No. 706,034. Patented Aug. 5, 1902.

J. S. DEAN & W. H. THOMAS.

PARCEL TYING DEVICE.

(Application filed Jan. 13, 1902.)

(No Model.)

Fig. 1

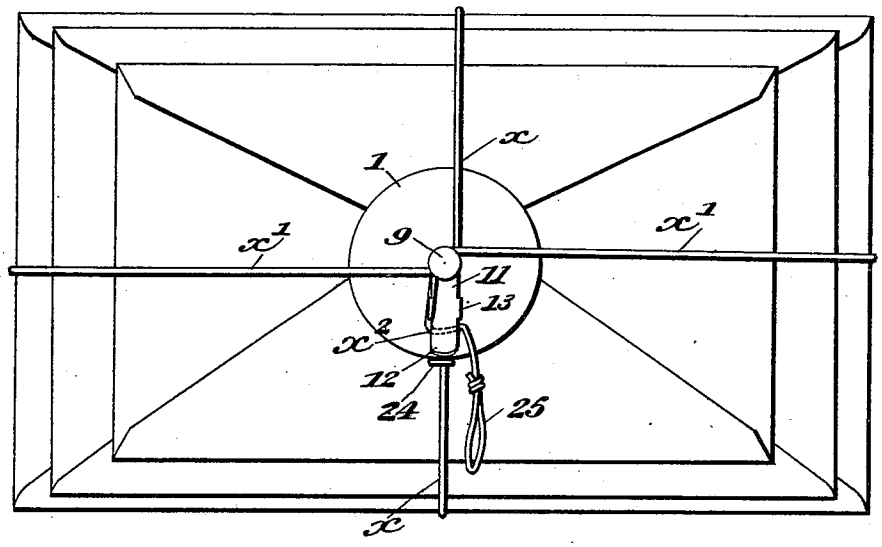


Fig. 2

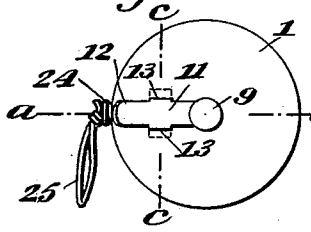


Fig. 3

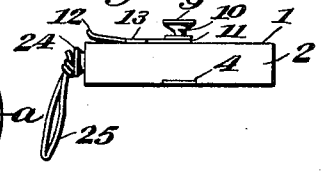


Fig. 4

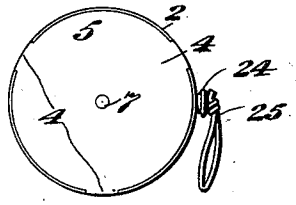


Fig. 5

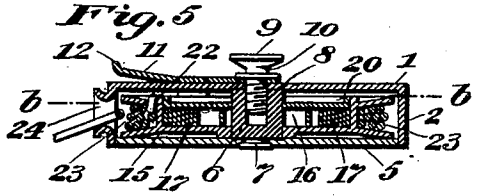


Fig. 6

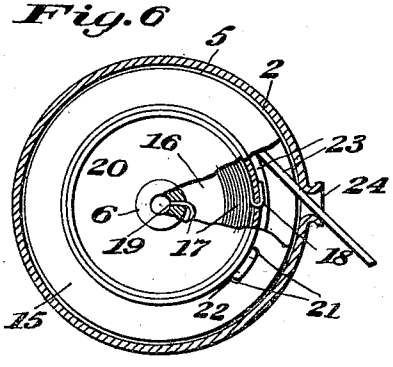
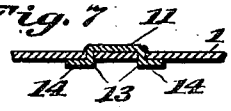


Fig. 7



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES S. DEAN AND WILLIAM H. THOMAS, OF CINCINNATI, OHIO, ASSIGNORS OF ONE-HALF TO MICHAEL MULLEN, OF CINCINNATI, OHIO.

PARCEL-TYING DEVICE.

SPECIFICATION forming part of Letters Patent No. 706,034, dated August 5, 1902.

Application filed January 13, 1902. Serial No. 89,543. (No model.)

To all whom it may concern:

Be it known that we, JAMES S. DEAN and WILLIAM H. THOMAS, citizens of the United States of America, and residents of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Parcel-Tying Devices, of which the following is a specification.

This invention relates to certain improvements in parcel-tying devices such as are more especially adapted for use in tying up letters in the mails; and the object of the invention is to provide a device of this character of a simple and inexpensive nature and of a strong, compact, and durable construction capable of convenient and repeated use for quickly and securely tying up or for readily untying or releasing the parcels, whereby a very important economy in the use of twine and a material saving of time and labor are effected.

