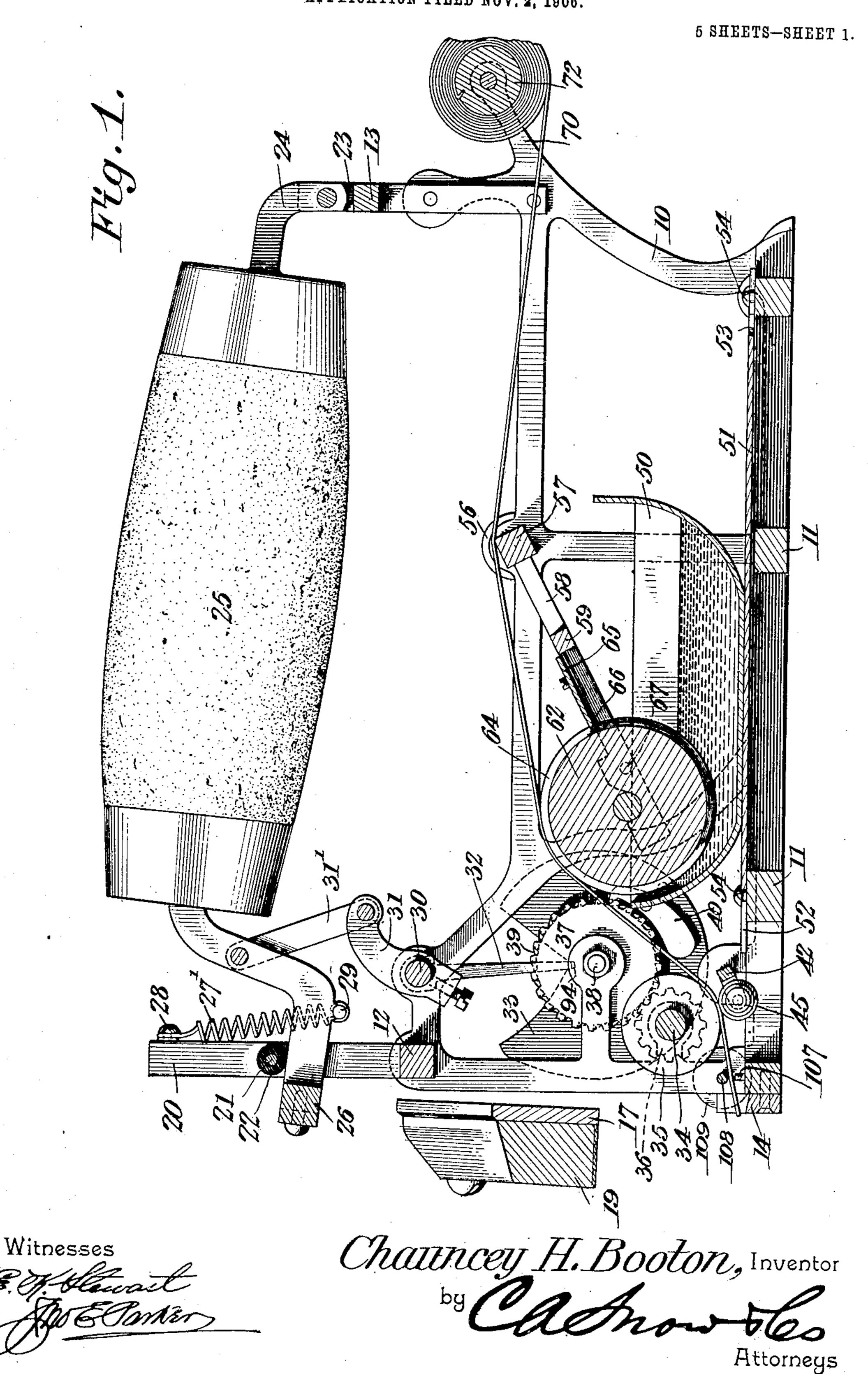
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5 SHEETS-SHEET 2. Chauncey H. Booton inventor Witnesses Attorneys

C. H. BOOTON.

LABEL AFFIXING MACHINE.

