No. 768,250. PATENTED AUG. 23, 1904.

S. WALKER.

BUNDLE TIE.

APPLICATION FILED OCT. 14, 1903.

NO MODEL.

Fig. 1.

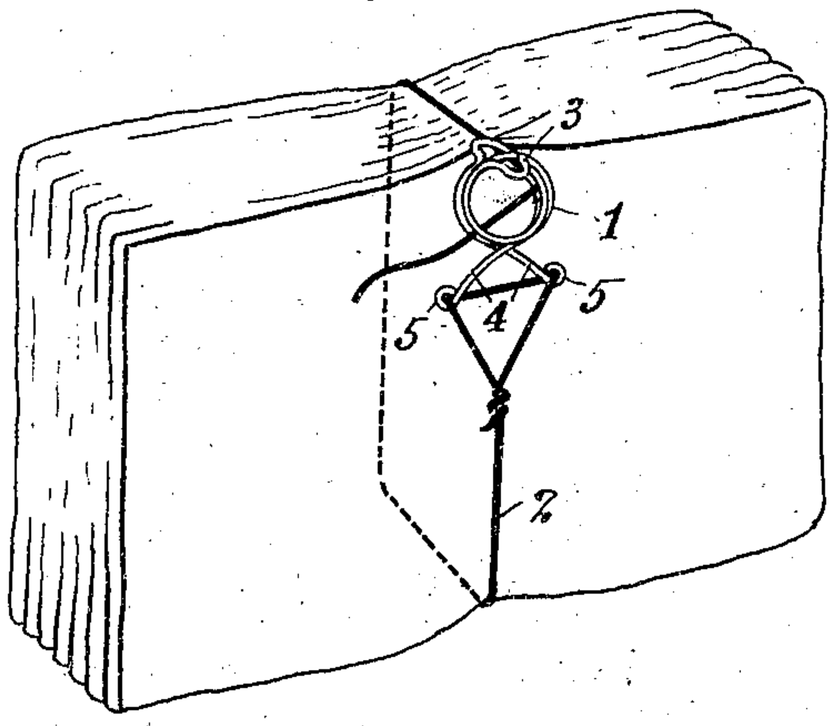


Fig. 2.

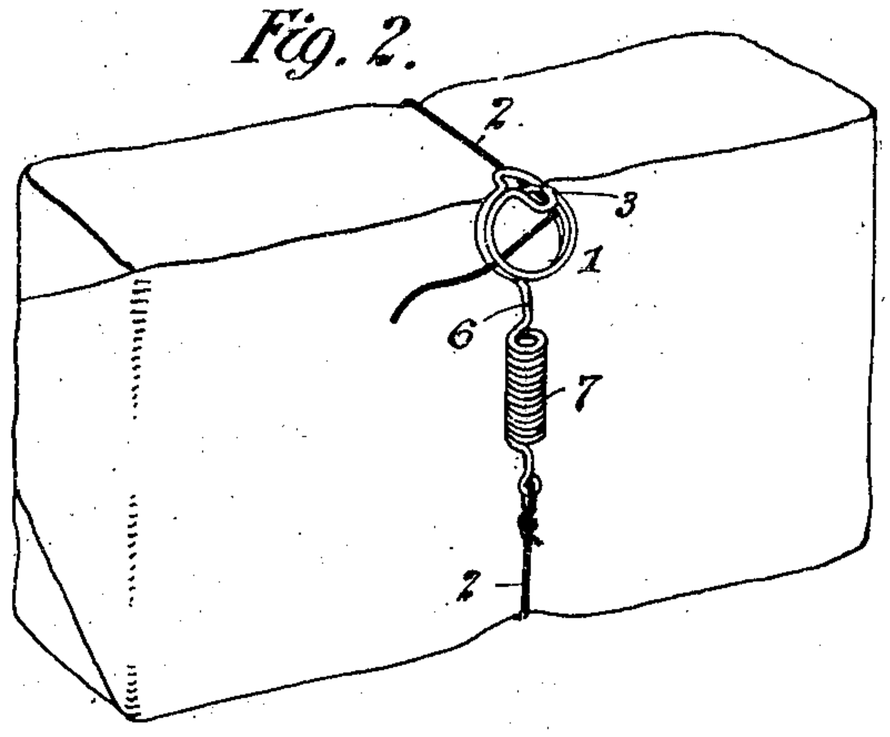


Fig. 3.

