Sept. 21, 1943. J. L. GIFFEN 2,330,119

STOCK FEEDING MECHANISM

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Fig. 1.

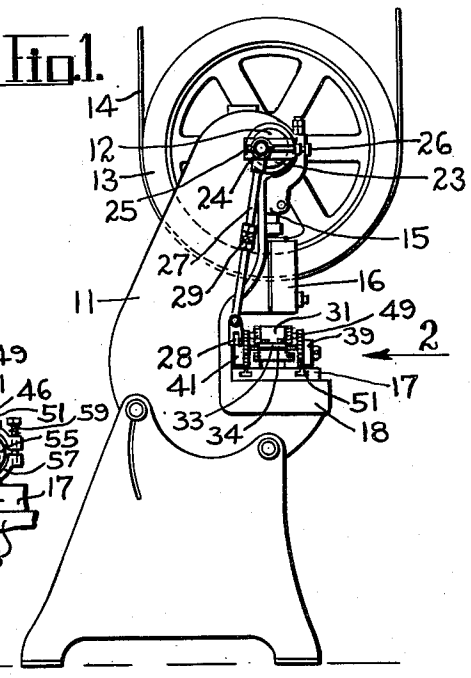


Fig. 2.

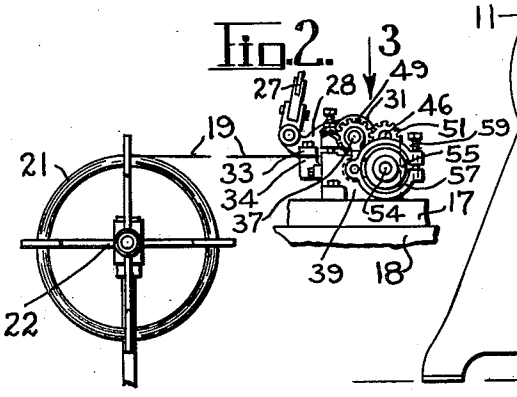
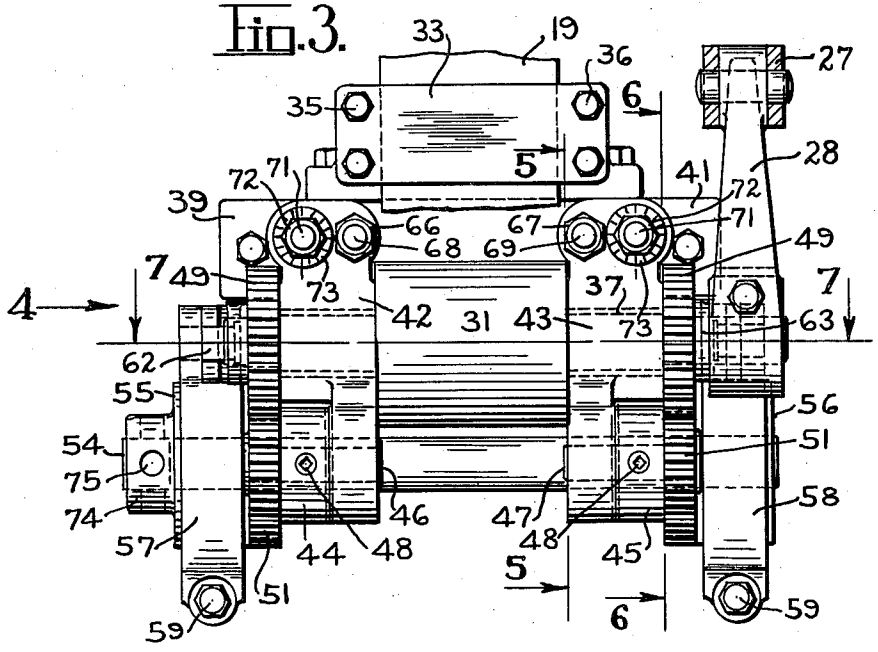


Fig. 3.



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STOCK FEEDING MECHANISM

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Fig. 4.

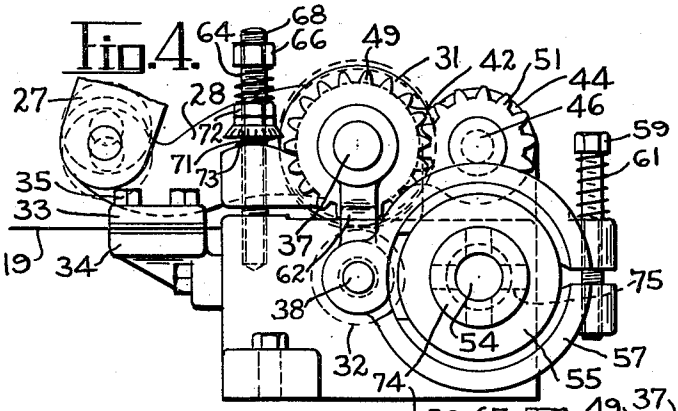


Fig. 5.

