No. 813,810. PATENTED FEB. 27, 1906.

W. G. MAYNARD.

FEEDER.

APPLICATION FILED MAY 23, 1905.

Fig. 1.

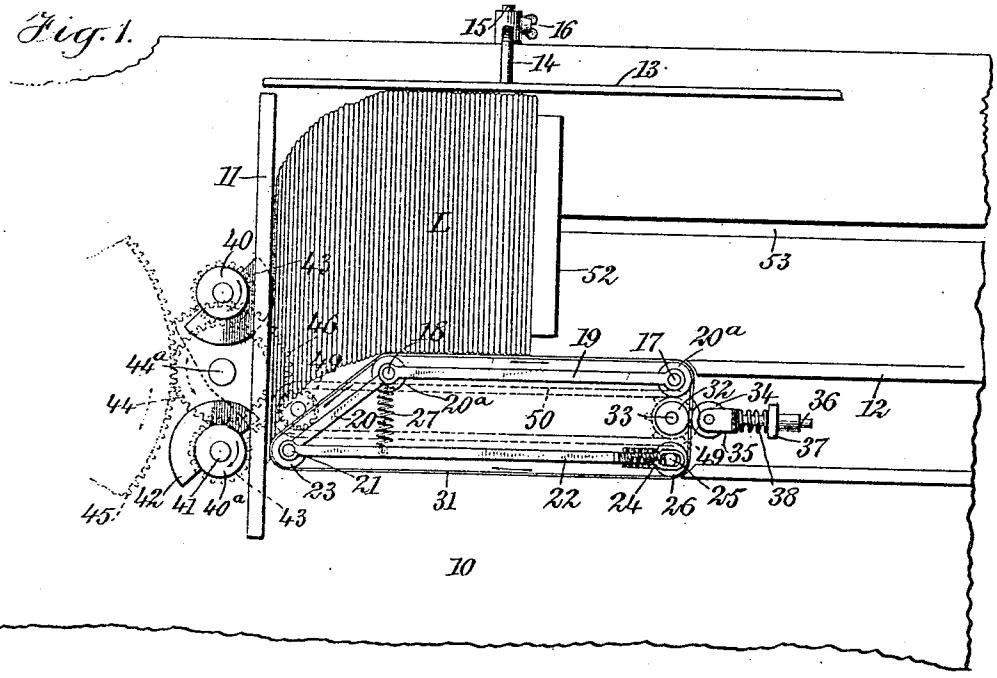
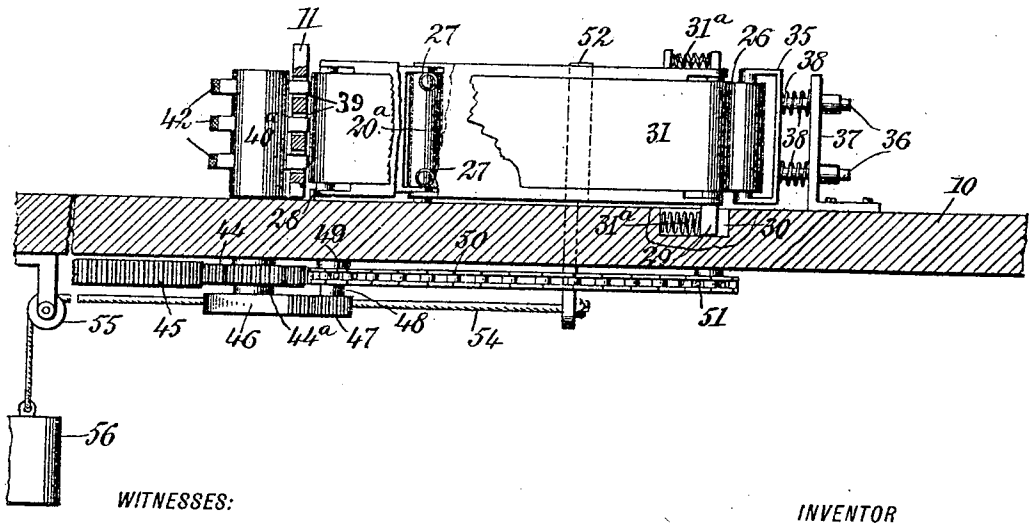


Fig. 2.



WITNESSES:

Geo. W. Naylor.

S. H. Cobb.

INVENTOR

William G. Maynard

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM G. MAYNARD, OF RONDOUT, NEW YORK.

FEEDER.

No. 813,810. Specification of Letters Patent. Patented Feb. 27, 1906.

Application filed May 23, 1905. Serial No. 261,800.

To all whom it may concern:

Be it known that I, WILLIAM G. MAYNARD, a citizen of the United States, and a resident of Kingston, Rondout, in the county of Ulster and State of New York, have invented a new and Improved Feeder, of which the following is a full, clear, and exact description.

