H. J. LEE & E. F. GRAY.

PACKAGE TIE.

APPLICATION FILED SEPT. 12, 1908.

939,040. Patented Nov. 2, 1909.

Fig. 1.

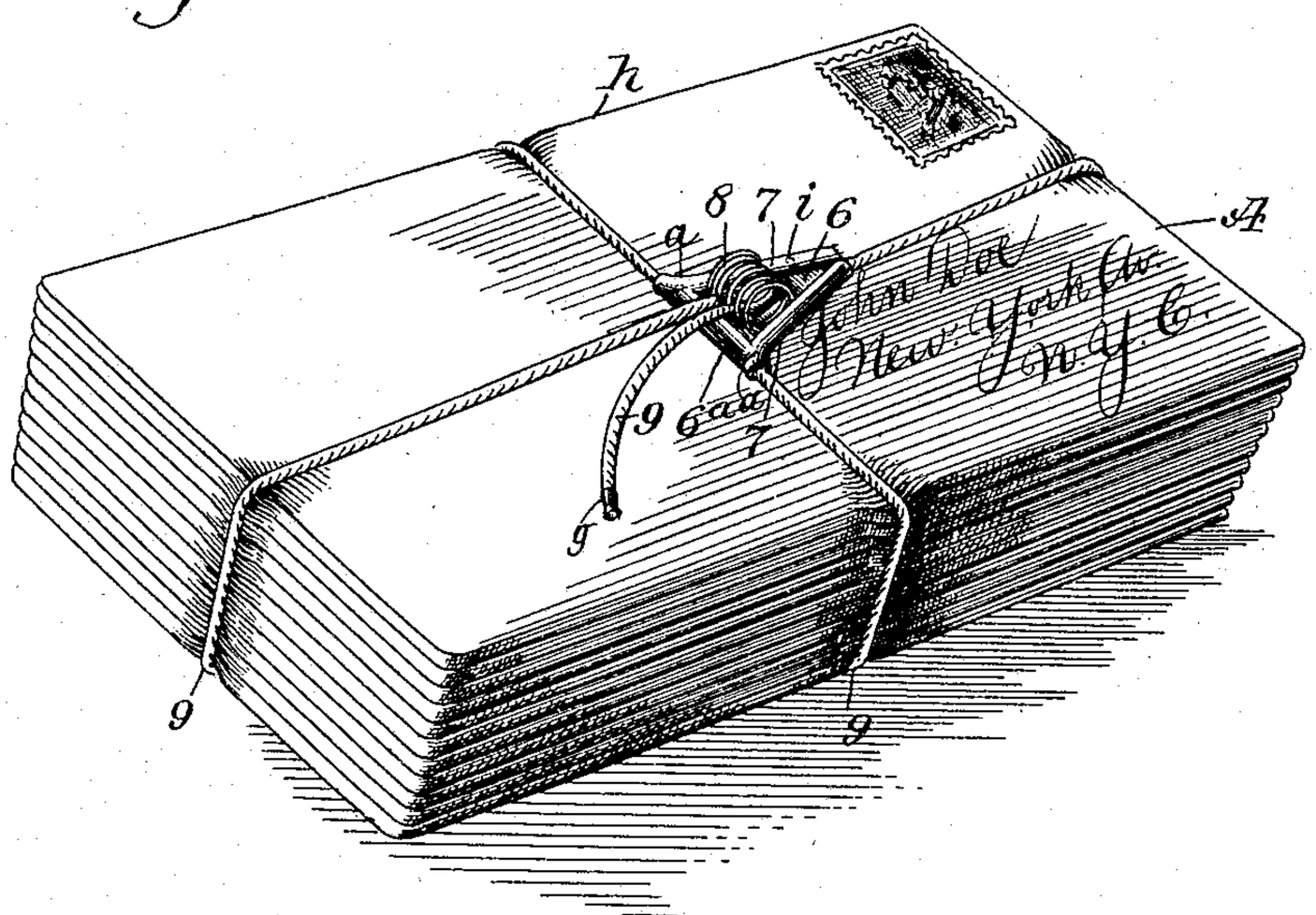


Fig. 2.

