(No Model.)

J. H. STONEMETZ.

TENSION DEVICE FOR TAPES OF PAPER FOLDING MACHINES.

No. 295,834. Patented Mar. 25, 1884.

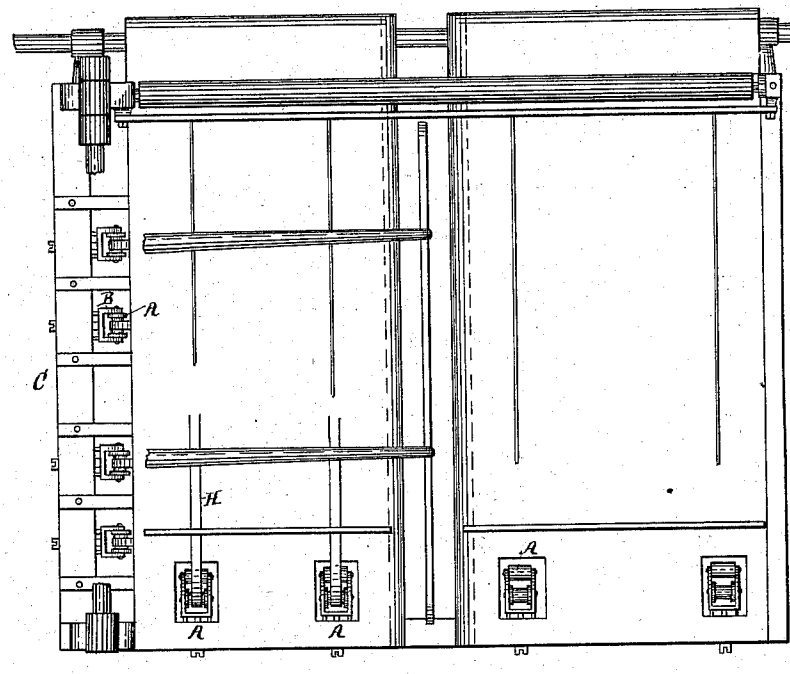


Fig. 1

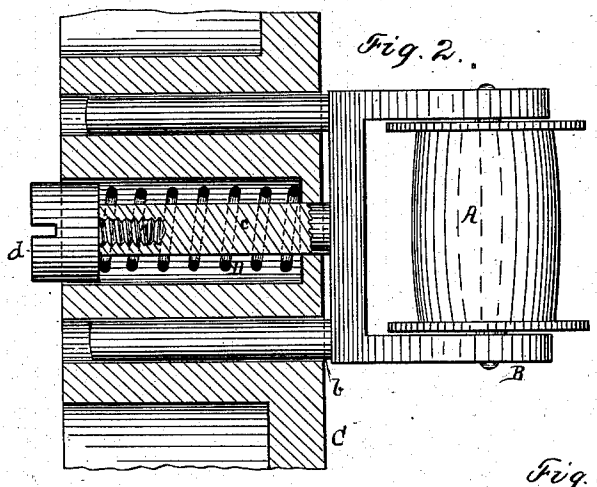


Fig. 2.

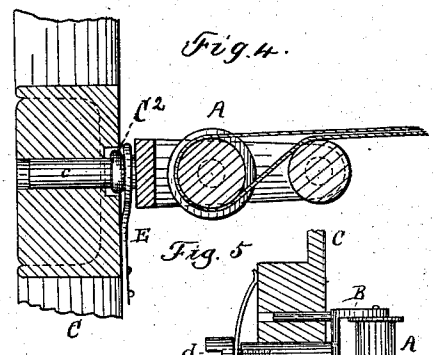


Fig. 4.

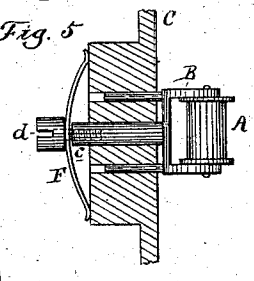


Fig. 5

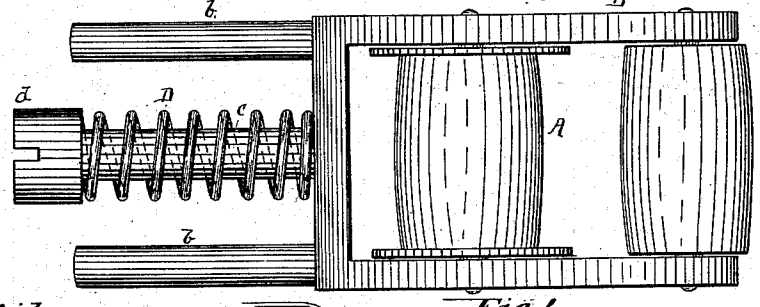


Fig. 3.

