

W. C. STEVENS.
FOLDER DEVICE FOR WRAPPING MACHINES.
APPLICATION FILED MAY 24, 1915.

1,244,255.

Patented Oct. 23, 1917.

Fig. 1

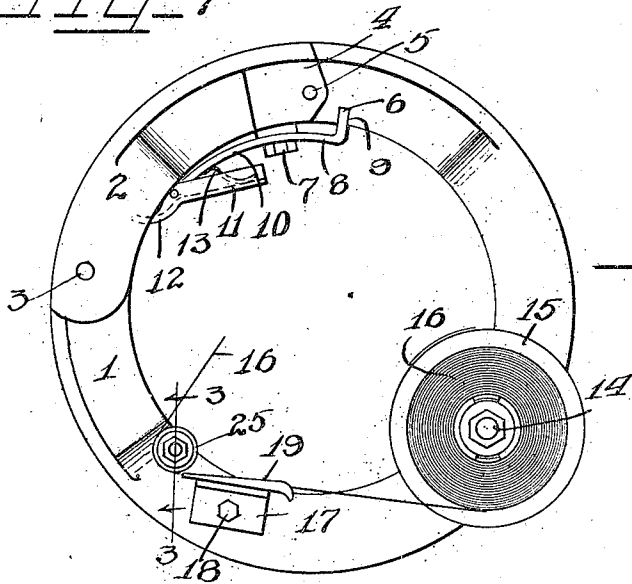


Fig. 3

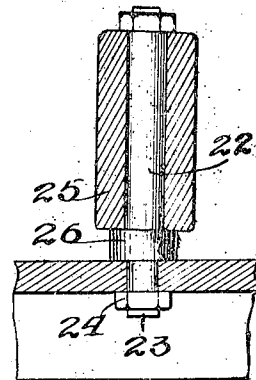


Fig. 2

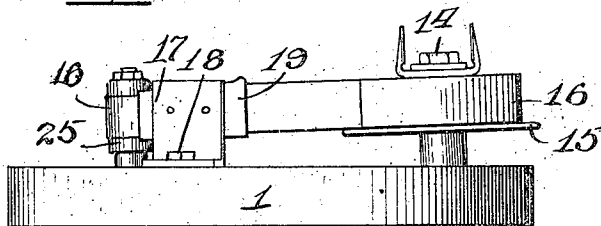
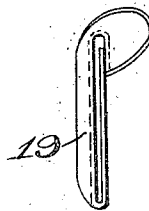
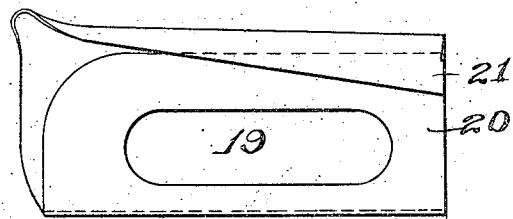


Fig. 5

Fig. 4



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM C. STEVENS, OF AKRON, OHIO, ASSIGNOR TO PIERCE WRAPPING MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FOLDER DEVICE FOR WRAPPING-MACHINES.

1,244,255.

Specification of Letters Patent.

Patented Oct. 23, 1917.

Original application filed August 19, 1912, Serial No. 715,745. Divided and this application filed May 24, 1915. Serial No. 30,038.

To all whom it may concern:

Be it known that I, WILLIAM C. STEVENS, a citizen of the United States, and a resident of the city of Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Folder Devices for Wrapping-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention constitutes a divisional application of my co-pending application for "Wrapping machines," filed August 19, 1912, Serial No. 715,745. The folder device forming the subject matter of the invention is used upon a high speed revolving shuttle which forms a part of a wrapping machine for applying a spiral wrapping or winding or covering strip such as paper about annular bodies for example automobile tires, coiled wire, and the like, or upon long cylindrical bodies such as pipe, rods, or other objects capable of receiving such a wrapping.

It is an object of this invention to construct a folding device used in combination with a creasing roller which acts to crease the strip of paper drawn through the folder, creasing the same as it is led around said roller, the roller of course permitting the strip to leave the shuttle for application to the article at any angle for different relative positions of the shuttle and the article without requiring re-adjustment of the parts.

It is also an object of this invention to construct a folder device which is pivotally mounted adjacent a creasing roller adapting the paper wrapping to be drawn through the folder device and creased upon the roller and then led to the article to be wrapped.

It is furthermore an object of this invention to construct an improved form of folder device which co-acts with a spring plate to afford a tension mechanism for the paper drawn through the folder before being folded.

It is finally an important object of this invention to construct a device simple in construction and operating efficiently to perform the purpose for which it is designed.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a front elevation of a shuttle equipped with a folder device embodying the principles of my invention.

Fig. 2 is a bottom plan view thereof.

Fig. 3 is a detail section taken on line 3-3 of Fig. 1.

Fig. 4 is a detail view of the folder device shown detached from the shuttle.

Fig. 5 is a view of the entrance end thereof.

As shown in the drawings:

The main section of the shuttle, which is a closed ring when in condition for operation, is denoted as a whole by the reference numeral 1, and hinged thereto is a section 2, to permit opening of the shuttle for insertion or removal of the article to be wrapped. Said hinged section 2, is pivotally engaged at one end on the end of the shuttle member 1, by means of a pin 3, and at the other end is provided with projections 4, on both sides thereof forming a yoke adapted to receive therein a tongue member integral with the end of the shuttle section 1. A pin 5, extends transversely through said projections 4, and is adapted to hold the ends of the shuttle sections engaged with one another, thus insuring a true periphery for the shuttle under all conditions when the hinged section is closed.