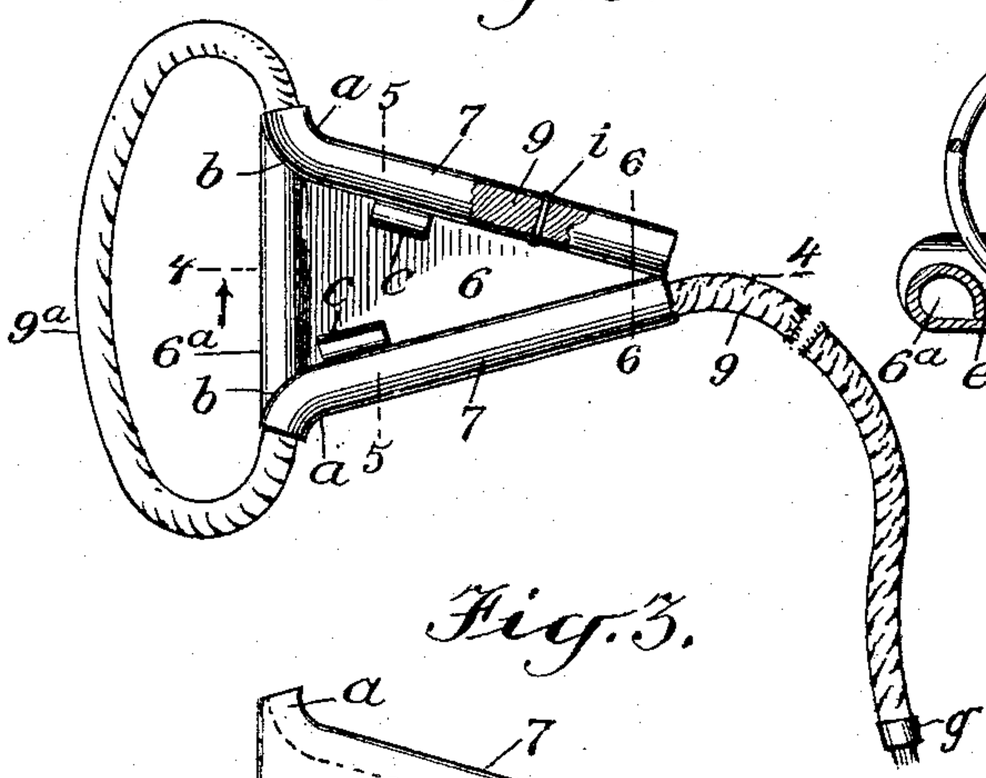


Fig. 4.

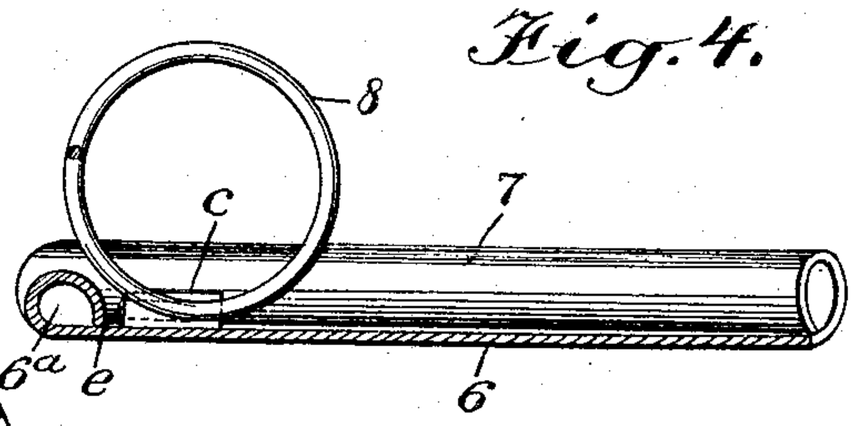


Fig. 5.

