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ADJUSTABLE TENSION PAPER HOLDER

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Fig. 1.

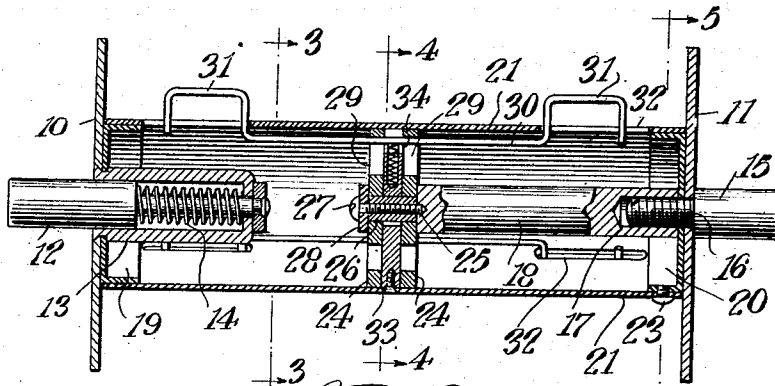


Fig. 2.

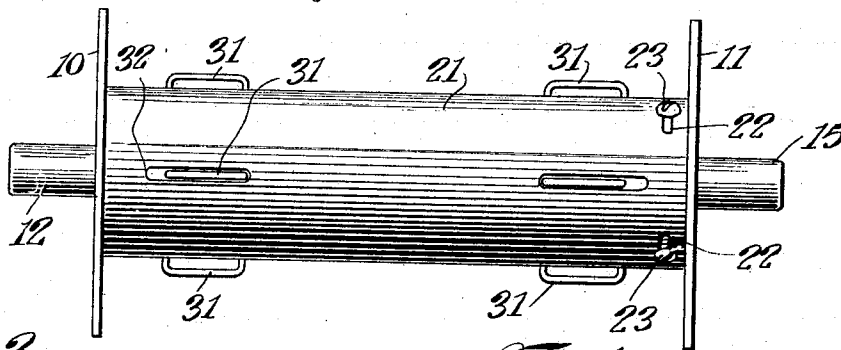


Fig. 3.

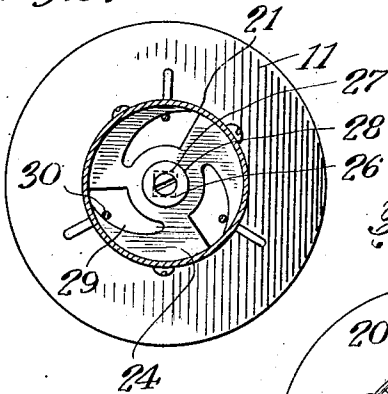


Fig. 4.

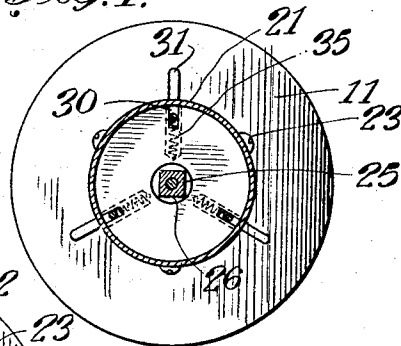
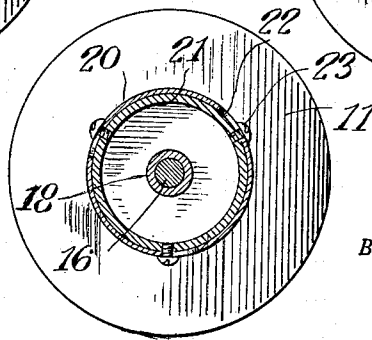


Fig. 5.



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ADJUSTABLE-TENSION PAPER HOLDER

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My invention relates to improvements in paper holders such as are used for carrying toilet paper, roll towelling, or other fabric in rolls which can be pulled off and severed at desired intervals. A difficulty in mounting these for use is that rolls of different manufacture, and sometimes of the same manufacture, have different sizes of cores. These cores are mounted in the paper holder for convenience in using, and sometimes they fit rather tightly, and then again they are loose. My invention is intended to overcome this difficulty, and produce a convenient paper holder on which a roll of goods can be easily placed, and to provide means, preferably operable from one end of the holder, for adjusting the tension between the core of the roll and the body of the holder, so that the roll can turn with just the desired tension. My invention is also intended to produce a structure in which the tension when once adjusted, will remain constant until readjusted, and to produce a structure in which the adjustment can be most conveniently effected. Preferably I have the holder in spool form with the body hollow, and with shoes projecting therefrom at intervals which will co-act with the inner wall of the core of the roll so as to give the desired tension, and further to arrange for a quick action and permanent adjustment of the shoes.

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

Figure 1 is a longitudinal section of the holder embodying my invention.

Figure 2 is a plan view thereof.

Figure 3 is a cross section on the line 3—3 of Figure 1.

Figure 4 is a cross section on the line 4—4 of Figure 1, and

Figure 5 is a cross section on the line 5—5 of Figure 1.

