April 10, 1928.

1,665,732

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PACKAGE

Filed June 16, 1923

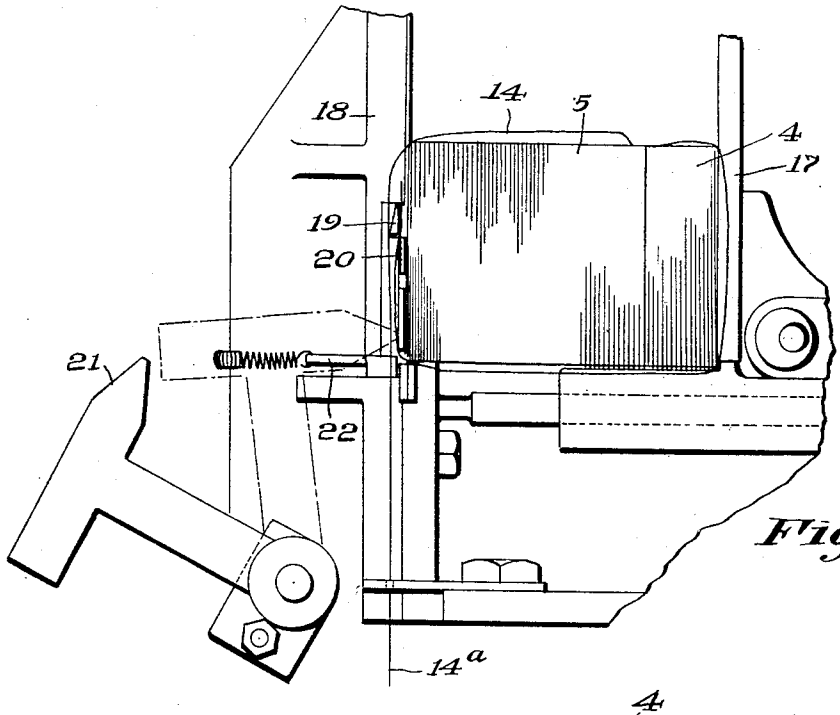

Fig. 1

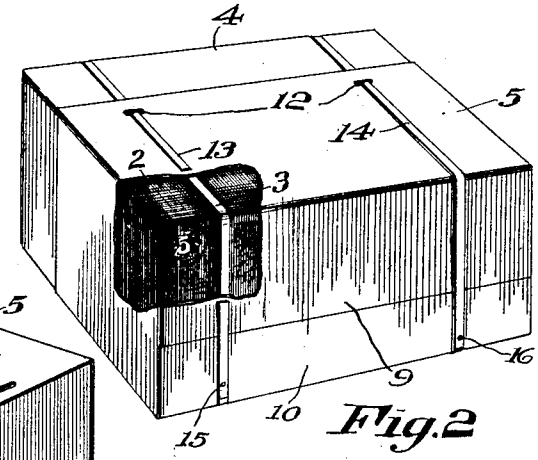

Fig. 2

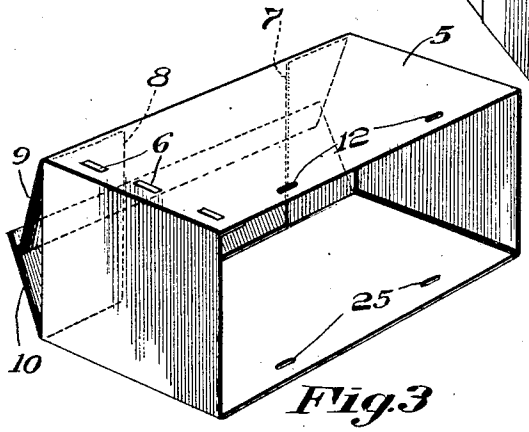

Fig. 3

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Patented Apr. 10, 1928. 1,665,732

UNITED STATES PATENT OFFICE.

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PACKAGE.

Application filed June 16, 1923. Serial No. 645,746.

This invention relates to packages, and it has for its chief object to devise a package in which the packaged material will not only be securely enclosed, but which will prevent the disturbance of the contents of the package without leaving behind ample evidence of such act.

The invention is especially concerned with the problem of bundling or packaging currency, more especially paper currency, for shipment or distribution, although it will readily be appreciated that the invention also is useful in many other relationships. It has been customary heretofore to stack a bunch of bills to be shipped, to bind the stack with rubber bands, and then to enclose such a bundle in a bag sealed with the usual lead seal. It is obviously a simple matter to extract a single piece of currency from such a stack before or after it is enclosed in the bag, and it has been found possible to extract a bill from such a package through a very small hole in the bag. In my pending applications Serial Nos. 533,474 and 620,371, I have disclosed a currency package and a machine for packaging currency and like materials which effectually prevents the removal of an individual piece of currency from a package under any ordinary conditions without leaving behind ample evidence that the package has been tampered with. The packages disclosed in these applications consist, generally speaking, of a stack of paper currency which has been compressed and which is held in its compressed condition by two metallic binders, the ends of these binders being brought together and overlapped and then sealed either by welding them togther or by molding a metallic seal on them. In shipping such currency each bundle is enclosed in a telescoping carton which is bound by metallic tapes sealed in the manner above described. It has been suggested, however, that such a package might be opened, if the person so desiring had the necessary equipment and opportunity, by recompressing the package and slipping the binders off laterally over the ends of the package. This requires a compression of the package considerably greater than that produced during the original binding of the package, and in most cases the degree of compression necessary to permit such slipping of the binders over the ends of the package would be impossible. However, this may be possible under some circumstances and it is an important object of this invention to devise a simple, economical but effective means for preventing the opening of a package in this manner.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawings, and the novel features will be particularly pointed out in the appended claims.

