July 31, 1928. 1,678,667

E. M. BRACKETT ET AL

CUT-OFF MECHANISM FOR STRIPPING MACHINES

Filed May 20, 1926 2 Sheets-Sheet 1

Fig. 1.

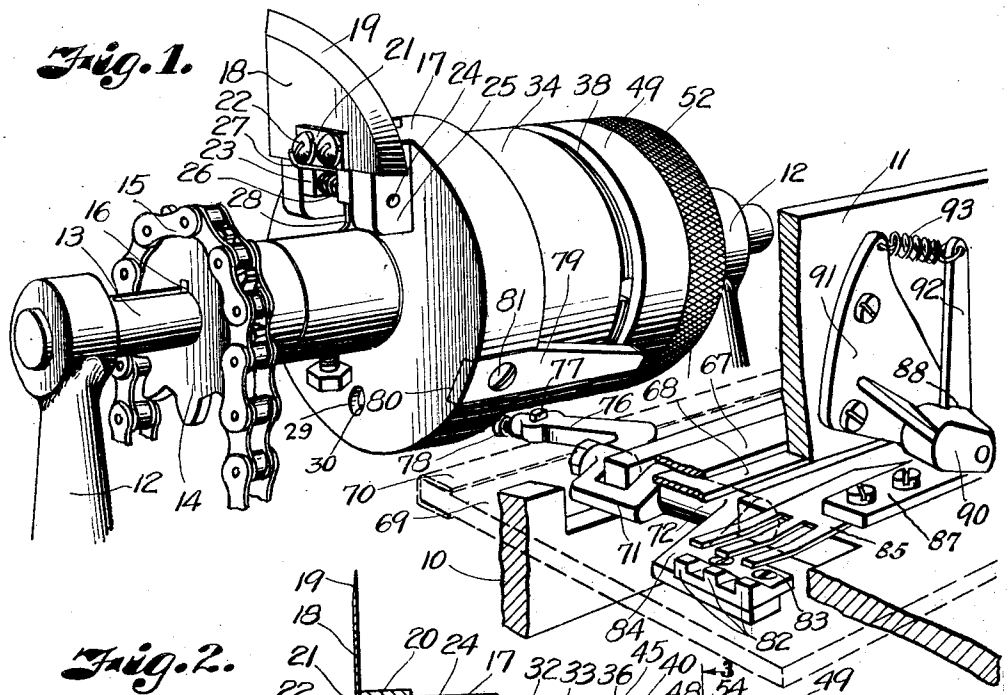



Fig. 2.

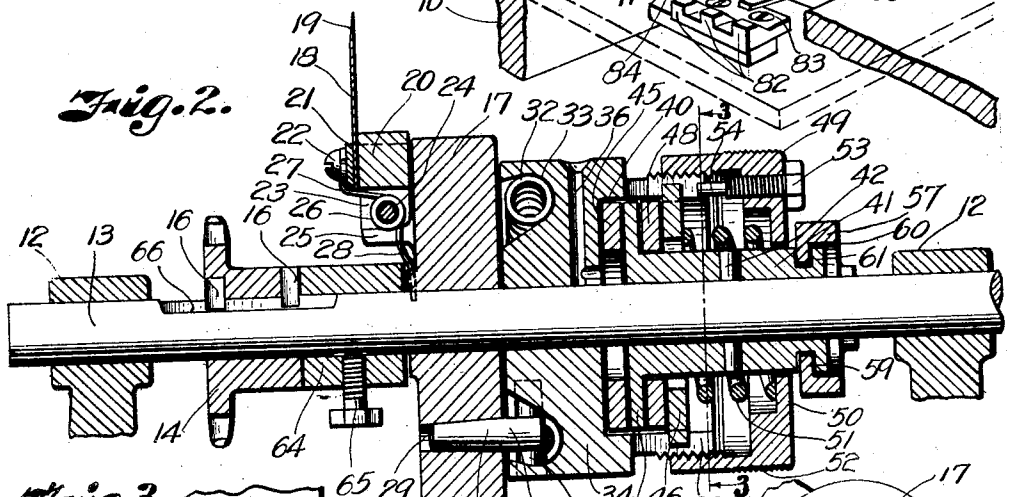



Fig. 3.

