H. J. WILLIAMS.

TOILET PAPER FIXTURE.

APPLICATION FILED APR. 12, 1910.

970,150.

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Fig. 1.

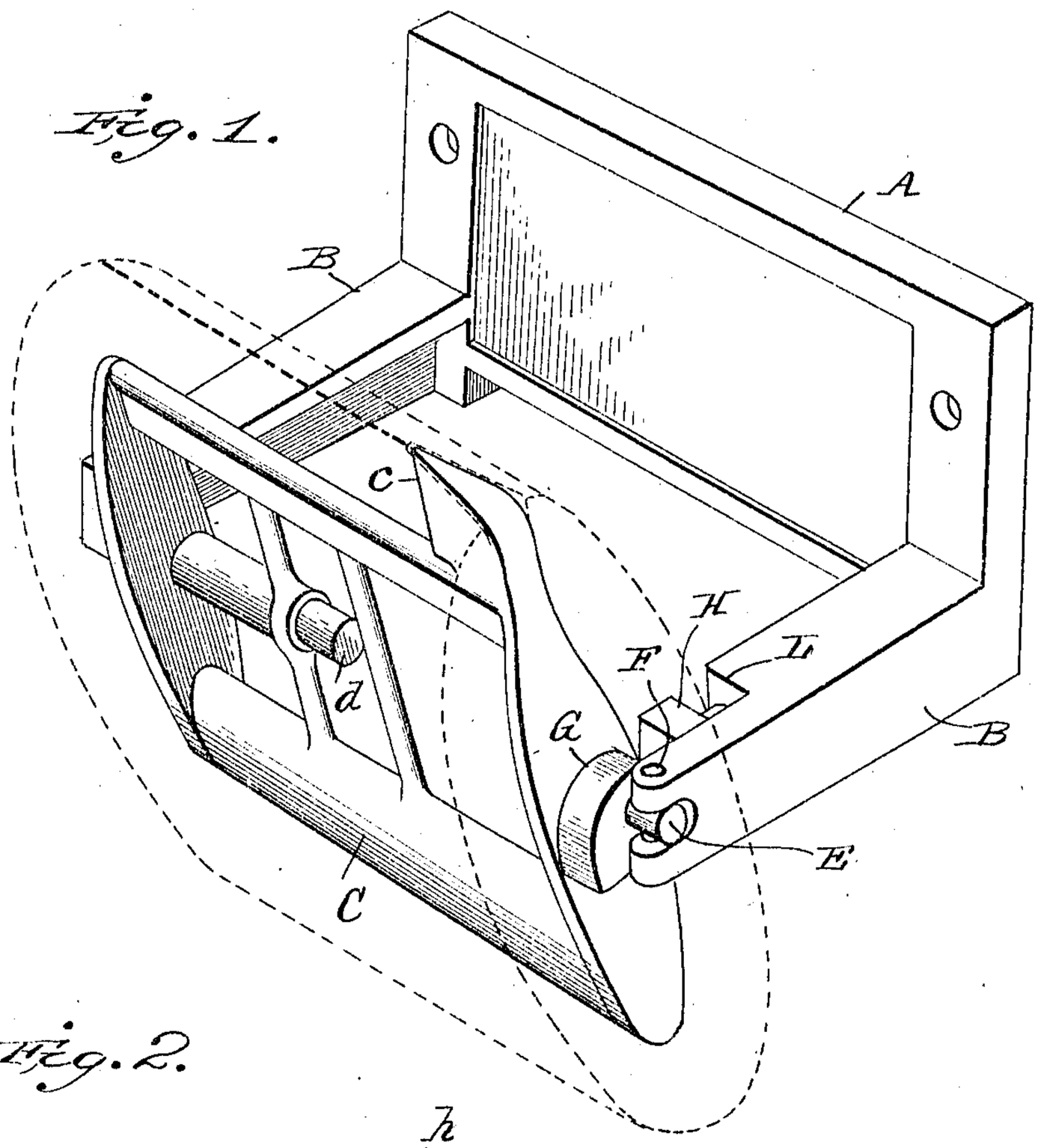


Fig. 2.