APPLICATION FILED NOV. 2, 1906.

5 SHEETS-SHEET 3. Chauncey H. Booton, Inventor

PATENTED OCT. 29, 1907.

No. 869,545.

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APPLICATION FILED NOV. 2, 1906. 5 SHEETS-SHEET 4. Hig.4. Fig. 6. Chauncey H. Booton, Inventor Witnesses Attorneys

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### UNITED STATES PATENT OFFICE

CHAUNCEY HOLCOMB BOOTON, OF GALLIPOLIS, OHIO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE MAIN AUTOMATIC MAILING MACHINE COMPANY, OF COLUMBUS, OHIO, A CORPORATION OF OHIO.

#### LABEL-AFFIXING MACHINE.

No. 869,545.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed November 2, 1906. Serial No. 341,784.

To all whom it may concern:

Be it known that I, Chauncey Holcomb Booton, a citizen of the United States, residing at Gallipolis, in the county of Gallia and State of Ohio, have invented a new and useful Label-Affixing Machine, of which the following is a specification.

This invention relates to machines of that general class employed for affixing stamps or labels to envelops, packages, or the like, and more especially to machines 10 for addressing newspapers, where the names and addresses of subscribers are printed on a continuous strip that is placed in the machine, the strip being coated on one side with adhesive material as it passes through the machine, and being severed into separate labels each having a name and address, the labels being forced against the newspapers or wrappers.

One object of the invention is to provide for accurately feeding the strip, so that the address slips may be cut from the strip with the utmost uniformity, and there can be no possibility of under-feed, or over-feed of the strip, so that the machine may be operated with the utmost rapidity and without making it necessary for the operator to carefully watch the strip during the cutting operation.

A still further object of the invention is to provide a feeding means that is positively locked at the completion of each feeding movement, so that accidental feeding or slipping of the gears or strip from acquired momentum of the feeding devices cannot take place.

A still further object of the invention is to provide for readily adjusting the extent of feeding movement, so that address slips of varying width may be cut from the strip.

A still further object of the invention is to avoid the accumulation of the adhesive material on any of the feeding devices.

A still further object of the invention is to hold the adhesive coated surface of the strip from contact with the cutting devices during the feeding movement, the only engagement of the cutters with the strip being during the actual cutting operation.

A still further object of the invention is to provide a machine of such construction that on the depression of a single operating member, the feed will take place and the feeding rollers locked, and the projecting end of the strip severed and forced into contact with the surface to which it is to be applied.

A still further object of the invention is to so construct and mount the feeding device as to permit of the convenient introduction of a fresh address strip.

A still further object of the invention is to improve, simplify and cheapen the construction of the adhesive applying mechanism, and to so arrange the parts that the adhesive containing vessel may be readily removed

should it become necessary to replenish the supply, or 55 to clean the vessel.

A still further object of the invention is to provide an improved carrying device for the address strip, so that fresh strips may be readily placed in position in the machine.

A still further object of the invention is to improve, simplify, and cheapen the construction of the machine as a whole, and to provide a novel form of hand machine of light and compact construction which may be readily manipulated by one hand, the carrying and holding 65 handle serving also as the means through which movement is imparted to all of the operating mechanism.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of 70 parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing 75 from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a longitudinal sectional view of a label attaching machine constructed in accordance with the invention. Fig. 2 80 is an elevation, looking from one side of the machine. Fig. 3 is a similar view, looking from the opposite side of the machine. Fig. 4 is a front elevation of the machine. Fig. 5 is a view of a portion of the parts shown in Fig. 1, the positions shown being that assumed at 85 the completion of a feeding and severing operation. Fig. 6 is a side elevation of a portion of the machine with the pawl carrying lever and locking device removed. Fig. 7 is a plan view of the adhesive supplying roller and doctor. Fig. 8 is a detail perspective view 90 of the lower feeding roller. Fig. 9 is a view looking from the inner face of the pawl carrying and locking lever. Fig. 10 is a sectional plan view of the address strip carrying mandrel. Fig. 11 is a detail view, illustrating slips of different width which may be cut from 95 the address strip.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The framework includes a pair of mating side frames 100 10 that are connected by a suitable bottom frame 11, and by cross bars 12 and 13, all parts of the framework being made as light as possible in order that the machine may be readily manipulated by one hand.

