Oct. 30, 1928. 1,689,404

B. W. QUICK

TIMING DEVICE FOR PACKAGE WRAPPING MACHINES

Filed Aug. 17, 1927

Fig. 1.

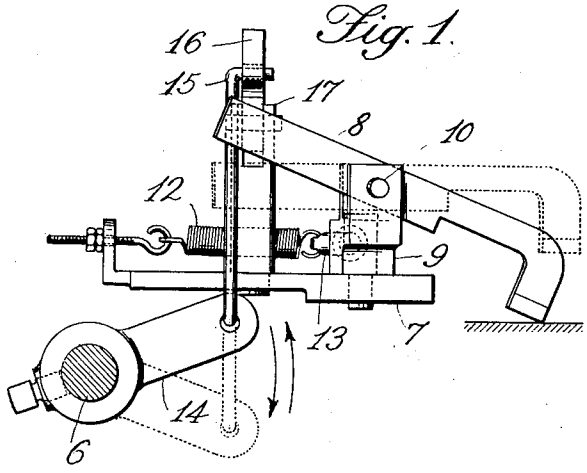


Fig. 2.

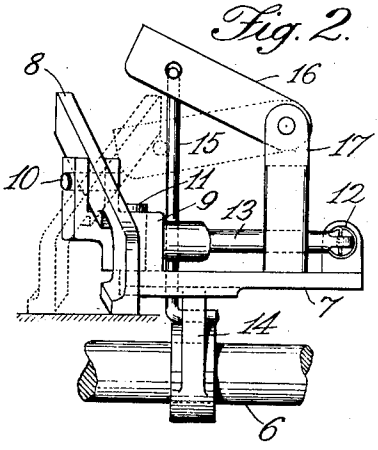
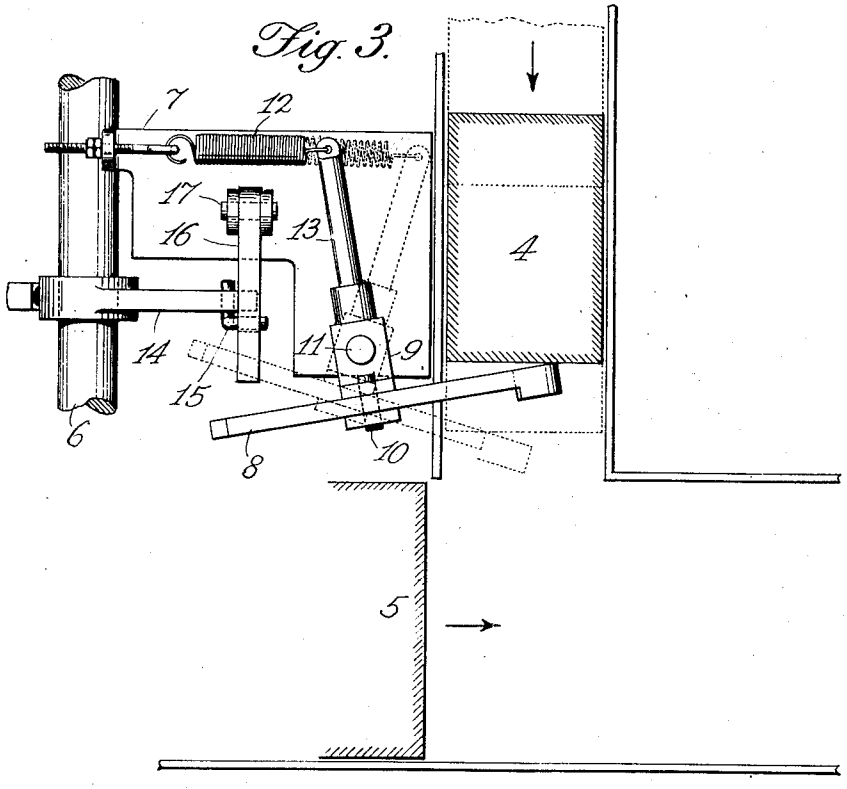


Fig. 3.



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TIMING DEVICE FOR PACKAGE-WRAPPING MACHINES.

Application filed August 17, 1927. Serial No. 213,478.

This invention relates to an improvement in a timing device for package wrapping machines, and its main object is the production of a device for automatically insuring the proper feeding of packages at the turn of an angular pathway along which they are moved on entering the wrapping machine. In such pathways heretofore, a break in the continuity of packages moving toward the turn of the pathway resulted in damage to packages caught at the turn between a wall of the pathway and the plunger which periodically moves packages from the turn of the pathway into the wrapping mechanism. The present device obviates this difficulty by arresting oncoming packages whenever a break occurs in their continuity until their continuity is restored and then releasing them at the proper time to insure proper engagement of the feeding plunger with the leading package at the turn. With this and other objects not specifically mentioned in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then specifically set forth in the claims hereunto appended.

In the accompanying drawings, in which like characters of reference indicate the same or like parts, Fig. 1 is a side elevation of a device constructed in accordance with the invention; Fig. 2 is an end elevation of the same; and Fig. 3 is a plan view of the same showing its location in the customary angular pathway.