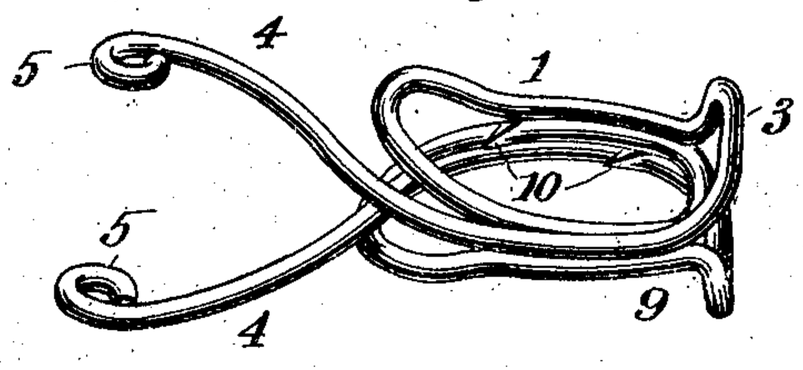


Fig. 4.

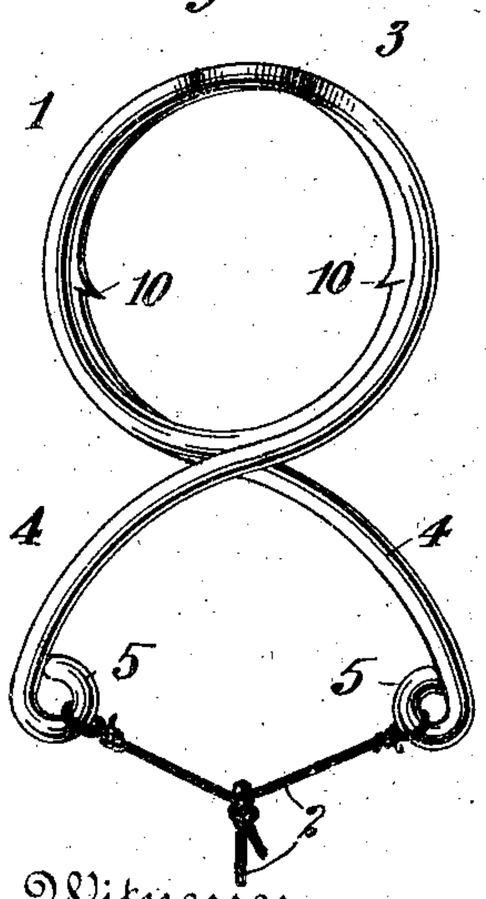
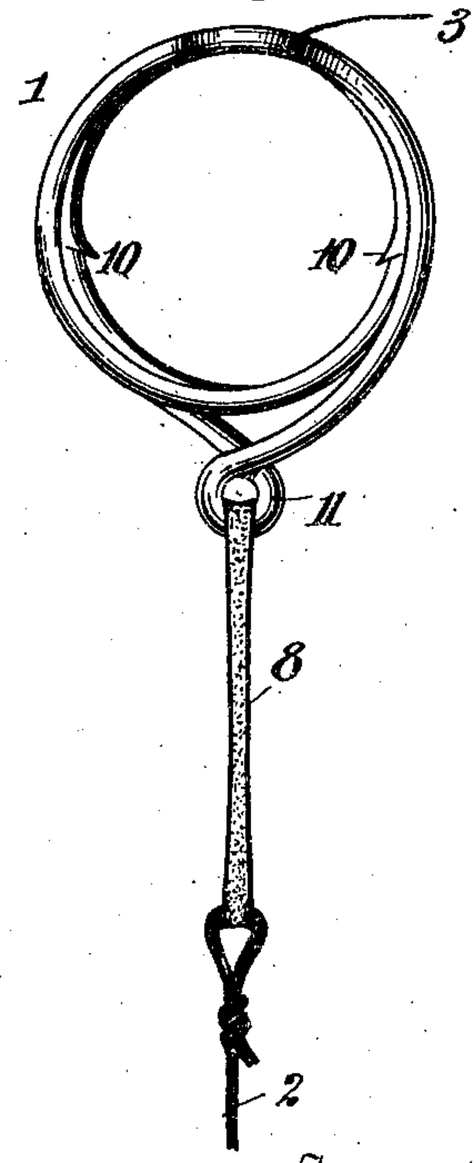


Fig. 5.



Witnesses
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No. 768,250. Patented August 23, 1904.

UNITED STATES PATENT OFFICE.

SAMUEL WALKER, OF BROOKLYN, NEW YORK.

BUNDLE-TIE.

SPECIFICATION forming part of Letters Patent No. 768,250, dated August 23, 1904.