Means are provided for locking said hinged section in closed position. For this purpose a notch 6, is provided in the shuttle 1, on the inner periphery thereof, and pivotally supported by means of a bolt 7, extending radially from the inner side into said hinged section 2, of the shuttle, is a swinging detent 8, having a finger 9, adapted to engage in said notch. The elongated tail 10, of said detent lever extends around the inner periphery of said hinged section and pivotally mounted thereon is a lever 11, one end 12, thereof engaging in a suitable notch or recess in said hinged section. As shown, a spring 13, engages the free end of said lever 11, and acts to hold the same normally in locking position, as clearly shown in Fig. 1. When it is desired to release the hinged section, the tail of the lever is pressed downwardly toward the tail 10, of the detent lever, thus releasing the locking end of said detent lever, whereupon the same may be swung laterally, carrying the finger 9, thereon, out of the notch 6, and past

mitting the shuttle to be opened. Mounted on the face of the shuttle diametrically opposite the hinged section thereof is a stud shaft 14, upon which a paper reel 15, is mounted, carrying a reel of wrapping material 16.

An angled bracket plate 17, is pivotally and obliquely secured upon the face of the shuttle, by means of a bolt 18, and secured on said plate is a folding device 19, comprising a sheet of metal bent to afford a tapering nozzle 20, comprising an inner and relatively narrow fold, an outer wider fold, and a lip 21, integral with the outer fold and turned over the inner fold. The opposite end of said nozzle is wider and flaring to receive the paper or other material therein. Said nozzle is secured on said bracket plate 17, in any suitable manner with the tapered end of the nozzle directed outwardly. Mounted adjacent said tapered end of the folding device and set in the face of the shuttle is a stud shaft 22, which is inclined slightly, as shown in Fig. 3. The lower end 23, of said stud shaft engages perpendicularly through the wall or face of the shuttle, and a nut 24, is provided thereon, which may be loosened to permit an adjustment of the upper angled portion 22, into any desired position. Journaled on said stud shaft 22, is a roller 25, or if preferred, the stud shaft may be merely rounded or provided with a convex surface over which the paper or other wrapping material may be drawn to the article to be wrapped. A washer 26, the opposite surfaces of which are inclined conforming to the angularity of the portions 22 and 23, of the stud shaft, is engaged upon said stud shaft between said roller 25, and the face of the shuttle.

The operation is as follows:

The paper or other wrapping material is drawn from the reel through the folding nozzle 19, around the guide roll 25, and thence to the article, and when the shuttle is rotated of course the wrapping material is applied to the article. The pivotal mounting of the folding nozzle 19, by means of the bolt 18, on the face of the shuttle, permits the nozzle to properly aline itself between the roller 25, and the periphery of the constantly decreasing reel of paper 16. As clearly shown in Fig. 4, at the entrance end of the folder nozzle the inner fold plate over which the lip 21, extends, is rounded at its end beneath the flaring end of the upper fold of the plate, so that an easy entrance for the wrapping material is provided. The roller 25, may be adjusted into various positions by loosening the nut 24, so that the proper operating position of the roller 25, with respect to the article being wrapped may be easily secured.

I am aware that various details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. The combination with a shuttle and paper carrying means thereon, of a folder device pivotally mounted upon said shuttle, and an adjustable creasing member adjacent thereto to crease the folded paper leaving said folder device.

2. In a device of the class described the combination with a shuttle and paper carrying means thereon, of a movably mounted folder device and an adjustable rotatable creasing member for the paper folded by said device, said folder device adapted to automatically aline itself in position between said creasing member and the paper carrying means as the direction of feed of the paper from said means varies.

3. In a device of the class described the combination with a shuttle and a paper feeding means thereon, folding mechanism to fold the paper led from said means, and an adjustable creasing member inclined at an angle with respect to the surface of the shuttle to crease the fold in the paper, said folder mechanism so constructed as to automatically aline itself into proper position between said means and member as the direction of feed of said paper changes with a decrease in the supply thereof.

4. In a device of the class described the combination with a shuttle and a paper feeding mechanism, of a pivoted folding device for said paper mounted to automatically adjust itself to said mechanism as the direction of feed of the paper to said device varies.

5. In a device of the class described the combination with a shuttle, of a paper folding device pivotally mounted thereon, and a roller adjustably mounted in an inclined position on said shuttle adapted to crease the folded paper proceeding from said folder device and led to an article being wrapped.

6. In a device of the class described the combination with a shuttle, of mechanism movably mounted thereon acting automatically to aline itself with the line of feed of paper fed therethrough and to be folded thereby.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

WILLIAM C. STEVENS.

Witnesses:

G. A. ELY,
J. J. SHEA.

DISCLAIMER.

1,244,255.—*William C. Stevens*, Akron, Ohio. FOLDER DEVICE FOR WRAPPING-MACHINES. Patent dated October 23, 1917. Disclaimer filed September 30, 1918, by the assignee, *Pierce Wrapping Machine Co.*

Enters this disclaimer—

“To claim 3 of said United States Letters Patent, which is in the following words, to wit:

“6. In a device of the class described the combination with a shuttle, of mechanism movably mounted thereon acting automatically to aline itself with the line of feed of paper fed therethrough and to be folded thereby.”

[*Official Gazette September 24, published October 19, 1918.*]