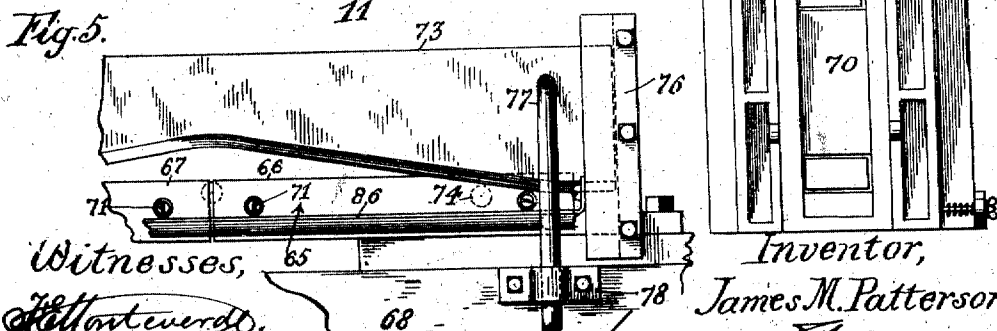
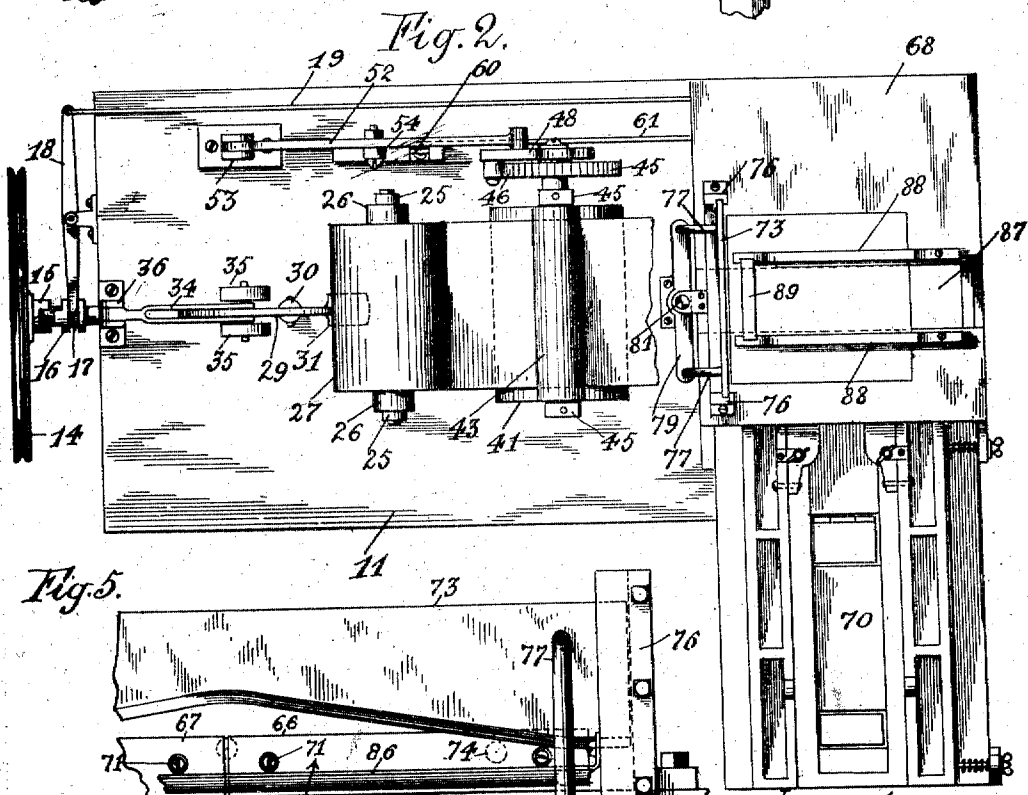
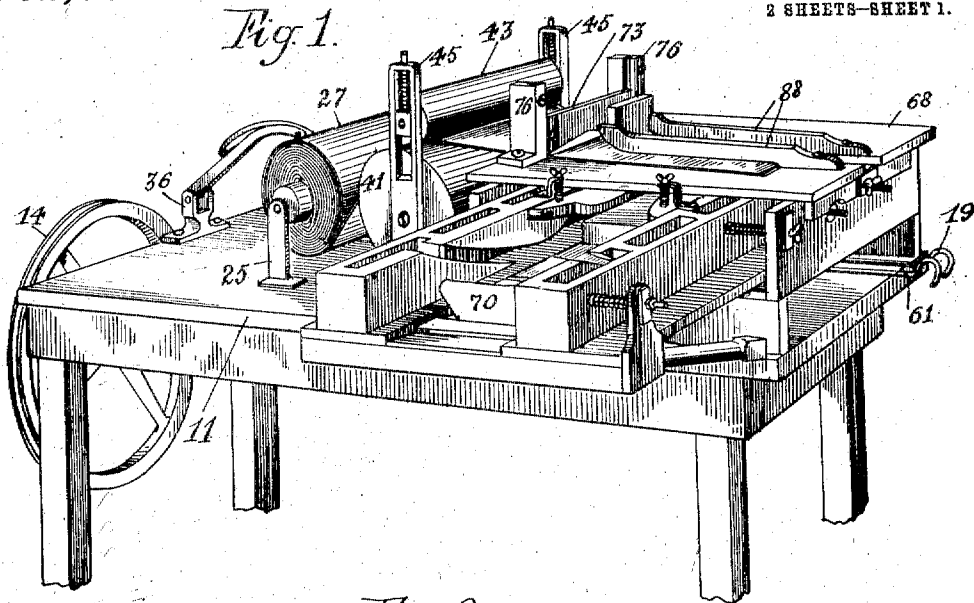


