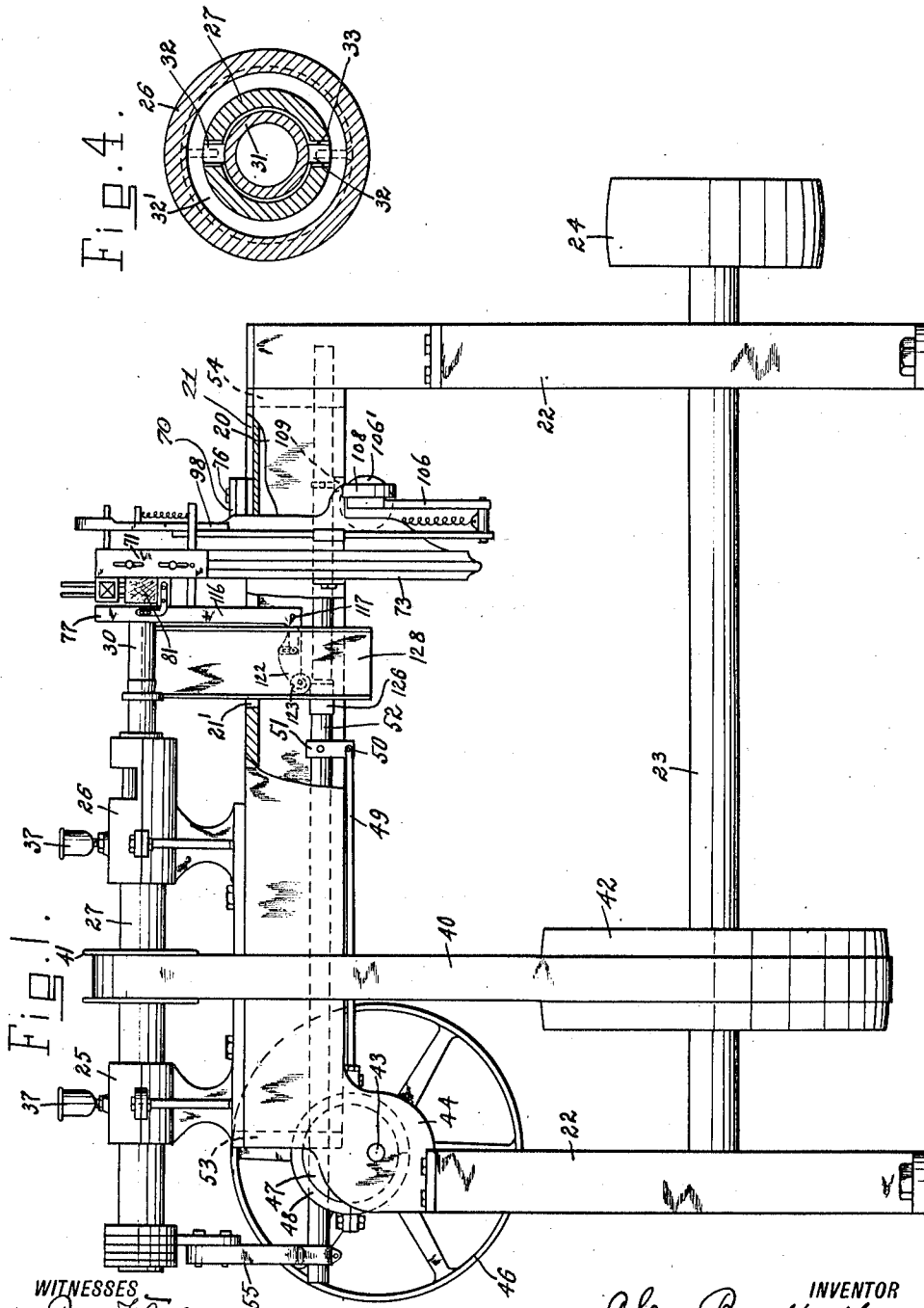


A. BOGDÁNYFY.
CORK CUTTING MACHINE.
APPLICATION FILED MAY 25, 1911.

1,048,283.

Patented Dec. 24, 1912.
4 SHEETS—SHEET 1.