My invention relates to feeders, and more particularly to those adapted for use in connection with canceling-machines. Its principal objects are to provide means for securing a regular and unitary delivery of the objects operated upon.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar reference characters indicate similar parts in the several views.

Figure 1 is a broken top plan view of one embodiment of my invention; and Fig. 2 is a vertical longitudinal section through the base at one side of the feeder, parts being broken away.

10 designates a base or table, upon which is mounted a holder comprising an end wall 11 and a side wall 12, situated at right angles thereto, both of these being preferably fixed in position. Opposite the wall 12 is a movable side wall 13, having projecting outwardly from it a bracket 14, in which are openings to receive a rod 15, extending from the base. A set-screw 16, threaded through the bracket, may be turned into contact with the rod to retain the wall 13 in position. This arrangement permits the width of the holder to be varied to suit objects of different lengths. Projecting upwardly from the base, between the extremity of the wall 12 and the end wall and in alinement with the former, are journals 17 and 18, the latter being nearer to the wall 11. These journals are connected by an intermediate wall 19 and have rotatable upon them rolls 20^a. The journal 18 also has swinging about it an arm 20, which extends toward the end wall at an angle thereto, it diverging outwardly from the opposite wall 13. The free end of this arm 20 carries a pin or journal 21, to which is pivoted a second arm 22, which extends back from the end wall substantially parallel to the wall 19. About the journal 21 may rotate a roll 23, and at the opposite or outer end of the arm 22 are opposite elongated openings 24 24 to receive journals 25 of a roll 26. Springs 27 are shown as connecting the arm 22 with the wall 19 adjacent to the journal 18, these springs exerting their tension to draw the portion of the arm 22 which is in proximity to the end wall into contact with a stop 28, rising from the base. This leaves between said end wall and the roll 23 a space or feed-throat, which is variable in width under the pressure of objects passing through it, the arm 20 swinging about the journal 18 against the tension of the springs exerted upon its companion arm to permit bodily movement of the roll 23 from the end wall. The opposite or outer extremity of the arm 22 is shown as guided by a projection 29, lying within an elongated recess 30 in the base.

Surrounding the system of rolls which has just been described is an endless member or belt 31, which may be kept suitably tightened during the movement of the arms by springs 31^a, carried by the arm 22 and in the recess 30 and tending to force the journals of the roll 26 toward the outer ends of the openings 24. The belt is supported with its inner run in substantial alinement with the inner face of the wall 12, between the rolls 20^a 20^a, while from the inner of these rolls it converges from the opposite wall 13 to the feed-throat, it following the direction of the arm 20. Contacting with the inner face of the belt, between the outer roll 20^a and the roll 26, is a roll 32, fixed upon a shaft 33, this shaft being journaled in the base and extending below it. The belt is maintained in contact with this roll 32 by an opposite roll 34, journaled in a frame 35, said frame having stems 36, which project through openings in a bracket 37. Springs 38 are interposed between the bracket and the frame, they conveniently surrounding the stems to maintain the coaction of the roll 34 with the belt.

Through the wall 11 are openings, here shown as in the form of two sets of parallel slots 39, through which project feeding members. These may consist of wheels 40 40^a, having their supporting-shafts 41 journaled in the base and being provided with raised peripheral portions 42, movable through the slots and preferably roughened to engage the objects to be fed. Each of the feed-wheels is preferably cut away or mutilated, leaving a substantially semicircular portion, these being oppositely arranged upon the two wheels, so that they come successively into coaction with the objects. This permits, for example, a short letter which might lie at the outer side of the holder to be moved by the wheel 40 into the field of action of the wheel 40^a, and

thus insure its feeding. The wheels may be rotated by pinions 43, connected by an intermediate gear 44, carried by a shaft 44ª, depending from the base and with which meshes a main driving-gear, a portion of which is indicated at 45. Fast upon the shaft 44ª, below the gear 44, is a mutilated gear 46, meshing with a pinion 47, secured upon a shaft 48, rotatable in the base. This shaft 48 also carries a sprocket-wheel 49, which is connected by a chain 50 with a similar wheel 51, fixed upon the shaft 33 below the base. This gearing serves to continuously rotate the feeding-wheels and to intermittently produce an outward travel of the belt.

