Jan. 18, 1927.

1,614,592

M. B. BEHRMAN

SEAL FOR PACKAGES

Filed Nov. 3, 1921

Fig. 1.

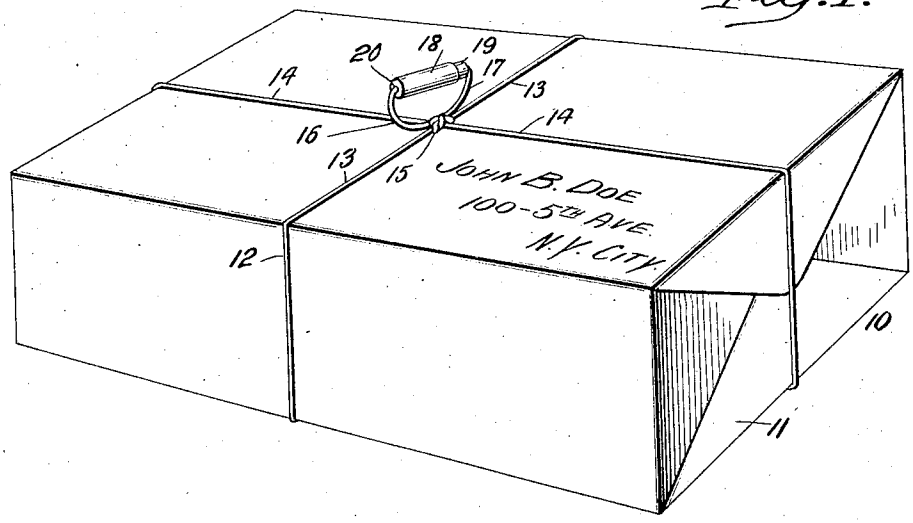



Fig. 2.

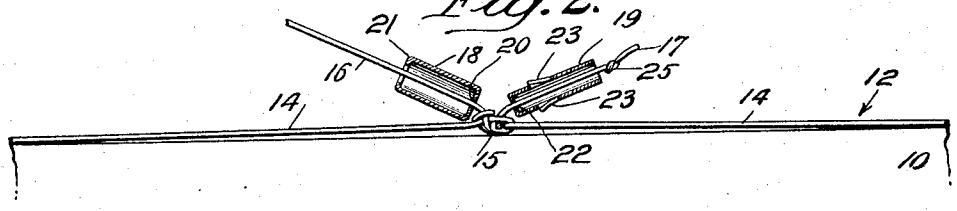



Fig. 3.

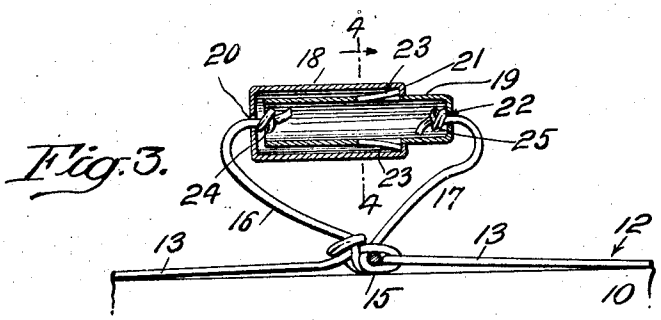
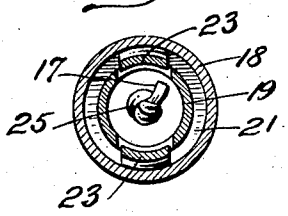



Fig. 4.




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# UNITED STATES PATENT OFFICE.

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## SEAL FOR PACKAGES.

Application filed November 3, 1921. Serial No. 512,442.

The invention has for its object to so securely fasten the cord or the like applied to a package that it cannot be removed therefrom without being evident that the package has been tampered with.

In carrying out my invention, I tightly wrap the binding cord around the box or package longitudinally and transversely and tie the end portions of the cord at the point where the members of the cord cross each other, together and to said members in a hard knot, after which I apply interlocking devices upon the ends of the cord and permanently couple said devices together, the ends of the cord being caught within said devices and not being removable therefrom.

My invention relates to the sealed package and to the means I provide for securing the same in intact condition.