In the drawings,

Figure 1 is a side view showing one step in the process of producing a package embodying this invention when the machine shown in one of my prior applications is used;

Fig. 2 is a perspective view of a package embodying this invention, part of the carton being broken away; and

Fig. 3 is a perspective view of one part of the carton shown in Fig. 2.

The drawings show a currency package consisting of a stack of bills or paper currency 2, this stack having been compressed and being held in its compressed condition by two metallic tapes, one of which is shown at 3, Fig. 2. The ends of these tapes are overlapped and preferably are spot welded together.

This bundle of currency then is enclosed in a carton consisting of two telescoping carton sections, designated at 4 and 5, respectively. Preferably the carton sections are of the construction shown in Fig. 3. That is, each section consists of a strip of fibre board, pasteboard, or the like, folded to form a tubular enclosure of rectangular cross section, the edges of this strip of material being overlapped and secured together by metal staples 6. The sides of the carton are extended to form flaps 7, 8, 9 and 10, respectively, which may be folded down to close the end of the carton. Two short slots or perforations 12 are formed through one wall of the carton adjacent to its open end.

After the stack of currency 2 has been enclosed in the carton sections 4 and 5, the outer tapes 13 and 14 are inserted, respectively, through the slots 12 and the tapes are tightened about the package, which in the meantime has been compressed, and the overlapping ends of the tapes are then spot welded, as indicated at 15 and 16. The ma-

chine shown in my application Serial No. 533,474, above mentioned, shows a somewhat different method of making a fused metal union between the ends of the metal tapes or bands.

For a complete understanding of the preferred method of compressing the package and securing the tapes about it, reference should be made to my co-pending application Serial No. 620,371. For the purposes of the present application it is sufficient to state that the package preferably is placed in the machine described in the said application, in the manner shown in Fig. 1. The machine includes a slide 17 which is moved forward by means of a suitable treadle mechanism to press the package against an abutment 18. While the package is so held compressed, the tapes 13 and 14 are passed through the slots 12 and around the package, the end of each tape being secured between two clamp members 19 and 20. By pulling on one end 14ª of the tape 14, it is tightened about the package and an electrode 21 is then moved into contact with the overlapping ends of the tape. Current is turned on to the circuit in which the electrode is included, and the tape sections are spot welded together. The tape is then cut off below the seal by a knife or cutter 22. The tape 13 is similarly secured. The slide 17 next is released and moved backward, and the completed package is then removed from the machine.

It will now be evident that even if an individual through whose hands a package of this character should pass, had access to a press in which he could compress the package sufficiently to slip the bands 13 and 14 laterally off over the ends of the package, it would be impossible for him to remove the binders in this manner without tearing the carton section 5. A torn package would require investigation, and it is a simple matter to keep records necessary to trace the handling of the package back to the person who performed the packaging operation. Some simple detective work, therefore, would locate the guilty party. It is impossible, therefore, to remove a binder from the package without breaking either the binder or the package.

In a package of the character shown and described, the slots 12 are necessary at one side only of the package. In shipping other materials, however, especially materials which cannot be compressed to the degree that it is permissible with currency, it is desirable to provide additional slots at the other side of the package, and such slots are indicated at 25, Fig. 3. This second pair of slots is made necessary by the fact that it might be possible to compress a lightly compressed package sufficiently to permit the bands to be slipped over the end of the package without being taken out of the slots 12, or without tearing these slots appreciably. This is impossible, however, when the bands extend through slots formed in the carton at opposite sides of the package.

It should be noted that the bands or binders 13 and 14 hold the flaps of the two carton sections in their folded positions and make it impossible to open them. It is also impossible to remove the staples 6 and to open the side of the package without leaving behind ample evidence of such act.

While I have herein described the invention in connection especially with a currency package, it will be appreciated that the invention also is applicable to the packaging or bundling of many other materials, and it is especially valuable in discouraging the unauthorized opening of packages in transit and the pilfering of a part or all of the contents of such packages. A package of the type described can be produced very economically and with a minimum of labor. In some cases a single binder only is necessary. In some cases, also, whether one or more binders are to be used, it is desirable to spot weld the overlapping portions of each binder at two or more points. This is true more particularly where the packaged material is heavy and the packages are to be subjected to rough treatment. It will be understood that the carton sections shown fold down flat for purposes of shipment, and that the carton section 4 may be exactly like the section 5, although the slots 12 and 25 are necessary on one section only.

Having thus described my invention, what I desire to claim as new is:

1. An article of the character described comprising a stack of material, an outer cover for said stack, and a metallic binder tightly encircling said stack and cover and holding said stack under compression, said binder extending through a perforation in said cover and having one end lying substantially against the cover and the other overlapped upon it and sealed to it by a fused metallic union.

2. An article of the character described, comprising a package including an outer cover, and a metallic binder tightly encircling said cover and extending through a perforation in the cover, portions of said binder being overlapped on each other and welded together to secure the binder in its operative position.

3. An article of the character described, comprising a compressed package including a carton in which the packaged material is enclosed, and a metallic binder tightly encircling and retaining said package under compression, said carton having a perforation therein through which said binder extends, one end of said binder lying substantially against said carton and the other end

being overlapped upon it and welded to it.

4. A package of the character described, comprising a stack of currency, a carton in which said stack is enclosed and a metallic binder tightly encircling said carton, said carton having a perforation therein through which said binder extends, and the end portions of said binder being overlapped on each other and welded together.

5. A package of the character described, comprising a carton including two carton sections telescoped one within the other and containing the packaged material, one of said carton sections having an aperture through the wall thereof adjacent to the open end of said section, and a metallic binder tightly encircling said carton and extending through said aperture, the end portions of said binder being overlapped on each other and secured together by a fused metallic union.

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