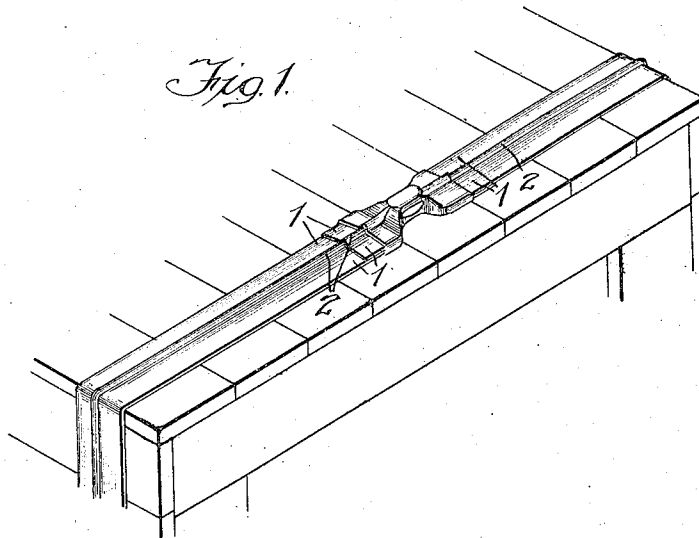
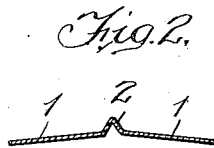


W. D. KIMBALL.
STRAP FOR BOX FASTENINGS OR THE LIKE.
APPLICATION FILED JAN. 26, 1917.

1,376,855.

Patented May 3, 1921.



Witnesses:
W. P. Kilroy
C. Sherman

Inventor:
Wallace D. Kimball
By Sebastian Hinton
Att'y.

UNITED STATES PATENT OFFICE.

WALLACE D. KIMBALL, OF CHICAGO, ILLINOIS, ASSIGNOR TO SIGNODE SYSTEM, INCORPORATED.

STRAP FOR BOX-FASTENINGS OR THE LIKE.

1,376,855.

Specification of Letters Patent.

Patented May 3, 1921.

Application filed January 26, 1917. Serial No. 144,626.

To all whom it may concern:

Be it known that I, WALLACE D. KIMBALL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Straps for Box-Fastenings or the like, of which the following is a specification, reference being had to the accompanying drawing, forming part hereof.

This invention relates to box fastenings or the like, wherein a metal strap is drawn tightly about the box or package to be secured and the overlapping ends of the strap are crimped together or otherwise secured, so as to afford a strong, inexpensive fastening having great tensile strength. These straps are generally applied to boxes or other packages by hand machines, which tighten the strap about the box, causing its ends to overlap, the overlap increasing as the ends bend forward under the influence of the machine, the strap sliding longitudinally over itself until sufficient overlap is effected to be crimped.

I have found in practice that the plain strap such as heretofore used is troublesome because the overlapping portions of the strap are apt to get out of alinement so that the overlapping ends of the strap are crossed. This makes the application of the crimping band hard and puts uneven tension upon the two sides of the strap, and is otherwise obviously extremely objectionable.

Another disadvantage of the plain strap heretofore used is that with this form of strap it is comparatively easy to slide the strap along a box or package, particularly if the surface of the latter is smooth, this being an objectionable feature where the straps are placed quite near the ends of the package, because it introduces the possibility that under sudden jerks or strains a strap may slide off one end of the package.

It is an object of the present invention to overcome these and other disadvantages of the straps heretofore employed, by making a strap the two overlapping ends of which are slidably locked together as the strap is being applied so that it is impossible for them to become crossed as the strap is being applied to the box or package, and

to do so by a change in the configuration of the strap and without attaching extra parts.

Another feature of the invention is to provide a strap of the character described in which the sliding of the strap along the box or package is rendered impossible.

Other objects and advantages will appear as the description to follow proceeds.

In the drawings:—

Figure 1 is a perspective view of one embodiment of my strap shown as applied to a box.

Fig. 2 is a cross-sectional view of the same embodiment.

Figs. 3, 4, and 5 are cross-sectional views of other modifications.

My improved strap in its preferred modification comprises two wing portions 1, between which is a raised rib 2. The wing portions 1 are slightly inclined downwardly from the normal plane of the strap. By this construction, the two ribs 2 upon the two overlapped ends of the strap as it is applied to a box or the like will nest one within the other, thus holding the strap positively and securely in alinement as it is tightened and the respective overlapping ends pushed farther along each other by the machine, so that it is mechanically impossible for the overlapping ends to become crossed in the application of the strap to a box. The ribs also prevent the strap from getting out of its proper alinement in the machine, both sections of the strap being held firmly and correctly guided in the machine by the ribs 2.

The wings 1, being inclined downwardly, will cause an edge pressure on the box or package at either edge of the strap even though under the tension employed in actual use the strap may lie flat to all intents and purposes. This edge pressure along the two edges of the strap caused by the form thereof will induce the two edges of the strap to bite, to a small extent, into the wood or other material of the box or package so as to prevent the strap from being slid sidewise along the box. If the strap should be forcibly moved sidewise, the two wing portions will obviously bite more firmly into the wood the further they are distorted. This absolutely prevents the strap

from being slid to an appreciable extent along the box or package.

The rounded tops of the rib portions 2 are useful in that they may act somewhat after the fashion of sled runners, thus, in addition to making the box or package perfectly secure and taking up no more room than otherwise, my strap renders it capable of being more easily slid along a floor. Furthermore, the ribs very materially strengthen the strap and also assist in its crimping.

The constructions shown in Figs. 3, 4, and 5 are obvious without further detailed explanation, each of these constructions being adapted to prevent the crossing of the overlapped portions of the strap and to more or less prevent sidewise movement of the strap upon the box or package in a manner analogous to that explained above in connection with Fig. 1. While the other forms are of utility, I prefer the form shown in Fig. 1 as being the most perfect embodiment of my invention.

Having described my invention, I claim:

1. A box binder comprising a hard metal strap having a single longitudinal central corrugation, the outside of said corrugation in one end of the strap being adapted to

nest in the inside thereof at the other end of the strap whereby the strap ends are held against lateral displacement, but are slidable longitudinally one upon the other when mutually overlapped.

2. A box binder comprising a hard metal stiff and resilient strap, having a mid rib and wings projecting therefrom to form an obtuse angle, opening in the same direction as the angle at the mid rib, whereby when said binder is applied to a box under tension the edges of the wings will tend to bite into the material of the box.

3. A box binder comprising a hard metal strap having its central region elevated above the region of its edges whereby upon application to a box or the like under tension, the edges will bear upon the box with greater pressure than the central region of the strap.

In witness whereof I hereunto subscribe my name to this specification in the presence of two witnesses.

WALLACE D. KIMBALL.

Witnesses:

JOHN M. BATES,
C. J. HAYWARD.