The holder is in the conventional spool form having end plates 10 and 11. At one end is a conventional trunnion 12 which extends into the socket 13 and is pressed outward by the spring 14. This arrangement is not shown or described in detail because

it is the customary one which permits the spool to be pushed endwise with reference to one trunnion so as to provide for easily inserting it in the holding arms or supports. At the other end of the spool is a mating trunnion 15, and this is preferably provided with an inwardly extending screw threaded extension 16 so that the trunnion 15 is removable and can easily be put in place when the device is assembled. The member 16 engages a thread in the bore 17 of the shaft 18 which extends longitudinally and centrally of the spool body 21.

The spool also preferably at the ends has flanged collars 19 and 20 over which the body 21 fits snugly. The collar 19 is also fast to the end plate 10. The collar 20 is rotatably movable with reference to the body 21 and can be fastened in the desired position. To this end the body has slots 22 therein through which extends the screws 23. Thus by holding the end plate 10 fast and turning on the end plate 11, the plate 11, collar 20, and shaft 18 will all turn together, and when turned to the desired position the screws 23 are fastened to hold them positioned.

The shaft 18 carries means for adjusting the tension between the body 21 and the core of the roll which it carries. This tension can be regulated in various ways, but I have shown a preferred means. As illustrated the shaft 18 carries discs 24 which are spaced apart as shown in Figure 1, and which are pierced by the cam slots as presently described. The discs or collars 24 can be secured to the shaft in any convenient way, but I have shown a structure which permits of easy assembly and economical manufacture. As shown the collars or discs are held by a screw 25 which extends axially through them and through the squared hub 26 which can be an extension of the shaft 18 or separate therefrom. A washer 28 is arranged between the outer disc with reference to the shaft 18 and the screw head 27.

The discs or collars 24 are provided with registering cam slots 29, the outer walls of which curve inwardly as shown in Figure 3. Extending through the cam slots are the shanks 30 of the shoes 31 which are illus-

trated as simply bent out in U shape from the shank and extending through slots 32 in the body 21. Thus they have a certain springiness in themselves; and a sufficient bearing to act as a brake or tension on the core of the coil of material carried by the spool while the walls of the slots prevent lateral distortion of the shoes.

These shanks 30 and consequently the shoes 31 are pressed outward by springs 35 which are arranged in sockets in a supporting plate 33 which is fast to the body 21, and has radial slots 34 through which the shanks 30 extend and in which they are movable in and out.

Thus it will be seen that by loosening the screws 23 holding the plate 10 in one hand and turning the plate 11 with the other, the discs or collars 29 may be adjusted quickly so as to move the shanks 30 of the tensioning shoes 31 in and out and establish the desired projection of the shoes, and the screws 23 may then be tightened so that the adjustment will be made permanent. It will be seen that the trunnions 15 can be unscrewed and the plate 11 removed to permit a roll to be readily placed upon the spool or holder.

From the foregoing description it will be understood that the spool or holder described can be mounted in the customary or any preferred supporting means, that the roll of paper or other fabric can be easily applied to it, and that the tension between the roll and its support can be easily and nicely established. It will also be evident from the description which I have given that other means might be substituted for moving the parts 30 and 31 in and out, or for otherwise regulating the projection of the shoes 31 without affecting the principle of the invention.

I claim:—

1. A structure of the kind described comprising a spool, shoes at axially spaced intervals movable in and out beyond the face of the spool body and extending through guide slots in said body, a yielding backing for the shoes, and means for adjusting the shoes in and out and thereby regulating their tension.

2. An adjustable tension paper holder comprising a spool, yieldingly supported shoes movable in and out through slots in the spool body, a rotatable shaft within the spool body, means for turning the shaft with relation to the spool body, means controlled by the shaft for graduating the position of the shoes, and means for temporarily fixing the position of the shaft and the mechanism moved by it.

3. A roll paper holder comprising a spool, shoes projecting outwardly through slots in the body of the spool and having spring shanks within and lengthwise of the spool, a yielding pressure medium behind the shanks, and means actuated by the movement

of one of the spool ends for fixing the position of the shanks with relation to the face of the spool body.

4. A roll paper holder comprising a spool having a hollow body with axially spaced slots therein, shoes extending through the slots of the body and with the shoes on opposite parts of the spool centre connected by a common shank, a yielding pressure medium behind the shoe shanks, a rotatable shaft within the spool body, and means connecting the shaft and shoe shanks for radially adjusting the said shanks and thereby varying the pressure of the shoes which they carry.

5. A roll paper holder comprising a hollow spool, shoes projecting through the face of the spool body and provided with longitudinally extending internal spring shanks, a rotatable disc within the spool body having cam slots therein to receive the shoe shanks, and means for rotating the disc from one end of the spool to radially position the shanks and the shoes which they carry.

6. A paper roll holder comprising a hollow spool, shoes projecting through guide slots in the face of the spool body and having internal spring shanks extending lengthwise of the spool, pressure springs behind the shanks, and a rotatable cam mechanism for adjusting the shanks and the shoes which they carry in and out with relation to the face of the body.

In testimony whereof, I have signed my name to this specification this 14th day of February, 1928.

JOSEPH A. HOEGGER.