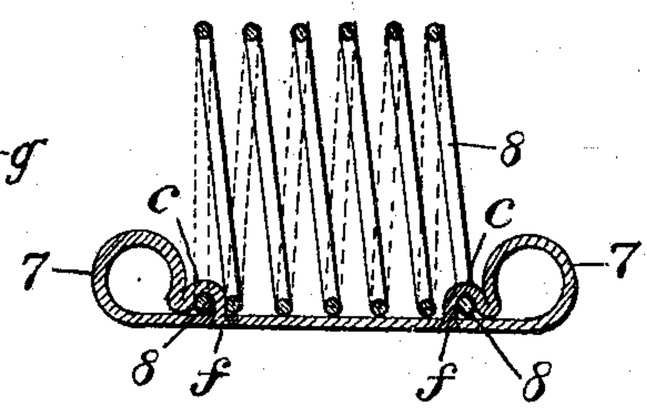


Fig. 3.

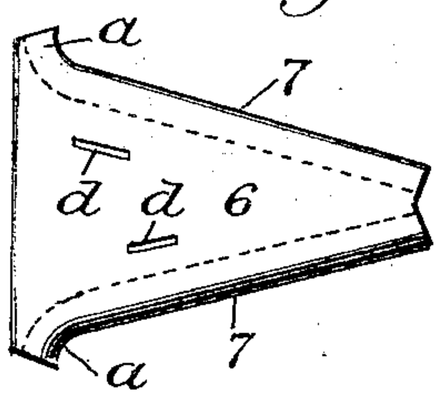
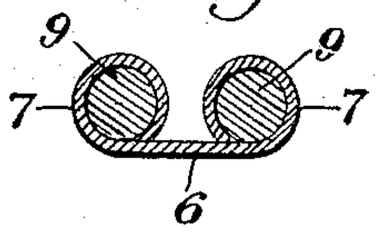


Fig. 6



WITNESSES

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PACKAGE-TIE.

939,040. Specification of Letters Patent. Patented Nov. 2, 1909.

Application filed September 12, 1908. Serial No. 452,687.

To all whom it may concern:

Be it known that we, HENRY J. LEE and EZRA F. GRAY, both citizens of the United States, and residents of Scranton, in the county of Lackawanna and State of Pennsylvania, have invented a new and Improved Package-Tie, of which the following is a full, clear, and exact description.

The purpose of our invention is to provide novel details of construction for a package tie, which are extremely simple, practical in service, inexpensive to manufacture, very convenient to tie or release a package, and that particularly well adapt the improvement for binding together a number of letters or documents in a compact package that may require separation quickly.

The invention consists in the novel construction and combination of parts, as is hereinafter described and defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view, showing the improved tie applied for binding together a package of letters and detachably securing the same thereon; Fig. 2 is an enlarged partly sectional plan view of an improved cord receiver, and a portion of a tying cord engaged therewith; Fig. 3 is an enlarged reversed plan view of the cord receiver; Fig. 4 is an enlarged longitudinal sectional view of the cord receiver on the line 4—4 of Fig. 2, and of an attached cord holding spring that is a novel detail; Fig. 5 is an enlarged transverse sectional view of the improved cord receiver, and of a holder spring mounted thereon, the section being taken substantially on the line 5—5 in Fig. 2; and Fig. 6 is an enlarged transverse sectional view, substantially on the line 6—6 in Fig. 2.

The cord receiver that embodies features of the invention, comprises a body 6, formed of a plate metal blank that is flattened when cut into shape marginally and subsequently bent into completed form. The blank 6 is gradually narrowed from one end toward the other, and at the wider end an integral transverse tubulation 6^a is formed by turning the material in an arched shape toward the smaller end of the blank, as is shown in Fig. 4.

Along each side edge of the blank 6, a tubulation 7 is formed by curving the plate metal inwardly and downwardly, thus producing two cylindrical receivers, the function of which will be hereinafter explained. At or near the wider end of the plate metal body 6, the tubulations 7 are curved outward an equal degree, as shown at *a* in the drawings.

Preferably the ends *b* of the transverse arched formation 6^a are sloped so as to fit neatly against the convex adjacent surfaces of the curved end portions *a* of the tubulations 7, thus affording a neat finish.

A resilient wire coil 8 is transversely held at its ends upon the upper surface of the body portion 6, preferably by the following described means: A metal clip *c* of suitable length is provided for clamping each end of the wire coil 8 upon the body 6, each of these similar clips being curved transversely, so that it may be hooked over the wire body of the spring, as is indicated in Figs. 4 and 5. At suitable points, two perforations or slits *d* are formed in the plate metal body 6 at the inner sides of the respective tubulations 7. The clip bands *c* are preferably formed integral with the material of the tubulations 7 and project inwardly therefrom, the free depending ends of said clips being reduced in width so that they may fit neatly in the slits *d*.