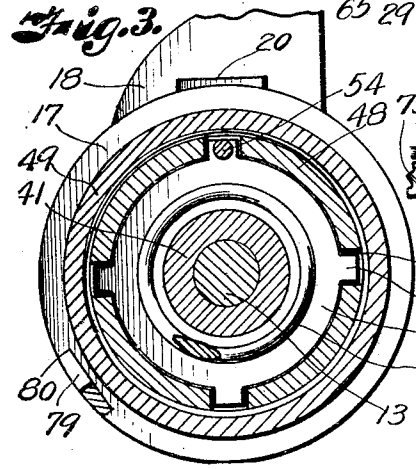
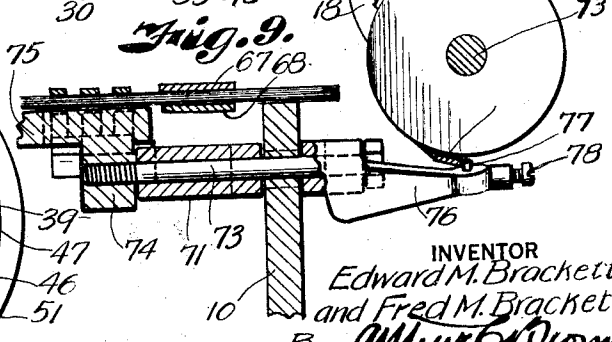



Fig. 9.




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Fig. 4.

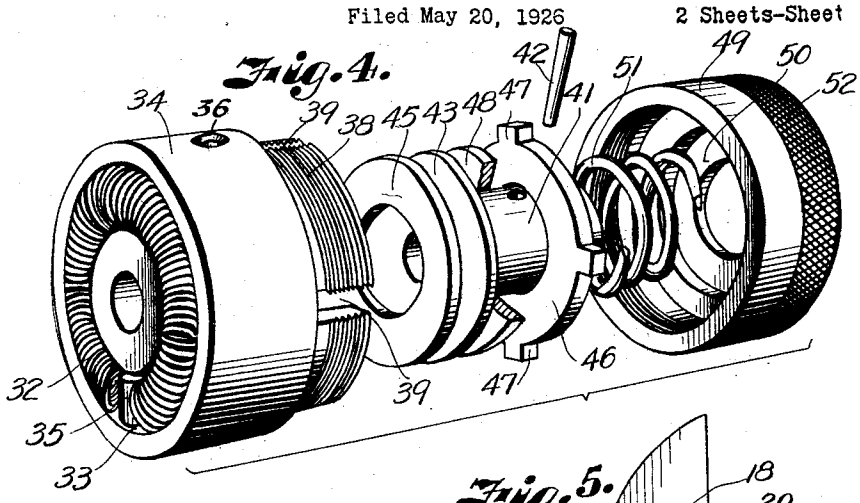



Fig. 5.