At the lower front edge of the machine is secured a 105 stationary cutter 14, and at one side of the frame is a headed stud 16, to which is pivoted a movable cutter 17, a spring 18 placed between the head of the stud and

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movable cutter, serving to force the latter against the stationary cutter, so that the two cutting edges may properly coöperate. To the outer face of the movable cutter is secured a presser block 19 which engages the 5 severed slip and presses the same into contact with the surface to which it is to be attached.

The upper front cross bar 12 carries a pair of spaced side bars 20, that are connected near their upper ends by a pin 21 that carries a small block 22, preferably 10 formed of rubber or other yieldable material. The rear cross bar 13 carries a pair of lugs 23, between which is pivoted the rear end of an operating lever 24, the front end of the latter extending between, and being guided by, the two vertical bars 20, and mounted on 15 said operating lever is a handle 25 by which the machine may be carried about, and through which movement is imparted to all of the working parts. To the front end of the operating lever 24 is secured a cross bar 26 that is connected by a link 27 to the movable cut-20 ting knife, and normally the operating lever and the cutter are maintained in elevated position by a pair of coiled tension springs 27', extending between fixed pins or screws 28 at the upper ends of the bars 20, and pins 29 projecting from the opposite sides of the operat-25 ing lever.

The opposite side frames are provided with bearings for the reception of a transversely disposed rock shaft 30, to the central portion of which is secured a rocker arm 31 that is connected by a pair of links 31' to the 30 operating lever 24, and each time the front end of the operating lever is depressed, the shaft will receive rocking movement to precisely the same extent, and the movement is at all times uniform, no matter what may be the width of the slip to be cut. The movement of 35 this rock shaft is transmitted to the strip feeding devices, through an arm 32 that is rigidly secured to one end of the shaft, and operates through a pawl carrying lever 33 to transmit movement to the feeding devices in the manner hereinafter described. The side frames 40 are further provided with bearings for the reception of an upper feed shaft 34, that carries a plurality of spaced feed disks 35, that preferably have roughened, or knurled, faces to engage with and positively feed the strip. On one end of this shaft is secured a pinion 45 36 that intermeshes with a gear wheel 37 mounted on a stud shaft 38, that is carried by one of the side frames, and secured to, or formed integral with the gear 37, is a ratchet wheel 39 having precisely the same number of teeth as the gear wheel. The movable pawl carrying 50 lever 33 is provided with a counter weight pawl 40 that engages the teeth of the ratchet wheel and transmits movement through the ratchet wheel to the gear wheel and pinion.

The opposite side members of the frame have thread-55 ed openings for the reception of pointed screws 41, the ends of which engage in openings formed in a transversely extending bar 42 that is arranged under, and to the rear of the main feed shaft 34. This bar is provided with projecting arms 43 that have bearing open-60 ings for the reception of reduced end portions of a secondary feed shaft 44, carrying disks 45, of a number equal to the disks 35 and arranged immediately opposite said disk, so that the address strip will be firmly gripped between the two sets of disks. These lower 65 disks are preferably formed of rubber, or other yield-

able material, or are provided with encircling rims of rubber. To one end of the cross bar 42 is secured a vertically extending arm 46, the upper portion of which is connected to one end of a spring 47, the opposite end of said spring being connected to a stationary pin 48, 70 and said spring yieldably holds the lower feeding member against the lower face of the strip to be fed. The upper end of the arm 46 is conveniently arranged at one side of the machine, so that it may be thrown forward in order to lower the secondary feed shaft, and 75 by forcing the lower set of feed disks out of engagement with the other set of disks, the strip may be more conveniently introduced between them.

The adhesive containing vessel 50 is carried by a base plate 51, to which it is rigidly secured, and at the 80 front end of the plate is a slot 52, and at the rear end of said plate is a key-hole slot 53, these serving to receive headed pins or screws 54, so that the vessel as a whole may be conveniently removed from position when necessary.

