The present invention relates generally to a dispensing device, and is more particularly concerned with a holder for a roll of paper or other strip material.

It is an object to provide a device of the character described, wherein one of the roll supporting arms is mounted for swinging movement by means of a unique concealed hinge structure which is devoid of the conventional hinge pin or pintle, and in which the swingingly connected parts are retained in articulated interconnection by spring means in such a way as to facilitate assembly of the device.

A further object is to provide such a device incorporating a fulcrumed roll supporting arm which is spring activated towards a roll supporting position, and wherein unique latching means are provided in which the release thereof is controlled as a function of the amount of paper on the roll. In this manner, removal of a full roll of paper is thwarted.

Further objects of the invention will be brought out in the following part of the specification, wherein detailed description is for the purpose of fully disclosing the invention without placing limitations thereon.

Referring to the accompanying drawings, which are for illustrative purposes only:

FIG. 1 is a front view of a dispensing device embodying the features of the invention, a roll of paper supported thereby being shown in phantom lines;

FIG. 2 is an enlarged longitudinal sectional view, taken substantially on line 2—2 of FIG. 1;

FIG. 3 is a transverse sectional view, taken substantially on line 3—3 of FIG. 2;

FIG. 4 is a fragmentary view having cutaway portions showing details of construction, and partially sectioned along line 4—4 of FIG. 2; and

FIG. 5 is a fragmentary sectional view showing a modified spring mounting for the swingingly mounted roll supporting arm.

Referring now more specifically to the drawings, FIG. 1 illustrates generally a dispensing device according to the present invention. This device in its broad concept is composed of a base frame structure which is constructed of any suitable material and may have any desired configuration, but is herein shown as being substantially rectangular. At the opposite ends of the base frame, spaced arms 11 and 12 are provided which extend laterally from the base frame and are respectively formed at their outermost ends with annular projections 13 and 14 extending in opposite directions and being axially aligned to enter the ends of a tubular core of a paper roll, as shown in phantom lines, supported between the arms. The base frame 10 is formed with slotted openings 16 with depressed side walls to permit screws or other fastening devices (not shown) to be employed for attaching the device in a position of use on a wall or other structure.

The arm 12 is shown as being rigidly secured at its inner or base end to the base frame at one end thereof by means of clamping screws 17 or other conventional means. The connection utilized to secure this arm to the base frame may also be used to anchor one end of a leaf spring 18, the free end of this spring being positioned within an undercut portion 19 of the annular projection 14 which also serves to shield the free end of the spring. This spring is arranged to frictionally engage the adjacent end face of the paper roll to prevent its spinning or unrolling too freely.

In order to facilitate the placing of a paper roll in a supported position between the arms 11 and 12, the arm 11 is hingedly connected to the base frame at its innermost end. In devices of this character, it has heretofore been the practice to utilize hinge lugs on the base frame which project into slots at the base of the arm and are pivotally connected to the arm by means of a hinged pin or pintle. This construction is not only uneconomical and expensive, but it also is undesirable in that it does not provide a pleasing design. In the construction embodied in the present invention, a unique concealed hinge mounting is provided between the arm 11 and the base frame.

