H. I. VAN NOSTRAND.

TUBE.

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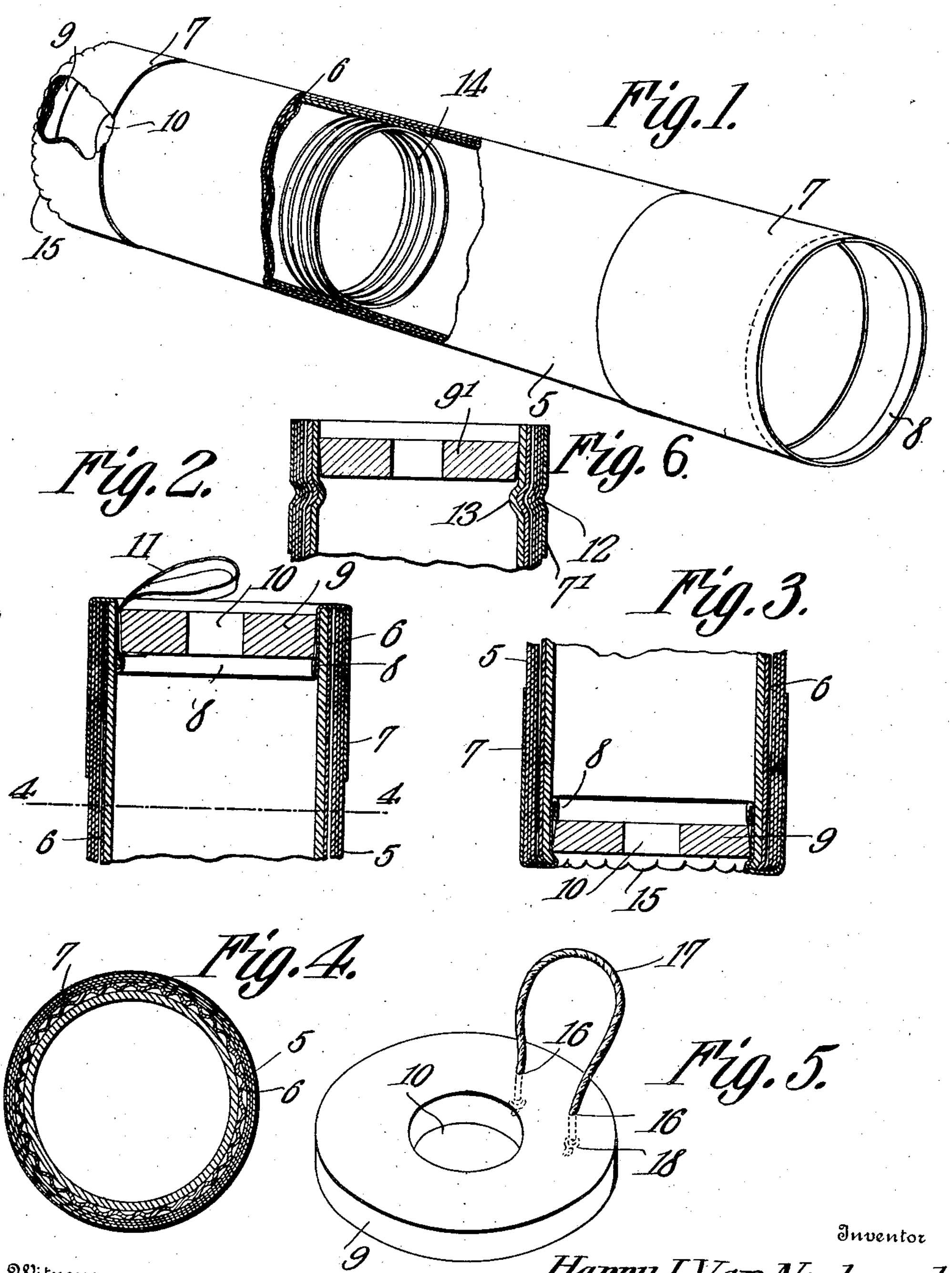
941,745. Patented Nov. 30, 1909.



Witnesses

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TUBE.

941,745. Specification of Letters Patent. Patented Nov. 30, 1909.

Application filed November 25, 1908. Serial No. 464,353.

To all whom it may concern:

Be it known that I, HARRY I. VAN NOSTRAND, a citizen of the United States, residing at Tekamah, in the county of Burt and State of Nebraska, have invented a new and useful Tube, of which the following is a specification.

This invention relates to mailing tubes and has for its object to provide a strong, durable and thoroughly efficient device of this character by means of which drawings, papers and analogous articles may be transmitted through the mails without danger of injury or mutilation.

A further object of the invention is to provide a mailing tube capable of being readily opened to permit access to the contents thereof by the postal authorities, and which may be securely fastened to prevent accidental displacement of the papers or other articles within the tube after inspection.

A further object is to reinforce and strengthen the tube by the provision of corrugated metallic plates, and further to provide the opposite ends of said tube with flexible reinforcing members adapted to be folded within the tube to form supports for the adjacent closures.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency as well as to reduce the cost of manufacture.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification:—Figure 1 is a perspective view partly in section of a mailing tube constructed in accordance with my invention, one end of the tube being shown open and the other closed. Fig. 2 is a longitudinal sectional view of that end of the tube having the removable closure. Fig. 3 is a similar view of that end of the tube provided with the permanent closure. Fig. 4 is a detail transverse sectional view taken on the line 4—4 of Fig. 2. Fig. 5 is a perspective view illustrating a modified form of the closure. Fig. 6 is a detail vertical sectional view illustrating a further modification.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved mailing tube forming the subject matter of the present invention is preferably formed of laminated paper, the several plies of which are rolled to produce a cylindrical body portion 5. The tube 5 is preferably reinforced and strengthened by the provision of longitudinally disposed plates 6, preferably corrugated in the direction of their length and interposed between the plies constituting the body portion of the tube, thereby to retain the tube in its normal shape and prevent denting or breakage of the latter when transmitted through the mail.