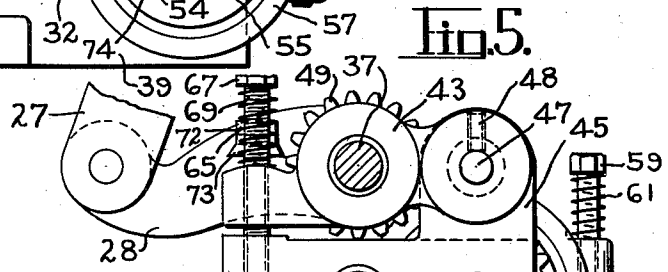


Fig. 6.

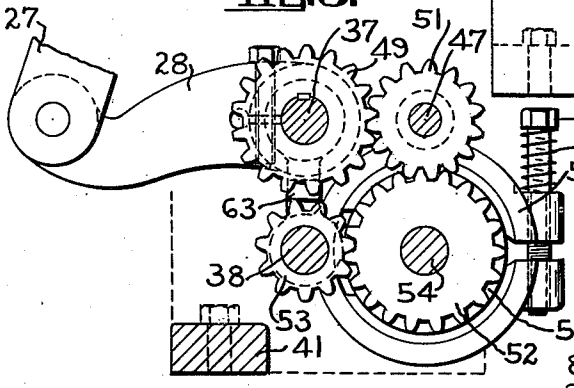


Fig. 8.

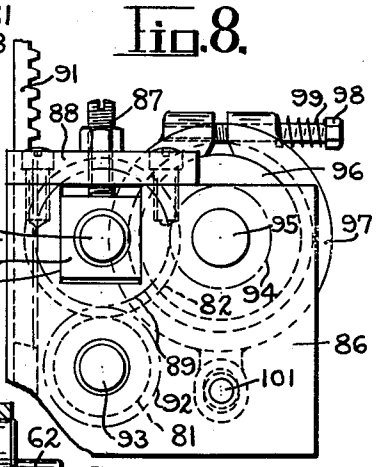
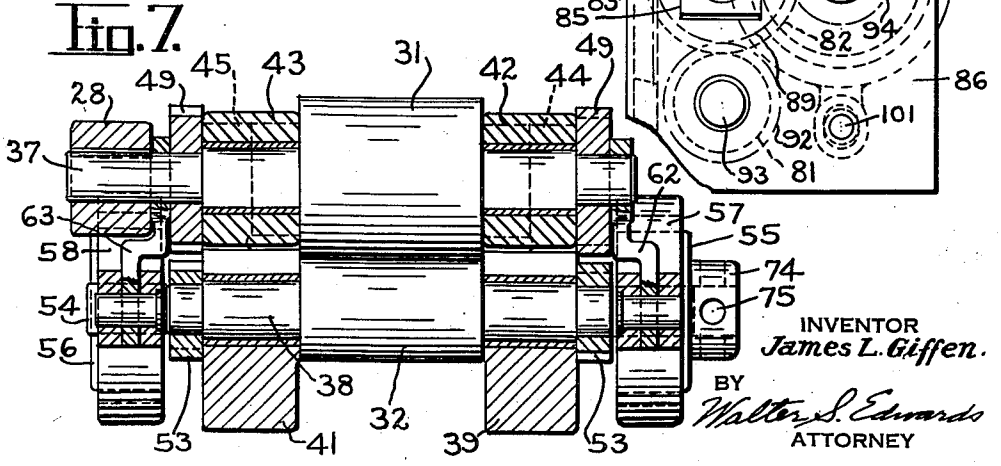


Fig. 7.



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STOCK FEEDING MECHANISM

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Fig. 9.

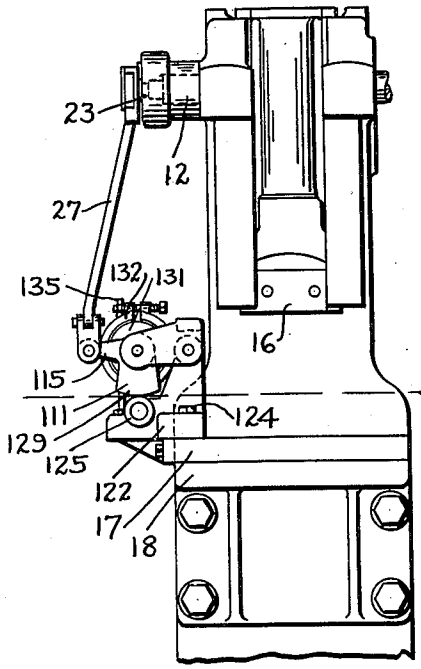


Fig. 10.