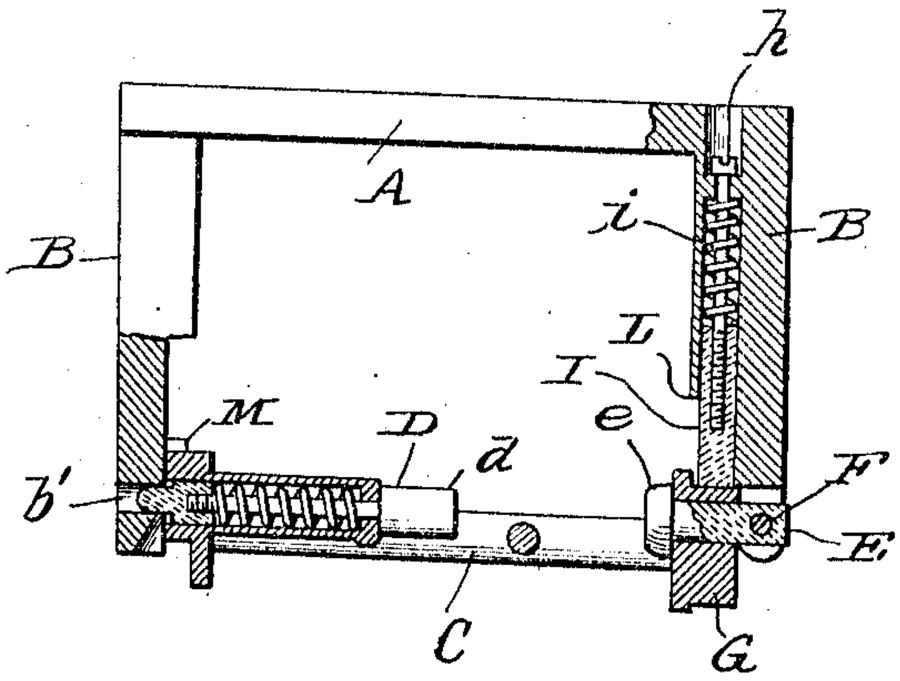


Fig. 3.

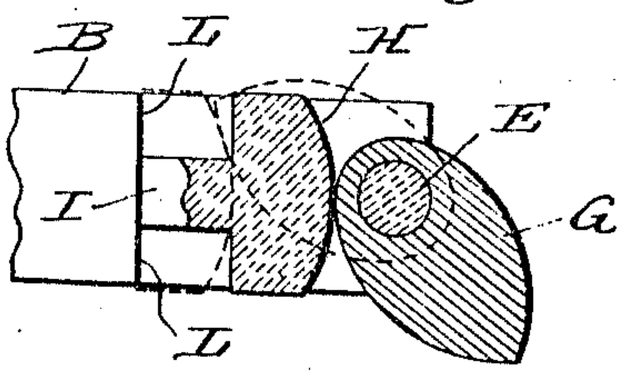
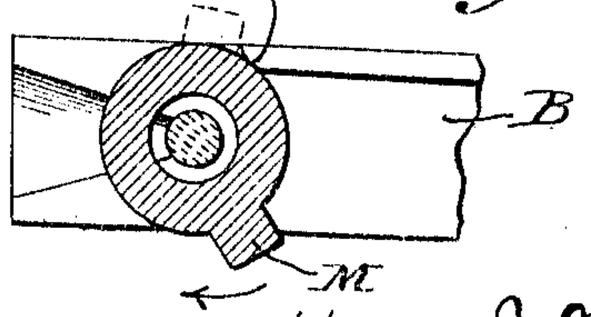


Fig. 4.



Witnesses

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TOILET-PAPER FIXTURE.

970,150. Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed April 12, 1910. Serial No. 554,970.

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 construction; to so arrange and construct the parts that they will not wear or become loose through constant or rough use and to so connect the movable and fixed parts that parts cannot be removed or stolen.

With the above objects in view, the invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described and pointed out particularly in the appended claim.