In carrying the invention into effect, there is provided an angular pathway along which a succession of packages are normally forwarded in continuity toward the turn of said pathway in the usual manner, as by means of a feed belt in constant operation, stop mechanism having a member normally riding inactively on top of the packages but arranged to drop into their path and arrest oncoming packages when a break occurs in their continuity, and means for automatically resetting said member on top of the packages when continuity is restored. These various parts and means may be varied in construction within the scope of the claims, for the specific structure selected to illustrate the invention is but one of numerous possible concrete embodiments of the same. The invention, therefore, is not to be restricted to the precise details of the structure shown and described.

Referring to the drawings: 4 represents one of the forwarded packages, a break having occurred in the continuity of packages moving toward the turn of the angular pathway. 5 indicates the reciprocating plunger which feeds packages successively into the wrapping mechanism, not shown, of the wrapping machine in connection with which the device is used. 6 indicates one of the shafts of the wrapping machine having a rocking movement in synchronism with the movement of the plunger 5.

Upon a base 7 is mounted a stop lever 8 which, by means of a suitable mount, is free to swing in vertical and in horizontal directions. It is hung dissymmetrically on its horizontal pivot 10, so that its forward end may drop by gravity when no packages is present to support it. The pivot 10 is carried by a lever 9 which is fulcrumed on a vertical pivot 11 carried by the base 7. The lever 9 has a long arm 13 to which one end of a spring 12 is attached, the other end of the spring being attached to a hook carried by the base 7.

To the rockshaft 6 is secured an arm 14 to which is attached one end of a link 15 connecting said arm with a trip arm 16 supported by an upright 17 rising from the base 7. The trip arm 16 thus has an oscillating movement in synchronism with the reciprocating movement of the feeding plunger 5. The trip arm 16 normally oscillates idly, and can engage the stop lever 8 only when the latter has dropped into the path of oncoming packages and been moved thereby, against the resistance of the spring 12, to its extreme forward position as indicated by the dotted lines in Figs. 2 and 3.

When a break occurs in the continuity of the forwarded packages, the stop lever 8, which normally rides inactively on top of the packages, drops into the gap between packages, and, being held by the spring 12, stops the next package as it comes into contact with the stopped package. The tension of the spring 12 is so adjusted that a given number of packages must be in line ready to be wrapped before the friction of the forwarding belt on the bottoms of the packages over-

comes the pull of the spring. As soon as this occurs, however, the line of packages begins to move again, pushing the stop lever ahead of them. The raised rear end of the lever 8 is thus moved rearwardly into the range of action of the trip lever 16 which depresses it on its next down stroke, thereby raising the forward end of the lever 8 at the proper time to be in timed relation with the movement of the feeding plunger 5. Immediately upon being lifted out of engagement with the detained package by the trip lever 16, the spring 12 snaps the stop lever 8 back into its normal inactive position on top of the packages where it remains until another break in continuity occurs.

What is claimed is:

1. The combination with an angular pathway along which a succession of packages are normally forwarded in continuity toward the turn of said pathway, stop mechanism having a member normally riding inactively on top of the packages but arranged to drop into their path and arrest oncoming packages when a break occurs in their continuity, and means for automatically resetting said member on top of the packages when continuity is restored.

2. The combination with an angular pathway along which a succession of packages are normally forwarded in continuity toward the turn of said pathway, stop mechanism having a member normally riding inactively on top of the packages but arranged to drop into their path and arrest oncoming packages when a break occurs in their continuity, and means for automatically resetting said member on top of the packages when continuity is restored, said stop mechanism including a spring controlling the action of said member when in the path of oncoming packages to insure restoration of package continuity before said means comes into action.

3. The combination with an angular pathway along which a succession of packages are normally forwarded in continuity toward the turn of said pathway, stop mechanism having a member normally riding inactively on the top of the packages but arranged to drop into their path and arrest oncoming packages when a break occurs in their continuity, and means for automatically resetting said member on top of the packages when continuity is restored, said stop mechanism including a spring-controlled lever rockable on a vertical pivot, and said lever carrying a horizontal pivot on which said member is rockably mounted.

4. The combination with an angular pathway along which a succession of packages are normally forwarded in continuity toward the turn of said pathway, stop mechanism having a member normally riding inactively on top of the packages but arranged to drop into their path and arrest oncoming packages when a break occurs in their continuity, and means for automatically resetting said member on top of the packages when continuity is restored, said resetting means including a constantly oscillating arm engaging said member only when package continuity is restored after a break.

5. The combination with an angular pathway along which a succession of packages are normally forwarded in continuity toward the turn of said pathway, stop mechanism having a member normally riding inactively on top of the packages but arranged to drop into their path and arrest oncoming packages when a break occurs in their continuity, and means for automatically resetting said member on top of the packages when continuity is restored, said resetting means including an arm engaging said member only when continuity has been restored after a break, a rockshaft, an arm on said shaft, and a link connecting the shaft arm with the member engaging arm.

In testimony whereof, I have signed my name to this specification.

BRUNNIE W. QUICK.