More specifically, as shown most clearly in FIGS. 2 and 3, the inner end of the arm 11 is swingably fulcrumed at the opposite end of the base frame from that on which the arm 12 is mounted. The opposite sides of the inner end of the arm 11 are provided with integrally formed projecting fingers 20—20 which extend beyond the fulcrum axis 21 of the arm and extend through openings 22 in each case formed in the adjacent top wall 23 of the base frame at this end. The arm 11 is retained in connected relation with the base frame by means of prestressed leaf springs 24—24 which are respectively associated with each of the fingers 20. One end of each of the springs 24 is anchored within a recess 25 in the outer end of the fingers 20, while the opposite end of the spring is retained within an open sided walled recess 26 shown as being integrally formed with the adjacent top wall of the base frame. It will be observed that the spring 24 is curved so that this latter end in the recess 26, forcibly bears against the underside of the adjacent top wall, and due to the action of this spring, the arm 11 is retained in an operative position with respect to supporting a paper roll as shown in full lines in FIG. 2. However, the arm 11 as thus far described may be swingingly tilted about its fulcrum axis to the position shown in dotted lines to permit insertion of a paper roll into a position to be supported by the arms 11 and 12 in their operating position. When the arm 11 is moved to the dotted position, just mentioned, the spring 24 is further stressed so that upon release of the arm, the arm will be motivated by the spring towards its operative position. In some cases, the device may be utilized with the construction as thus far explained. However, there are installations where it may be desirable to lock the arm 11 in its operative position in such a manner that it will prevent unauthorized removal of a full roll of paper or other strip material. For such purpose the arm 11 may be provided with a unique locking means in which release of the locking or latching means is controlled as a function of the amount of paper on the roll.

For releasably latching the arm 11 in its operative position, we provide an elongate leaf spring 27 which is positioned on the inside of the arm and is shielded by side ribbing 28—28 which form a spring compartment 29. The outermost end of the spring 27 is positioned within...
3,008,659 3. an undercut portion 30 formed in the annular projection 13, while the opposite end of the spring extends through an opening 31 in the adjacent portion of the top wall 23 of the base frame. This end of the spring, as clearly shown in FIGS. 2 and 3 projects below the fulcrum axis 21 and is provided with a transversely extending slot opening 32 for receiving therein a projection 33 of the top wall 23, when the arm 11 is in its operative position. Thus the lower edge of opening 32 provides an abutment edge which engages beneath the abutment stop provided by the underside of projection 33 to lock arm 11 against swinging movement. The spring 27 is prestressed by being flexed over a stud projection 34 within the spring compartment 29, this stud having an end portion 35 which extends through an opening 36 formed in the spring 27 intermediate its ends. The interengagement of the portion 35 with the spring 27 retains the spring in its mounted position against endwise movement and serves to retain it in prestressed condition. The latching spring may be released with respect to the projection 33, when there is no full roll of paper being supported in the device, simply by pressing against the spring between the portion 35 and the adjacent top wall 23 of the base frame. By thus flexing the spring at this end, it may be disengaged from the projection 33 so that the arm 11 may be swung from its full line position to its dotted line position to permit roll replacement. It will be observed, however, that upon release of the arm 11, the springs 24 act to automatically restore the arm 11 to its operative position. Also, that in the event the latching spring 27 should for some reason become broken, the springs 24 act to retain the arm 11 in its operating position so that the arms will still effectively support the paper roll in dispensing position.

With a full roll of paper in supported position between the arms 11 and 12, the spring 27 will be concealed and shielded by the associated end of the paper roll in cooperation with the side ribbing 28 of the spring compartment, so that with a full roll in the device, the latching spring 27 cannot be manually manipulated to un-latched released position.

It is realized that varied arrangements may be utilized for mounting of the spring 24. An alternative construction to that shown in FIG. 2 is shown in FIG. 5, wherein the spring is mounted in a somewhat similar manner to that utilized for the mounting of spring 27. By utilizing the arrangement shown in FIG. 5, it is not necessary to bow the spring so as to prestress it after the manner shown in FIG. 2. In the alternative arrangement, the spring 24' is engaged at one end behind a U-shaped stirrup 36 extending from the underside of the top wall 23 of the base frame, while the opposite end of the spring is positioned behind a shoulder ledge 37 formed on the adjacent side of the associated finger 20. Between its ends, the spring is flexed over a projecting stud 38 which extends through an opening 39 in the spring. The stud thus retains the spring against longitudinal displacement. This arrangement somewhat simplifies the arrangement previously described and as shown in FIG. 2.