**J. M. PATTERSON.**  
**FEEDING MECHANISM FOR WRAPPING MACHINES.**  
 APPLICATION FILED OCT. 26, 1908.

982,770.

Patented Jan. 24, 1911.

2 SHEETS-SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

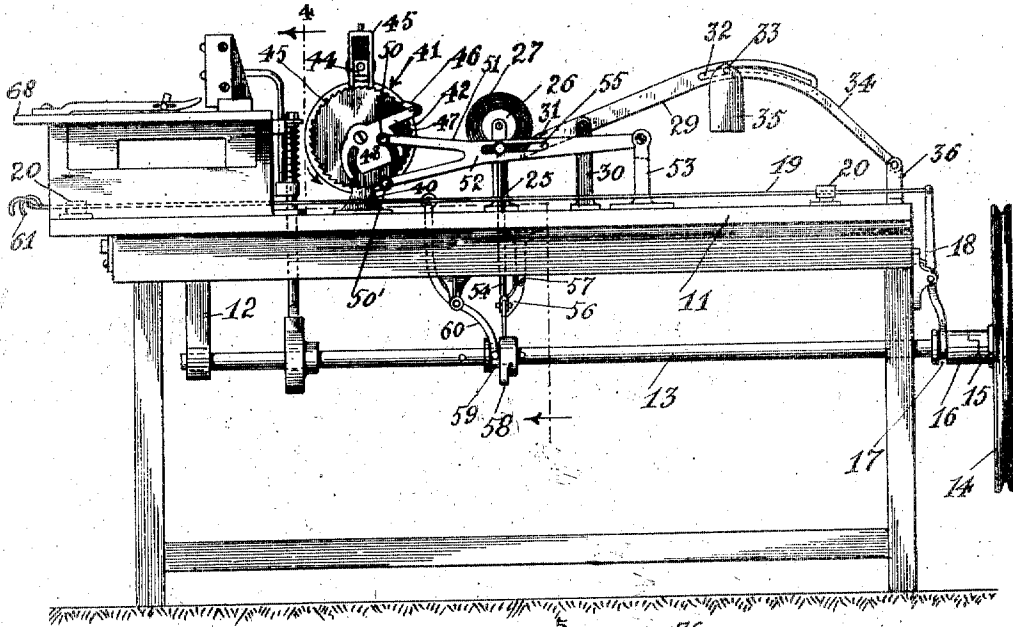


Fig. 7.