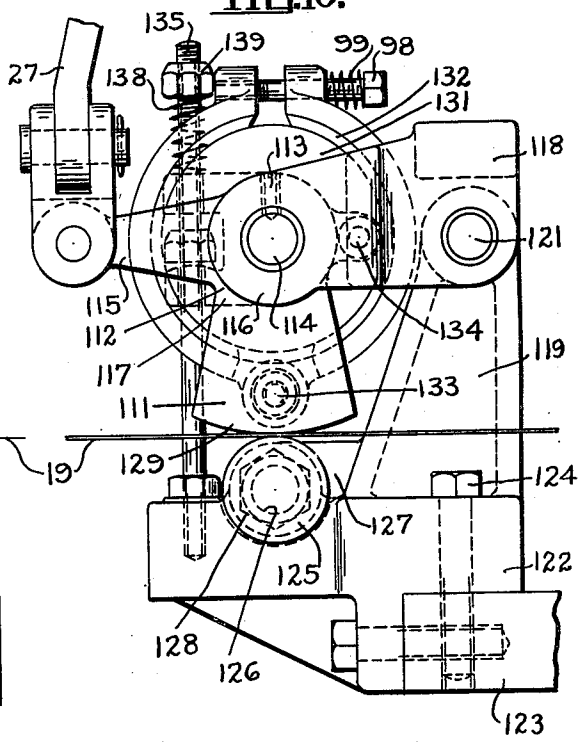


Fig. 11.

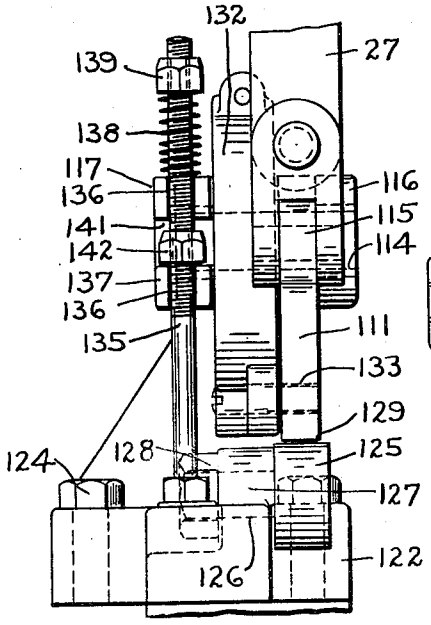
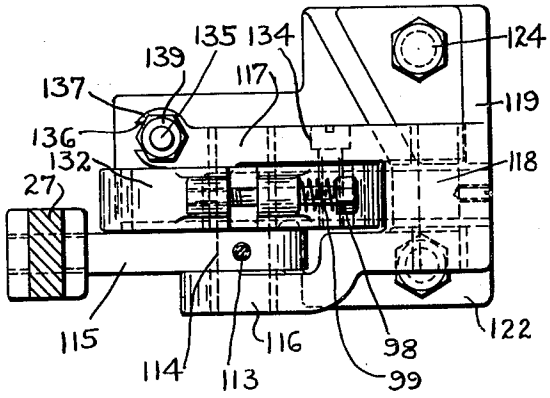


Fig. 12.



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Patented Sept. 21, 1943 2,330,119

UNITED STATES PATENT OFFICE

2,330,119

STOCK-FEEDING MECHANISM

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Application March 19, 1942, Serial No. 435,395

20 Claims. (Cl. 271—2.4)

This invention relates to stock feeding mechanism and more particularly to mechanism adapted to intermittently feed relatively thin sheet stock generally supplied in strip form and wound in coils.

Considerable difficulty has been experienced in properly, and efficiently, automatically feeding relatively thin strip stock into position between the tools of a punch press, and many forms of feeding mechanisms have been provided for this purpose, the most common being of the type known as roll feeds. In roll feeds cooperating rotating rollers are provided to grip the stock and, as they rotate, to feed it along step by step as conditions require. In such feeds the stock often slipped, or over-ran, and in an attempt to avoid these faults and to drive the rollers in timed relation with the press, various forms of rather complicated and expensive roll actuating mechanisms were provided. Although roll feeds have been found preferable, plain friction feeds have also been provided wherein the stock was intermittently gripped and pushed along the desired amount and then released to stop the feed thereof. In this form the stock was particularly liable to be damaged by scratching should the gripping members slip thereon, although the possibility of over-running was practically avoided.

One of the objects of this invention is to provide a stock feeding mechanism wherein the desirable features of roll feed and of the friction feed are combined whereby the stock will be firmly gripped without possibility of it slipping, moved along by swinging or rotary motion of the feeding members, and intermittently gripped and released to insure positive stopping and starting of the feed thereof.