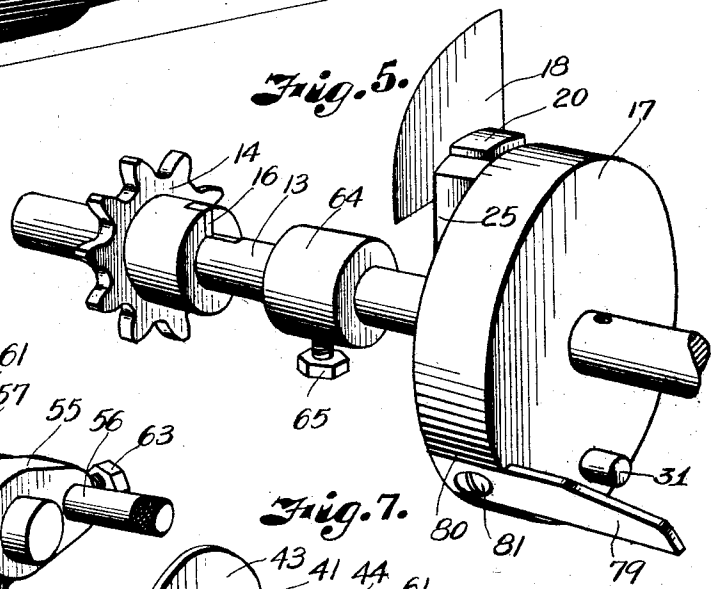



Fig. 6.

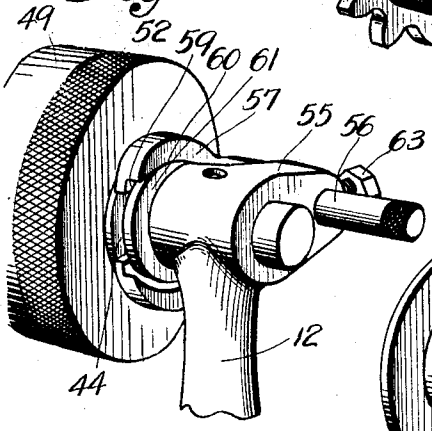



Fig. 7.

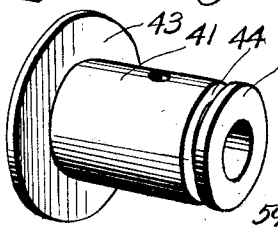



Fig. 8.

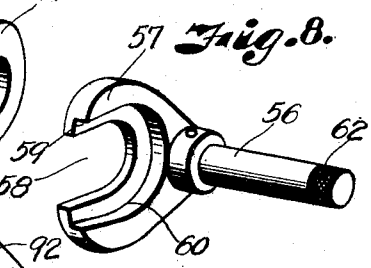



Fig. 10.

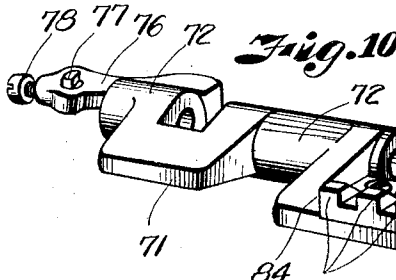
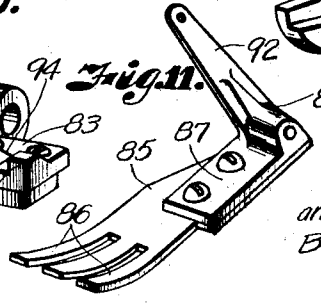



Fig. 11.




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Patented July 31, 1928. 1,678,667

# UNITED STATES PATENT OFFICE.

EDWARD M. BRACKETT AND FRED M. BRACKETT, OF TOPEKA, KANSAS.

## CUT-OFF MECHANISM FOR STRIPPING MACHINES.

Application filed May 20, 1926. Serial No. 110,578.

Our invention relates to a cut-off mechanism for stripping machines and more particularly to new and improved operating means therefor.

It is a purpose of our invention to provide new and improved driving means for a cut-off mechanism for stripping machines, whereby the proper cutting action is obtained and to provide new and improved stop mechanism for holding the cutting blade from moving into cutting position until the article that is being stripped is in proper position for the strip engaging the same to be severed.

More particularly our invention comprises new and improved driving mechanism that is simple in construction and compact, and that can be readily adjusted to place the cutting edge of the cutting mechanism in proper position to cut the strip at the proper point and to provide gravity operated stop mechanism for the cutting means to hold the same out of cutting position until the article is in proper position for severing the strip secured thereto.

Other objects and advantages of the invention will be apparent as the description of the accompanying drawings proceeds. However, we desire to have it distinctly understood that we do not intend to limit ourselves to the exact details shown or described, but that we intend to include as part of our invention all such obvious changes and modifications of parts as would occur to a person skilled in this art and as would fall within the scope of the claims.