WITNESSES
W. Link,
S. Binsmann

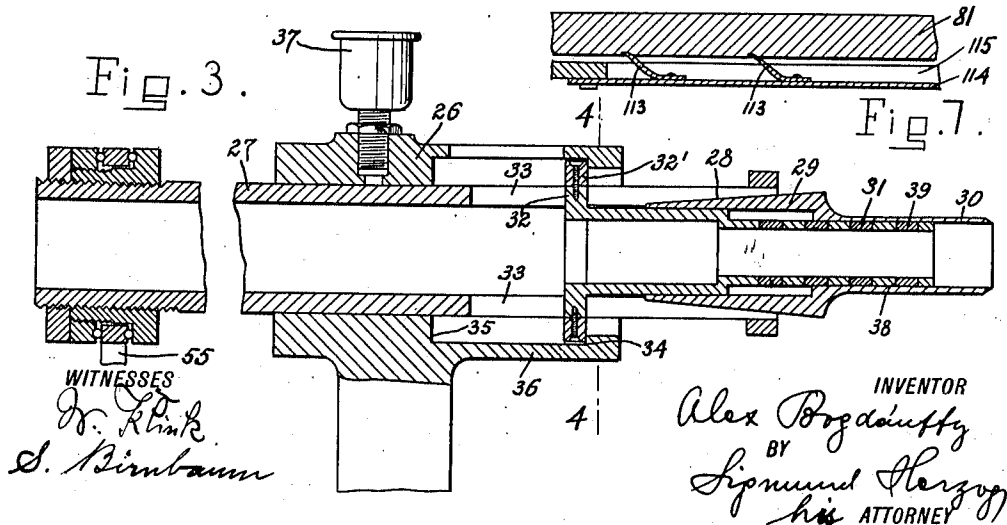
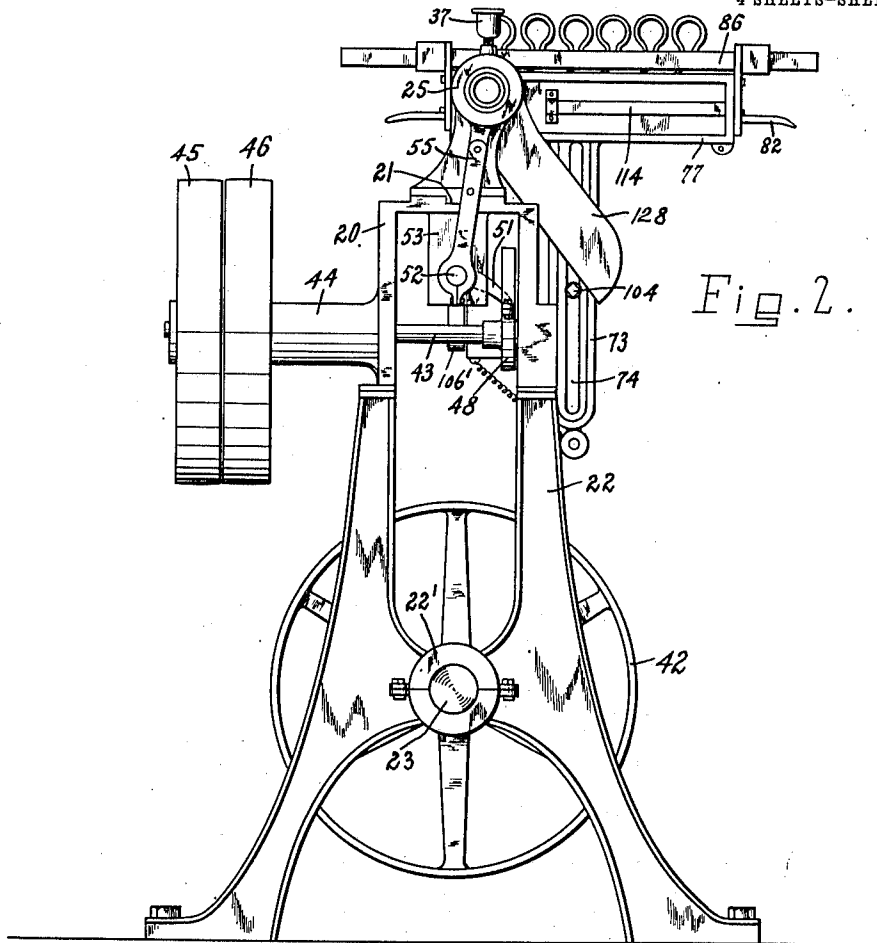
INVENTOR
Alex Bogdányfy
BY
Sigmund Herzog
his ATTORNEY