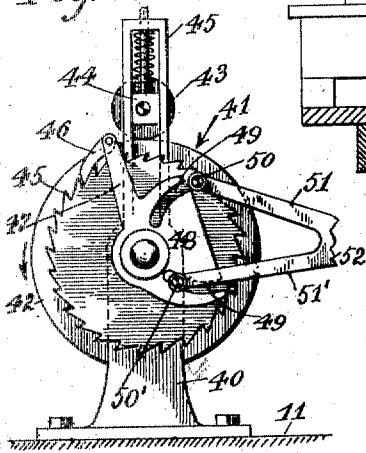


Fig. 4.

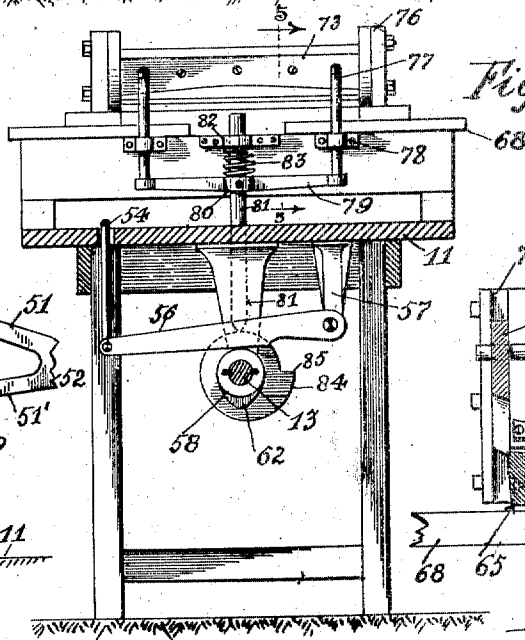
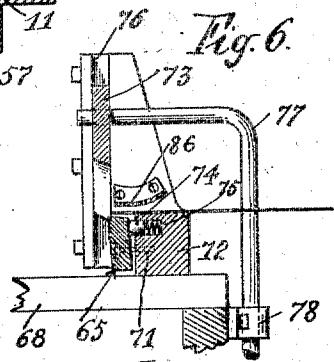


Fig. 6.



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# UNITED STATES PATENT OFFICE.

JAMES M. PATTERSON, OF LOS ANGELES, CALIFORNIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO NATIONAL WRAPPING MACHINE COMPANY, OF CHARLESTON, WEST VIRGINIA, A CORPORATION OF WEST VIRGINIA.

FEEDING MECHANISM FOR WRAPPING-MACHINES.

982,770.

Specification of Letters Patent.

Patented Jan. 24, 1911.

Application filed October 26, 1908. Serial No. 352,462.

To all whom it may concern:

Be it known that I, JAMES M. PATTERSON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Feeding Mechanisms for Wrapping-Machines, of which the following is a specification.

My invention relates more particularly to a wrapper feeding mechanism especially adapted to be employed with a wrapper folding mechanism such as is illustrated and described in my U. S. Letters Patent #869,322, dated October 29, 1907. In the above mentioned patent a feeding mechanism was described which automatically fed separate sheets from a pile of wrappers to the folding mechanism. This method of feeding separate and detachable sheets to the folding mechanism has been found to be somewhat uncertain, as often more than a single sheet would be fed at one time. Again if some of the sheets or wrappers on the pile were out of line it would consume considerable time in replacing them in the proper position, thus necessitating excessive care on the part of the machine operators.

In the hereinafter described mechanism I have endeavored to obviate the above mentioned faults which are common to all single sheet feeding mechanisms, and to this end I have provided a feeding mechanism whereby the paper from which the wrappers are formed may be fed from a roll, cut the required size, and delivered automatically to the folding mechanism, provision being made for intermittently feeding the paper strip to machine in an even and positive manner.