The opposite side frames are further provided with threaded openings for the reception of pivot screws 56, the inner ends of which enter recesses formed in the ends of a cross bar 57. This cross bar carries two forwardly extending arms 58 that are united by a bracing 90 bar 59, and near the ends of the bars are recesses 60 for the reception of the end pintles 61 of an adhesive supplying roller 62, the latter being provided with a number of peripheral grooves 64 that are in alinement with the sets of feed disks 35 and 45, and serve a purpose 95 more fully hereinafter described. The two arms 58 serve further as supports for a doctor 65, in the form of a thin metallic plate having forwardly projecting tongues 66 which enter the grooves 64, and from the opposite sides of the arms project pins 67 that rest on 100 the side walls of the adhesive containing vessel, and thus limit the extent of immersion of the roller.

From the rear portions of the side frames extend arms 70, one of which carries an inwardly extending pin 71, having a pointed end that may enter an open- 105 ing formed in the end of a strip winding mandrel 72. The opposite arm is provided with a bearing opening for a slidable and revoluble shaft 74, on the outer end of which is a pinion 75. The inner end of the shaft carries a disk 76, having a conical center pin 77 which 110 may enter an opening in the opposite end of the mandrel, and from said disk projects a pin 78, also adapted to enter an opening in the mandrel. Between the disk and the inner face of the arm, or an auxiliary washer, such as 79, extends a spring 80 that tends to force the 115 disk inward and maintain the mandrel in proper position. The mandrels are preferably formed of wood, and the previously addressed strips may be wound on these mandrels by other machinery, a mandrel carrying a previously wound strip being readily placed in posi- 120' tion by pressing one end against the disk 76, and forcing the same outward until the opposite end of the mandrel can be engaged with the pin 71. In order, however, to provide for the winding of a strip on a mandrel already in position, a gear wheel 81 is ar- 125 ranged at the upper end of a pivot arm 82, supported by the frame, said gear intermeshing with the pinion 75, and being provided with a handle 82', by which it may be turned to wind up a strip. During the unwinding operation, the arm is thrown over in the di- 130

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rection indicated by the arrow, Fig. 3, until the teeth of the gears are out of mesh. It will be observed that the spring 80 not only guides the disk against the end of the mandrel, but also tends to pull the inner face of 5 the pinion against the outer wall of the frame, there being sufficient friction between the two to prevent the mandrel revolving loosely.

Returning now to the feed actuating mechanism, it will be observed that pawl carrying lever 33 includes 10 a disk or plate 90, from which projects a counterweight 91 which tends to maintain the pawl carrier in proper initial position. In the present instance the ratchet wheel 37, and the gear wheel 39 each have twenty-four teeth, and the pinion 36 has twelve teeth. 15 As will appear further on, the range of movement of the pawl carrier may be adjusted so that the pawl 40 may rotate the ratchet wheel to the extent of one, two, or three teeth, or this may be carried out to a further extent if necessary. On rotation to the extent of a 20 single tooth, the pinion 36 will be moved one-twelfth of a revolution, and the width of the strip fed will be as indicated at x in Fig. 11. When two teeth movements occur, a strip of the width indicated at y will be fed, and when the ratchet wheel is moved to the extent 25 of three teeth, a strip of the width indicated at z will be fed. From the disk like portion of the pawl carrier, a segment is cut, leaving a recess having two walls 92 and 93, at the juncture of which is a small radially extending recess 94, for the reception of the end of the 30 rocker arm 32. The end of the arm normally rests in this small recess, and when the rock shaft 30 is turned, the end of the arm in pressing against the wall of said recess will gradually turn the pawl carrier in the direction indicated by the arrow, Fig. 2, until the end of 35 the arm is wholly out of the recess, and in engagement with the curved wall 93. This movement of the arm from the recess is sufficient to effect the desired rotative movement of the pawl carrier, and by the time the end of the arm engages the curved wall 93, the feeding 40 movement will be completed, the further travel of the arm in engagement with the wall 93 being practically lost motion so far as this portion of the mechanism is concerned, and permitting further downward movement of the operating handle in order to accomplish the cutting operation. It will be observed that from the completion of the feeding movement to the end of the cutting operation, the end of the rocker arm remains in contact with the curved wall 93, the latter being then disposed on a curved line struck from the