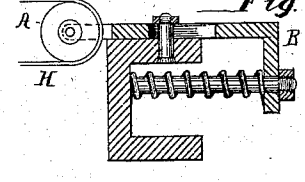


Fig. 6.

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UNITED STATES PATENT OFFICE

JOHN H. STONEMETZ, OF ERIE, PENNSYLVANIA.

TENSION DEVICE FOR TAPES OF PAPER-FOLDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 295,834, dated March 25, 1884.

Application filed June 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. STONEMETZ, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Tension Devices for Tapes of Paper-Folding Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to the class of paper-folding machines having endless bands or tapes for conveying the paper through the machine. In ordinary machines these conveyer-tapes are conducted over spools or guide-pulleys mounted in brackets or supports that are adjusted for the purpose of stretching or tightening the conveyer-tapes by means of slots and set-screws or other devices requiring manipulation by an attendant. The conveyer-tapes being made of material easily affected by heat and moisture, they will stretch and become loose on their guide-spools, and necessitate an adjustment of the latter to take up the slack in the tapes.

The object of my invention is to provide means whereby the tapes are always maintained in a uniformly taut condition by tension devices that operate in an automatic manner and do not require the intervention of an operator. I attain this automatic adjustment of the tape-spools by the means hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a top view of a paper-folding machine, showing the self-adjusting tape-spools in position on the frame of a paper-folding machine. Fig. 2 is a sectional view of my self-adjusting spool in the frame of a folding-machine. Fig. 3 is a perspective view of my self-adjusting spool, supporting-bracket, and guide-stem encircled by a coiled spring. Fig. 4 is a sectional view of my self-adjusting spool, its supporting-bracket, and a flat or plate spring engaging with a stem of said bracket. Fig. 5 is a sectional view of a self-adjusting spool and supporting-bracket combined with a bow or semi-elliptical spring. Fig. 6 is a sectional view of a self-adjusting spool and a supporting-bracket plate combined with a guide-pin moving in a slot and having a spiral spring.

The letter A designates spools or pulleys of the ordinary form or shape, which are mounted or journaled in hangers or brackets B, fitted in or connected with the frame C of a paper-folding machine, as is clearly shown in Fig. 1. The brackets are constructed with guide arms or stems *b*, which are fitted into apertured rails of the frame of the machine in such a manner that they can have a proper degree of play or movement. A stem or arm, *c*, arranged on the bracket between the other stems, may be provided with an encircling spiral spring, D, as shown in Figs. 2 and 3, with a flat plate-spring, E, as illustrated in Fig. 4, or with a semi-elliptical or curved spring, F, as shown in Fig. 5. Other forms of springs, however, may be resorted to for exerting a pressure upon the spool brackets or holders A, and various ways of applying the spring-pressure will readily suggest themselves.

In the construction shown in Fig. 2 the spring-encircled stem of the spool-bracket is seated in a socket or mortise made in the frame-rail, said mortise being sufficiently large to contain the spring and a plug or head, *d*, on the inner end of the stem. This plug is connected with the stem by a screw-shank, and serves as a stop for preventing the withdrawal of the spring-stem through the hole in the bottom of the socket.

In the construction shown in Fig. 4 a collar, C^2, is made on the stem C, and the spring E is bifurcated or apertured at one end, so as to receive the stem, and is attached at its other end to the frame-rail.

In the form shown in Fig. 5 the screw-head *d* serves to secure the central or bow portion of the semi-elliptical spring F to the stem *c*, the free ends of such a spring alone bearing upon the frame-rail.

It will readily be manifest that the tapes or bands H, passing around or over these spools or sheaves, will always be maintained in a state of tension by the action of the spring upon the brackets of such spools, it being understood that a pair of sheaves may be arranged in line upon opposite sides of the frame and receive a single tape and hold the same in a

taut condition, or the various tapes are passed around the folding-rollers and the tension-spools. When the tapes are first applied, the spools are the farthest from the frame of the machine, and as the tapes stretch or become loose from any cause whatever the spools will automatically approach or move toward the frame-rails, and thus hold the tapes taut.

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

1. The combination of a spring-pressed bracket or frame carrying a tape-spool and provided with guide-stems, with a paper-folding-machine frame adapted to receive and hold said bracket or spool frame and a conveyer-tape passing around the spool mounted in said frame, as and for the purpose set forth.

2. In a paper-folding machine, the combination of the bracket having the stems, the spool mounted in said bracket, and a retracting-spring bearing upon a stem of the bracket, substantially as herein set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. STONEMETZ.

Witnesses:
CLARENCE CHAPMAN,
J. L. SMITH.