I accomplish the above recited object by means of the device described herein and illustrated in the accompanying drawings, in which:—

Figure 1,— is a perspective view of my improved feeding mechanism attached to a wrapping machine. Fig. 2,— is a plan view of the feeding and folding mechanism of my improved machine. Fig. 3,— is a side elevation of a wrapping machine showing my improved mechanism secured thereto, parts of the folding mechanism being omitted. Fig. 4,— is a transverse section taken on

line 4-4 of Fig. 3 looking in the direction indicated by the arrows. Fig. 5,— is a detailed front elevation of the shearing cutters. Fig. 6,— is an enlarged cross section detail of the shearing cutters. Fig. 7,— is an enlarged detail side elevation of the intermittent feeding device.

Referring more particularly to the drawings, 10 designates the frame of the machine which is provided with a table 11, to the top of which is secured in a suitable manner the various wrapper feeding and folding mechanisms.

Mounted beneath table 11 in suitable bearings 12 is a longitudinal drive shaft adapted to actuate the feeding and folding mechanisms of the machine. Shaft 13 is provided on one end thereof with a grooved driving pulley 14, connected to any suitable source of power (not shown). This pulley is provided with a clutch member 15, rigidly secured thereto and adapted to engage with a similar member 16, splined on shaft 13. Member 16 is provided with an annular groove 17 which is adapted to be engaged by the bifurcated end of a pivoted shifting lever 18, to the upper end of which is pivoted a shifting rod 19 mounted in bearings 20 secured to the top of table 11 by means of which shaft 13 is connected or disconnected to or from pulley 14.

Suitably mounted in bearings 25 secured to table top 11 and approximately at the center thereof is a transversely disposed paper roll carrying shaft 26, upon which is mounted an endless roll of suitable wrapping paper 27. This paper before being rolled may be suitably inscribed at proper intervals.

To the rear of the paper roll is secured to table 11 a paper roll tension mechanism which provides means for increasing the tension on the paper web as the roll diminishes in size. This mechanism is preferably composed of a lever 29, pivotally mounted in a bearing 30 secured to the table and provided on one end with a curved bearing face or plate 31 adapted to contact with the periphery of roll 27. The outer or longer end of this lever is provided with a curved slot 32 through which passes a pin 33 rigidly se-

cured to the free end of a bifurcated lever 34, the other end being pivotally mounted in bearing 36 secured to table 11. Pivotally mounted on the ends of pin 33 is an adjustable weight 35, by means of which a varying tension is maintained on the web of paper to feed it smoothly and evenly into the feeding mechanism, which I will now proceed to describe.

10 Mounted in bearings 40 secured to the table and adjacent the paper roll is a paper feeding mechanism 41, which preferably consists of a lower cylindrical feed roll 42, preferably formed of wood or other similar material, and an upper smaller cylindrical feed roll 43 which is mounted in spring actuated bearing blocks 44 which are vertically slidable in guideways 45 formed in the upper ends of bearing 40. This upper roll being resiliently forced against the periphery of the lower roll will furnish sufficient friction on the movement of the lower roll to force the paper web forwardly to the severing mechanism which will be described more particularly hereinafter.

To one end of the shaft 41 carrying the lower roll 42 is rigidly secured a ratchet wheel 45 which is adapted to be actuated intermittently by a dog 46 pivotally secured to the end of an arm 47 formed integrally with an actuating cam 48 which is rotatively mounted on the axis of the lower feed roll. Cam 48 is preferably provided with a pair of open ended curved cam slots 49 in which are adapted to operate rollers or pins 50 and 50' which are secured to the bifurcated ends of a pivoted oscillating arm cam actuating lever 52 which is pivotally mounted in a bearing 53 on table 11. At approximately the center thereof this lever is pivotally secured to the upper end of a vertically disposed rod 54, a slot 55 in lever 52 providing a means for adjusting the lever so as to regulate its movement. The lower end of rod 54 is in pivotal engagement with an end of a cam actuated lever 56, the other end being pivotally secured to a bearing 57 secured to the under face of table 11.