Another object is to provide, in a mechanism of the above nature, superior means to adjust the pressure applied by the feeding members upon the stock, while the mechanism is in operation.

Still another object is to provide means, in a mechanism of the above type, whereby slight variations in the amount of feed of the stock may be made while the machine is in operation.

A further object is to provide, in a stock feeding mechanism, means actuated by swinging or the rotary movement of the feeding means to cause the latter to apply pressure upon the stock to insure proper and positive feeding thereof.

It is also an object of this invention to provide a stock feeding mechanism of improved construction, whereby the same will be relatively simple, durable and inexpensive in construction, as well as convenient, practical, serviceable and efficient in its use.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts, and in the details of construction hereinafter described and claimed, it being understood that various changes in the precise embodiments of the invention herein disclosed may be made within the scope of what is claimed, without departing from the spirit of the invention.

The essential features and principles of this invention are fully shown embodied in the mechanisms illustrated in the accompanying drawings, wherein:

Figure 1 is an end view of a punch press having a stock feeding mechanism embodying the features and principles of this invention in operable association therewith;

Figure 2 is an enlarged front view of the stock feeding mechanism shown in Figure 1 looking in the direction of arrow 2 in that figure and showing strip stock leading to said mechanism from a coil thereof;

Figure 3 is an enlarged top plan view of the stock feeding mechanism of this invention and looking in the direction of arrow 3 of Figure 2;

Figure 4 is a side view of the mechanism looking in the direction of arrow 4 in Figure 3;

Figure 5 is a sectional view taken along the line 5—5 of Figure 3;

Figure 6 is a sectional view taken along the line 6—6 of Figure 3;

Figure 7 is a sectional view taken along the line 7—7 of Figure 3;

Figure 8 is a side view of a somewhat modified form of stock feeding mechanism which embodies certain of the essential features and principles of this invention;

Figure 9 is a side view of another modified form of feeding mechanism shown in cooperating relation with a conventional form of punch press;

Figure 10 is an enlarged side view of the form of feeding mechanism shown in Figure 9;

Figure 11 is an end view of the same; and

Figure 12 is a top plan view of the same.

Referring now to the drawings wherein like reference numerals designate like parts throughout the several views, the numeral 11 (see Figure 1), denotes the frame of a punch press having the usual crank shaft 12 adapted to be rotated through a flywheel 13 and belt 14 by any suitable source of power (not shown). The crank shaft 12 by means of a pitman 15 is adapt-

ed to reciprocate a punch carrying slide 16 toward and away from a die (not shown) but usually secured to a die block 17 seated upon the machine bed 18. Strip stock 19 (see Figure 2) wound into a coil 21 which is loosely supported upon the arms of a reel 22 is shown as being provided to be fed by mechanism embodying the features and principles of this invention across the bed 18 and between the punch and die (not shown) to form it into the desired product.

The crank-shaft 12 is extended through the press frame 11 and has an adjustable driving crank 23 for the strip feeding mechanism secured thereto. The driving crank 23 includes a crank knuckle 24 adapted to be adjusted along a slide 25 by means of an adjusting screw 26, to vary the eccentricity between the axis of the knuckle 24 with the axis of the crank-shaft 12 and thus vary the throw of a connecting rod 27 pivotally secured at its upper end to the knuckle 24. The lower end of the rod 27 is connected to an arm 28 adapted to actuate the strip feeding mechanism, due to the above described connection with the crank shaft 12, in timed relation with the press action and particularly the action of the punch carrying slide 16. The rod 27 is adapted to be adjusted in length, for instance, by means of a turnbuckle 29.

The strip stock 19 is led into the mechanism of this invention in between cooperating rockable members 31 and 32, (see Figures 4 and 7), whose opposing surfaces are arcuate in cross-section and which are herein shown in the form of opposing and cooperating rollers, from the coil 21 through a friction device comprising upper and lower plates 33 and 34. The plates 33 and 34 are adapted to be drawn together to vary their pressure on the stock 19 by means of clamp screws 35 and 36. The rollers, or members, 31 and 32 are secured to, or formed integral with, shafts 37 and 38 respectively. The shaft 38 extends between and is journaled in opposing side frames 39 and 41, the arrangement being such that the shaft 38 and the roller 32 rotate about a fixed axis.