of the pawl carrier will be positively prevented. To the side of the frame is pivoted a locking pawl 96, the locking end of which is arranged to engage between the teeth of the gear wheel and immediately prior to 55 the completion of movement of the pawl carrying disk a pin 97 carried by said disk will engage with said pawl, and will move the same positively between the teeth of the disk. The locking movement being completed at the moment the rocker arm 32 leaves the recess 94, 60 and inasmuch as the pawl carrying disk is positively held in position after the feeding operation, the pin 97 will be held against the pawl, and said pawl will be retained in its position between two teeth of the gear wheel, positively preventing any movement of the 65 latter in either direction. When downward pressure

50 axis of the rock shaft 30, and any rearward movement

on the handle is relieved, the rocker arm will ride back over the inclined face 93, and will again engage in the recess 94, effecting movement of the pawl carrier in the reverse direction, and such movement being assisted by the counter-weight 91, and the pawl 40 clicking 70 over one, or two, or three teeth of the ratchet wheel.

In order to determine the extent of movement of the pawl carrying disk, a stop rack 98 is employed. This rack bar is pivoted on a pin 99 near the lower portion of the frame, and has teeth  $100~{
m of}$  a number corresponding ~75to the number of adjustments, three in the present instance. The upper end of this lever moves over a frame bar 101 having a number of openings 102, and to the rack bar is secured one end of a spring 103, carrying at its free end a pin 104, extending through an opening 80 in the end of the rack bar, and into any one of the openings 102, in order to lock the bar in any desired position. On the pawl carrier is a pin 105, which is arranged to engage the teeth 100. When the parts are adjusted to the position shown in Fig. 2, the pin 104 is in engagement 85 with the uppermost of the openings 102, and the pin 105 will, therefore, engage with the uppermost of the teeth 100. In this position the effective movement of the pawl carrying disk is to the extent of a single tooth of the ratchet wheel, the smallest possible feed. Should 90 it be desired to feed to a greater extent, the pin 104 is drawn out of the uppermost opening, and the rack bar turned down until the pin enters the second opening 102. The pawl carrier must then move back until it engages the central tooth 100, and the movement in 95 this instance will be equal to the extent of two teeth of the ratchet wheel. The third adjustment of the pin 104 to the lowermost of the openings 102, will permit a range of movement equal to three of the teeth of the ratchet wheel.

A strip of paper passes over the adhesive applying roller, revolving the latter by friction, but the spaces represented by the grooves 64, prevent the application of paste at these points, so that the strip will have three, more or less, dry spaces throughout its entire 105 length. It is with these dry spaces that the lower feed disks 45 engage, so that none of the adhesive material ever comes in contact with the feeding-device, and annoyance from this cause is avoided. In many machines of this type where a strip previously supplied with 110 paste is forced over the cutting knife, there will be an accumulation of the adhesive on the knife, and to avoid this the frame is provided with a plurality of vertically disposed pins 107, disposed at a point near the lower stationary knife, and arranged to engage the dry spaces 115 of the strip, and to support said strip, so that its lower surface will be held up above the knife during the feeding operation, and the knife will only come in contact with the strip during the actual cutting operation. To further assist in placing the strip in position, a guard 120 pin or bar 108, arranged immediately above the pins 107, is provided at one end with threads screwing into a threaded socket in the frame, and at the opposite end has a milled knob 109 to permit its convenient removal.

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In the operation of the device, the rack bar is first ad- 125 justed to effect the feeding of the strip to the desired extent. The handle 25 is then grasped, and as the machine in practice is very light, it may be elevated and placed on the newspaper or other articles to which the labels are to be applied, downward pressure being then 130

exerted on the handle, and forcing down the operating lever 24. The knife immediately commences to descend, and before reaching cutting position the rocker arm 32 will have moved out of the recess 94, and turned the ratchet pawl carrier to effect the feeding movement, after which the arm 32 will engage the curved wall 93 of the pawl carrier, and the feeding mechanism will be positively locked during the further downward movement of the handle to force the movable knife past 10 the stationary knife.