Application filed October 14, 1903. Serial No. 176,979. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL WALKER, a citizen of the United States, residing at Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in Bundle-Ties, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The principal objects of my invention are to provide comparatively simple means by which ordinary cord or tape may be readily used to hold together loose papers or similar articles or to secure packages and which at the same time may be readily and quickly undone or loosened, so as to untie the package or bundle; and another object in view is to provide such means as will dispense with the tying of knots or use of the ordinary rubber bands.

With these and other objects in view my invention consists in the various novel and peculiar arrangements and combinations of the several parts of the device, all as hereinafter fully described and then pointed out in the claims.

I have illustrated several types of my invention in the accompanying drawings, wherein—

Figure 1 shows my improved fastening means applied to a bundle of papers or like articles, which are thereby securely held together in the desired manner. Fig. 2 shows another form of my fastening means applied to a bundle and serving to tie or secure the same. Fig. 3 is an enlarged perspective view of the form of spring-wire fastener shown in Fig. 1 and as detached from the cord or string. Fig. 4 is a plan view of the form of spring-wire fastener shown in Figs. 1 and 3 with a piece of tape or cord applied thereto, only a portion of the cord being shown. Fig. 5 is a plan view of a modified form of the spring-wire fastener to which is secured a piece of elastic to which the binding-cord is attached, the latter being shown in portion.

Referring to the drawings, in which like numbers of reference designate like parts, the metallic fastener is formed of a piece of wire which is preferably resilient or has sufficient spring thereto to keep its shape and to yield under tension. The wire fastener is formed into several superimposed turns or coils 1; preferably of the ordinary spiral form, the turns in which are sufficiently close together to constitute wedging-places into which the cord or string 2 may be drawn sidewise and gripped therein with sufficient force to hold the cord from slipping endwise when it is drawn under tension around the article to which the fastener is applied.

In order to facilitate the passage of the cord 2 laterally in between the adjacent turns or coils of the spiral, I provide one of the turns with an upward bend or lip 3, which, as can be readily seen from the illustration, affords a wider mouth or part, into which the cord is first introduced between the wire turns and then directs it into the narrower space between the same, where the cord is gripped.

In the preferred form shown in Figs. 1, 3, and 4 the two free ends of the spring-wire extend from one side of the spiral coil outwardly to form the members 4, which are spaced sufficiently apart to make them a pair of spring-arms, in the extreme ends of which are formed eyes 5, to which the attaching-cord 2 is secured in any suitable manner. The cord 2 may be made permanently fast to the free ends of the spring members 4, and passing thence around the package or bundle and having its other free end detachably fastened in the spring bite or wedge formed by the spiral, as indicated in Fig. 1, the yielding members 4 are drawn together under slight tension, depending upon the force used on the cord in binding it around the package, and it will be noted that this feature of having a yielding or spring means intermediate between the points of permanent attachment of the cord at one end and its detachable point of connection at the other has its manifest advantages and serves to give to the fastener a desirable elastic tension after the manner of that existing in the ordinary rubber band when applied to bind loose papers or a package to-

gether. This yielding intermediate means may be secured in the manner already described, or it may be brought about by the construction shown in Fig. 2, wherein only one end of the wire is brought out from the spiral turns as an attaching arm or member 6 for permanently securing the end of the cord 2. This member 6 is in part formed up into a spiral spring 7, which when the cord 2 is drawn upon yields, and thereby affords the elastic or spring feature at this point. In this form (shown in Fig. 2) the other free end of the wire forming the fastener is carried around the opposite side of the spiral 1 and formed into the upturned lip 3 for facilitating the lateral passage of the cord in between the coils, and the extreme end of this piece is turned in out of the way and practically concealed, so as not to form an objectionable projection.

In the form shown in Fig. 5 the intermediate yielding means between the points of permanent and temporary attachment of the cord 2 is shown in the form of a piece of ordinary elastic 8, made up of fabric and rubber and in its use is not as objectionable as pure rubber, as it is more durable.

In some cases it is desirable to hold the fastener at one edge of the article to which it is applied, and I accomplish this by bending the outer or what may be called the "lower" turn in the spiral 1 downwardly and sufficiently far to provide a holding finger or projection 9, which overhangs the edge of the article, as shown in Figs. 1 and 2, and keeps the fastener in place at that edge of the same.