The shaft 37 extends between and is journaled in opposing arms 42 and 43 which are, respectively, pivotally mounted to uprights 44 and 45 by means of stud shafts 46 and 47, secured in the uprights 44 and 45, respectively, by set screws 48. The axes of the rollers 31 and 32 are substantially in vertical alignment whereby the roller 31 is adapted to swing toward and away from the roller 32 in substantially a straight line, when the arms 42 and 43 are rocked on the respective stud shafts 46 and 47, the axis of the roller 31 and of the stud shafts 46 and 47 being on a line substantially at right angles to the vertical line of the axes of the rollers 31 and 32. The aforesaid mechanism actuating arm 28 is secured to the shaft 37 whereby reciprocating movement imparted thereto from the crank shaft 12, through the crank knuckle 24, the slide 25 and the rod 27, will rock the roller 31 about the axis of the shafts 46 and 47. The rocking of the roller 31 in one direction, for instance in the proper direction to fed stock 19 is caused, when the arm 28 moves downwardly, and in the other direction when the arm 28 moves upwardly. Thus if one of the rollers 31 and 32 is moved relatively toward the other to grip the stock 19 therebetween said stock will be fed along when the arm 28 moves downwardly. It is required, when the arm 28 moves upwardly under the above conditions, that the rollers be separated to avoid a back feed of the stock.

In accordance with the features and principles of this invention, the means whereby one of the rollers 31 and 32, in this instance roller 31, is moved toward the roller 32 to grip the stock 19 therebetween, includes rockable members 49, 51, and 52 and these, with another rockable member 53, are also arranged to impart corresponding stock feeding rocking movement to the roller 32 in timed relation to the stock feeding movement of the roller 31, imparted thereto by the arm 28 and the aforesaid associated parts. In this instance the rockable members 49, 51, 52, and 53 are in the form of toothed gears, gears 49 being secured to the shaft 37 of the roller 31, gear 51 being freely rotatable on the stud shafts 47 and 48, a gear 52 being secured to each end of a shaft 54, and gears 53 being secured to the shaft 38 of the roller 32. The shaft 54 extends between and is journaled in the side frames 39 and 41.

Brake drums 55 and 56 are secured to the shaft 54, one at each of its ends, and suitable brake bands 57 and 58 are provided for these drums 55 and 56, respectively. The brake bands 57 and 58 are adjustable while the mechanism is operating, to vary the pressure thereof upon the drums 55 and 56, by means of an adjusting screw 59 and a compression spring 61 in the usual manner. In this instance the brake bands 57 and 58 are anchored to prevent them rotating, by being secured to the shaft 37 of the roller 31 by means of links 62 and 63 respectively. By this arrangement the combined action of the brake drums and bands resists the rocking movement of the shaft 54 and, through the gears 52, 51, and 49, resist the rocking movement of the roller 31 by the arm 28. This brake action on the part of the brake drums and bands causes the arms 42 and 43 to swing downwardly about their pivot point at the stud shafts 46 and 47, the rocking force imposed on the shaft 37 causing the gears 49 to fulcrum at their engaging point with the gears 51 and impose a force upon the arms 42 and 43 to swing them downwardly, when the arm 28 is moved downwardly by the crank-shaft 12. This action causes the roller 31 to first move toward the roller 32 and to grip the stock 19 therebetween, whereby it is then fed along due to the immediately following rocking movement imparted to the roller 31 by the arm 28 and, through the gears, to the roller 32. The stock 19 between the rollers 31 and 32, under these conditions, is gripped thereby by pressure imposed, to some extent by the force of the downward thrust of the arm 28, and, to a greater extent by the braking action of the brake drums and bands upon the roller 31, to cause the aforesaid fulcrum action between the meshed teeth of the gears 49 and 51 and the downward swinging of the arms 42 and 43.

Reversely, the upward movement of the arm 28 rocks the roller 31, but before such rocking movement takes place the roller 31 is raised from the roller 32 to release the grip upon the stock due to the combined action of the brake drums and bands and the aforesaid fulcrumming action between the gears 49 and 51. During this period of no feeding of the stock, the press is in operation to cause the punch, or other tool, carried by the slide 16 to operate upon the stock presented thereto by the subsequent feeding operation of the rollers 31 and 32.

In addition to the pressure applied to the stock 19 by the roller 31, as above described, the arrangement of anchoring the brake bands 57 and 58 to the shaft 37 of the roller 31 by the links 62 and 63 imposes an additional pressure thereon through the shaft 37 and the roller 31. Thus the

brake mechanism, comprising the drums 55 and 56 and the bands 57 and 58, causes two distinct pressures to be imposed on the stock 19 insuring a tight non-slip gripping of the same by the rollers 31 and 32, both pressures being in the same direction and added together. In instances where still more pressure is required means is provided, as shown herein, to do so, and this means includes compression springs 64 and 65, which react respectively, between nuts 66 and 67 screw-threaded on studs 68 and 69 respectively which are respectively screwed into the side frames 39 and 41, and the outer ends of the arms 42 and 43 respectively. Adjustment of the nuts 66 and 67 on the respective studs 68 and 69 may be made while the mechanism is in operation to vary the effective pressure between the rollers 31 and 32 caused by the springs 64 and 65. It will be understood that the brake action on the arms 42 and 43, causing them to raise, to release the stock 19 from gripping action of the rollers 31 and 32, is sufficiently strong to overcome the compression of the springs 64 and 65 to permit the arms 42 and 43 to be raised.