In using the machine the objects to be fed, which may consist of letters, as are indicated at L in Fig. 1 of the drawings, are placed in the holder in a pack with the forward letter against the wall 11. Then upon rotating the driving-gear the feed-wheels successively advance the letters through the feed-throat, which presents such a space between the belt and the wall 11 that the thinnest object to be fed—as, for example, a postal card—will just be permitted to pass without pressing back the roll 23. At the time the forward letter is projected into the feed-throat by the wheels the mutilated gear engages its pinion and inaugurates the travel of the belt. The contact of the belt with the succeding letter, which is brought against it by the movement of the first, holds it by the outward travel of said belt against passage through the throat, thus preventing the simultaneous feeding of two of the letters. After the action of the wheel 40ª has ceased the mutilated gear passes the pinion and the travel of the belt is stopped to obviate any tendency which might exist to move the letters outwardly or rearwardly through the holder. The feed of letters is thus continued until the pack is exhausted, it being only necessary to maintain pressure upon the outer end of said pack. This is conveniently secured by means of a pressure-head 52, having a depending portion extending through a slot 53 in the base. To this depending portion is connected a cord or flexible member 54, passing over a pulley 55, journaled beneath the base and having at its free end a weight 56.

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

1. A feeder, comprising a holder having an adjustable side wall, an endless belt mounted in the holder opposite the adjustable wall and forming a side wall of the holder and with the end wall of the said holder a feed-throat, and means for feeding objects through said throat.

2. A feeder, comprising a holder having one side wall terminating short of the end wall, an endless belt arranged in the space between the side and end wall and forming a continuation of said side wall and with the end wall of the holder a feed-throat, means for feeding objects through said throat, and means for imparting movement to the belt in a direction reverse of that of the objects fed from the holder.

3. A feeder comprising a holder having a side and end wall between which is a space, an endless belt arranged in said space and forming a continuation of said side wall, means for moving the belt rearwardly from the end wall, and means for feeding objects through the space.

4. A feeder comprising a holder having a side and end wall between which is a space, an endless belt extending from the side wall toward the end wall and having its inner face inclined at an angle to said walls, the inclined end of the belt being yieldingly mounted, and means for feeding objects through the space.

5. In a feeder, the combination with a holder having an end wall and an endless belt furnishing a side wall and separated from the end wall by a space, the end of the belt adjacent to the end wall being yieldingly mounted of means for feeding objects through the space.

6. In a feeder, the combination with a holder having an end wall and an endless member furnishing a side wall and separated from the end wall by a space, of means for intermittently moving the member, and means for feeding objects through the space.

7. In a feeder, the combination with a holder having an end wall and an endless belt furnishing a side wall and separated from the end wall by a space, the end of the belt adjacent to the end wall being inclined at an angle thereto, of means for yieldingly mounting the said inclined end of the belt, and means for feeding objects through the space.

8. A feeder comprising a base, a wall rising from the base, a feeding member situated adjacent to the wall, journals projecting from the base, rolls rotatable upon the journals, one of the rolls being bodily movable, and a belt operating over the rolls.

9. A feeder comprising a base, a wall rising from the base, a feeding member situated adjacent to the wall, journals projecting from the base, rolls rotatable upon the journals, an arm swinging upon a journal and extending toward the wall, a roll rotatable upon the arm, and a belt operating over the rolls.

10. A feeder comprising a base, a wall rising from the base, a feeding member situated adjacent to the wall, journals projecting from the base, rolls rotatable upon the journals, an arm swinging upon a journal and extending toward the wall, a roll rotatable upon the arm, a spring exerting its tension upon the arm, and a belt operating over the rolls.

11. A feeder comprising a base, a wall ris-

ing from the base, a feeding member situated adjacent to the wall, journals projecting from the base, rolls rotatable upon the journals, an arm swinging upon a journal and extending toward the wall, a second arm pivoted upon that first named, rolls rotatable upon the arms, and a belt operating over the rolls.

12. A feeder comprising a base, a wall rising from the base, a feeding member situated adjacent to the wall, journals projecting from the base, rolls rotatable upon the journals, an arm swinging upon a journal and extending toward the wall, a second arm pivoted upon that first named, rolls rotatable upon the arms, one of said rolls being bodily movable independently of the arms, and a belt operating over the rolls.

13. In a feeder, the combination of a holder, an endless belt forming one side of the holder and with a wall of the holder a feed-throat, means for feeding objects through the throat, and means for imparting movement to the belt in a direction the reverse of that of the objects fed from the holder.

14. In a feeder, the combination of a holder, an endless belt forming one side of the holder and with a wall of the holder a feed-throat, means for feeding objects through the throat, and means for imparting an intermittent traveling movement to the belt in a direction the reverse of that of the objects fed from the holder.

15. In a feeder, the combination of a holder, an endless belt having one end yieldingly mounted and forming one side of the holder and with a wall thereof a feed-throat, means for feeding objects through the throat, and means imparting movement to the belt in a direction the reverse of that of the objects fed from the holder.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM G. MAYNARD.

Witnesses:
M. T. HANLEY,
JOHN J. TONSKEY.