In the drawings:

Fig. 1 is a fragmentary perspective view of a stripping machine showing our improved cutting-off mechanism.

Fig. 2 is a longitudinal section thereof.

Fig. 3 is a section taken on the line 3—3 of Fig. 2.

Fig. 4 is a perspective view of the cutter actuating mechanism, showing the parts thereof separated.

Fig. 5 is a fragmentary prespective view of the rotary cutter carrying member and associated parts, separated.

Fig. 6 is a fragmentary perspective view of the adjusting means for the cutter member in assembled relation.

Fig. 7 is a similar view of the sleeve with which the adjusting means engages.

Fig. 8 is a perspective view of the adjusting means.

Fig. 9 is a fragmentary sectional view of the stop mechanism.

Fig. 10 is a perspective view of the gravity operated stop member, and

Fig. 11 is a perspective view of the presser member.

Referring in detail to the drawings:

Our improved cut-off mechanism is mounted upon a stripping machine having the longitudinally extending frame members 10 and 11 and the bearing members 12 mounted in any suitable manner upon the framework of the machine. Journalled in the bearing members 12 is a shaft 13 which is provided with a driving sprocket 14 over which the drive sprocket chain 15 operates. The drive sprocket 14 is keyed to the shaft by means of the key members 16 and said shaft has further mounted thereon a rotatable cutter carrying member 17 which is not directly keyed to the shaft but is rotatable relative thereto. Mounted upon the rotatable member 17 is the knife 18 which is provided with a bevelled cutting edge 19. The blade 18 is secured to a block 20 by means of the plate 21 and the securing members 22, the block 20 being provided with hinge ears 23 through which the pivot pin 24 passes, said pivot pin also passing through the ears 25 provided on the member 17. The blade 18 is normally held in position extending at right angles to the axis of the shaft by means of the spring 26, one end 27 of which engages with the plate 21 and the other end 28 of which engages with the member 17.

The rotatable member 17 is provided with a transverse opening 29 therein into which the pin 30 is driven with the end 31 thereof projecting outwardly therefrom. The end 31 of the pin 30 engages with one end of a coil spring 32 which is mounted in a groove 33 in a second rotatable member 34 which is also free to rotate on the shaft 13. The opposite end of the spring 32 engages with an inwardly extending pin or projection 35 on the member 34 so that relative rotation of the member 34 to the member 17 will

compress the spring 32. The member 34 may be provided with a suitable oil passage 36 if desired. The member 34 is further provided with a reduced threaded portion 38 which is slotted at a plurality of points as indicated at 39. The reduced threaded portion 38 is in the form of an annular flange, thus providing a recess within the member 34 which recess extends furthermore into the main portion of the member 34 as indicated at 40.

Pinned or otherwise fixed on the shaft 13 to rotate therewith is a sleeve member 41, the same being shown as being secured to the shaft by means of the pin 42. The sleeve member 41 is provided with a flange 43 at one end thereof and a groove 44 near the other end thereof. The flange 43 is of such a size as to fit within the bore provided within the threaded portion 38 of the member 34 and the recess 40 and a ring-like member 45 of friction producing material such as leather or similar fibrous material, is mounted within the recess 40 between the flange 43 and the member 34. A disk-like member or flat ring 46 is mounted on the sleeve 41 so as to embrace the same and is free to slide thereon, said member having outwardly extending lugs 47 that are adapted to slide in the slots 39 to guide said member 46. Mounted between the flat ring 46 and the flange 43 is a friction producing ring 48 which is made of the same material and substantially in the same manner as the member 45.

