

No. 696,967.

Patented Apr. 8, 1902.

J. G. HAVENS.
TOBACCO STEMMING ROLLS.

(Application filed Jan. 21, 1902.)

(No Model.)

Fig. 2.

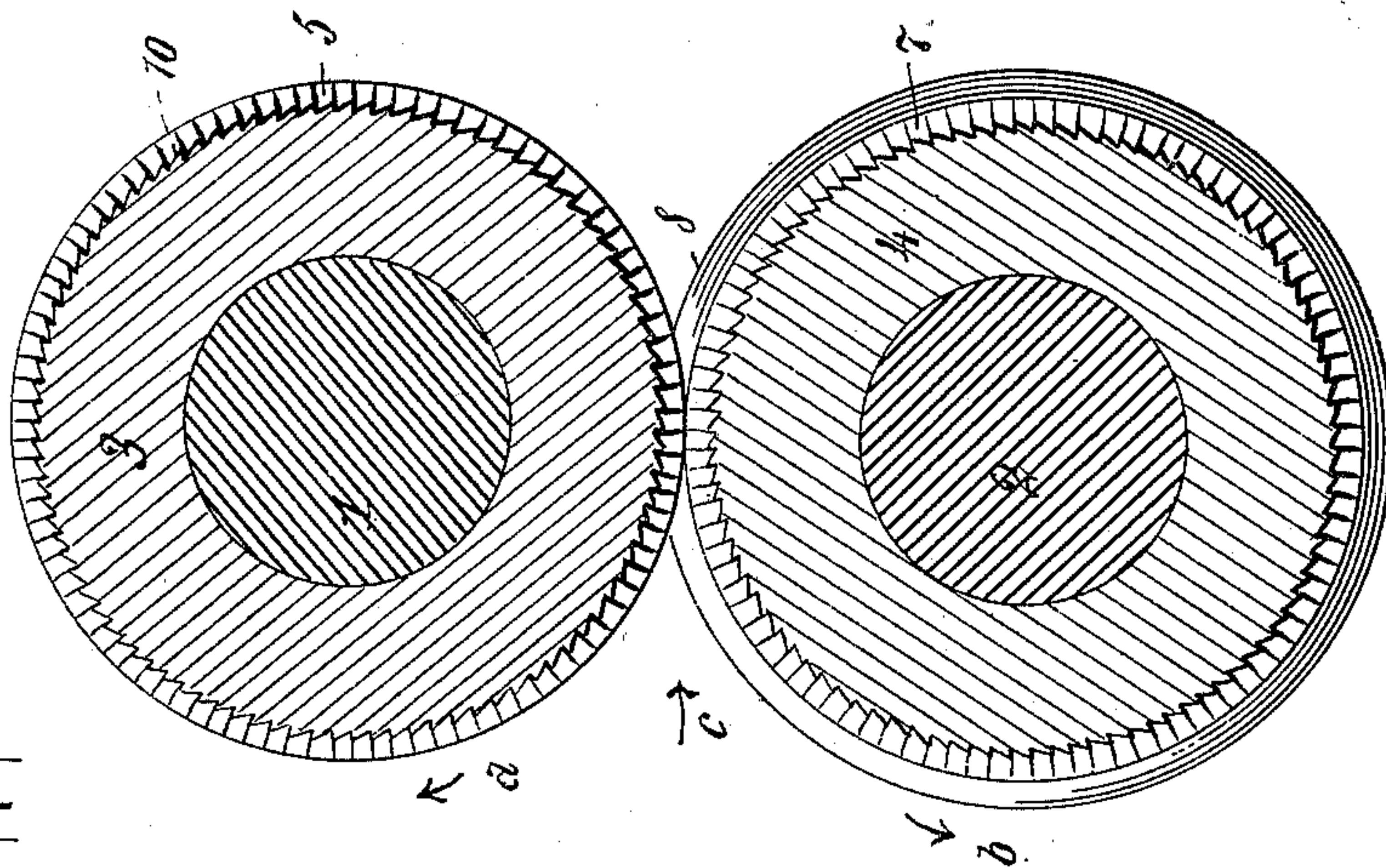
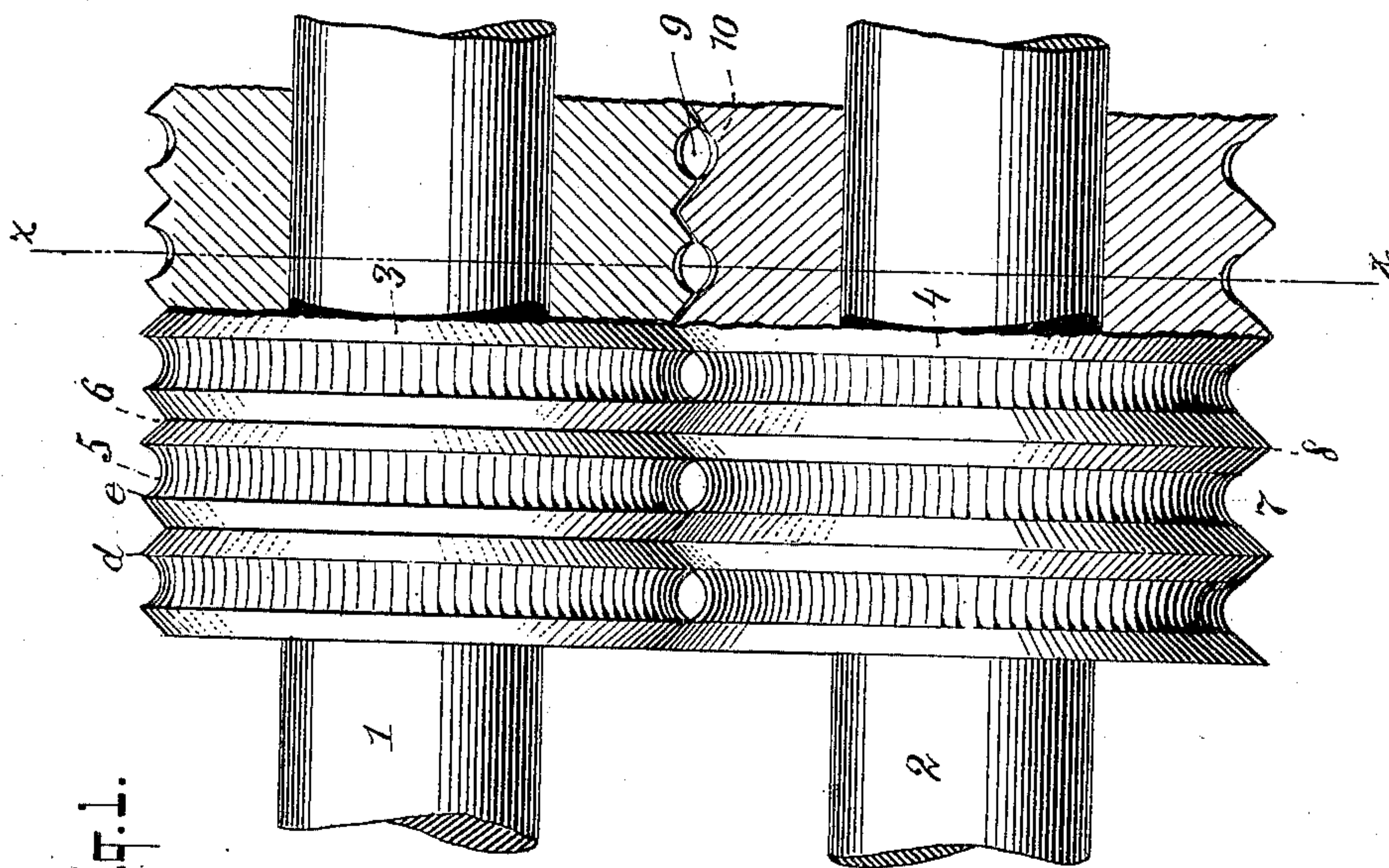


