

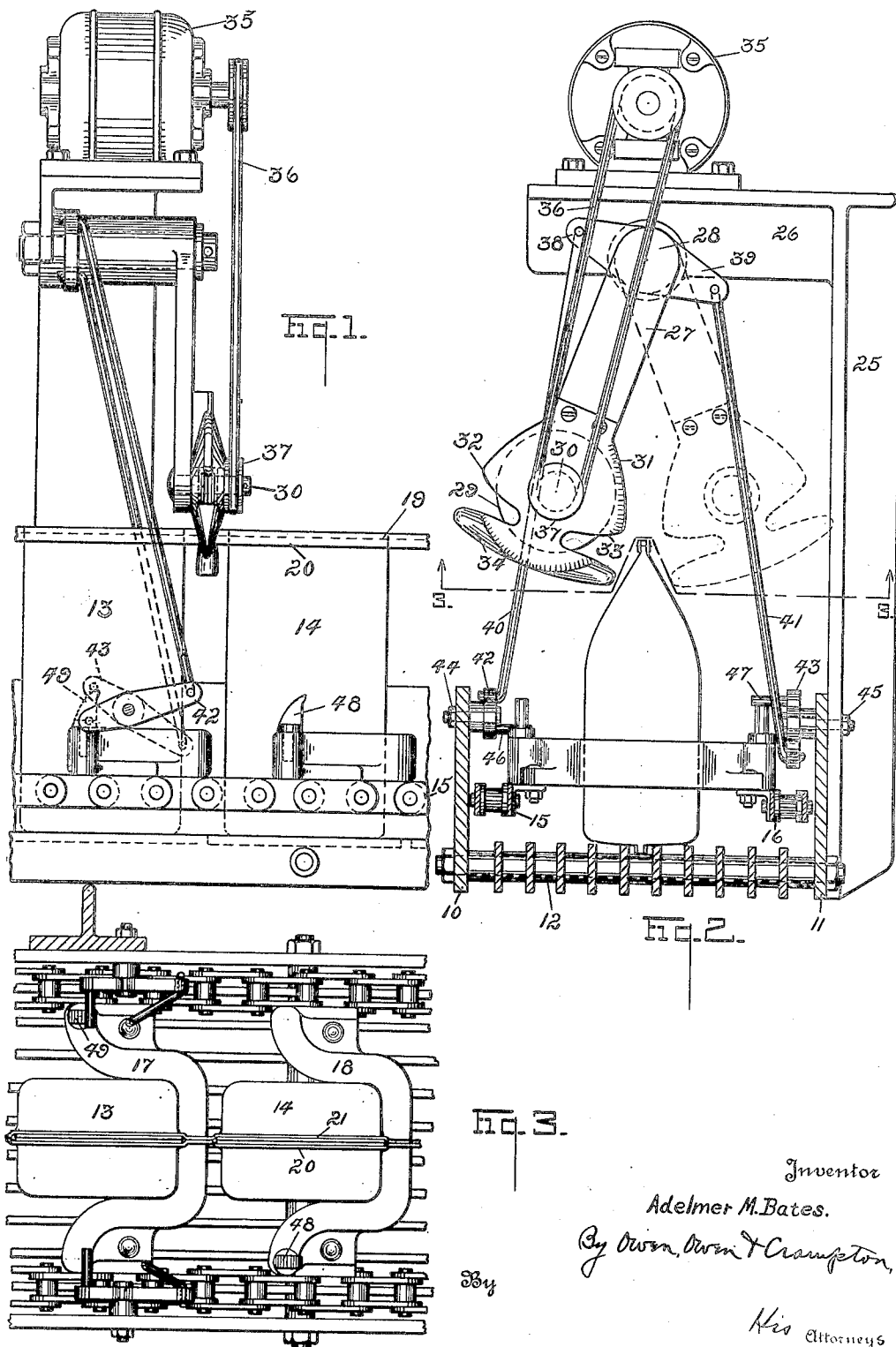
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SEVERING DEVICE

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UNITED STATES PATENT OFFICE.

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SEVERING DEVICE.

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My invention relates to a severing device, and more particularly to a device adapted to sever the connecting seam and tape between the tops of successive filled bags which have been closed by sewing a continuous seam across their tops.

In the accompanying drawings illustrating one form of my invention, Figure 1 is a side view of the apparatus. Fig. 2 is a rear view, and Fig. 3 is a partial plan view.

I show a portion of the framework of a bag closing machine comprising side bars 10 and 11, between which there is a support or slideway 12 of any suitable form upon which closed bags 13 and 14 may be slid. For this purpose I provide endless chains 15 and 16, connected by a U-shaped pusher bars, two of which, 17 and 18, are shown. These pusher bars are adapted to receive filled bags and push them along the slideway in properly spaced relation so that their upper ends may be closed by a continuous seam 19. In the drawings the seam is disclosed as being reinforced by tapes 20 and 21, one on each side of the bag tops. These features form no part of my present invention and are disclosed merely to indicate the application of my severing device.