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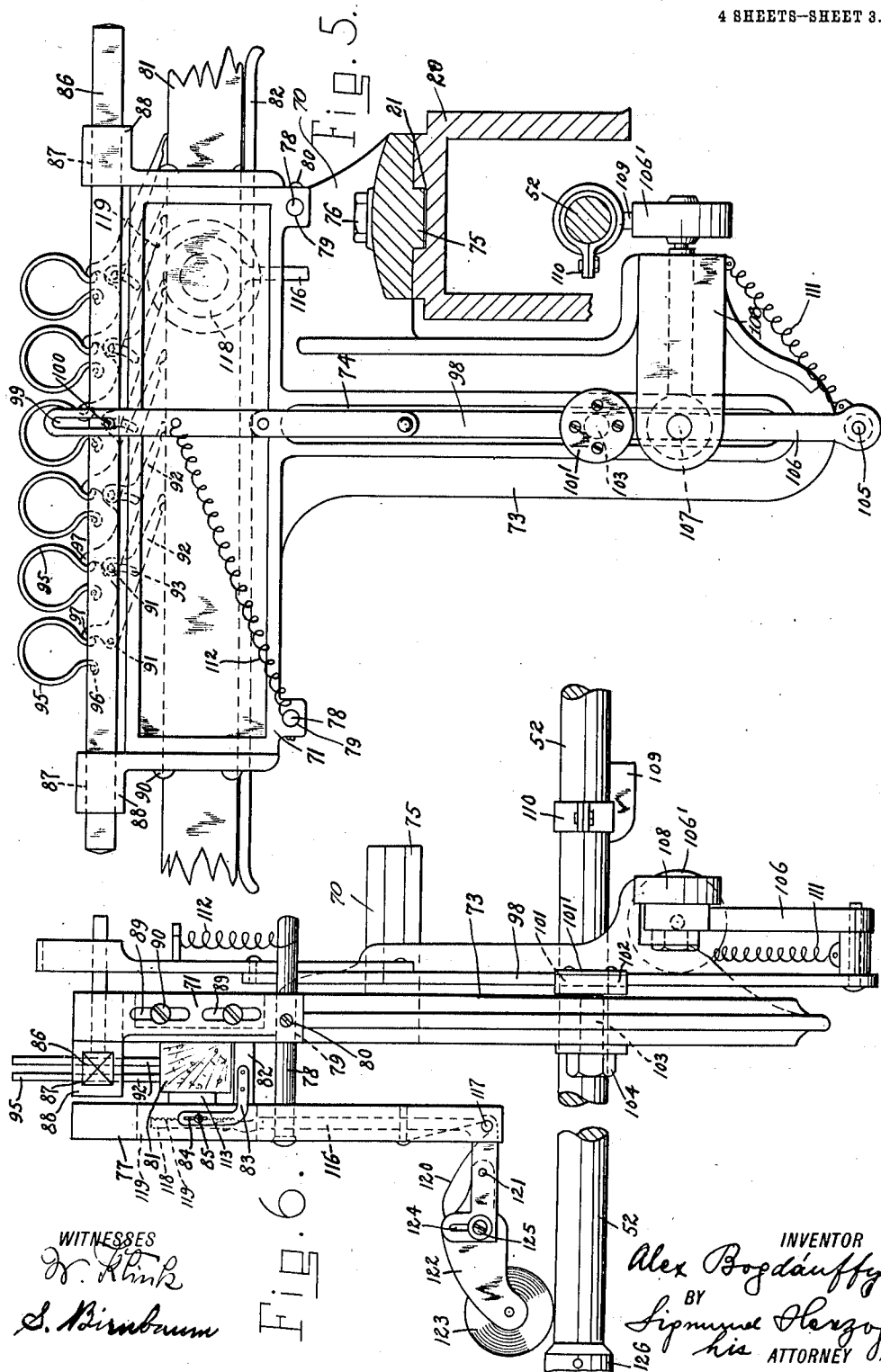