While the machine has been described as intended more especially for the cutting and pasting of address strips on newspapers and the like, it is to be understood that it may also be used for attaching labels, stamps or 15 the like to envelops, packages, or surfaces of any description and for any purpose.

Having thus described the invention, what is claimed 18**°**---

1. In a strip feeding device, a revoluble member for engaging the strip, a ratchet wheel having a gearing connection with said revoluble member, a pawl carrier, a pawl supported thereby and engaging the ratchet wheel, means for operating the pawl carrier, and means for locking the parts at the completion of each feeding movement, while 25 permitting continued inactive movement of the pawl carrier operating member.

2. In a strip feeding device, a revoluble member for engaging the strip, a ratchet wheel having a gearing connection with said revoluble member, a gear wheel movable with the ratchet wheel and forming part of said gearing connection, a pawl carrier, a pawl supported thereby and engaging the ratchet wheel, a locking pawl and means on the pawl carrier for positively moving the locking pawl into engagement with the gear wheel and serving to prevent movement of the same in either direction at the completion of the movement of the pawl carrier.

3. In a strip feeding device, a revoluble member for engaging the strip, a ratchet wheel having a gearing connection with said revoluble member, a gear wheel movable with the ratchet wheel and forming part of said gearing connection, a pawl carrier, a pawl supported thereby and engaging the ratchet wheel, a pivotally mounted locking pawl adapted to engage between the teeth of the gear wheel, and a pin projecting from the pawl carrier and 45 adapted to engage said locking pawl at the completion of each feeding movement.

4. In strip feeding mechanism, a strip engaging member, and an operating means including a ratchet wheel, a pawl engaging therewith, a pivotally mounted pawl carrier hav-50 ing a recess approximately radial of the axis of movement of the pawl carrier, an arm arranged to enter the recess and movable therein to operate the pawl carrier, said pawl carrier having a curved face with which the arm engages at the completion of each feeding movement to prevent 55 rearward movement of the pawl carrier.

5. In a strip feeding mechanism, the combination with a revoluble strip engaging member, of a pawl carrier having an approximately segmental recess, a rocker arm arranged to engage the walls of said recess, a pawl, a ratchet wheel 60 with which the pawl engages, and gearing connections between the ratchet wheel and the strip engaging member.

6. In a machine of the class described, a strip engaging member, an operating member, a rocker arm connected to said operating member, a recessed pawl carrier with which 65 the rocker arm engages, means for adjusting the pawl carrier to alter the extent of movement transmitted to the strip engaging member, a pawl, a ratchet wheel with which the pawl engages, and means connecting the ratchet wheel to said strip engaging member.

7. In a machine of the class described, a strip engaging member, an operating member, a rocker arm connected to the operating member, a recessed pawl carrier with which the rocker arm engages, means for limiting the movement of the pawl carrier, a pawl, a ratchet wheel with which the

75 pawl engages, and means for transmitting movement from the ratchet wheel to the strip engaging member.

8. In a machine of the class described, the combination with a strip engaging member, of an operating member, a rocker arm, a recessed pawl carrier with which the rocker arm engages, a pin or lug on said pawl carrier, an adjust- 80 able rack bar with which said pin engages to limit rearward movement of the pawl carrier, a pawl, a ratchet wheel with which the pawl engages, and means for transmitting movement from the ratchet wheel to the strip engaging member.

9. In a machine of the class described, a strip engaging member, an operating member, a rocker arm connected to the operating member, a recessed pawl carrier with which the arm engages, a pin or lug projecting from the pawl carrier, a pivotally mounted rack bar having a plurality 90. of teeth, said rack bar being adjustable to present any one of its teeth into the path of movement of said pin or lug, a pawl, a ratchet wheel with which the pawl engages, and means for transmitting movement from the ratchet wheel to the strip engaging member.

