

H. J. WILLIAMS.
TOILET PAPER FIXTURE.
APPLICATION FILED APR. 12, 1910.

970,151.

Patented Sept. 13, 1910.

Fig. 1.

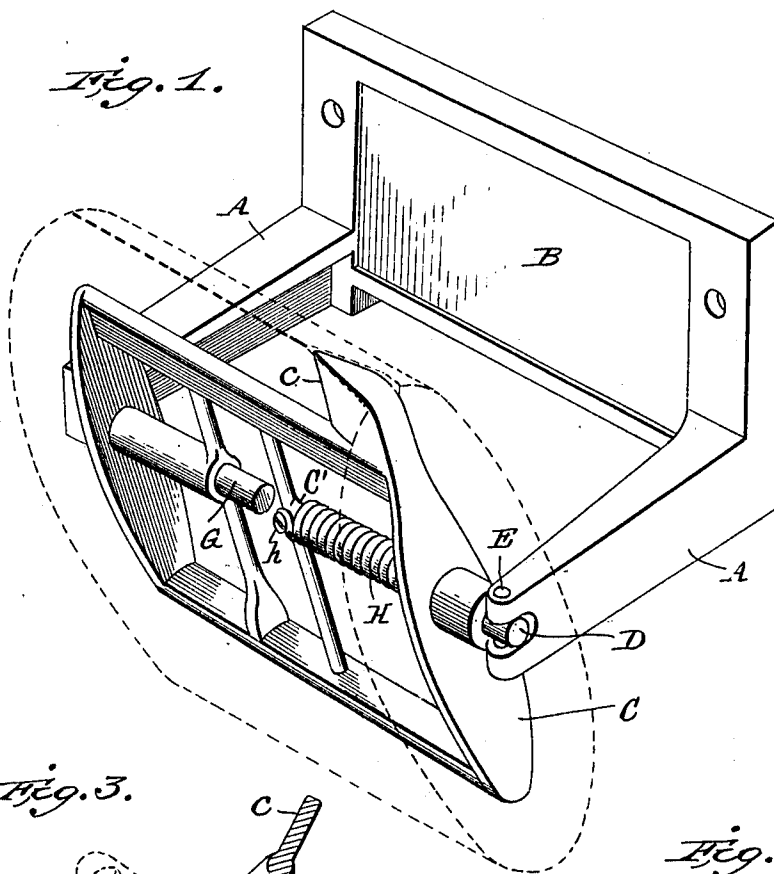


Fig. 3.

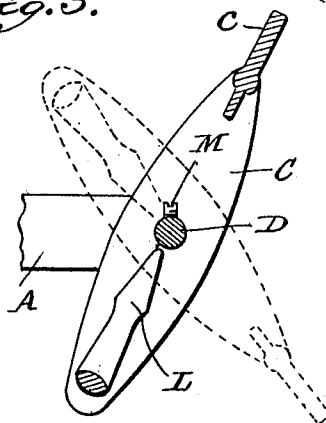
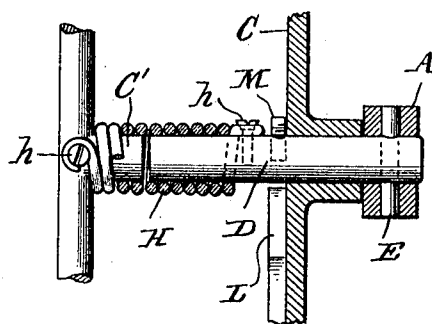


Fig. 2.



Witnesses

Elizabeth Griffith
Robert P. Brown.

Inventor

Harry J. Williams

By *Charles T. Church*

his Attorneys

UNITED STATES PATENT OFFICE.

HARRY J. WILLIAMS, OF MERIDEN, CONNECTICUT, ASSIGNOR TO UNITED STATES ENVELOPE COMPANY, OF SPRINGFIELD, MASSACHUSETTS, A CORPORATION OF MAINE.

TOILET-PAPER FIXTURE.

970,151.

Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed April 12, 1910. Serial No. 554,971.

To all whom it may concern:

Be it known that I, HARRY J. WILLIAMS, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Toilet-Paper Fixtures; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

The present invention relates to that type of toilet paper fixtures having an oscillatory core for a roll of paper formed with lines of weakness usually located along the upper front edge, whereby as each sheet is grasped and pulled the core and roll are rocked to bring the succeeding line of weakness free from the roll and detach the sheet, thereby freeing the core and roll permitting them to return to normal position and the end of the next sheet to drop into pendent position where it may be conveniently grasped. A serious objection to fixtures of this character is due to the fact that as heretofore constructed they could be operated in a noisy manner and it is one of the principal objects of the present invention to provide a structure in which this objection will be overcome.

Other objects of the invention are to simplify the structure; to provide a spring for returning the core to its normal position in a lively and energetic manner, whereby sharp oscillations of the core are set up such as will invariably free the end of the succeeding sheet so that it will drop into position to be readily grasped, and finally to combine with a spring returned oscillatory core, stop projections whereby the movements of the core in each direction will be limited to prevent undue straining of the spring.