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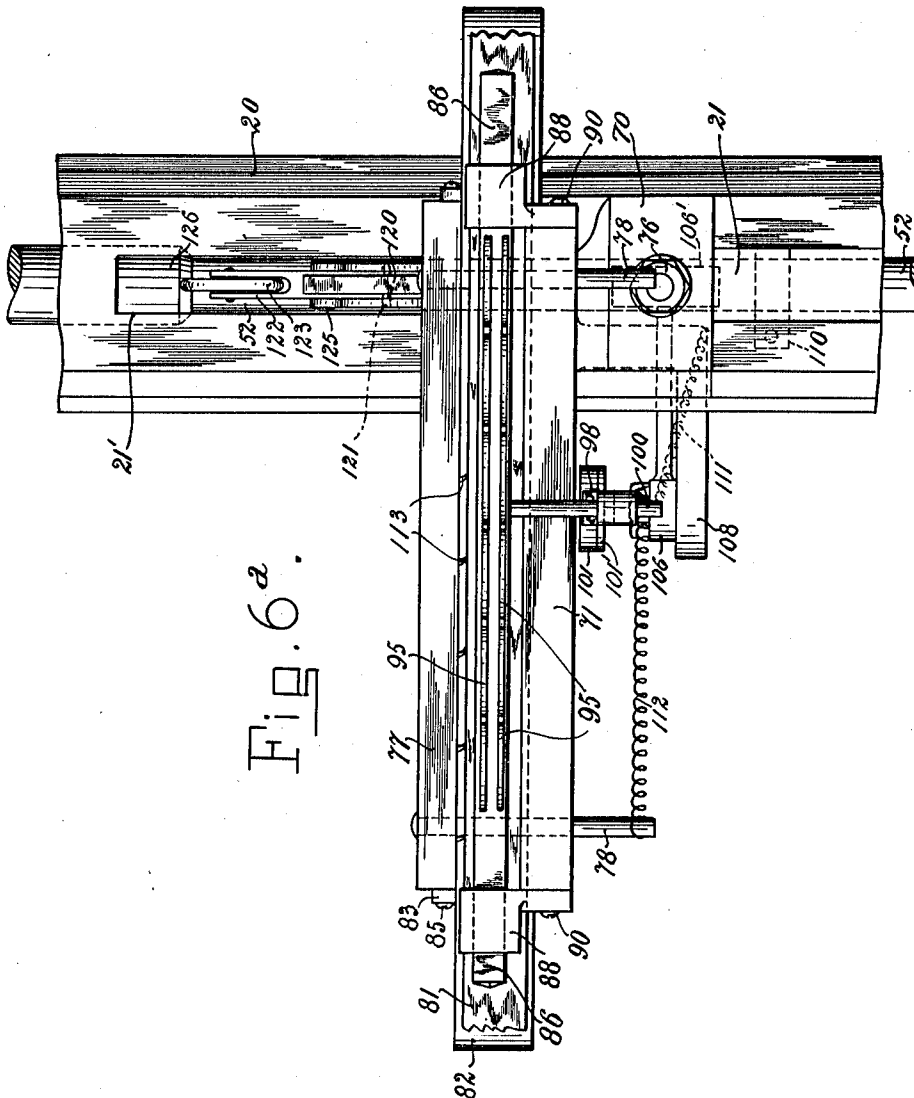


Fig. 6a.

WITNESSES

S. Birnbaum
W. Klich

INVENTOR
Alex Bogdányfy
BY
Sigmund Herzog
his ATTORNEY

UNITED STATES PATENT OFFICE.

ALEXANDER BOGDÁNFFY, OF NEW YORK, N. Y., ASSIGNOR TO INTERNATIONAL CORK COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

CORK-CUTTING MACHINE.

1,048,283.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed May 25, 1911. Serial No. 629,431.

To all whom it may concern:

Be it known that I, ALEXANDER BOGDÁNFFY, a subject of the King of Hungary, and resident of the city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Cork-Cutting Machines, of which the following is a specification.

The present invention relates to an improved apparatus for cutting or blocking out corks from cork strips.

One of the objects of the invention is to construct an improved apparatus for cutting corks, which is simple in construction and which can be operated without employing skilled labor.

Another object of the invention is to construct an improved feeding means for the cork strips to the cutter in combination with means which hold the strips in position during the cutting operation.

A further object of the invention is to make the feeding and holding devices adjustable to the size of the strips at hand, and to the size of the corks desired.