Lever 56 is adapted to be actuated by a cam 58 which is splined on shaft 13 and is provided with an annular groove 59 in which the lower end of a pivoted forked shifting lever 60 is adapted to operate. The upper end of this lever is pivotally secured to a shifting rod 61 by means of which cam 58 is moved longitudinally along the drive shaft so as to throw the irregular cam face 62 into and out of engagement with cam actuating lever 56.

60 When the machine is in operation and cam 58 is in its operative position on shaft 13 its irregular face 62 will contact at intervals with lever 56 so as to oscillate and cause arm

52 to rotate the lower feed roll 41 a sufficient distance in the direction indicated by the arrow thereon to feed the requisite length of paper through the severing mechanism.

In Fig. 3 of the drawings arm 52 is illustrated in its lowermost position, and cam 49 with its pivoted dog 46 is in a position to feed the web of paper forwardly to the mechanism. As arm 52 is forced upwardly one of the furcations 51 of the lever 52 is in engagement with the upper cam slot 49 which will force cam 49 forwardly, the dog 46 engaging with the teeth of ratchet 45 and rotating it the required distance. On the downward return of arm 52, which position is clearly illustrated in Fig. 7 of the drawings, one of the furcations 51' of said arm which is in engagement with the lower cam slot 49 will force cam 48 downwardly, the pivoted dog 46 being disengaged from the teeth on ratchet wheel 45, thus preventing any rotation of lower feed roll 41, a spring pressed upper feed roll 43 furnishing sufficient friction to prevent its rearward rotation. By the provision of the irregular face of cam 62 and 58 I am enabled to accurately determine the length of paper that is being passed through the cutting mechanism.

The severing or cutting mechanism is preferably located on the forward portion of the machine directly in front of and adjacent to the feeding mechanism, and it is preferably composed of an upper and lower cutting blade. Lower blade 65 is preferably composed of two sections 66 and 67 which are secured to an elevated table top 68 which forms a housing for a package folding mechanism 70 which I have heretofore more particularly described in my U. S. Letters Patent No. 869,389, dated October 29, 1907.

The two sections of the lower blade are preferably mounted on guide pins 71 which are secured in a transversely extending block 72 rigidly secured to table top 68, the heads of pins 71 being in counter-sunk relation with each of the sections 66 and 67 so that when the upper blade 73 contacts therewith they will not form an obstruction. The lower sections are preferably pressed forwardly by means of spring actuated pins 74 which are mounted in recesses 75 formed in the cross block 72.

Upper blade 73 is preferably formed in one piece and is of the configuration as best illustrated in Figs. 1 and 5 of the drawings, the arched configuration of this blade together with the resiliently pressed lower blade enables me to smoothly and evenly sever the paper web fed to it by the feeding mechanism. It will also prevent the buckling of the sheets which is quite important owing to the thinness of the paper used, as when the upper blade descends the outer ends

or springs of the arch will contact with the outer edges of the web and simultaneously shear the material from its edges to the center thereof. Another important object of forming the lower blade into sections and providing it with a resilient backing and the arching of the upper blade is that they will constantly sharpen themselves while the machine is in operation thus doing away with the frequent stoppage of the machine in order to remove the dull blades for re-sharpening.

Upper blade 73 is preferably mounted in guideways 76 rigidly secured in any suitable manner to the top of cutting table 68, being actuated therein by means of rigid arms 77 which extend downwardly from the blade through bearings 78 secured to table 68 and are rigidly secured to a cross-head 79. This cross-head is provided with a centrally disposed aperture 80 in which a lifting rod 81 is rigidly secured, the upper portion of the rod passing through bearing 82. A compression spring 83 is interposed between cross-head 79 and bearing 82 so as to force the upper blade 73 downwardly when it has reached the limit of its upward movement. Lifting rod 81 is intermittently actuated by a lifting cam 84 which is rigidly secured to shaft 13, its irregular face 85 being so arranged and timed in relation to cam 58 on the same shaft that it will force the outer blade downwardly when the requisite length of paper has been fed between the cutting blades.

