(No Model.) 2 Sheets—Sheet 1.

K. E. DALY.

REEL.

No. 533,868. Patented Feb. 12, 1895.

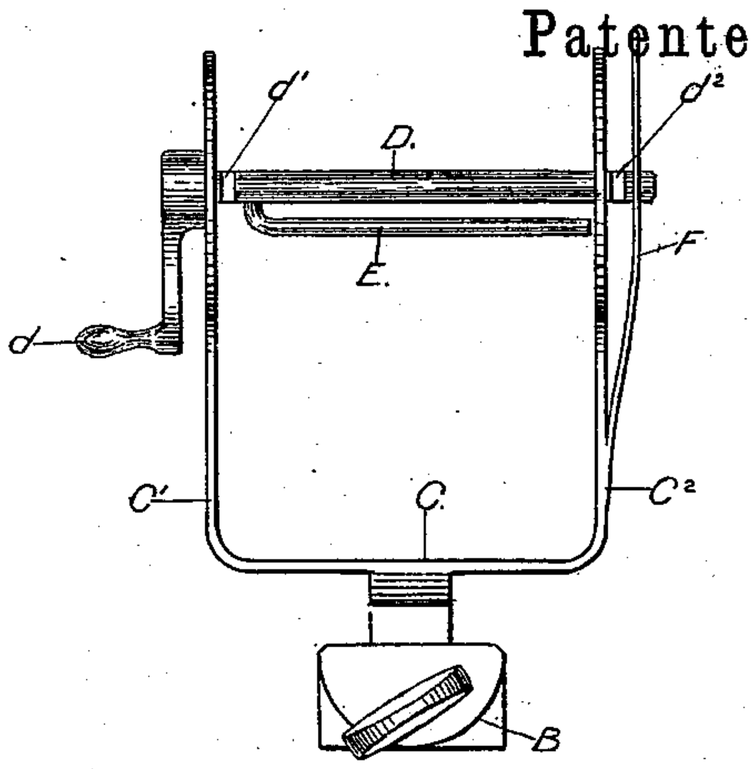

FIG. 1.

