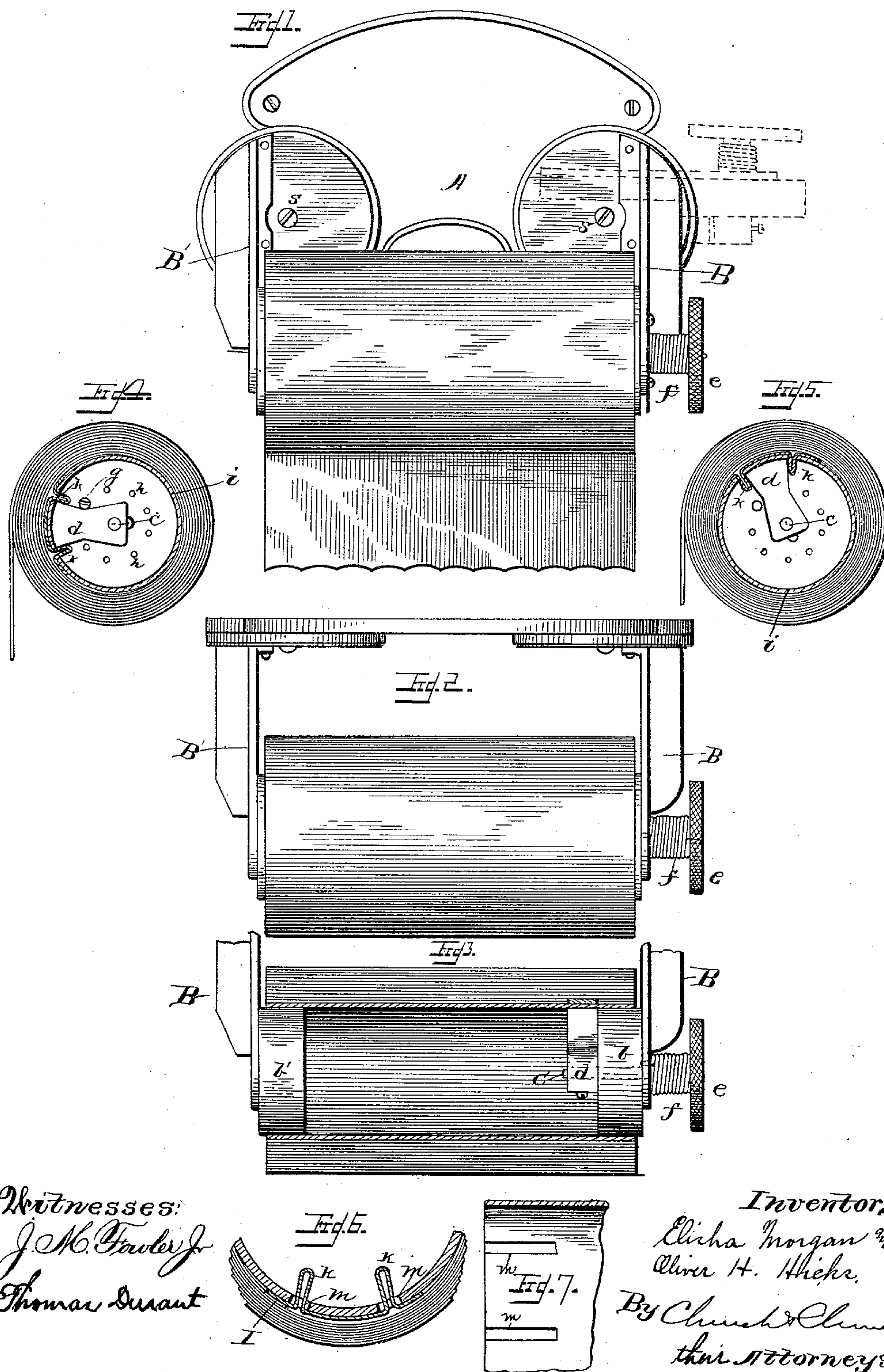


(No Model.)

E. MORGAN & O. H. HICKS.  
TOILET PAPER FIXTURE.

No. 543,556.

Patented July 30, 1895.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## TOILET-PAPER FIXTURE.

**SPECIFICATION** forming part of Letters Patent No. 543,556, dated July 30, 1895.

Application filed January 7, 1892. Serial No. 417,287. (No model.)

*To all whom it may concern:*

Be it known that we, ELISHA MORGAN, of Springfield, in the county of Hampden and State of Massachusetts, and OLIVER H. HICKS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Toilet-Paper Fixtures; and we 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 letters of reference marked thereon.

Our improved fixture is adapted to hold a roll of paper, and preferably a roll of perforated or weakened toilet-paper, and is so constructed as that but a limited length or a limited number of sheets or sections of paper can be removed from the roll at a time.

The underlying principle of the invention consists in supporting the roll of paper so that it can be turned or partially rotated and in applying a spring to it in such manner as that when the free end of paper is pulled the roll will be turned and the tension of the spring will be increased, and when a limited length of paper or a limited number of sheets or sections has or have been unwound from the roll the action of the spring on the roll will detach the unwound portion and the spring will then rotate the roll backward to first position and cause a new end of paper to be dropped into position to be grasped for the next operation.