The cord I employ is a plain strong piece of usual cord or twine such as is commonly used for tying up boxes and packages but is of a length adapted to the purposes of my invention, and the interlocking devices I finally apply on the ends of the cord and couple together are preferably each in an integral piece of sheet metal and hollow and adapted on one being pushed into the other to snap together in a manner to thereafter resist separation. These interlocking devices are threaded upon the free ends of the cord remaining after the cord has been tied around the package, and thereupon the said ends are knotted to connect them with said devices, after which the devices are coupled together and are in such relation to the knot tying the cord onto the package that the loosening of said knot will not create sufficient slack in the cord to permit the cord to be slipped from the package.

The invention will be more fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Fig. 1 is a perspective view of a package tied and sealed by means embodying my invention;

Fig. 2 is a longitudinal section, partly broken away, through the package, the cord and the locking means for permanently fastening together the two ends of the cord, the locking means being shown in their normal uncoupled condition and one end of the cord being shown exposed to be knotted;

Fig. 3 is a transverse section, on a larger scale, and partly broken away, of the package and sealing means embodying my invention, the two parts of the lock being shown in their coupled and interlocking relation to each other, and

Fig. 4 is a vertical transverse section through the same, taken on the dotted line 4—4 of Fig. 3.

In the drawings, 10 indicates the package which may be a paste-board box enclosed within a paper wrapper 11 in the customary manner or of other character. The purpose of my invention is to so tie up and seal the package that it cannot be opened without severing the cord tied around it or without the package showing evidence that it has been tampered with.

The means employed by me for ensuring the package against being tempared with comprises an endless cord or the like 12 which will be tightly wound about the package 10 both longitudinally and transversely, the transverse members 13 of the cord not only being tied together, but tied around the longitudinal member 14 of the cord so as to produce a hard knot 15 uniting the end portions of the card and also binding the transverse members 13 and the longitudinal member 14 of the cord together at the point where said members intersect, this preferably being at the center of the top of the package There are various ways of tying the knot at 15, and hence my invention is not limited to any special knot 15 so long as the knot is hard and effectually unites the members 13, 14 and the end portions of the cord together.

The end portions of the cord beyond the knot 15 are numbered 16, 17, respectively, and upon these portions I apply my locking means comprising a hollow cylindrical tube 18 and a hollow cylindrical plug 19 adapted for insertion one within the other. The tube 18 has its outer end closed, except at a perforation 20 formed therein, and at its other end said tube 18 has an inwardly-turned annular flange 21 which partly closes that end of the tube, but leaves an opening at said end to closely receive the plug 19. The plug 19 at its outer end is closed, except at a perforation 22 formed therein, and at its inner end said plug 19 is open. The plug 19 is formed forwardly of its inner end with

spring fingers 23 split and bent outwardly from the sides thereof and diverging in a direction toward, but not extending to the outer end of the plug, whereby the outer end of the plug is left with solid surfaces, except at the hole or perforation 22. In securing together the outer ends 16, 17 of the cord 12, the end 16 is slipped through the hole 20 of and entirely through the tube 18 and knotted, as at 24, so that the tube is prevented from slipping off of said end 16, as shown in Fig. 3, and the end portion 17 of the cord is slipped through the opening 22 of the plug 19 and entirely through the plug and knotted as at 25, whereby the plug is prevented from being slipped off from said portion 17 of the cord. The manner of knotting the ends 16, 17 of the cord will be understood on reference to Fig. 2, in which I show the tube 18 and plug 19 as having had the ends of the cord slipped through them, with the end of the part 17 knotted. After the end portions 16, 17 of the cord have been slipped through the tube 18 and plug 19, respectively, and knotted, as at 24, 25, said tube and plug are slid outwardly on the said portions 16, 17 until the knots 24, 25 reach the perforations or holes 20, 22, respectively, after which the open end of the plug 19 is slipped into the open end of the tube 18 and pressed into said tube 18 until the spring fingers 23 of said plug pass inwardly beyond the annular shoulder 21 at the inner end of the tube 18, the result of which is that the spring fingers 23 will snap outwardly behind the shoulder 21 and prevent the withdrawal of the plug 19 from the tube 18 or the separation of said tube from said plug. The locking together of the tube 18 and plug 19 serve to seal the end portions 16, 17 of the cord in such manner that said ends cannot be separated and used for untying the knot 15. The package therefore becomes securely tied and sealed with the devices of my invention comprising the cord 12, tube 18 and plug 19 arranged and constructed as described. I exercise care not to have the end portions 16, 17 of the cord unduly long, this being to prevent the slipping off from the package of the cord 12 should a person work at the knot 15 to loosen it. The length of the end portions 16, 17 should be just sufficient to permit of the proper application of the tube 18 and plug 19 and not allow enough slack in said portions to permit of any mischievous loosening of the knot 15, the slippage of the cord from the ends or sides of the package. The cord 12 will therefore be of predetermined length suited to the purposes of my invention.