The invention consists in certain novel features of the construction and combinations and arrangements of the several parts of the improved parcel-tying device, whereby certain important advantages are attained and the device is made simpler, cheaper, and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate the invention, Figure 1 is a view showing the device as it appears when in use for tying up a parcel of letters. Fig. 2 is an elevation of the device, showing it as it appears when not in use. Fig. 3 is an edge view of the device as shown in Fig. 2. Fig. 4 is an under side view of the device. Fig. 5 is an axial section taken through the device in the plane indicated by the line *a a* in Fig. 2. Fig. 6 is a transverse section taken through the device in a plane at right angles to the plane of the section in Fig. 5, as indicated by the line *b b* in said figure. Fig. 7 is a fragmentary detail view showing the means for securing the clamping-jaw to the casing of the device.

As shown in the views, the improved parcel-tying device comprises a circular casing formed of a shell 1, having an annular flange 2 extended around and pendent upon its under side and a bottom plate 5 of circular form and of a diameter to snugly fit the open bottom of said shell, said bottom plate being provided with peripheral projections 4, forming tenons adapted to fit in recesses or mortises produced in the lower edge of the flange 2 in such a manner as to hold the two parts of the casing against movement.

The casing of the device will be by preference formed from aluminium or other light material, as will also be such other parts of the device as can be made from that metal.

6 indicates a stud or post extended in the axis of the casing, being provided with a reduced lower end 7, riveted in the bottom plate and having its upper end fitted flush upon the under side of the top of the shell 1, as clearly shown in Fig. 5. This stud or post 6 is formed with an interiorly-screw-threaded opening adapted to receive a screw 8, passed through an opening central in the top of the shell 1 and provided above the shell with a head or enlargement 9, the sides of which are undercut, as indicated at 10, so as to produce a channel or groove in and encircling the head or enlargement of the screw, as shown in Figs. 3 and 5.

11 indicates a clamping-jaw extended radially upon the top of the circular casing, being formed from a thin strip of metal of some elasticity, one end of which is perforated for the passage of the shank of screw 8, on which it is held between the head or enlargement 9 thereof and the top of the shell 1, while the opposite end 12 of said strip is bent up slightly above the top of the casing, as shown in Figs. 3 and 5, in order to permit the insertion beneath said end of the strip of the cord employed for tying up the parcel, as will be hereinafter explained. The intermediate or central portion of the strip 11 has downwardly-bent and oppositely-arranged arms or projections 13, which are extended down through openings in the top of the shell 1 and beneath said top are bent or clenched over in opposite directions, as shown at 14 in Fig. 7, in order to securely hold the clamping-jaw to the top of the shell of the device.

In the hollow of the casing is held a wheel

or drum 15, having a grooved periphery and arranged to turn freely upon the stud or post 6, said wheel or drum having inside of its grooved rim an annular chamber 16, forming a barrel wherein is held a spring 17, one end 18 of which is secured to the rim of the drum, as shown in Fig. 6, while the opposite end of the spring is secured to the post 6, as indicated at 19 in said figure. A circular plate 20, having a marginal flange, is arranged in the chamber 16 above the spring 17 to retain the said spring in position in the barrel. One flange of the grooved rim of the drum or wheel 15 is formed with openings 21, through which is threaded one end 22 of a cord or other flexible connection adapted for use in tying up a parcel, said end of the cord or connection having a knot at its extremity to prevent it from passing through said openings. After its end is thus secured in the openings 21 the cord or connection is coiled up in the groove or channel of the rim of the wheel or drum, as indicated at 23 in the drawings, and has its opposite end passed out of the shell through an outlet formed at one side of the flange 2 and encircled by a flange 24, the interior surface of which is rounded off, as shown in the drawings, in order to lessen wear and friction upon the connection as much as possible. The extremity of the connection outside of the casing is provided with a knotted loop or enlargement, as indicated at 25, to prevent it from being drawn when released wholly within the casing of the device. This connection will be by preference formed from a braided cord, although this is not essential to the invention.

From the the above description of the improved parcel-tying device it will be seen that the spring 17 serves by its own tension to draw the cord or connection 23 inside the casing and coil it up in the groove of the drum 15, so that when the device is not in use the knotted end 25 only of the cord will project from the casing, whereby the cord is prevented from becoming snarled and tangled and the device is maintained at all times ready for quick and convenient use.