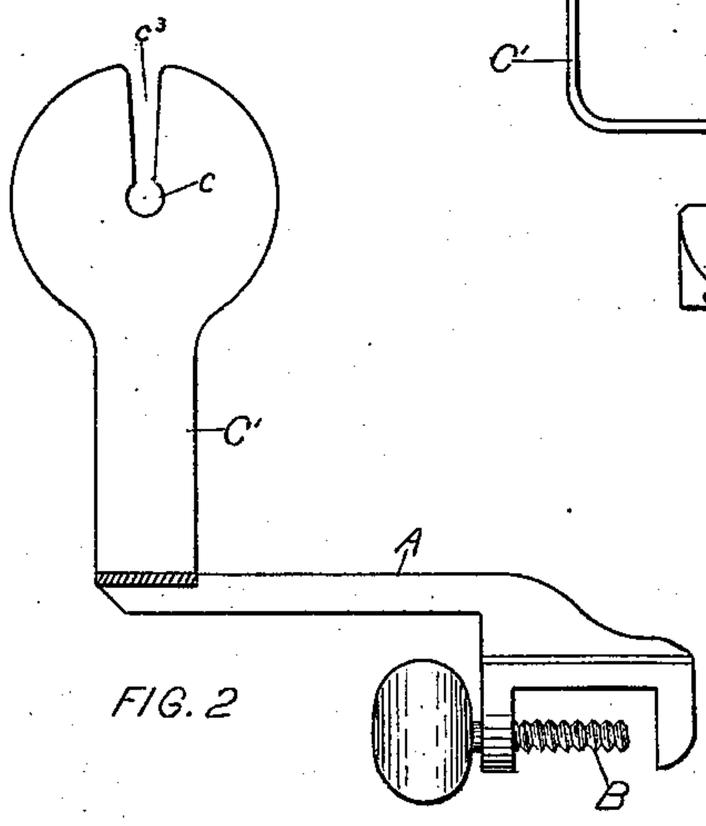

FIG. 2

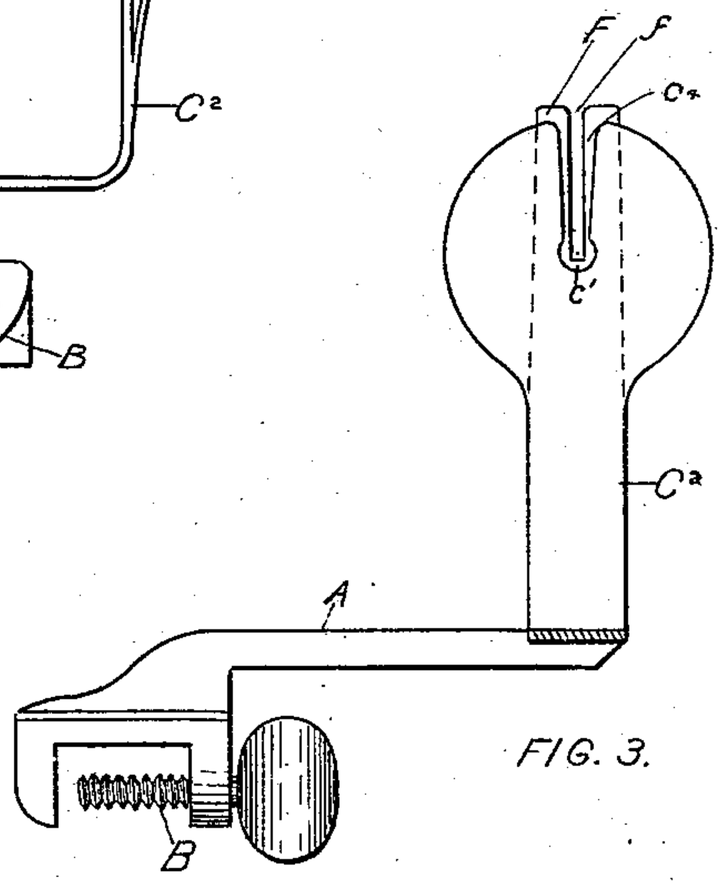

FIG. 3.

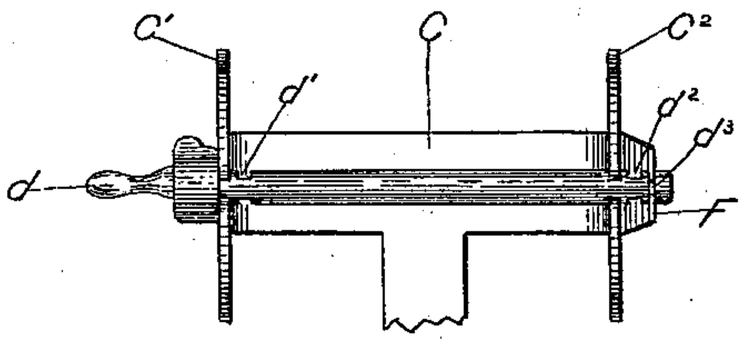

FIG. 4.

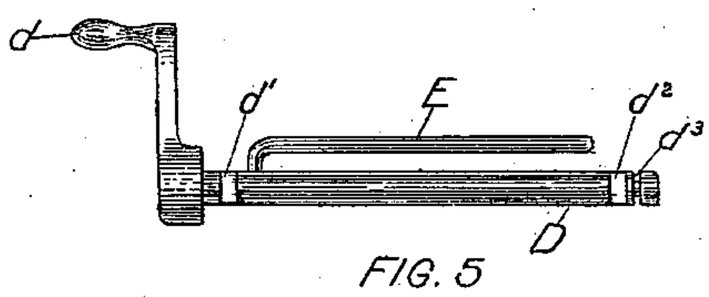

FIG. 5

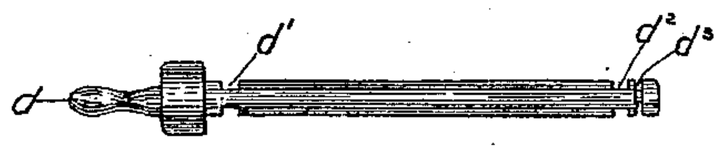

FIG. 6.