With these and other objects in view, which will appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter fully described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation, partly in section, of a cork cutting machine constructed in accordance with the present invention; Fig. 2 is a side elevation thereof; Fig. 3 is a vertical longitudinal section of the combined cutter and stripper mechanism of the machine; Fig. 4 is a section taken on line 4—4 of Fig. 3; Fig. 5 is a side elevation of the holding and feeding means of the machine; Fig. 6 is a front elevation of the device shown in Fig. 5; Fig. 6* is a plan view of the device shown in Fig. 5, and Fig. 7 is a plan view of a detail of construction.

In the drawings, the numeral 20 designates the supporting frame of the machine,

which is, preferably, U-shaped in cross section, as clearly shown in Figs. 2 and 5 of the drawings, and provided in its horizontal portion with a groove 21 and a slot 21' for a purpose hereinafter to be described. The supporting frame rests on legs or standards 22, 22, carrying bearings 22', in which the main driving shaft 23 of the machine is journaled. Rotation may be imparted to this shaft in any suitable manner, for instance by keying to the same a pulley 24, which is driven by means of a belt or otherwise. The frame 20 supports bearings 25 and 26 of any suitable construction, in which are rotatably and reciprocatably arranged the cutting and stripping means of the machine. This cutting and stripping means is shown in detail in Figs. 3 and 4, and comprises a tubular arbor 27, journaled in the bearings 25 and 26, and provided in its front end with a tapering portion 28, into which fits the conical end 29 of a tubular cork cutter 30. The arbor and the cork cutter are united by forcing the conical end 29 of the cutter into the tapering portion 28 of the arbor. The cutter 30 serves to cut the corks from the cork strips, and, for removing the finished product from the same, a stripper 31 is arranged within the cutter 30. The outer end of the stripper is provided with outwardly extending projections 32, which are arranged in longitudinal slots 33, 33 in the cutter 30. To these projections is attached a ring 32', which, in coöperation with stops 34 and 35 upon the extension 36 of the bearing 26, limits the alternating movement of the stripper 31. The cutter and stripper are caused thus to rotate together in the bearings 25 and 26, but move back and forth in the bearings independently of each other, and in a manner hereinafter to be specified. The cutter and stripper can be easily replaced by others if corks of another size are to be made.

The bearings 25 and 26 receive lubricating material from grease cups 37, while the contacting surfaces of the cutter and stripper are lubricated by providing holes 38 in the stripper 31, in which holes are arranged, for instance felt pieces 39, which are charged with lubricating material when the stripper travels outside of the cutter 30. For this purpose a felt piece, which has been soaked in oil, or other means, may be supported by

the frame of the machine in contact with the cutter.

Rotary motion is imparted to the cutter and stripper mechanism by means of a belt 40 running over a pulley 41, which is keyed or otherwise attached to the arbor 27, and over a pulley 42, mounted upon the driving shaft 23. It will be observed that since the pulley 41 travels with the arbor 27, the height of the cylindrical surface of the pulley 42 must be at least as much as the width of the belt 40 plus the amount of the reciprocatory movement in one direction of the arbor 27.

A back and forward movement is imparted to the cutting and stripping mechanism from a rotary shaft 43, which is journaled in extensions 44, 44 of the supporting frame of the machine. Upon this shaft is mounted a loose pulley 45 and a keyed pulley 46, for a well known purpose. An eccentric 47 is keyed to the shaft 43. The strap 48 of this eccentric is rigidly attached to a bar 49, which in turn is pivoted at 50 to an arm 51, the latter being secured to a rod 52. This rod is slidably mounted in the end walls 53 and 54 of the U-shaped supporting frame of the machine. To the outer end of the rod 52 is attached an arm 55, the other end of which engages the arbor 27 in such a manner that said arbor is free to turn in said arm, but is caused to move back and forth with the same.