The severing mechanism is provided at the rear of the blades with a transversely extending shield guide 86 which is secured to the inner faces of the guideway 76, for the purpose of guiding or directing the paper web between the blades.

It will be observed from the foregoing description that by the novel configuration and arrangement of the shearing blades I am enabled at all times to obtain a perfect shear of the paper, the lifting mechanism being so arranged as to work at all times evenly in conjunction with the paper feeding means.

As the folding mechanism forms no particular part of this invention I will not describe it further than to furnish a general description of its operation in conjunction with the paper web advancing mechanism. The elevated table top 68 is preferably provided with a rectangular opening 87. At one side of each longitudinally extending edge are secured paper guide fingers 88 so that the paper which is forced through or beyond the cutting blades will be guided into its proper position over opening 87. The ends of the two guide fingers 88 are connected by means of a transversely extending member 89 which forms a guide for the

placement of the package on the wrapper. As soon as the wrapper material is severed a package is placed on the wrapper which carries it downwardly through the opening 87 where it is engaged by the various side and end wrapping mechanisms which fold the wrapper neatly around the package and deliver it to the operator.

The operation of my machine is as follows:—Clutch member 16 is thrown into engagement with member 15 secured to the driving pulley which is actuated from a source of power (not shown), and cam 58 is moved into operative engagement with lever 57 which actuates the paper advancing mechanism, and as the paper is fed forwardly and the roll diminishes in size the tension on the paper will be properly maintained by the tension mechanism hereinbefore described. As the lifting cams on the main shaft are so arranged in relation to each other they will alternately perform their several functions at the proper interval, thus allowing a constant and even feed of the material to the shearing blades.

It will be observed from the above description that I have produced an extremely efficient mechanism that will obviate the troubles usually experienced with automatically operated single sheet paper feeds such as have been heretofore enumerated among the objects of this invention.

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

1. In a machine of the class described, in combination, a feed roller adapted to advance the web of paper, a ratchet wheel adapted to advance said roller, a cam pivotally mounted on the axis of said ratchet wheel and having a dog cooperating with the teeth of said ratchet wheel, a lever having a forked extremity cooperating with said cam to rock the same, said cam having slots, pins carried by the forks of said lever cooperating with said slots, and means for actuating said lever.

2. In a machine of the class described, a feed roller adapted to advance the web of paper, a ratchet wheel for driving the same, a cam pivotally mounted on the central axis of said ratchet wheel, a dog carried by said cam cooperating with the teeth of said ratchet wheel, a lever having a pair of forks, one of said forks engaging said cam and affording means for moving the same in a forward direction, the other of said forks affording means for engaging said cam to limit the forward movement thereof, and means for rocking said lever.

3. In a machine of the class described, in combination, an elongated frame, a supply roller mounted transversely thereof, a feed roller

mounted transversely of said frame, a lever  
mounted on said frame and extending lon-  
gitudinally thereof, means actuated by said  
lever for rotating said feed roller intermit-  
5 tently, a shaft extending longitudinally of  
said frame, a paper cutter actuated by said  
shaft, means for actuating said lever from  
said shaft, a wrapping table near said paper  
cutter, a clutch for said shaft, means for con-  
10 trolling said clutch from a point near said

wrapping table, and means for disconnect-  
ing the drive of said lever from a point near  
said wrapping table.

In witness that I claim the foregoing I  
have hereunto subscribed my name this 20th 15  
day of October, 1908.

J. M. PATTERSON.

Witnesses:

EDMUND A. STRAUSS,  
OLLIE PALMER.