WITNESSES:

W. M. Shoff

A. W. Stevens

INVENTOR

Kastrania E. Daly

BY

Geo. O. G. Crosby

ATTORNEY.

(No Model.) 2 Sheets—Sheet 2.

K. E. DALY.

REEL.

No. 533,868. Patented Feb. 12, 1895.

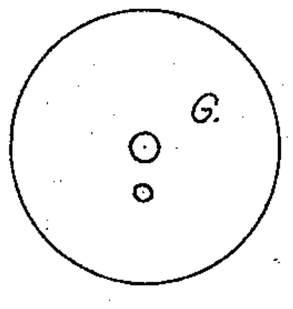

FIG. 8.

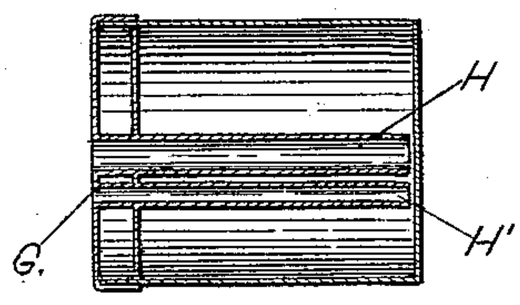

FIG. 7.

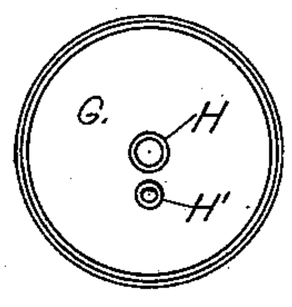

FIG. 9.

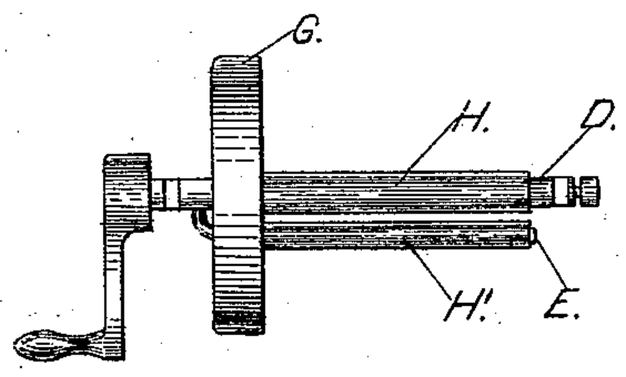

FIG. 10.

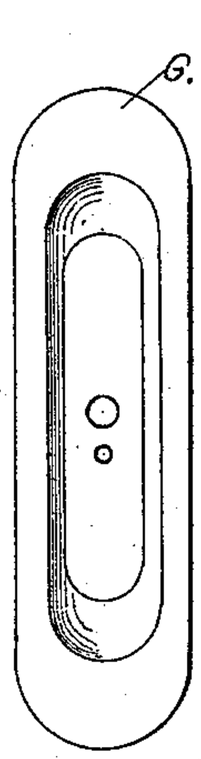

FIG. 12.

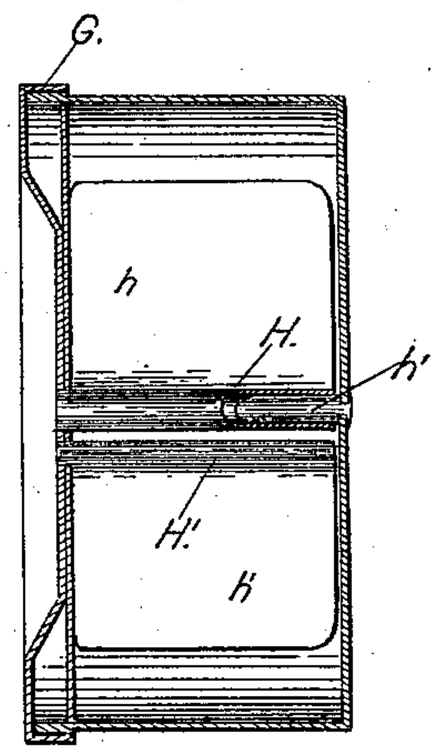

FIG. 11.