While under ordinary conditions the amount the stock is fed at each downward stroke of the arm 28 may be varied by adjustment of the crank-knuckle 24 on the slide 25 to change the eccentricity thereof in respect to the crank-shaft 12, it is often desirable to make relatively fine adjustments while the machine is in operation, adjustment of the crank-knuckle 24 being impractical and dangerous when the machine is in operation. Means is herein provided for the above purpose and comprises threaded studs 71 screw-threaded into the side frames 39 and 41 and extending upwardly through the arms 42 and 43 at their free ends. A flanged nut 72 is screw-threaded onto each of these studs 71 with its flanged portion 73 adapted to engage with the respective arm 42 and 43 when they are moved upwardly. Adjustment of the nuts 72 varies the amount the arms 42 and 43 may raise at the release operation as above described, whereby, upon the downward stroke of the arm 28, a slight delayed action will take place before the rollers 31 and 32 are rocked, thus varying the amount the stock 19 is fed. For instance, screwing down on the nuts 72 will slightly lengthen the length of stock fed while screwing up thereon will slightly shorten the length of the stock fed.

Provision is also made and shown herein whereby the rollers 31 and 32 may be manually separated, for instance to initially thread stock 19 therebetween, and the means for so doing includes a cylindrical member 74, secured to the shaft 54. As herein shown the member 74 is an extension of the brake drum 55 and is provided with peripherally spaced apart holes 75 in which a tool may be inserted to rock the shaft 54 to swing the roller 31 upwardly away from the roller 32.

There is illustrated in Figure 8 a form of stock feeding mechanism which is somewhat simpler in construction and wherein some of the features above referred to are omitted. In this form a fixed axis roller 81, corresponding to roller 32 of the preceding form, cooperates with a roller 82, journaled in bearing boxes 83 at each end of its shaft 84. The bearing boxes 83 are arranged to slide vertically in slots 85, provided in side frames 86 for this purpose. The upward sliding movement of the boxes 83 is limited by adjusting screws 87 threaded in plates 88 secured to the side frames 86. A gear 89 secured to the shaft 84 is arranged to be rocked by a rack 91, adapted to be connected to the crank-knuckle 24, as in the preceding form, as said rack 91 is reciprocated by the crank-shaft 12. The gear 89 is in mesh with a gear 92 secured on the shaft 93 of the fixed axis roller 81 and is also in mesh with a gear 94 secured to a shaft 95 journaled in the side frame 86.

A brake drum 96 secured to the shaft 95 is arranged to be acted on by a brake band 97 which, as in the preceding form, is adjustable by means of a screw 98 and a spring 99. In this instance the brake band 97 is anchored to the side frame 86 by a pin 101. In this form the roller 82 is first forced downwardly toward the roller 81 to grip stock therebetween when the rack 91 is reciprocated downwardly by the crank-shaft 12 and is then rocked to feed the stock to the tools carried by the slide 16. Action of the brake mechanism through the gears 94 and 89, as in the preceding form, causes the gear 89 to fulcrum on the gear 94 to slide the bearing boxes 83 and with them the roller 82 toward the roller 81 when the gear 89 is acted on by the rack 91, after which the rollers 82 and 81 are rocked to feed stock. Upward movement of the rack 91 reverses these operations whereby the roller 82 is first raised to release the stock and then the rollers 81 and 82 are rocked into their initial position, the amount the rollers 81 and 82 are separated being limited by the size of the teeth on the gears 89 and 92 so that they will not become out of mesh, whereby this form of mechanism differs from the preceding form wherein this inconvenience is not present.

The form of mechanism shown in Figures 9 to 12 inclusive, embodies certain of the features and principles of this invention and is somewhat simpler in construction than the preceding forms. In this form a swingable, or rockable, member 111 is used in place of the upper roller 31. The member 111 constitutes one arm of a bell crank 112 secured by a set screw 113 to a shaft 114. The other arm 115 of the bell-crank 112 extends substantially at right angles to the member 111 and is connected by suitable means, such as the rod 27, to the crankshaft 12 of the punch press, and as in the form shown in Figures 1–8 inclusive, whereby the member 111 will be rocked in timed relation with the press operation.

The shaft 114 extends between and is journaled at its ends in spaced apart arms 116 and 117 of a part 118 which is pivotally mounted to an upright 119 upon a shaft 121. The upright 119 is, in this instance, formed integral with a base 122 which is adapted to seat upon the press bed, or bolster plate, 123 and be secured thereto by bolts 124.