If desired, additional means for retaining the cord removably between the coils 1 may be used in the way of pins or teeth 10, which may be either soldered upon or bent up from the wire itself and at such points thereon as to stick into the cord when drawn laterally in between the turns in the wire. The holding-teeth 10 are arranged at suitable points upon the superimposed coils of wire and have their points projecting in a direction away from that in which the cord is introduced between the coils and turned somewhat upwardly or downwardly, as the case may be, the purpose of the teeth being to engage and pierce the retaining-cord when the same has been passed inwardly between the adjacent coils and then drawn slightly outwardly, so as to force the pin or pins which it may engage through the cord, and thus serve as an additional holding means for the end of the cord.

In the form shown in Fig. 5 the ends of the wire instead of being formed up into a pair of outwardly-projecting arms, such as 4 in Fig. 4, are formed immediately to one side of the spiral into an attaching-eye 11 for the piece of elastic material 8 to be secured.

In regard to the spiral 1 for holding the end of the cord there may be used in this part as many turns in the spiral as desired; but a little over two turns is sufficient for the purposes of holding the cord, though I sometimes use more, and it will be observed that any desired number may be used.

From the foregoing description it will be readily understood that the fastener when applied as shown in Figs. 1 and 2 serves all the purposes of the ordinary cord or string when passed around and tied in a knot, as well as all the purposes of an ordinary rubber band, and it has the advantages over these respective devices of dispensing with the knot itself, as well as avoiding the trouble of tying it, and of outlasting the rubber band, at the same time possessing the desirable yielding tension afforded by the latter when it is used and giving the same elasticity thereto as though it were bound by a rubber band. Moreover, it can be applied and removed more quickly than either a simple cord and knot or the rubber band, and there is no tendency of its mutilating the papers, as is often the case with a rubber band, which sometimes adheres to the article or creates so much friction against it when applying and removing it as to tear the same.

The holding finger or part 9 may be entirely dispensed with, and it will also be noted that the bend or projection 3 upon one of the two coöperating coils between which the cord or flexible piece is wedged to hold it may be formed in any desired shape or at any angle other than that which I have shown so long as it performs the function of assisting the easy lateral entrance of the cord in between the coils. The location of the part 3 on the coil or metal part may be at any point thereof, depending largely on the particular design or shape of the wire fastener.

It will be understood that I do not limit my invention to the particular forms of the various parts herein shown, as modifications may be made in the respective parts thereof without, however, departing from the spirit of the invention.

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

1. A bundle or package tie comprising the combination of a flexible piece adapted to be passed around the bundle, a fastener to one end of which one end of said flexible piece is permanently attached, the said fastener being provided at its other end with a plurality of coils of wire between adjacent and superimposed ones of which the other end of said flexible piece is passed laterally and held between said adjacent coils to releasably secure said flexible piece, substantially as and for the purpose set forth.

2. A bundle or package tie comprising the combination of a flexible piece adapted to be passed around the bundle, a fastener to one

end of which one end of said flexible piece is permanently attached, the said fastener being provided at its other end with a plurality of coils of wire between adjacent and superimposed ones of which the other end of said flexible piece is passed laterally and held between said adjacent coils to releasably secure said flexible piece, one or more of said wire coils being provided with a laterally-projecting part or bend in said coil for facilitating the lateral passage of the flexible piece between adjacent coils, substantially as and for the purpose set forth.

3. A bundle or package tie comprising the combination of a flexible piece adapted to pass around the bundle, a fastener to which one end of said flexible piece is permanently attached and provided with coils of wire between which the other end of said piece is passed laterally to releasably secure the same, one of said coils being bent downwardly to form a finger for holding over the edge of the package or bundle, substantially as and for the purpose set forth.

4. A bundle or package tie comprising the combination of a flexible piece adapted to pass around the bundle, a fastener consisting in a piece of spring-wire doubled upon itself with wedging-coils formed at the doubled end thereof and between which coils said flexible piece may be wedged and the free ends of said wire formed into attaching members for anchoring one end of the cord, substantially as and for the purpose set forth.

5. A bundle or package tie comprising the combination of a flexible piece adapted to pass around the bundle, a fastener consisting in a piece of spring-wire doubled upon itself with wedging-coils formed at the doubled end thereof and the free ends of said wire formed into yielding attaching members for anchoring one end of the cord, substantially as and for the purpose set forth.

6. A bundle or package tie comprising the combination of a flexible piece adapted to pass around the bundle, a fastener to which one end of said flexible piece is permanently attached and provided with coils of wire between which the other end of said piece is passed laterally to releasably secure the same, and holding pins or teeth located upon one or more of said coils for taking into the flexible piece when placed between said coils, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

SAMUEL WALKER.

Witnesses:
WILLIS FOWLER,
WILLIAM H. STEIN.