Oct. 6, 1931. R. H. WEBSTER 1,826,033

SEALING DEVICE

Filed July 14, 1930

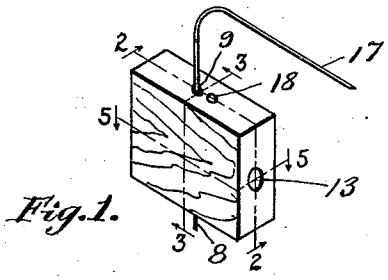



Fig. 1.

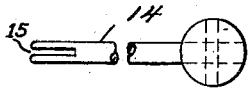



Fig. 6.

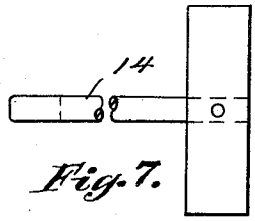



Fig. 7.

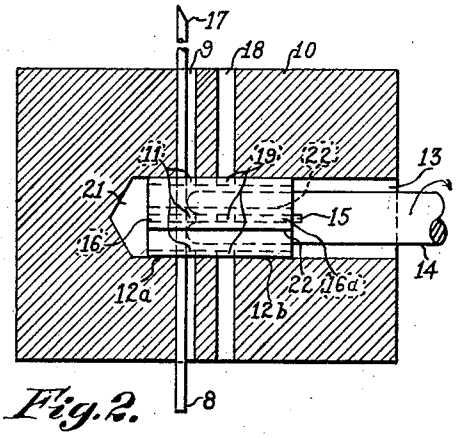



Fig. 2.

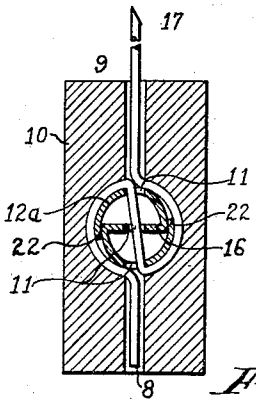



Fig. 3.

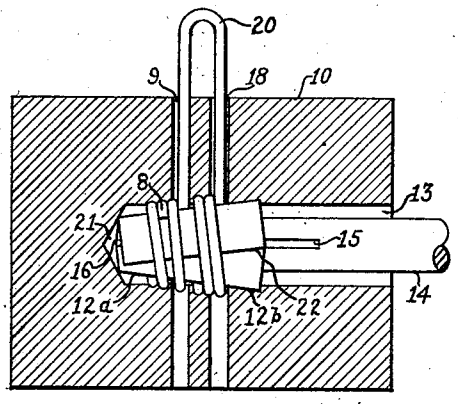



Fig. 4.

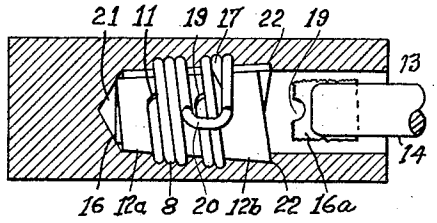



Fig. 5.

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Patented Oct. 6, 1931 1,826,033

# UNITED STATES PATENT OFFICE

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## SEALING DEVICE

Application filed July 14, 1930. Serial No. 467,991.

This invention relates to certain new and useful improvements in sealing devices for packages, bolts of silk, doors or other articles it is desired to seal, the peculiarities of which will be hereinafter fully described and claimed.

The main objects of my invention are to provide a cheap effective sealing device for the purpose stated; secondly, to provide such a device designed to fasten the ends of a sealing band by rotation of a roller in a casing; thirdly, to provide a collapsible roller of sheet metal adapted to fasten the ends of said sealing loop when wound thereon; and fourthly, to provide such a collapsible sheet roller with a fragile portion for winding which is broken out by attempted reverse motion.

In the accompanying drawings in which like reference numerals indicate corresponding parts,

Fig. 1 represents a perspective view of my sealing device ready for use;

Fig. 2, a vertical section of the block lengthwise on the line 2—2 Fig. 1, one end of the sealing band inserted in the roller and the key engaged in readiness to turn the roller;

Fig. 3, a vertical cross section of the block on the line 3—3 Fig. 1, showing the sealing band wound a half turn on the roller;

Fig. 4, a similar section of the block to Fig. 2 showing the sealing band wound upon the roller by further turns of the key to fastening position;

Fig. 5, a plan section of the block on the line 5—5 Fig. 1 looking down on the sealing band and roller in fastening position, with the key removing part of the center partition;

Fig. 6, an edge view of a winding key; and

Fig. 7, a plan view of the same.

Referring to the drawings, the numeral 10 designates a block of wood or other suitable material provided with a chamber 13 open at one end and preferably cylindrical and located at substantially the middle of the block which is preferably rectangular.

In said chamber is mounted a roller also cylindrical and preferably formed of sheet metal or other suitable resilient material adapted to spring outward after compression so that portions of the roller shall engage the walls of the chamber in which it is mounted. This roller is preferably of one rectangular piece of spring metal formed into a cylinder with oppositely disposed side edges 22 overlapping a cross partition 16, as shown in Fig. 3. The diameter of this roller is normally slightly more than the diameter of the chamber 13, so that when it is inserted in the chambered block the resiliency of the material will cause it to expand and engage the walls of the said chamber and hold it in its located position therein.