The invention consists in certain novel details of construction and combinations and arrangements of parts, all as will now be described and pointed out particularly in the appended claims.

Referring to the accompanying drawings—Figure 1 is a perspective view of a fixture embodying the present improvements, with a roll of paper shown in dotted lines; Fig. 2 is a detail section through one end of the core showing the spring and pivot

pin, to which the same is attached; and Fig. 3 is a section in a plane transversely of the pivot pin and core, the different positions of the core being shown in full and dotted lines.

The supporting arms A for the core with their base B are of conventional form and may be modified in construction and ornamentation to suit the wishes or fancies of the manufacturer. The core C is also of usual conventional outline adapted for the reception of an oval roll of paper having lines of weakness along its upper edge and a recess for the reception of a projection *c* whereby the correct positioning of the roll on the core is assured.

In accordance with the present invention the core is journaled at one end on a pivot pin D which projects into the core and at its outer end is adapted to be held in the supporting arm so as to be incapable of rotation therein. In the preferred construction the outer end of this pivot pin D is journaled on a vertical pin E in one of the supporting arms so as to be capable of swinging forwardly when it is desired to place a new roll on the core. At its opposite end the core is supported by a pivot pin G which, in the particular structure illustrated, is longitudinally movable and its outer end is adapted to detachably engage a socket in the supporting arm.

The inner end of the pivot pin D preferably lies in proximity to and in line with an internal projection C' on the core and a coil spring H, one end of which surrounds the projection and the other end of which surrounds the end of the pivot pin D, forms a yielding connection between the core and its pivot pin. The ends of the spring are conveniently secured to the core and pivot pin, respectively, as by screws *h* and the spring is so set that the core will normally occupy a forwardly inclined position, as shown in Fig. 1 but may be turned in either direction against the tension of said spring. Its rotation may be limited by the closing of the coils of the spring in one direction and by the increased resistance of the spring in the other direction, but it is preferred to provide coöperating stop shoulders which will positively limit the rotary movements of the core to something less than a complete revolution. This result may be best accomplished by providing a projection L

on the inner side of the core adapted to contact with a pin or projection M on the pivot pin D. The projection M will thus serve not only as one of the limiting stops for determining the degree of rotation permitted the core, but will also serve as a means for limiting the longitudinal movement of the core on the pivot pin, thus when the core is swung outwardly for placing a new roll of paper thereon, it will be held in its proper relation to the pivot pin without danger of being detached or stolen.

It will be noted that in this construction the stop projections are brought in close to the axis of the core where there is little or no liability of their striking with a rebounding blow even though the paper should be of unusual strength.

In the ordinary operation of the device, the stop projections will not contact with each other as the spring is preferably made of sufficient strength to insure the separation of the paper before the roll has rotated sufficiently far to bring said projections into contact and as soon as the paper has separated, the action of the spring will immediately return the core to its normal position and impart a series of short, sharp vibrations thereto, such as will insure the releasing of the end of the succeeding sheet, whereby the latter will be freed and permitted to drop down into convenient position to be grasped and detached.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a toilet paper fixture, the combination with the supporting arms, the core and a sliding pivot pin on the core adapted to detachably engage one supporting arm, of a pivot pin for the core permanently hinged in the other supporting arm to swing outwardly and a spring intermediate said last mentioned pivot pin, and core for resisting the rotation of the core on said pin and returning the core to normal position.

2. In a toilet paper fixture, the combination with the supporting arms, the core and

a pivot pin detachably connecting the core and one supporting arm, of a pivot pin permanently hinged in the other supporting arm to swing outwardly and a spring intermediate the inner end of the hinged pivot pin and core, said spring being located within the core and adapted to resist rotation of and return the core to normal position.

3. In a toilet paper fixture the combination with the supporting arms, the core and a pivot pin connecting the core and one supporting arm, of a pivot pin held against rotation in the other supporting arm and projecting into the core, a coil spring connected at one end with the inner end of the last mentioned pivot pin and at the opposite end connected with the core for resisting rotation of the core and returning the same to normal position.

4. In a toilet paper fixture, the combination with the supporting arms, the core and a pivot pin connecting the core and one supporting arm, of a pivot pin held against rotation in the other supporting arm and projecting into the core, a spring intermediate the last mentioned pivot pin and core for resisting rotation of and returning the core to normal position and cooperating stop shoulders for preventing complete rotation of the core.

5. In a toilet paper fixture, the combination with the supporting arms, the core and a pivot pin connecting the core and one supporting arm, of a pivot pin held against rotation in the other supporting arm and extending into the core, a spring intermediate the last mentioned pivot pin and core for resisting rotation of and returning the core to normal position, a stop projection on said pin and a cooperating stop projection on the core for preventing complete rotation of the core.

HARRY J. WILLIAMS.

Witnesses:

C. H. Wood,
H. W. Scott.