The cork strips are held in operative relation to the cutter and stripper upon a support 70, which comprises a horizontally extending transverse vertical plate member 71, from which projects downwardly near its middle portion a bracket 73, having a slot 74 extending throughout its length, and being shiftably arranged upon the supporting frame 20 of the machine. The support 70 is provided with a ridge 75, seated in the groove 21 hereinbefore described. A set screw 76 holds the said bracket 73 and thus the plate member 71 in the desired position upon the supporting frame. To a second horizontally extending transverse vertical plate member 77 are secured pins 78, which project through holes 79 in the plate member 71, and are held in engagement therewith by means of set screws 80. The plate members 71 and 77 are thus held in parallel relation to each other, and may be set to a distance which corresponds substantially to the thickness of the cork strip 81 to be worked upon. This cork strip rests upon a base plate 82, which is attached to a lug 83, having a slot 84, engaged by a screw 85, the threads of which mesh with the interior threads of a hole in the plate member 77. By means of this arrangement the base plate 82 can be raised or lowered as the cork strips vary in their heights.

The cork strips are fed to the cutter by

the following device: A bar 86 is slidably arranged in holes 87, 87 in blocks 88, which are adjustably attached to the front and rear faces of the plate member 71. More particularly the blocks are provided with slots 89, 89, which are engaged by screws 90, 90 to clamp the blocks against the faces of the plate member 71. Obviously by means of this arrangement the bar 86 and the elements attached thereto may be raised or lowered relative to the supporting frame 70. To the bar 86 are pivoted at 91, 91 a plurality of feeding fingers 92, 92, having arc-shaped slots 93, each of which is in engagement with the pivot 91 of the adjoining feeding finger 92 upon said bar. Springs 95, 95, engaging lugs 96 upon said bar and the hook-shaped ends 97 of the feeding fingers 92, tend to force said fingers against the upper face of the cork strips 81. The slots 93 serve to allow the pointed ends of the fingers to be raised or lowered to different horizontal planes, so that the same will always engage the upper surface of the cork strips, no matter how uneven the latter be. When the feeding bar 86 is moved toward the plane of the pulley 45, the feeding fingers 92, which are, by means of their springs 95, held in engagement with the cork strips like a pawl with the teeth of a ratchet wheel, will move the said cork strips toward the cutter and stripper. The means for doing this comprises a lever 98, which is provided in its upper end with a slot 99, engaged by a pin 100, which latter is attached to the bar 86. The lever is arranged in the recess 101 of a disk 102, which is rotatably held upon a spindle 103, engaging the slot 74 in the bracket 73, and kept in position thereon by means of a nut 104, meshing with the screw threads of said spindle. The lever 98 is kept in the recess 101 by a disk 101', attached in any suitable manner to the disk 102. In shifting the spindle 103 in the slot 74, the fulcrum of the lever 98 may be varied and thereby the stroke of the feeding bar 86. To the lower end of the lever 98 is pivoted at 105 a bellcrank lever 106, which is fulcrumed at 107 to an extension 108 of the bracket 73. The free end of the bellcrank lever 106 carries thereon a roller 106', which is arranged in the path of a nose 109, the latter being attached by means of a clamp 110 to the rod 52. Springs 111 and 112 are attached at one of their ends to the lever 98 and at their other ends to the extension 108 and one of the spindles 78, respectively, and tend to bring the lever 98 into its normal position, shown in Fig. 5 of the drawings. It will be observed from the foregoing that when the nose 109 acts upon the roller 106' and depresses thus the substantially horizontal arm of the bellcrank lever 106, the upper end of the lever 98 will be moved toward the rear of the machine,

whereby the feeding fingers will move the cork strip a predetermined distance toward the plane of the pulley 45, which distance depends upon the stroke of the lever 98.

5 As soon as, in the back and forth movement of the rod 52, the nose 109 is disengaged from the roller 106', the springs 111 and 112 force the lever 98 into its normal position, and thus the bar 86 backward. In
10 order to prevent the backward movement of the strip 81, spring prongs 113 (Fig. 7) are attached to a bar 114, which is fastened to the plate member 77. These spring prongs project through a slot 115 in the plate member 77, and their free ends extend toward the rear of the machine.