Near the inner end 12*a* of the roller holes 11 perforating the cylindrical walls and connecting partition 16 are disposed so as to match a transverse hole 9 through the block and allow the insertion of one end 8 of a wire or other material for a sealing band, the other end 17 being preferably sharpened to facilitate passing it through layers of a bolt of silk to form a sealing loop when the front end 17 is returned to the block and inserted in the same hole 9, or preferably in an adjacent hole 18 that matches holes 19 in the roller corresponding to said holes 11.

For convenience in the manipulation, the end 8 of the sealing band is preferably secured to the roller as a preliminary to the insertion of the end 17 through the material or other article to be sealed. This preliminary engagement is accomplished by giving the roller a half turn by winding means such as a key 14 having a slot 15 adapted to engage the partition 16 for turning the roller

in the direction of the arrow Fig. 2. The side edges 22 are dragged by this rotation and do not oppose the same in this direction. Fig. 3 indicates this preliminary fastening of the rear end 8 of my sealing band. This avoids the block slipping from the band in handling it and while the front end 17 is being passed through the article to be sealed and is being brought back and inserted, preferably in said hole 18 of the block and matching holes 19 of the roller. Further turning of the roller by the key or other winding means, will cause one or more turns of the sealing band upon the outside of the roller as indicated in Fig. 4. The wire or other material forming the sealing loop, is relatively small and more or less indents the walls of the chamber like screw threads as it is being wound upon the roller. The holes through the roller being nearer the inner end 12*a* than the outer end 12*b* of the roller, the compression of the sealing band will collapse the inner end and force the side edges 22 of the outer end 12*b* of the roller into engagement with the walls of the chamber, as indicated in Figs. 4 and 5. Such engagement of the side edges 22, and the end 12*b*, with the walls of the chamber effectively opposes any backward rotation of the roller. The sealing loop thus formed by the fastening of the ends of the band in the roller and its enclosing block, provide the security of a seal to the article with which it is connected.

Any attempt to reverse the direction of the roller by said winding key or other means, will cause the portion 16*a* weakened by the partition hole 19 and engaged by the slot 15, to break away from the balance of the roller as indicated in Fig. 5, without freeing the ends of the band. In fact, as an additional safeguard, it is advisable that such fragile portion 16*a* of said partition, should be broken out by the person who effects the sealing act. This breaking out of the portion by which winding engagement is made with the roller, practically prevents further winding of the roller in either direction and adds to the safety of my sealing device. It will be observed that the winding of the band upon the roller and its indenting engagement with the walls of the chamber act upon the roller like threads of a screw and forces the roller inward against the inner end 21 of the chamber, as indicated in Figs. 4 and 5 where it is locked by the ends of the side edges 22 and the outer end 12*b* being engaged with the walls of the chamber.

This fastening end of my sealing band, thus provides a sealing loop 20, engaging the article sealed, and the above described fastening of the ends of the band prevents any opening of said loop without indicating that it has been tampered with. The side face of the rectangular block 10 may also be used for advertising purposes by applying suitable labels thereto, or otherwise showing the advertisement thereon.

I claim:

1. A sealing device comprising a block having a chamber therein and transverse holes therethrough, and a collapsible sheet roller in one piece having a cross partition for temporary engagement with winding means and oppositely disposed edges adapted to engage the walls of said chamber and prevent backward rotation and provided with holes to receive a sealing band as described and matching said transverse holes.

2. A sealing device comprising a block having a chamber therein open at one end and provided with transverse holes, and a sheet roller mounted in said chamber having a cross partition for temporary engagement with winding means inserted through the open end of said chamber and provided with holes to receive a sealing band as described.

3. A sealing device comprising a block having a cylindrical chamber open at one end only and provided with transverse holes to receive a sealing band as described, a collapsible sheet roller forming a cylinder with a cross partition for temporary engagement with winding means inserted through said open end and the partition and cylinder perforated nearer the inner end than the outer end to receive the ends of a sealing band as described and cause the inner end to collapse and force the side edges of the outer end into engagement with the walls of said chamber, substantially as described.

4. A sealing device comprising a wooden block having a chamber provided with transverse holes, and a cylindrical roller mounted therein and perforated to receive a sealing band as described, the band wound on said roller indenting the walls of said chamber forming screw threads to force the roller to the inner end of said chamber and prevent further winding action, substantially as described.

5. A sealing device comprising a block having a chamber open at one end and provided with transverse holes to receive a sealing band as described, and a sheet roller consisting of cylindrical walls with a connecting partitions, both provided with holes to receive a sealing band as described, the outer end of said partition being temporarily engaged by winding means inserted through said open end of the chamber to rotate said roller to locking position, said outer end portion being finally broken away by the winding means to prevent rotation of the roller in either direction, substantially as described.

6. A sealing device comprising a block having a cylindrical chamber with holes therethrough and open at one end, and a resilient sheet roller mounted in said chamber and having a fragile portion for temporary engagement with inserted winding means for

rotation of the roller, and provided with holes to receive a sealing band as described, the temporary engagement of the winding means with said fragile portion allowing rotation of the roller, and the fragile portion being broken by reversing the direction of rotation of the roller, substantially as described.

In testimony whereof I have affixed my signature.

RICHARD H. WEBSTER.