Fig. 1.



WITNESSES:

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JOSEPH GOODENOUGH HAVENS, OF TRENTON, NEW JERSEY.

TOBACCO-STEMMING ROLLS.

SPECIFICATION forming part of Letters Patent No. 696,967, dated April 8, 1902.

Application filed January 21, 1902. Serial No. 90,605. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH GOODENOUGH HAVENS, a citizen of the United States, and a resident of Trenton, Mercer county, New Jersey, have invented a new and useful Improvement in Tobacco-Stemming Rolls, of which the following is a specification.

My invention relates to the removal of the leaf portion of tobacco from the stem and to a stripping-roll constructed in accordance with a new principle discovered by me—namely, the cutting of the leaf away from the stem progressively by the action of cutting-surfaces analogous in type and operation to those of a milling-cutter, which surfaces surround the stem, the leaf being fed to said cutters at such a rate of speed as will enable them most effectively to perform their work.

My invention consists more particularly in the construction of the stripping-roll as herein set forth.

In the accompanying drawings, Figure 1 is a side elevation and partial section of my improved stemming-rolls placed in juxtaposition for use. Fig. 2 is a cross-section on the line *x x* of Fig. 1.

Similar characters of reference indicate like parts.

1 and 2 are supporting-shafts, upon which are formed or to which are secured in any suitable way the stemming-rolls 3 and 4. The roll 3 has on its periphery circumferential concave grooves 5, alternating with V-shaped channels 6. The roll 4 has on its periphery circumferential grooves 7, similar to grooves 5 of roll 3, alternating with V-shaped projecting ribs 8. When the rolls 3 and 4 are placed in operating juxtaposition, the ribs 8 of roll 4 enter the V-shaped channels 6 of roll 3, as shown, while the grooves 5 and 7 form lenticular openings 9 between said rolls. Within the grooves 5 and 7 are formed cutting-surfaces, which may be teeth 10, extending transversely said grooves. The lenticular openings 9 are to be of such cross-sectional area as that the butt-end of the stem of the tobacco-leaf passing through them will become compressed, while at the same time subjected to the cutting action all around its periphery of the teeth 10. The leaf which extends laterally beyond the stem on each side is also slit longitudinally by the shearing action of

the V-shaped ribs and channels. In operation the rolls are rotated in the direction of the arrows *a b*, Fig. 2, while the leaf is fed in the direction of the arrow *c* by any suitable means. The rate of feed and speed of rotation of the rolls is to be such as will permit the cutting-surface in the grooves to remove effectively the leaf portion from the stem portion.

The special advantages of the V-shaped rib and channel are that they enable the cutting-surfaces in the grooves to be more nearly approximated than if said surfaces formed a circular in place of a lenticular opening between the rolls, and in this way through the compression of the stem said cutting-surfaces are caused more effectively to act upon the leaf to cut the same from the stem. As these rolls are arranged in the machine means are usually provided to enable them to separate slightly in event of foreign hard objects passing between them jointly with the leaf. In such event if the surfaces between the grooves be not interlocked the tendency of the feed is to carry the leaf quickly onward through the now-enlarged space, so that it may not then be properly acted on either by the cutting-teeth in the grooves or by the shearing edges adjoining the grooves; but where the interlocking of the V-shaped portions exists, then, as is evident, the separation of the interlocking surfaces to the necessary extent does not make the channel between them any the less tortuous, and hence the leaf cannot be carried through any the more easily, while the sharp shearing edges continue to act on the leaf despite such separation.

It will be observed that in the roll 3 a pair of cutting edges *d e* alternate with the grooves. In both rolls 3 and 4 the inclined portions of the roll-periphery adjoining the grooves are smooth.

In another application for Letters Patent filed by me December 9, 1901, Serial No. 85,178, I have broadly claimed a roll adapted to remove the leaf portion of a tobacco-leaf from the stem having on its periphery a plurality of circumferential grooves, and within said grooves a multiplicity of small cutting projections, and in another application for Letters Patent filed by me January 21, 1902, Serial No. 90,604, I have claimed a leaf-stem-

ming-roll having a circumferential groove and on each side of said groove inclined smooth portions of its periphery. The subject-matter of the aforesaid applications is
5 not claimed herein.

I claim—

1. A leaf-stemming roll having circumferential grooves provided with concave cutting-surfaces, and alternating with said grooves
10 pairs of circumferential cutting edges.

2. A leaf-stemming roll having circumferential grooves provided with concave cutting-surfaces and alternating with said grooves V-shaped channels, forming pairs of circumfer-
15 ential cutting edges.

3. A leaf-stemming roll having a circumferential groove provided with a concave cutting-surface formed of a multiplicity of small cutting projections, the said groove extending in
20 cross-section over an arc less than a semi-circle.

4. A leaf-stemming roll having a circumferential groove provided with a concave cutting-surface, and on each side of groove inclined
25 smooth portions of its periphery.

5. A leaf-stemming roll having a circumferential groove provided with a concave cutting-surface and in each side of said groove two oppositely-inclined portions of its periphery.

6. The combination of the roll 3 having the
30 grooves containing cutting-teeth 10 and intermediate channels 6 with the roll 4 having grooves 7 and cutting-teeth 10 and intermediate ribs 8 of a conformation adapted to fit in said channels 6, substantially as de-
35 scribed.

7. The combination of the roll 3 having the grooves 5 containing cutting-teeth 10, V-shaped intermediate channels 6 with the roll
40 4 having grooves 7 and cutting-teeth 10 therein and the V-shaped ribs 8, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH GOODENOUGH HAVENS.

Witnesses:

I. A. VAN WART,
H. R. MILLER.