In 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 top plan view with parts broken away to show internal construction; Fig. 3 is a sectional view looking at the inner side of one supporting arm and showing in dotted lines the action of the cam and plunger, and Fig. 4 is a detail section showing the supplemental stop shoulders.

Similar letters of reference in the several figures indicate the same parts.

The base or body A of the fixture, together with the supporting arms B, are illustrated as of conventional form and may be modified or ornamented to suit the convenience or taste of the manufacturer. Said supporting arms, regardless of their particular construction, are designed for the support of the pivotal core for a roll of paper and in the embodiment of the invention illustrated, the said core is movable with relation to the arms and is adapted to be swung forwardly for the insertion of a new roll, as described in my prior Patent No. 819,682 dated May 1, 1906. The core itself, indicated by the reference letter C, is conveniently an elongated flat core adapted for the reception of an oval roll of paper having lines of weakness along its upper edge and a suitable recess for the projection *c* whereby the correct positioning of the roll on the core is assured. The pivot pin for one end of the core is preferably a spring pressed longitudinally movable pin D, journaled in the end of the core and adapted to project beyond said end a proper distance to engage a socket *b'* in the supporting arm. At the inner end, the pivot pin forms a handle portion *d* by which the pin may be withdrawn when it is desired to detach the pin from engagement with the arm, the said handle, however, being normally concealed within the roll of paper so as to be inaccessible save when no paper is present. At the opposite end the core is formed with a journal for the reception of a pivot pin E, preferably having an enlarged head *e* on its inner end and at its outer end hinged on a vertical pin F in the supporting arm. With this construction the pivot pin D may be detached from its connection with its supporting arm and the whole core swung or hinged with the pin F as a center. On the end of the core is a cam or eccentric projection G, best seen in Fig. 3 of the accompanying drawings, the shape of the projection being preferably that of a very steep cam set slightly diagonal with relation to the plane of the core, and adapted to bear on the broad head H of a spring pressed plunger I movable longitu-

dinally in the supporting arm. As a convenient construction, the plunger may be limited in its outward movement by a retaining screw *h* passing into the rear end of the plunger through a coil spring *i*, all as shown clearly in Fig. 2. The spring and the shank of the plunger work in a cylindrical chamber in the supporting arm and when retracted the head of the plunger is adapted to seat squarely against shoulders L on the arm whereby the inner face of said head and shoulders on the arm form coöperating stop shoulders to prevent the complete rotation of the core. The core is arrested in its rotation at a point before it reaches its dead center, thus the pressure of the plunger will immediately inaugurate the return movement of the core to its normal position, no matter in which direction the core is rotated.

Inasmuch as one of the chief objects of the present invention is to provide a noiseless fixture the pivot pins are preferably both made of non-metallic material, such as hard vulcanized fiber and the plunger, together with its head, is also made of the same material and, inasmuch as the plunger itself, when made of such material, might be deformed by excessive pressure or repeated blows of the cam or eccentric projection, it is preferred to employ additional limiting stops such as the projection M on the opposite end of the core which is adapted to strike a coöperating projection M′ on the supporting arm, as shown in Fig. 4. These projections, however, may be omitted, but for the sake of durability and strength they are preferably employed to supplement the stop action of the plunger itself and to prevent deformation of the plunger when formed of non-metallic material.

The core, it will be understood, is preferably weighted to normally hang in a slightly inclined position, as shown in Fig. 1, although the cam itself may be so shaped as to cause the core to assume this position but, in any event, it is preferred that the plunger shall at all times be in contact with the cam or eccentric so as to avoid any likelihood of noise during the oscillations of the core. Obviously, either the cam or the plunger, or both the cam and plunger, may be made of sound-deadening material; for example, vulcanized fiber or spelter.

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

In a toilet paper fixture, the combination with the base, the supporting arms, one of which is provided with a socket and a pivot pin permanently hinged in the other of said arms, of a core inseparably pivoted on said pin, a sliding pivot pin mounted in the core in position to enter the socket, a cam projection on one end of the core, and a spring pressed plunger mounted in the supporting arm and having a head constantly engaging and coöperating with the cam, the relation of the cam and plunger being such that complete rotation of the core is prevented.

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