A roller 125, rotatably mounted on a shaft 126, is in operative alignment with the rockable member 111. The shaft 126 extends through a bearing lug 127 formed on the base 122 and is secured thereto against movement therein by a nut 128. By this arrangement the roller 125 is free to rotate when stock is gripped between it and the lower end 129 of the rocking member 111 and the latter is rocked. The lower end 129 of the member 111 is arcuately shaped to correspond to the periphery of a roller much larger in diameter than the roller 125, the length of the chord of the arc, which arc is struck from the center of the shaft 114, being sufficient to provide the desired arcuate stock feeding surface.

The downward gripping pressure of the mem-

ber 111 upon the stock 19 is produced by the use of a cooperating brake drum and brake band 131 and 132 respectively as in the previous forms, although the arrangement is somewhat different. In this instance, the adjustable brake band 132 is secured to the member 111 by a screw member 133 which forms the pivot pin for the two parts of the brake band, and the brake drum 131 is secured to the arm 117 of the part 118 by a screw 134. The action of the brake drum 131 and the brake band 132 is similar to that the corresponding parts of the previously described forms, the brake band 132 rocking with the member 111 and cooperating with the stationary brake drum 131 to cause the arms 116 and 117 and with them the member 111 to swing about the pivot shaft 121 to move the member 111 downwardly to grip stock 19 between the arcuately shaped end 129 of the member 111 and the roller 125 before the member 111 is rocked to feed stock under the tool, mounted in the press slide 16, when the crank-shaft 12 actuates the rod 27 to swing the arm 115 of the bell-crank 112 downwardly. Reverse action of the crank-shaft 12 upon the rod 27 will swing the arm 115 and cause the member 111 to be raised away from the roller 125 to release the gripping action thereof on the stock 19 before the member 111 is rocked in stock non-feeding direction.

Additional pressure upon the stock 19 and adjustment of the amount or length of stock fed is also provided for. The means for providing additional pressure includes a screw-threaded rod 135 having its lower end screw-threaded into the base 122 and which extends upwardly through suitable slots 136 formed in the outer end 137 of the arm 117 of the part 118. A spring 138 is provided to react between the upper surface of the arm 117 and an adjusting nut 139 screw-threaded on the upper end of the rod 135. Adjustment of the nut 139 on the rod 135 varies the tension of the spring 138 to vary additional pressure imposed on the stock 19 by the member 111.

The arm 117 is bifurcated at its outer end 137 to provide a cross-slot 141 in which an adjusting nut 142, also screw-threaded upon the rod 135, is disposed. Adjustment of the nut 142 upon the rod 135 varies the length of feed of the stock 19. For instance screwing down on the nut 142 will slightly lengthen the length of stock fed while screwing up thereon will slightly shorten the length of stock fed. By this arrangement the length of stock being fed may be finely varied while the machine is operating to insure proper operation of the tools thereon.

As will be readily ascertained from the above description of mechanisms embodying the features and principles of this invention, stock feeding mechanism is provided which is particularly efficient and practical in use. The provision of the clamp plates 33 and 34 between which the stock 19 is led, before it reaches the rollers 31 and 32, securely grips the stock 19 to prevent it being drawn backwardly or pushed forwardly due to any movement of the coil of stock 21 or slight back creeping of the stock due to its engagement with the lower roller 32 as this roller is rocked backwardly during the up-stroke of the arm 28.

Positive stopping of the feed of the stock 19 in proper position is insured at the end of its feed and while gripped by the rollers 31 and 32, by the rollers 81 and 82, or by the member 111 and the roller 125, due to the crank-knuckle 24 being at the low point in its rotation with the crank-shaft 12, continued movement of the arm 28, rack 91, or arm 115, immediately releasing the stock as above described. Positive starting of the feeding action is likewise insured due to the crank-knuckle 24 being at the high point in its rotation with the crank-shaft 12. A plurality of points of adjustment of the pressure applied to the stock are provided, all capable of being made while the machine is in operation, for instance, by adjustment of the brake bands 58, 97, or 132, and by adjustment of the nuts 66 and 67 or nut 139. The length of stock fed by the mechanisms shown may be coarsely varied by adjustment of the crank-knuckle 24 on the slide 25, and finely varied by the adjustment of the nuts 72, the screws 87, or the nut 143, the latter adjustment of nuts 72, screws 87, or nut 143, being made possible while the press is operating.

While there has been shown herein three forms of mechanisms in which the features and principles of this invention may be embodied, it will be understood that the same may be embodied in other forms without departing from the spirit or essential attributes thereof, and it is therefore desired that the present embodiments be considered in all respects as illustrative and not restrictive, reference being had to the claims rather than to the foregoing description to indicate the scope of the invention.