The means for holding the cork strip in position during the cutting operation of the rotary cutter comprises a presser foot 116 in the form of a bellcrank lever, which is fulcrumed at 117 to the plate member 77, and provided at its substantially vertical arm with a ring-shaped clamping jaw 118, the inner face of which is provided with a plurality of teeth 118'. This ring-shaped jaw is arranged concentrically with the arbor 27 in an opening 119 in the plate member 77, and is normally held out of contact with the cork strip by means of a spring 120. To the
30 horizontal arm of the bellcrank lever 116 is pivoted at 121 a lug 122, which carries at its free end a roller 123, projecting through the slot 21' toward the rod 52. The horizontal arm of the bellcrank lever 116 is slotted at
35 124. The slot is engaged by a screw 125, passing through the lug 122, to clamp said lug and bellcrank lever together, or to allow the lug 122 to rise without affecting the position of the bellcrank lever 116, when the screw 125 is loosened. Motion is imparted to the bellcrank lever 116 by a sleeve 126, which is fixedly attached to the rod 52. As this sleeve moves toward the roller 123, it will lift the same and, when the lug 122 is
45 rigidly connected by means of the screw 125 with the bellcrank lever 116, it will press the jaw 118 against the cork strip 81, and hold the same against motion as long as the roller 123 is kept in engagement with the sleeve 126. When disengaged therefrom, the spring 120 will force the jaw 118 into its inoperative position, (shown in Fig. 6 of the drawings). If it is desired to operate the machine without holding the cork strip
50 against movement, the screw 125 is loosened, whereby the lug 122 will be allowed to rise without forcing the jaw 118 against the cork strip 81.

The operation of the machine is as follows: The cork strip is placed upon the support 70. When now the rod 52 moves toward the support 70, it will be observed that the sleeve 126 will lift the roller 123 before the rotary cutter starts its operation, or in
65 other words the jaw 118 will hold the cork

strip against movement by the time the rotary cutter reaches the cork strip 81. In the further rotation of the eccentric 47 the rotary cutter 30 will perform its cutting operation as the arbor 27 is advanced. This arbor, in its rotation and forward movement, will carry with it by friction the stripper 31 until it is stopped in its advance movement by the stop 34 upon the extension 36 of the bearing 26. The cutting operation being
70 performed, the cork will remain within the rotary cutter 30, which will then start its outward movement carrying with it the stripper 31 until the latter abuts against the stop 35 of the extension 36. As now the rotary cutter 30 continues its outward movement, the cork is pushed by the stripper 31 into the chute 128, to slide down into a receptacle below the same. The sleeve 126 is
75 arranged at such a place upon the rod 52 that it will hold the jaw 118 in engagement with the cork strip until after the cutter 30 has been withdrawn from said strip. As soon as the cutter 30 has been withdrawn, the nose 109 upon the rod 52 is brought into engagement with the roller 106' to feed the cork strip in position, in the manner hereinbefore described, for the next cutting operation. The cycle of operation now described is then repeated.

What I claim is:

1. In a cork cutting machine, the combination with a supporting frame, of a rotary cutter arranged thereon, a rod slidably mounted upon said supporting frame, an eccentric adapted to reciprocate said rod, a rigid connection between said rod and said cutter, whereby the latter is reciprocated, a support for the cork strip to be worked upon, a bar reciprocally mounted upon said support, feeding fingers pivoted to said bar, a presser foot adapted to hold the cork strip against movement during the cutting operation, and means operated by said rod for actuating said bar and said presser foot.

2. In a feeding device for cork cutting machines, the combination with a support for the cork strip to be worked upon, of a bar reciprocally mounted upon said support, feeding fingers pivoted to said bar, said feeding fingers being provided with arc-shaped slots, the slot in each finger being in engagement with the pivot of the adjoining finger upon said bar, whereby the pointed ends of said fingers are adapted to be raised or lowered to different horizontal planes, and means for actuating said bar.

3. In a feeding device for cork cutting machines, the combination with a support for the cork strip to be worked upon, of a bar reciprocally mounted upon said support, spring pressed feeding fingers pivoted to said bar, means permitting said fingers to be raised to different horizontal planes so that they will always engage the upper surface

of the work piece no matter how uneven the latter be, and means for actuating said bar.

4. In a combined feeding and clamping mechanism for cork cutting machines, the
5 combination with a support for the cork strip to be worked upon, of a bar reciprocally mounted upon said support, feeding fingers pivoted to said bar, a presser foot adapted to hold the cork strip against move-
10 ment during the cutting operation of the

machine, a slidable rod and means upon said rod for actuating said bar and said presser foot.

Signed at New York, in the county of New York and State of New York, this 9th 15 day of May A. D. 1911.

ALEX. BOGDANFFY.

Witnesses:

SIGMUND HERZOG,
W. KLINK.