the outer fold be of some suitable material other than paper, the glue and abradant thereon may be soaked off from time to time and said fold recoated.

Overlapping inner jaw-flanges of each clamp are shown in connection with one end of a bent-wire spring F, the other end of this spring being in contact with the band aforesaid, and the abrading-fingers in each series are preferably arranged to break joints with those in adjacent series, as shown in Fig. 6. Springs of some other form than those herein shown may be utilized, and while it is preferable in most instances to employ the springs their omission would not defeat the object of my invention. It is also to be understood that means may be provided for fastening the fingers in adjusted position at various angles, and it is practical to arrange the several series of said fingers upon a belt instead of a circular device, such as a rotary drum, either being a suitable carrier; but other means of support may be provided for one or more series of the fingers and various provision had for bringing the abrading material and opposing woodwork into frictional contact. Hence in a generic sense my invention is to be construed as any mechanism comprising flexible devices arranged in one or more series on parallel planes and abrading material having said flexible devices for its backing, whether this abrading material be in folds clamped upon other sufficiently-stiff folds of pliable material or in strips opposed by flexible devices of some other form, it being practical and possibly convenient to utilize brushes of broom-corn or other material for the independent sections of the flexible backing, with or without pivotal clamps.

Mechanism in accordance with my invention may be used to smooth flat woodwork, particularly such as has irregularity of configuration, and when utilized for smoothing round woodwork means are provided for imparting rotary movement to said work when in contact with the abrading material.



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

1. A mechanism comprising a carrier, flexible devices with the carrier in series on parallel planes transversely of the same at intervals thereof, each of said devices being independent of all the others, and abrading material having the aforesaid devices for its backing.

2. A mechanism comprising a carrier, flexible devices in automatic pivotally-adjustable connection with the carrier in series on parallel planes transversely of the same at intervals thereof, each of said devices being independent of all the others, and abrading material having the aforesaid devices for its backing.

3. A mechanism comprising a carrier provided at intervals thereof with transverse pivots, a series of flexible devices arranged on each pivot, and abrading material having said devices for its backing.

4. A mechanism comprising a carrier provided at intervals thereof with independent pivotal and spring-controlled flexible devices arranged in series, and abrading material having said devices for its backing.

5. A mechanism comprising a carrier provided at intervals thereof with pivotal fingers arranged in series, each finger consisting of a clamp, plural folds of pliable material held between the clamp-jaws to project therefrom and an abradant adherent on the outer fold.

6. A mechanism comprising a carrier provided at intervals thereof with pivotal spring-controlled fingers arranged in series each finger consisting of a clamp, plural folds of pliable material held between the clamp-jaws to project therefrom and an abradant adherent on the outer fold.

7. A mechanism comprising a circular carrier provided at intervals thereof with opposite registering side ears, pivots in connection with each pair of ears, a series of clamps having offset shanks loose on each pivot between ears of the carrier, plural folds of pliable material held between the jaws of each clamp to project therefrom, and abradant adherent on the outermost of these folds.

8. A mechanism comprising a carrier provided at intervals thereof with independent flexible devices arranged in series those in each series breaking joints with those in adjacent series, and abrading material having said devices for its backing.

9. A mechanism comprising a plurality of flexible devices on parallel planes each independent of the others, and abrading material having said devices for its backing.

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.