The tube 18 and plug 19 will each preferably be made in one integral piece of sheet metal, leaving no joints to be loosened by anyone attempting to open the package. The flange 21 closely engages the exterior of the plug 19, and the ends of the spring fingers 23 set outwardly from the joint between the flange 21 and the plug 19, and hence no one could by forcing a pointed instrument between said flange and plug cause the spring fingers 23 to turn inwardly toward each other and permit the separation of the tube 18 from the plug 19. On the contrary the insertion of a sharp instrument between the flange 21 and plug 19 would engage the spring fingers 23 and press them outwardly more firmly into locking engagement with the tube 18.

My invention comprehends the tying of the package longitudinally and transversely by means of the cord 12 and the tying of the end portions of said cord and the intersecting portions of the cord together, as at 15, so that the box or package becomes tightly secured, and then securing the free ends of the cord so that the knot 15 cannot be untied sufficiently to permit the cord to be slipped off from the package. I have shown the cord wound once around the package longitudinally and transversely, but it will be understood that the cord may be wound around the package as many times as may be necessary in accordance with the weight of the package and the necessities of the case. The cord will preferably be always wound around the package in directions at right angles to each other and the end portions of the cords will be tied together and to the main body of the cord at the point where the members of the cord cross each other, leaving just enough free ends of the cord, as 16, 17, to receive the locking means composed of the tube 18 and plug 19 of the character described.

I do not desire to limit my invention specifically in every instance to the tying of the cord, at 15, to both the longitudinal and transverse members of the cord at the point where said members cross each other, but the safer method of carrying out the invention is to tie the end portions 16, 17 of the cord both together and to the transverse and longitudinal members 13, 14 of the cord, as I show in the drawings.

The interlocked tube 18 and plug 19 are of special advantage when of the construction shown and described, in view of their cheapness of manufacture and efficiency in use, but in some aspects of the invention I do not limit myself to all of the details of the members 18, 19 shown.

The chief advantage of my invention resides in the security with which the package is tied and sealed, it being impossible to open the package without cutting the cord or breaking the interlocking members 18, 19. I may add, however, that the end portions 16, 17 of the cord, together with the interlocked members 18, 19, create a loop through

which a finger or fingers may be inserted for carrying the package, said loop serving as a handle.

I employ the word "cord" herein in a generic sense, meaning to include thereby the flexible string 12 whether of fibre, paper, wire, twine, rope or other material adapted for tying up the package 10 in the manner described.

What I claim as my invention and desire to secure by Letters Patent, is:

A cord or the like adapted for securing merchandise having on its respective ends means for permanently connecting the ends of said cord so that the cord cannot be removed from the merchandise without detection, said means comprising a sheet metal tube closed at one end and at said end fixedly connected with one end of the cord and said tube at its other end being open and flanged inwardly around its edge, and a hollow sheet metal plug closed at one end and thereat fixedly connected with the other end of the cord and said plug having slit from its sides outwardly deflected spring fingers which extend in a direction toward and set inwardly from the closed end of the plug, said plug at its free end being adapted for insertion within the open end of said tube to carry its spring fingers thereinto beyond the flange at said end for interlocking engagement with said flange, whereby when said tube and plug have been telescoped upon each other they become inseparably interlocked together and permanently connect the two ends of the cord.

Signed at New York city, in the county of New York and State of New York, this 31st day of October, A. D. 1921.

MARCUS B. BEHRMAN.