Screw threadedly engaging with the threaded portion 38 of the member 34 is a hollow cap-like member 49 which is provided with an inwardly extending flange 50 that has an opening therein of sufficient size to pass over the sleeve 41 and mounted within the member 49 and engaging against the flange 50 and against the flat ring-like member 46 is a coiled compression spring 51. It will be seen that by rotating the member 49 the tension of the spring 51 can be varied, thus varying the pressure exerted by the members 34 and 46 upon the friction members 45 and 48 which are compressed between the flange 43, the member 34 and the disk-like member 46. The member 49 is provided with a knurled portion 52 to facilitate turning thereof and a member 53 having screw-threaded engagement with the member 49 is provided for holding the parts in adjusted position, said member having a reduced end portion 54 which is adapted to enter one of the slots 39 to hold the cap member 49 from turning relative to the member 34.

One of the bearing members 12 is provided with an extension or enlargement 55 having a transverse opening therein through which a pin 56 provided on the adjusting member 57 extends, the adjusting member 57 being a yoke-like member having a substantially U-shaped opening 58 therein and having a reduced flange portion 59 following substantially the contour of the opening 58 and providing a recess 60 of substantially the same shape as the opening 58 but slightly larger than said opening. The flange 59 seats in the groove 44 in sleeve 41 and the shoulder formed due to the enlarged recess 60 engages with the flange 61 formed on the end of the sleeve 41 due to the provision of the groove 44. The pin 56 is provided with a knurled end portion 62 to facilitate movement thereof and the enlargement 55 on the bearing 12 is provided with a set screw 63 for clamping the member 56 in adjusted position in the member 55. The adjusting means is provided in order to properly align the blade 18 with the work so that the cutting-off action takes place at exactly the proper point. To adjust the member 17 and thus the blade 18 relative to the work, the shaft 13 is moved lengthwise in its bearings by movement of the member 56 which, due to engagement of the flange 59 in the groove 44, moves the sleeve 41 and thus the shaft 13 along with the same. After the blade 18 has been placed in its proper position the set screw 63 is tightened to hold the same in adjusted position and a collar 64 on the shaft 13 is moved along the shaft to engagement with the carrier 17 and locked to the shaft by a set screw 65. The collar 64 having been moved along the shaft into engagement with the member 17 and the set screw 65 having been brought into engagement with the shaft 13 to hold the collar in position, the cutting blade 18 will be placed and held in its proper position relative to the work by the adjustment described above. While a separation of the sprocket wheel 14 from the collar 64 may occur due to such adjustment, this is immaterial, the sprocket wheel adjusting itself to its proper position along the shaft due to the fact that the member 16 is slidingly engaged in the key way 66.

The articles to be operated on are moved along by the conveyor belts 67 and 68, one of which is below the article and one above the article, the article being indicated by the numeral 69 and being shown as being a book-like member to which the binding strip 70 has been applied around one edge thereof. In order to sever the strip 70 at the proper point it is desired to obtain a quick cutting action of the blade 18 which is substantially instantaneous. In order to obtain such an action the stop member 71 is provided which has the bearing portions 72 provided thereon through which the shaft 73 extends, said shaft 73 being mounted in the frame member 10 and the depending ear 74 provided on the table 75. The stop member 71 is provided with an exten-