10. In a machine of the class described, a strip engaging member, an operating member, a rocker arm connected to the operating member, a recessed pawl carrier with which said arm engages, a pin or lug secured to the pawl carrier, a rack bar pivoted at one end and provided at its opposite 100 end with a spring pressed locking catch for holding the rack bar in adjusted position, a pawl, a ratchet wheel with which the pawl engages, and means for transmitting movement from the ratchet wheel to the strip engaging member.

11. In a machine of the class described, a strip engaging 105 member, an operating member, a rocker arm connected to the operating member, a recessed pawl carrier with which the rocker arm engages, a counter weight on the pawl carrier for restoring the same to initial position, a pawl, a ratchet wheel with which the pawl engages, and a gear 110 wheel secured to and movable with the ratchet wheel, a locking pawl for engaging the gear wheel, a pin on the pawl carrier for moving the locking pawl to gear engaging position, a stop pin on the pawl carrier, an adjustable rack bar with which the stop pin engages, and means for trans- 115 mitting movement from the gear wheel to the strip engaging member.

12. In a machine of the class described, a fixed cutter, a movable cutter, and a plurality of spaced supports arranged at the rear of the fixed cutter and serving to hold 120 the projected portion of the strip above and out of contact with the fixed cutter.

13. In a machine of the class described, a fixed cutter, a movable cutter, and a plurality of spaced pins arranged to the rear of the fixed cutter and serving to elevate the 125 projected portion of the strip above and out of contact with said fixed cutter.

14. In a machine of the class described, a revoluble feed member held in fixed bearings, a second revoluble feed member, a pivotally mounted frame having bearings 130 for the second member, a spring connected to the frame and tending to force the second member into engagement with the first, and a lever connected to said frame for separating said members.

15. In a machine of the class described, a frame, a 135 fixed cutter, a pivotally mounted cutter, an operating lever pivoted at one end, guides for the free end of the lever, and a link connecting the free end of said lever to the pivoted cutter.

16. In a machine of the class described, a detachable 140 strip carrying mandrel having end recesses, a fixed pinengaging one of the recesses, a movable pin engaging the opposite recess, a disk at the end of the movable pin, a spring engaging said disk and tending to force the pinagainst the mandrel, and a second pin carried by the disk 145 and entering a recess in said mandrel.

17. In a machine of the class described, a detachable strip supporting mandrel having end recesses, a fixed pin engageable in one of the recesses, a slidably mounted pin for engaging the opposite recess, a disk carried by the 150 slidable pin and provided with an auxiliary mandrel engaging pin, a washer mounted on the slidable pin, and a compression spring between the washer and the disk.

18. In a machine of the class described, a detachable strip supporting mandrel, a frame, a fixed pin carried 155 by the frame and engaging one end of the mandrel, a

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movable pin mounted in a guiding opening in the frame and engaging the opposite end of the mandrel, a spring tending to force the movable pin toward the mandrel, a pinion on said movable pin, and a winding gear intermesh-

5 ing with the pinion.

19. In a machine of the class described, a skeleton frame including side members, and front and rear cross bars, a pair of vertically disposed spaced guide bars projecting upward from the front cross bar, a lever pivoted to the rear cross bar and having its front end extending between the guide bars, a fixed cutter, a pivoted cutter, a link connecting the pivoted cutter to the front end of the frame, and springs for restoring the cutter to initial position.

20. In a machine of the class described, the combination 15 with a skeleton frame including side members and front

and rear cross bars, of vertically disposed spaced guide bars extending upward from the front cross bar, an operating lever pivoted to the rear bar and extending between said guide bars, a fixed cutter, a pivoted cutter having a 20 link connection with the front end of the lever, a strip feeder, and an operating means therefor including a rock shaft, a rocker arm connected thereto, a link connecting the rocker arm to the operating lever.

In testimony that I claim the foregoing as my own, I 25 have hereto affixed my signature in the presence of two

witnesses.

#### CHAUNCEY HOLCOMB BOOTON.

Witnesses:

H. W. CHERRINGTON,

F. F. EACHUS.