Secured to the exterior walls of the tube 5 at the opposite ends thereof are flexible strips 7 preferably formed of linen, thin canvas or other stout material, the free end of each strip being extended longitudinally beyond the adjacent end of the tube and the terminal portion thereof folded upon itself to form a reinforced hem 8.

The extended portions of the reinforcing strips 7 are adapted to be folded over the edges of the tube at the adjacent ends thereof and thence downwardly in contact with the interior walls of said tube, as best shown in Fig. 2 of the drawings, the terminal reinforced hem or bead 8 of each member 7 constituting a stop shoulder for engagement with a plug or closure 9.

The plugs or closures 9 may be formed of wood, metal or other suitable material, but are preferably formed of heavy stout card board, the peripheral edges of which are preferably inclined or beveled so as to cause the same to firmly grip the folded edge of the reinforcing strip 7 and force the latter against the interior walls of the tube.

Each head or closure 9 is also provided with a centrally disposed opening 10 through which a cord, wire or other retaining device may be threaded, thereby to as-

sist in preventing accidental displacement of the drawing, papers or other articles housed within the tube. The apertures 10 also constitute finger openings when removing the heads or closures from the tube to permit inspection of the contents thereof. One of the heads or closures 9 is rigidly secured in position within the tube, while the other head or closure is removable and is provided with a finger loop 11 to facilitate removal of said head.

The finger loop 11 is preferably formed of a strip of tape or similar material folded upon itself and having its free end extended along the inclined peripheral edge of the head or plug and attached to the inner face thereof, whereby when a longitudinal pull is exerted on the loop the head or closure 9 will be forcibly ejected. One or more circumferentially corrugated bands 14 are also preferably arranged within the tube and in contact with the interior walls thereof to assist in strengthening the tube and preventing collapsing of the same.

In using the device the permanent plug or closure 9 is first positioned within one end of the tube by folding the extended end of the flexible reinforcing member 7 within the tube and then applying a coating of glue or other adhesive material to the inclined edge of the plug 9 and forcing said plug longitudinally within the tube and against the adjacent reinforcing rib 8 of the member 7. As the head or closure 9 is forced within the adjacent end of the tube, the peripheral edge of the head will cause the glue or other adhesive material to seep through the linen or canvas 7 and thus cause the latter firmly to adhere to the interior walls of the tube. After the plug 9 is in position the edges of the tube above the closure are crimped inwardly at 15 to assist in preventing accidental withdrawal of the plug. The drawings, papers or other articles are then positioned within the tube and the removable head or plug placed in position at the opposite end of the tube, no glue or other adhesive material being employed, however, in connection with the removable head. In order to inspect the contents of the tube it is merely necessary to exert a slight longitudinal pull on the loop 11 when the latter may be withdrawn from said tube so as to permit the removal of the papers through the open end thereof.

In Fig. 5 of the drawings there is illustrated a modified form of head or closure in which the latter is provided with spaced perforations 16 for the reception of a piece of cord or twine 17, which latter forms a finger loop and has its free ends provided with knots 18 to prevent the withdrawal of the loop.

In Fig. 6 of the drawings there is illustrated a different manner of supporting the closure 9′ within the tube. In this case the fabric strip 7′ terminates flush with the adjacent end of the tube while the exterior wall of said tube is rolled or pressed inwardly at 12 to produce an internal circumferential rib 13 adapted to support the closure 9′ and limit the inward movement thereof. If desired, however, the ribs 8 and 13 may be used together for preventing accidental displacement of the closure. While it is preferred to provide longitudinally corrugated plates for reinforcing the body of the tube it is obvious that wire may be coiled around the tube between some of the plies thereof, or a flat strip of metal arranged in spiral form may be positioned on the tube without departing from the spirit of the invention.

Having thus described the invention what is claimed is:—

1. A mailing tube including a body consisting of a plurality of plies of sheet material, a longitudinally corrugated reinforcing tube extending continuously from one end to the other of the body and between two of the plies, and a centrally disposed circumferentially corrugated tubular reinforce within the body.

2. A mailing tube comprising a non-flexible body consisting of plies of sheet material, a longitudinally corrugated reinforcing tube interposed between two of the plies and extending continuously from one end to the other of the body, a flexible reinforcing tube secured to the outer face of each end of the body and foldable over said end and into the body, each of said flexible tubes having an end fold constituting an annular shoulder, and a closure insertible into the inwardly extended flexible tube and against said shoulder.

3. A mailing tube comprising a non-flexible body portion, a flexible tube secured thereon and extending beyond each end of the body portion, said tube having a reinforced outer edge, and said tube being foldable into the body portion, said reinforces constituting an interior annular shoulder when the flexible tube is seated within the body portion, and a closure insertible into said inturned flexible tube and against the shoulder, there being a finger-receiving opening within the closure.

4. A mailing tube comprising a body consisting of plies of sheet material, said body being non-flexible, and a longitudinally corrugated reinforcing tube interposed between two of the plies and extending continuously from one end to the other of the body, said body having an interior annular closure retaining shoulder adjacent one end.

5. A mailing tube comprising a body consisting of a plurality of plies of sheet material, a non-flexible, longitudinally corrugated reinforcing tube interposed between two of the plies and extending continuously

from one end to the other of the body, a circumferentially corrugated reinforcing band within the body and bearing on the inner surface thereof, there being an interior annular closure retaining shoulder within the body and adjacent one end.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARRY I. VAN NOSTRAND.

Witnesses:
E. D. WIGTON,
JAMES A. CLARK.