sion 76 which underlies the member 17 and in which is mounted an upwardly projecting stop lug 77 which is preferably made of hardened material and which is held in place by means of the set screw 78. A stop finger 79 is mounted in a groove 80 in the member 17 and held in place by means of the fastening member 81, said stop finger 79 engaging with the stop lug 77 as shown in Fig. 9 when the book 69 is in the position shown in Fig. 1. When the book 69 is in such position the same is in engagement with the upwardly projecting ribs or fingers 82 on the plate 83 which is secured to the crank extension 84 on the stop member 71. Furthermore, when the book 69 is in the position shown in Fig. 1, the resilient presser member 85 is in engagement therewith, said presser member being provided with the tines or fingers 86 which overlie the ribs 82. The presser member 85 is mounted on the flat arm 87 of the lever 88. The lever 88 is pivotally mounted upon the ear 90 provided on the bracket 91, the ear 90 being offset from the base portion of the member 91, which is secured to the frame member 11. The lever 88 furthermore has an arm 92, and a tension spring 93 has one end thereof hooked through an eye in the arm 92 and the other end thereof hooked through an eye in the base of the bracket 91, the spring 93 normally exerting a tension on the arm of the lever 92 so as to hold the presser member 85 in engagement with the book or other article 69 passing under the same and holding the same firmly in engagement with the ribs 82 on the plate 83. When the book or other article is in engagement with the member 83 the crank arm 84 on the member 71 is pushed downwardly, thus moving the extension 76 of the stop member 71 upwardly with the stop lug 77 in position to be engaged by the stop finger 79. However, after the book or other article is carried beyond the ribs 82, the excess weight of the extension 76 overbalances the member 71 so that the crank arm 84 moves upwardly and the extension 76 downwardly, thus moving the stop lug 77 out of engagement with the stop finger 79, whereupon the spring 32 which has been previously compressed, causes the blade 18 to quickly cut through the binding material 70. The ribs 82 are preferably provided with bevelled faces 94 to cause the articles such as books 69 to more readily ride up on the same.

The quick cutting action of the blade 18 is obtained due to the fact that the spring 32 is under compression when the stop lug 77 moves out of engagement with the finger 79. The spring is placed under compression due to the fact that the member 17 is held from rotation while the member 34 is rotated due to the frictional engagement of the members 45 and 48 with the members 34 and 46. After the spring has been substantially completely compressed, the friction of the members 45 and 48 will be overcome and the rotation of the member 34 will cease, the sleeve 41 and the flange thereon continuing to rotate while the members 34 and 46 are stationary. Upon release of the finger 79 the member 17 is swung around quickly due to the compression of the spring 32, and rotation of the member 34 with the member 41 is resumed due to the frictional engagement of the members 45 and 48 with the adjoining parts. This continues until the spring 32 is again tensioned, this occuring when the member 79 will again be in engagement with the stop lug 77. Should the member 17 make more than one revolution before the stop finger 79 again engages with the lug 77, this will not injure the book or other article 69 in any way, as the spring hinge mounting of the blade 18 will allow the same to swing out of its cutting position into an angular position where it will merely slide over the book without doing any injury to the same.

What we claim and desire to secure by Letters Patent is:

1. In a machine of the character described, a rotatable member, a cutter mounted thereon, a shaft, a member yieldingly connected with said rotatable member and friction driving means between said last mentioned member and said shaft comprising a flanged sleeve on said shaft, friction means between the flange on said sleeve and said last mentioned member, and resilient means for yieldingly urging said sleeve and said last mentioned member into engagement with said friction means.

2. In a machine of the character described, a rotatable member, a cutter mounted thereon, a shaft, a member yieldingly connected with said rotatable member and friction driving means between said last mentoned member and said shaft comprising a flanged sleeve on said shaft, friction means between the flange on said sleeve and said last mentioned member, a disk embracing said sleeve and slidably keyed to said last mentioned member, friction means between said flange and said disk and means for urging said disk and said last mentioned member toward said flange into engagement with said friction means.

3. In a machine of the character described, a rotatable member, a cutter mounted thereon, a shaft, a member yieldingly connected with said rotatable member and friction driving means between said last mentioned member and said shaft comprising a flanged sleeve on said shaft, friction means between the flange on said sleeve and said last mentioned member, a disk embracing said sleeve and slidably keyed to said last mentioned member, friction means between said flange

and said disk and a spring embracing said sleeve and engaging means on said last mentioned member and said sleeve to urge said disk and said last mentioned member toward said flange into engagement with said friction means.

4. In a machine of the character described, a rotatable member, a cutter mounted thereon, a shaft, a member yieldingly connected with said rotatable member and friction driving means between said last mentioned member and said shaft comprising a flanged sleeve on said shaft, friction means between the flange on said sleeve and said last mentioned member, resilient means for yieldingly urging said sleeve and said last mentioned member into engagement with said friction means, and means for adjusting the tension of said resilient means.