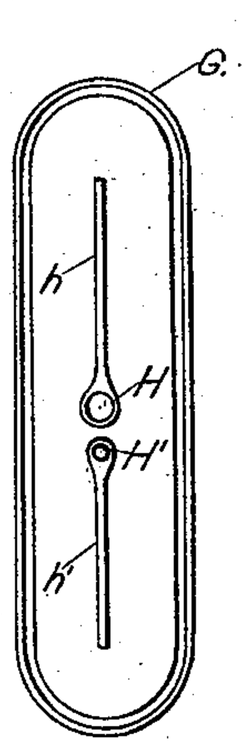

FIG. 13.

WITNESSES:

W. H. Shoaff

W. F. Lewis

INVENTOR

Katherine E. Daly

BY Geo. Q. G. Grafe

ATTORNEY.

UNITED STATES PATENT OFFICE.

KATHARINE E. DALY, OF BOSTON, MASSACHUSETTS.

REEL.

SPECIFICATION forming part of Letters Patent No. 533,868, dated February 12, 1895.

Application filed August 7, 1894. Serial No. 519,669. (No model.)

To all whom it may concern:

Be it known that I, KATHARINE E. DALY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Reels, for use more particularly with Type-Writer Ribbons, of which the following is a specification.

In attaching a typewriter ribbon to the machine or detaching it therefrom, the ink is very apt to come off and soil the fingers.

My invention consists in an attachment or appliance for typewriter machines, by means of which a new ribbon may be easily placed upon the machine or a ribbon unwound therefrom and placed in a box or other receptacle for preservation if desired.

My invention will be understood by reference to the drawings, in which—

Figure 1 is a front elevation of a device embodying my invention, Figs. 2 and 3 being sections showing the bearing in which the reel is mounted. Fig. 4 is a plan showing the reel in its bearings. Figs. 5 and 6 are two views of the reel. Fig. 7 is a section of a box invented by me to be used with my reel, Fig. 8 being a top view and Fig. 9 an under view of its cover. Fig. 10 shows the reel and cover in co-operation. Figs. 11, 12 and 13 show corresponding views of a similar box, oval in shape and also of my invention.

A is an arm, which may be provided at one end with a screw clamp B, by means of which it may be attached to some portion of the typewriter, so that it may be removed, if desired. At the farther end of the arm A is a cross arm C and two uprights C′, C² forming a yoke in which are bearings *c*, *c′* to hold the reel.

D is the reel. It is journaled in the bearings *c*, *c′* and is turned therein by the crank *d*. From one side of the shaft of this reel projects a finger E which is turned to lie parallel with the shaft D. These two parts D and E are sufficiently far apart to allow the ribbon to be slipped between them. The reel is then turned and the ribbon is wound thereon rapidly without trouble, the spreading sides of the upright C′, C² serving to guide the ribbon somewhat as it is wound. Thus, the ribbon can be easily attached to the reel and wound upon it with great rapidity and almost no handling and readily slipped off, if desired.

To keep my reel in place in its bearings I prefer to make the entrance to the bearings smaller than the diameter of the axis of the reel, as will be seen at c^3, c^4, Figs. 2 and 3, and in order to slip the reel into place I notch it as shown at d', d^2 so that these notches may slide easily down into the bearings. When the reel is in the bearings it may be pushed endwise so that its notches will be outside of the bearings, as shown in Fig. 1 and the reel will turn easily.