The details of construction of the fixture we will now proceed to describe, and will then point out what we deem the principal points of novelty in the claims at the end of this specification.

In the accompanying drawings, Figure 1 represents a front view of a fixture constructed in accordance with our invention, the dotted lines representing one of the arms turned into the position which it occupies when a roll is being applied. Fig. 2 is a top plan view of the same. Fig. 3 is a sectional view showing the construction and arrangement of the spring-impelled arm and its attachments. Fig. 4 is a view illustrating the position of the spring-impelled arm and the roll of paper

with which it co-operates before the free end of paper is pulled, and Fig. 5 the position of said spring-impelled arm and roll when the roll has been turned to the point where the action of the spring detaches the sheet. Figs. 6 and 7 are detail views showing the construction and mode of application of the projections on the roll-core with which the spring-impelled arm co-operates.

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

The body of the fixture is modeled somewhat after the fixture patented to W. S. Lane, September 25, 1888, No. 390,084—that is to say, it has a back plate A, two arms B B' pivoted to the back plate and having, respectively, projections or plugs b b' that are adapted to enter the ends of the roll, so as to support the latter and at the same time permit it to be turned or rotated. The plugs b b', however, fit more loosely within the opening of the roll than in the Lane fixture, in order that the roll may turn more freely. Passing diametrically through the plug b is a short shaft c, upon the inner end of which is secured an arm d, whose outer end extends substantially flush with the periphery of the plug b. To the outer end of the shaft c is secured a disk e, and surrounding the shaft c, between the said disk e and the stationary arm B, is a coiled spring f, one end of which is secured to the said disk and the other end to said stationary arm. The spring is kept normally under tension, and by its action upon the arm d, through the disk e and shaft c, causes said arm d to normally press against a stop on the inner side of the plug b, as shown in Figs. 4 and 5. This stop consists, preferably, of a screw g, and is adapted to be secured in one or the other of a series of screw-threaded openings h, according to the degree of initial pressure the spring is desired to exercise.

The roll of paper is provided with the usual core i, of thick paper or strawboard, and secured to this core are projections k k, which extend inward radially and which, when the core is slipped in place upon the plug b, admit the outer end of arm d between them. These projections from the core may be of any



suitable construction, but we prefer to form them both from a strip of metal *l*, whose body portion lies between the core and roll of paper, as shown in Fig. 6, the projections themselves extending through slots *m* in the core, as shown in said Fig. 6 and also in Fig. 7.

In applying the roll to the fixture care must be taken that the arm *d* extends between the projections *k k*, and that the screws *s*, which hold arms *B B'* to the back plate, are tightened, so as to preserve the plugs *b b'* in their proper relative positions within the core.

Upon the depending free end of the paper being pulled the roll will be rotated, and the projections *k k* on the core acting on the arm *d* will cause the spring to be wound tighter, and by the time the line of weakness defining the sheet or section of paper being pulled leaves the roll the stress of the spring will cause the paper to separate on such line of weakness, whereupon the spring will rotate the roll back to first position or until the arm *d* again encounters the stop *g*, the end of the new sheet dropping down in position to be grasped.

We preferably make the opening in the roll about two inches in diameter, so that the circumference may be about the length of a sheet of the paper.

By the use of this fixture but a limited length of paper or a limited number of sheets can be detached at a time, and upon the separation of each length, sheet, or determinate series of sheets the apparatus is automatically reset for the next operation.

Having thus described our invention, what we claim as new is—

1. In a toilet paper fixture, the combination with the removable roll of easily severed or separated paper, and the support upon which said paper is pivotally mounted, of the spring forming a permanent portion of the support and located intermediate and connecting the roll and support, adapted to be put under increased tension by a forward rotation of the roll, and to return the roll to normal position after the separation of a length of the paper,

with means for arresting the rotation of the roll; substantially as described.

2. In a toilet paper fixture, the combination with the supports, of the removable roll of paper mounted thereon, a spring forming a permanent part of the support cooperating with the roll and put under increased tension by a pull upon the free end and forward rotation of the roll and a stop for limiting the backward movement of the spring and roll; substantially as described.

3. The combination with the support and the spring impelled arm carried thereby, of the rotary roll of paper provided with projections cooperating with the spring impelled arm, whereby the roll and arm are connected for simultaneous movement; substantially as described.

4. The combination with the supports and the spring impelled arm carried thereby, of the rotary roll of paper carried by the supports and provided with projections cooperating with the spring impelled arm and the stop for arresting the movement of the arm; substantially as described.

5. The combination with the arms having the plugs or roll supports, the short shaft passing through one of said plugs the arm on one end of the shaft and the disk on the opposite end, of the spring for rotating the shaft and the stop; substantially as described.

6. The herein described roll of paper for toilet fixtures having the core and the metal strip interposed between the core and roll paper, said strip being provided with projections extending into the central opening and adapted for cooperation with the fixture; substantially as described.

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