5. In a machine of the character described, a rotatable member, a cutter mounted thereon, a shaft, a member yieldingly connected with said rotatable member and friction driving means between said last mentioned member and said shaft comprising a flanged sleeve on said shaft, an inwardly flanged collar mounted on said last mentioned member and embracing said sleeve, a disk embracing said sleeve and slidably keyed to said last mentioned member, friction means between the flange on said sleeve and said disk and said last mentioned member and resilient means mounted between the flange on said collar and said disk.

6. In a machine of the character described, a rotatable member, a cutter mounted thereon, a shaft, a member yieldingly connected with said rotatable member and friction driving means between said last mentioned member and said shaft comprising a flanged sleeve on said shaft, an inwardly flanged collar mounted on said last mentioned member and embracing said sleeve, a disk embracing said sleeve and slidably keyed to said last mentioned member, friction means between the flange on said sleeve and said disk and said last mentioned member and resilient means mounted between the flange on said collar and said disk, said flanged collar being adjustable on said last mentioned member to vary the tension of said resilient means.

7. In a machine of the character described, bearing members, a shaft mounted thereon, a cutter member rotatably mounted thereon and means for adjusting said cutter member relatively to the work comprising a member secured in fixed position on said shaft and connected with said cutter member and adjustable means on one of said bearings engaging said last mentioned member to move said shaft axially in its bearings.

8. In a machine of the character described, bearing members, a shaft mounted thereon, a cutter member rotatably mounted thereon and means for adjusting said cutter member relatively to the work comprising a member secured in fixed position on said shaft, means on said cutter member and said last mentioned member for holding said members from relative axial movement on said shaft, and adjustable means on one of said bearings engaging said last mentioned member to move said shaft axially in its bearings.

9. In a machine of the character described, bearing members, a shaft mounted thereon, a cutter member rotatably mounted thereon and means for adjusting said cutter member relatively to the work comprising a member secured in fixed position on said shaft, means on said cutter member and said last mentioned member for holding said members from relative axial movement on said shaft, said last mentioned member having a groove therein, an adjusting member engaging in said groove and adjustably mounted relative to one of said bearings, and means for clamping said adjusting member in adjusted position.

10. In a machine of the character described, a driving shaft, a carrier freely rotatable on the shaft, a driver having slip connection with the shaft, yielding connection between the carrier and the driver, a stop on the carrier, a rocking stop member adapted for engagement by the stop on the carrier and movable by gravity to non-functional position, and a cutter mounted on the carrier.

11. In a machine of the character described, a driving shaft, a carrier freely rotatable on the shaft, a driver having slip connection with the shaft, yielding connection between the carrier and the driver, a stop on the carrier, a rocking stop member adapted for engagement by the stop on the carrier and movable by gravity to non-functional position, and a cutter hingedly mounted on the carrier and yieldingly urged to functional position.

12. In a machine of the character described, a driving shaft, a carrier axially mounted on the shaft, a driving member on and having slip connection with the shaft, yielding connection between the carrier and the driving member, a stop on the carrier, a stop member movable into position for engagement by the stop on the carrier, a cutter hingedly mounted on the carrier, and a spring urging the cutter to functional position.

13. In a machine of the character described, a rotatable shaft, a carrier loosely mounted on the shaft, an annular member loosely mounted on the shaft having a spring groove at one side and a slotted extension at its opposite side, a sleeve fixed to the shaft and having an annular flange, a ring

loose on the sleeve having lugs seated in the slots of said annular member, frictional means interposed between the ring and flange, a spring in said spring groove, means for anchoring one end of the spring, means on the carrier engaging the opposite end of the spring, a stop on said carrier, a gravity stop engageable with the stop on said carrier to resist travel of the carrier against tension of said spring, and a cutter mounted on the carrier and yieldingly retained in functional position.

In testimony whereof we affix our signatures.

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FRED M. BRACKETT.