Having thus fully described the invention, what is claimed as new and for which it is desired to secure Letters Patent, is:

1. In stock feeding mechanism, cooperating members adapted to receive stock between opposing surfaces thereof, one of said members being movable toward the other member to grip the stock therebetween and adapted to feed stock along between said members when so moved and the stock is gripped between and by said members, a first means to cause said movable member to so move in stock feeding direction, and a second means actuated by the actuation of said first means to resist feeding movement of said movable member and to move it toward the other member to grip the stock therebetween before feeding the same.

2. In stock feeding mechanism, cooperating rockable members adapted to receive stock between the opposing surfaces thereof, a first means to move one of said members toward the other to grip stock therebetween, and a second means to actuate said first means and to rock one of said members to feed the stock gripped between the members.

3. In stock feeding mechanism, cooperating rockable members adapted to receive stock between the opposing surfaces thereof, a first means to rock a first one of said members, and a second means to resist the actuation of the first means to cause the first one of the members to move toward the other member to grip stock therebetween.

4. In a stock feeding mechanism in accordance with claim 3 and in which means is provided to vary the actuation resisting action of the said second means.

5. In stock feeding mechanism in accordance with claim 3 and in which means is provided to resiliently press one of said members toward the other.

6. In a stock feeding mechanism in accordance with claim 3 and in which connecting means is provided between the actuation resisting means, and the member moved thereby toward the other member, to press said moved member toward the other member.

7. In stock feeding mechanism, cooperating rockable members, means to rock a first one of said members, driving connections between the first member and a second one of said members to rock the latter in timed relation with the rocking movement of the first member, one of said members being movable toward and away from the other to first grip and then release stock disposed therebetween, and brake means acting on the movable member to resist rocking movement thereof to move it toward the other member when said members are rocked in one direction and to move it away from the other member when the said members are rocked in the other direction.

8. In stock feeding mechanism in accordance with claim 7 and in which means is provided to adjust the braking action of said brake means, and means is provided to adjustably limit the movement of the movable member away from the other member.

9. In stock feeding mechanism, a first rockable member journaled in fixed bearings, a second rockable member journaled in movable bearings, means to rock said second member, and means actuated by the rocking movement of said second member to move the movable bearing and thus move the second member toward the first member to grip stock between the members.

10. In stock feeding mechanism in accordance with claim 9 and in which the means to move the movable bearings includes a brake acting on the second member to resist rocking movement thereof.

11. In stock feeding mechanism in accordance with claim 9 and in which the means to move the movable bearings includes a brake acting on the second member to resist rocking movement thereof, and means connecting the brake means to the second member to press it toward the first member.

12. In stock feeding mechanism, cooperating rockable members adapted to receive stock and to feed it therebetween, and means to move one of said members toward the other including, means to rock both of the members, means rotatively driven by said rocking means, and brake means acting on said driven means to resist its rotative movement and through it the rocking movement of said members.

13. In stock feeding mechanism in accordance with claim 12 and in which the brake means comprises a brake drum operably connected to said driven means, and a brake band anchored to one of said rockable members to press the same toward the other member when said member rocking means is actuated.

14. In stock feeding mechanism, cooperating rockable members adapted to receive stock and feed it therebetween, means to rock said members in unison, and means to move a first one of said members toward and away from the second one including means driven by said rocking means, and brake means acting on said driven means to resist its movement in one direction to move the first member away from the second member and its movement in the other direction to move the first member toward the second member.

15. In stock feeding mechanism in accordance with claim 14 and in which the brake means includes a brake drum connected to the driven means, and an anchored brake band acting on the brake drum.

16. In stock feeding mechanism in accordance with claim 14 and in which the brake means includes a brake drum connected to the driven means, and a brake band acting on the brake drum and being anchored to the movable first member to press the same toward the second member when said brake means acts to resist the movement of said driven means in the direction causing movement of the first member toward the second member.

17. In stock feeding mechanism in accordance with claim 14 and in which the brake means is adjustable, and other adjustable means is provided to resiliently press the members together.

18. In stock feeding mechanism in accordance with claim 14 and in which the brake means is adjustable, and adjustable means is provided to limit the movement of the movable first member away from the second member.

19. In stock feeding mechanism, a pair of cooperating members between which stock is received to be gripped and fed thereby, a reciprocable member connected to a first one of said members to rock it forwardly and backwardly, the first member being mounted for movement toward and away from the other member when its rocking movement is resisted, a stationary brake drum, a brake band connected to said first member, and operably associated with said brake drum to resist rocking movement of said first member in one direction to move it toward the other member and in the other direction to move it away from the other member.

20. In stock feeding mechanism, cooperating members between which stock is received to be gripped and fed along, a first of said members being mounted for rocking movement forwardly and rearwardly and for movement toward and away from the other member, means to resist the rocking movement of the first member to move it in respect to the other member, and common means to rock the first member and to actuate the said movement resisting means.

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