Various modifications may suggest themselves to those skilled in the art without departing from the spirit of our invention, and, henceforth, we do not wish to be restricted to the specific form or forms shown or used mentioned, except to the extent indicated in the appended claims.

We claim:

1. A dispensing device for a roll of paper having a tubular core, comprising: a base frame having a projection adjacent one end thereof providing an abutment stop; spaced arms extending laterally from said base frame, said arms being respectively provided with portions projecting in opposite directions for entering the ends of said tubular core for supporting the paper roll between them; means hingedly connecting one of said arms to the base frame adjacent said projection for swinging movement to operative and non-operative positions with respect to said roll, said means including resilient means normally acting to bias the arm away from said projection for swinging movement to its operative position; and an exposed prestressed leaf spring on the inner side of said one arm having a free end extending toward said base frame with an abutment edge adjacent said free end engageable beneath the abutment stop of said projection to lock said one arm in its operative position, but upon disengagement from said abutment stop of said projection enabling swinging movement of the arm to non-operative position, said spring being normally rendered inaccessible by a full roll supported between said arms.

2. A dispensing device for a roll of paper having a tubular core, comprising: a base frame having an abutment stop; spaced arms extending laterally from said base frame, said arms being respectively provided with portions projecting in opposite directions for entering the ends of said tubular core for supporting the paper roll between them; means hingedly connecting one of said arms to the base frame for swinging movement to operative and non-operative positions with respect to said roll, said means including resilient means normally acting to bias said one of said arms to its operative position; and an exposed prestressed leaf spring on the inner side of said one arm having a free end extending toward said base frame, said leaf spring having adjacent the free end an abutment edge releasably engageable beneath said abutment stop of said base frame to lock said arm and rigidly hold it in said operative position, but upon release enabling swinging movement of said one arm to its non-operative position, said spring being normally rendered inaccessible by a full roll supported between said arms.

3. A dispensing device for a roll of paper having a tubular core, comprising: a base frame having an abutment stop; spaced arms extending laterally from said base frame, said arms being respectively provided with portions projecting in opposite directions for entering the ends of said tubular core for supporting the paper roll between them; means hingedly connecting one of said arms to the base frame adjacent said projection for swinging movement to operative and non-operative positions with respect to said roll, said means including resilient means normally acting to bias one of said arms to its operative position; and an exposed prestressed leaf spring on the inner side of said one arm having a free end extending toward said base frame, said leaf spring having adjacent the free end an abutment edge releasably engageable beneath said abutment stop of said base frame to lock said arm and rigidly hold it in said operative position, but upon release enabling swinging movement of said one arm to its non-operative position, said spring being normally rendered inaccessible by a full roll supported between said arms.

4. A dispensing device for a roll of paper having a tubular core, comprising: a base frame having a projection adjacent one end thereof providing an abutment stop; spaced arms extending laterally from said base frame, said arms being respectively provided with portions projecting in opposite directions for entering the ends of said tubular core for supporting the paper roll between them; means hingedly connecting one of said arms to the base frame adjacent said projection for swinging movement to operative and non-operative positions with respect to said roll, said means including resilient means normally acting to bias one of said arms to its operative position; and an exposed prestessed leaf spring on the inner side of said one arm having a free end extending toward said base frame, said leaf spring having adjacent the free end an abutment edge releasably engageable beneath said abutment stop of said base frame to lock said arm and rigidly hold it in said operative position, but upon release enabling swinging movement of said one arm to its non-operative position, said spring being normally rendered inaccessible by a full roll supported between said arms.
swinging movement of said arm beyond said operative position; and a leaf spring anchored adjacent its outer end on the inner side of said one arm and extending toward said base frame, said leaf spring having an opening adjacent its inner free end providing an abutment edge engageable beneath said abutment stop of said projection to lock said one arm against swinging movement, but upon deflection of said spring away from said projection releasing said one arm for swinging movement to its non-operative position; said spring being normally rendered inaccessible by a full roll supported between said arms.

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