A simple means of holding the reel in place and keeping it from moving endwise in the bearings when once in place is shown in Figs. 1 and 3. It consists of the leaf spring F, which is fastened to one of the uprights C² and is slotted as shown at *f* so as to engage with the narrow groove d^3 in the reel shaft. This groove d^3 is so near to groove d^2 on the reel that in order to get the reel into place the spring F must be compressed near enough to the upright C² to allow the slots *f* and c^4 to engage with the grooves d^2 and d^3 respectively. When the reel is in its bearings the spring will expand again and will then draw the reel into place and hold it in place moving endwise.

I prefer to use my reel in connection with a box of some sort to contain the ribbon, and I have shown in Figs. 7 to 13 two forms of boxes of my invention, which are useful for this purpose. A box for this purpose may be of any desired shape into which the ribbon is to be wound, or unwound therefrom, for example round, oval or square, &c., and in order to place the ribbon in the box or to take it easily therefrom, I prefer to provide such a box with a cover G, peculiar in construction, in that it has projecting from its inner side two tubes H and H′, each tube corresponding with a hole in the cover. The tube H is at the center of the cover and tube H′ is close to it; the two tubes forming a ribbon winder and being adapted to receive the two parts D E of the reel and to have the ribbon wound upon them in the same manner as has been described with the reel. These parts being passed through the cover and into the tubes the cover is removed, and as the ribbon

is wound upon these tubes it is removed with the cover and the entire device is placed in the bearings so that the ribbon can be easily unwound therefrom; or if on the other hand it is desired to remove a ribbon from the machine in order to put it into a box, the cover is first placed upon the reel and the ribbon caught between the two tubes instead of between the two parts of the reel. I prefer to use one or both of these tubes as the best and most convenient way of placing the ribbon within its box, or removing it therefrom; but so far as I know, a reel and box have never before been made to be used together and yet separable, and this I believe to be my invention.

When the box is any other shape than round, for example where it is oval, the top should be provided with wings *h* so as to make the spool of proper shape on which the ribbon shall be wound, and when desired, a pin *h'* may be provided in the bottom of the box to set into and center the middle tube H. The simplicity of this contrivance will be easily seen. The reel and its frame may be cast at but little expense. The boxes for this purpose are best made of metal in order to so preserve the ribbon as to prevent evaporation or absorption of the ink.

Instead of using a clamp B to connect the arm A with the typewriter, the device may be permanently attached thereto by some other means deemed best to make it a stationary part of the machine.

What I claim as my invention is—

1. The reeling mechanism above described consisting of a reel and a yoke, the arms of which are slotted as shown, the end of each slot being enlarged to form a bearing for said reel, and the width of said slots being narrower than the diameter of the reel, the shaft of said reel having notches in its periphery of a depth and location to correspond with said slots, as set forth.

2. In a reeling mechanism in combination a yoke provided with bearings, a reel adapted to move longitudinally therein, and a slotted leaf spring attached to one of said bearings, the shaft of said reel being notched to engage with the slot in said spring, as set forth.

3. The reel mechanism above described consisting of a reel provided with a suitable handle and adapted to be removably mounted at each end in bearings and a box and its cover, said cover having one or more apertures to receive said reel and adapted to be removed from said box with said reel, and said reel being adapted to be inserted through said apertures and to be free to be removed therefrom, all substantially as and for the purposes set forth.

4. In combination with a reel adapted to be mounted in suitable bearings, the ribbon box above described having one or more tubes attached to its cover as and for the purposes set forth.

5. The ribbon box above described, the cover to which is provided with a hole adapted to receive the shaft of a reel and having a tube forming a continuation of said hole and adapted to serve as a winder for a ribbon, as set forth.

6. In a ribbon box of the kind described, a cover provided with one or more tubes attached thereto in the manner described to receive a reel and having wings projecting therefrom, as set forth.

7. In a reeling mechanism, in combination, a yoke, the arms of which are slotted and form bearings for a reel, a reel adapted to move longitudinally therein and a leaf spring fastened to one of the arms of said yoke and lying parallel thereto, said leaf spring being slotted and adapted to engage with the grooved portion of said reel, all as set forth.

KATHARINE E. DALY.

Witnesses:
F. W. WHITE,
GEORGE O. G. COALE.