The ends of the spring coil 8 are upset, as in indicated for one end at *e* in Fig. 4, and while the clip bands *c* are loose, the end portions of the wire coil are inserted below and into them, after which the ends of the bands are secured in the slits *d* by riveting their ends over the lower edges thereof, as is shown at *f* in Fig. 5, which secures the spring coil in position for service transversely on the body 6, the coils thereof being evenly spaced apart.

In connection with the device that has been described, a cord 9 is employed, which is of a suitable thickness and length for effective use. One end of the cord 9 is passed into the curved formation *a* on the tubulation 7 that is nearest to the edge *h* of a package of letters that are to be tied with the improvement, and terminates near the other end of said tubulation. This portion of the

cord is secured in the tubulation by any suitable means, a cross pin *i* being shown in Fig. 2, as one means for effecting an attachment of the cord. The other end of the cord is now inserted through the remaining tubulation 7 at the curved end *a*, and the cord is pulled through said tubulation for a considerable portion of its length, but leaving a loop 9^a pendent from the bent portions *a a* of the tubulations 7, 7, as shown in Fig. 2. On the free end of the cord, a ferrule *g* is secured, having such an exterior diameter as will prevent said end from being drawn into the tubulation 7, so that it cannot be withdrawn accidentally.

In the application of the device, the looped portion 9^a of the cord 9 is passed around the package A transversely thereof, and the cord receiver 6 is seated thereupon near the center of said package. The cord 9 is now drawn so as to bind the looped portion 9^a tightly around the package, and from the end of the tubulation 7 out of which it is passed, the cord is extended around the package endwise thereof, which will adapt its free end portion to approach the cord receiver 6.

The end portion of the cord having the ferrule *g* thereon that is to be secured, is drawn forcibly between two coils of the spring 8 and downward so as to rest upon the transverse tubulation 6^a, and then said end portion is doubled and reversely drawn between two other coils of the holder spring 8, as is indicated in Fig. 1 which completes the tying operation.

To release the package tie from a package upon which it is placed, it is only necessary to detach the end portion of the cord 9 from the holder spring 8 and pull the looped portion 9^a thereof so as to slacken it, which will permit the cord to be removed from the package.

It will also be noted that if it is desired to remove one or more letters or the like from a bundle that is tied by the improvement, the tie may be slackened and removed from around the ends of the parcel, which will permit the removal of the letter from the looped portion 9^a of the cord 9.

The provision of the curved end portions *a* of the tubulations 7, facilitates the insertion of the cord 9, and also prevents an abrasion of the latter, thus conducing to the durability of the device.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. In combination, a cord receiver of plate material having a tubulation along each side edge thereof, and a spring coil secured transversely thereon near one end of the tubulations and between them.

2. In combination, a cord receiver of plate material, narrowed from one end to the other, a tubulation along each side edge thereof and curved outward near the wider end of the cord receiver, and a coiled spring secured by its ends transversely on the cord receiver near its wider end.

3. A cord receiver of plate material, narrowed from one end to the other, a tubulation along each side edge thereof, said tubulations being outwardly curved near the wide end of the cord receiver, and a transverse tubulation at said end of the cord receiver.

4. In combination, a cord receiver of plate material narrowed from one end to the other, and having a tubulation along each side edge, said tubulations being curved outwardly near the wide end of the cord receiver, said cord receiver having a transverse tubulation at its wide end, and a coiled spring secured by its ends between the lateral tubulations near the curved ends thereof.

5. In combination, a cord receiver of plate material, narrowed from one end to the other and having a tubulation formed along each side edge, said tubulations curving outward at the wide end of the cord receiver, a coiled spring secured by its ends transversely on the cord receiver between the lateral tubulations near its wide end, and a cord secured by one end in one lateral tubulation and loosely inserted through the other mating tubulation.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HENRY J. LEE.
EZRA F. GRAY.

Witnesses:
WM. GRIFFITHS,
THOMAS S. MORGAN.