Supported from the side bar 11 there is a bracket 25, having an arm 26 overhanging the slideway. A swinging cutter-carrier 27 is pivoted at 28 to the overhanging arm. A cutting wheel 29 is journaled at 30 near the lower end of the cutter-carrier. A guard 31 has roughly V-shaped notches 32 and 33 in its opposite sides. These notches are arranged at the proper distance above the slideway to receive the connecting seam and tape between the bags. The lower part of the guard 31 forms a finger 34, which is adapted to pass between the bags.

The cutter is driven by a motor 35, which is mounted on the arm 26, and is connected by a belt 36 to a pulley 37, fixed to the cutting wheel. I prefer to mount the motor so that the axis of the driving pulley is directly over the pivot 28, which in turn is directly over the path of the seam 19.

The carrier 27 has two arms 38 and 39, connected by links 40 and 41 to levers 42 and 43. These levers are fulcrumed at 44 and 45 on the members 10 and 11 and carry, near their forward ends, pins 46 and 47, which project into the respective paths of lugs 48 and 49, which project upwardly

from the ends of the pusher bars. These lugs are arranged in staggered relation upon each alternate bar on each side of the slideway. By this mechanism the cutter-carrier is swung across the path in alternate directions between successive bags.

While the cutter might be manipulated manually or by suitable connections to a foot pedal or by other automatic means controlled in various ways, as, for example, by the passage of the bags, I prefer the means shown, which operates the cutter in proper relation to the means which spaces the bags.

Other means might be used for driving the cutter-wheel, but the means disclosed has several advantages. As will be seen, the belt is tightened by the straightening of the toggle formed by the carrier 27 and the support of the motor, and therefore the belt is tightest at the time the cutter is severing the connection between the bags. Furthermore, the belt acts as a spring and holds the cutter in inoperative position at one side of the line of bags until it is positively brought into operation by swinging the carrier, and as soon as the cutter passes the center line, the belt swings it up on the other side and out of the path of the bags.

The operation of the device will be sufficiently apparent from the above disclosure without further discussion, and it will be apparent also that many modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. Means for severing a continuous closure member applied to the top of successive bags, comprising means to convey the bags in spaced relation, a cutter in operative position above the path of the conveyed bags, and means connected with the conveyor for giving the cutter severing motion alternately in opposite directions between successive bags.

2. In apparatus for severing connections between a series of articles, means for conveying the articles in succession past a fixed point, a severing device, and means connected with the conveyor for passing the severing device alternately in opposite directions between successive articles.

3. In apparatus for severing an endless member, means to convey such a member, a

cutter-carrier pivoted above the path of travel of the member to swing transversely of said path, a rotatable cutter mounted in said carrier, a driving pulley vertically above the axis of the carrier, and a belt connecting said driving pulley to a cutter-operating pulley on the carrier, the axis of the carrier and the axes of said pulleys being substantially in line when the cutter is in contact with said member.

4. In apparatus for severing connections between articles, means to convey the articles in succession past a fixed point, a cutter-carrier pivoted vertically above said point, a rotatable cutter mounted in said carrier, a driving pulley vertically above the axis of the carrier, and a belt connecting said pulley to a cutter-operating pulley on the carrier.

5. In apparatus for severing an endless member, means to convey such a member, a cutter-carrier pivoted above the path of travel of the member to swing transversely of said path, a rotatable cutter mounted in said carrier, a driving pulley vertically above the axis of the carrier, a belt connecting said driving pulley to a cutter-operating pulley on the carrier, and means for swinging the carrier alternately in opposite directions across the path of the member.

6. In apparatus for severing connection between articles, means to convey the articles in succession past a fixed point, a cutter-carrier pivoted above said point, a rotatable cutter mounted in said carrier, a driving pulley vertically above the axis of the carrier, a belt connecting said pulley to a

cutter-operating pulley on the carrier, and means for swinging the carrier alternately in opposite directions between successive articles.

7. In apparatus for severing an elongated member, means for conveying the member longitudinally, a rotatable cutting wheel, a guard for said wheel, there being roughly V-shaped notches in opposite sides of the guard, means for moving the cutter and guard alternately in opposite directions across the path of the member and in position for the member to enter alternately said V-shaped notches and to be guided thereby against the cutting edge of the wheel.

8. In severing apparatus, a rotatable cutter, a pivotally mounted carrier for the cutter adapted to carry the cutter to cutting position and to idle position, a drive pulley mounted to the side of the axis of the carrier away from the cutting position of the cutter, and a belt connecting the drive pulley with the cutter, the cutting position of the cutter being nearer in line with the axes of the carrier and the pulley than said idle position.

9. In cutting apparatus, a support for an article to be cut, a drive pulley, a carrier mounted to swing about an axis directly between said support and said pulley, a rotatable cutter mounted in the carrier and a belt connecting said pulley and said cutter.

In testimony whereof I have hereunto subscribed my name to this specification.

ADELMER M. BATES.