When it is desired to use the device for tying up, say, for example, a parcel of letters, the knotted end 25 of the cord is seized with the fingers, and said cord is drawn out of the casing, being unwound from the drum and placing the spring 17 under tension. The casing of the device is then held by the operator at about a central position upon one side of the bunch or parcel of letters to be tied, after which the cord is first passed in one direction, as indicated at $x\ x$ in Fig. 1, about the parcel, and is then bent around the groove 10 of the head 9 of screw 8 and passed at right angles in another direction about the parcel, as indicated at $x'\ x'$. The cord is then again bent around the groove 10 of the head of screw 8, and finally has its end portion drawn beneath the raised end 12 of the clamping-jaw 11, whereby it is securely held to the casing of the device, as indicated at x^2 in Fig. 1. In this way it will be seen that the parcel is securely tied up, and, owing to the simplicity of the operation of the device, a very considerable saving of time and labor is effected, making the device especially well adapted for use in the mail service and elsewhere where the saving of time is a desideratum. The screw 8, with its grooved head, also forms a very convenient means for holding the bends in the cord against slipping out of place, and the clamping-jaw 11 is also of a very convenient and simple construction, although we are not limited to these features in their exact form in carrying out the invention. Owing also to the fact that the parcels tied by the improved device are seldom of the same size, it will be evident that the wear from said clamping-jaw is distributed along the length of the cord and does not all fall at the same point, whereby the life of the cord is greatly increased. The construction of the device is also such that it may be readily taken apart for purposes of repair, and the cord in case of breakage may be readily replaced by merely removing the screw 8 and lifting off the shell and without disturbing the other parts of the device in any way. It will also be obvious from the above description that the improved parcel-tying device is capable of some modification without material departure from the principles and spirit of the invention, and for this reason we do not wish to be understood as limiting ourselves to the precise form and arrangement of the several parts of the device as herein set forth in carrying out the invention in practice.

Having thus described our invention, we claim—

1. In a device of the character described, the combination of a frame or casing, a flexible connection, a part carried by the frame or casing with which one end of said connection is engaged and on which said connection is adapted to be wound, and a clamping means carried by the frame or casing and adapted for engagement with the other end of said connection for holding it in place when passed about a parcel, substantially as set forth.

2. In a device of the character described, the combination of a frame having an opening at one side, a flexible connection passed through said opening and having an enlargement at one end, a part carried by the frame with which the other end of said connection has engagement and on which said connection is adapted to be wound and a clamping means carried by the frame and adapted for engagement with the enlarged end of the connection for holding it in place when passed about a parcel, substantially as set forth.

3. In a device of the character described, the combination of a frame having an opening, a grooved drum held to turn on the frame, a flexible connection one end of which is engaged with the drum, said connection be-

ing adapted to be wound on the drum and having its free end passed through the opening of the frame and provided with an enlargement and a clamping means carried on the frame and arranged for engagement with the enlarged end of said connection for holding it in place when passed about a parcel, substantially as set forth.

4. In a device of the character described, the combination of a frame having an opening, a grooved wheel held to turn on the frame, a spring one end of which has connection with said wheel and the other end of which is held in fixed relation to the frame, a flexible connection one end of which is engaged with the wheel, said connection being adapted to be wound on the wheel and having its free end passed through the opening of the frame and provided with an enlargement, and a clamping means carried by the frame for engagement with the free end of said connection, substantially as set forth.

5. In a device of the character described, the combination of a frame having an opening and provided with a stud, a wheel held to turn on said stud and formed with an annular chamber encircling the stud, a spring coiled in said chamber with one end connected to the wheel and its other end held in fixed relation to said frame, a flexible connection one end of which is engaged with the wheel, said connection being adapted to be wound on the wheel by the tension of the spring and having its free end passed through the opening in the frame and a clamping device carried by the frame for engagement with the free end of said connection, substantially as set forth.

6. In a device of the character described, the combination of a frame having an opening and provided with a stud, a wheel held to turn on said stud and formed with an annular chamber encircling the stud, a spring coiled in the chamber with one end connected to the wheel and its other end held in fixed relation to said frame, a plate fitted in said chamber over said spring to retain the same in position, a flexible connection one end of which is engaged with the wheel, said connection being adapted to be wound on the wheel by the tension of the spring and a clamping device for engagement with the free end of said connection, substantially as set forth.

7. In a device of the character described, the combination of a frame, a flexible connection, a part carried by the frame with which one end of said connection is engaged and on which said connection is adapted to be wound, and a clamping-jaw for holding the free end of said connection and formed of a strip of metal having projections passed through the frame and clenched beneath the same and having its extremity bent upward from the frame to receive the connection between it and the frame, substantially as set forth.

8. In a device of the character described, the combination of a frame, a flexible connection, a part carried by the frame or casing with which one end of said connection is engaged and on which said connection is adapted to be wound, a clamping means carried on the frame for engagement with the free end of said connection and an undercut part projected from the frame and around which said connection is adapted to be bent, substantially as set forth.

9. In a device of the character described, the combination of a frame or casing formed of two parts, one of which is provided with an opening, a flexible connection passed through said opening, a spring-actuated means within the casing with which said connection is engaged and on which said connection is adapted to be wound, a clamping means for holding the free end of said connection, and a screw for holding together the two parts of the casing and formed with an undercut head or enlargement projected from the casing and about which the connection is adapted to be bent, substantially as set forth.

Signed at Cincinnati, Ohio, this 10th day of January, 1902.

JAMES S. DEAN.
WILLIAM H. THOMAS.

Witnesses:
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J. D. THORNE.