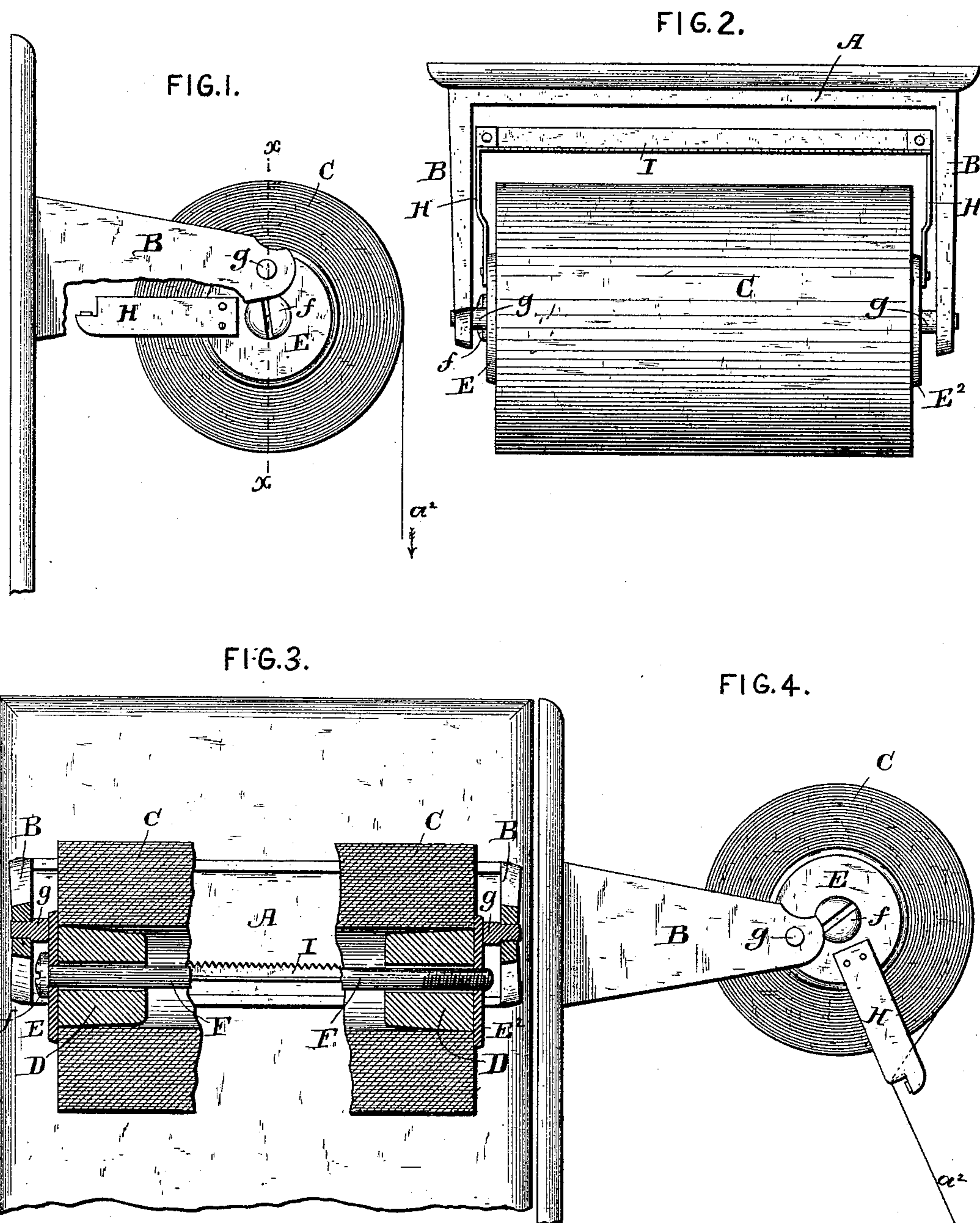


(No Model.)

C. C. JOHNSON.
TOILET PAPER HOLDER.

No. 328,409.

Patented Oct. 13, 1885.



ATTEST.
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TOILET-PAPER HOLDER.

SPECIFICATION forming part of Letters Patent No. 328,409, dated October 13, 1885.

Application filed July 18, 1885. Serial No. 171,954. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. JOHNSON, of Springfield, in the county of Windsor and State of Vermont, have invented certain new and useful Improvements in Toilet - Paper Holders; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this application.

My invention relates to certain new and useful improvements in that class of toilet-paper holders and cutters in which a roll or wound web of plain—i. e., unperforated—paper is used, and has for its main objects to provide for use a contrivance of the type mentioned which shall be simple in its construction and economic of manufacture, and which at the same time shall be perfectly efficient for its designed purposes, and exceedingly convenient to the user of the machine or apparatus.

To these main ends and objects my invention consists in the novel features of construction, which will be found hereinafter more fully explained, and which will be most particularly defined, and pointed out in the claims of this specification.

To enable those skilled in the art to which my invention appertains to make and use the same, I will now proceed to more fully describe my improvements, referring by letters to the accompanying drawings, which form a part of this specification, and in which I have shown my invention carried out in that form in which I have, so far, successfully practiced it, and which is the best now known to me.

In the drawings, Figure 1 is a side or edge view of one of my improved paper holders and cutters mounted or fastened up in a proper position or condition for use, and having a portion of one of the bracket-arms of the metallic stand broken away for the purpose of better showing the cutter. Fig. 2 is a top view of the contrivance. Fig. 3 is a vertical section at the line *x x* of Fig. 1, with a portion of the roll of paper broken away in order to better show the shape and position of the serrated cutter; and Fig. 4 is a view similar to Fig. 1, but with the roll turned around, by pulling on the free end of the web, so as to

bring the cutter into its operative condition.

In the several figures the same part will be found designated by the same letter of reference.

The moving and working parts of the machine or contrivance are mounted on and supported by a metallic stand composed of a base portion, A, and two bracket-like arms, B B, projecting therefrom, as clearly shown. The base portion A is adapted to be secured, preferably, by common wood-screws passing through holes therein, to the wall or other vertical surface of the apartment wherein the contrivance is to be used, and said portion A and the arms B B are by preference formed integrally, the whole comprising any desired design or shape.

C is the roll or wound web of toilet-paper, which is of about the usual shape and in about the ordinary condition of the hollow cylindrical paper rolls well known in the market, but wound with a central opening of a rather unusually large size. This roll is provided in the instance shown with the usual wooden core blocks or plugs, D D, inserted in either end of its central opening, for the purpose of keeping said central opening in shape, (especially when the roll of paper shall have been nearly all used up and the remainder of the wound web therefore in need of a core to sustain it.)

At either end of the roll C are arranged circular metallic plates or disk-like devices, E E², both of which are centrally perforated for the accommodation of a rod or shaft, F, which is arranged axially of the paper roll A, and passes through both of said devices E E², the said rod F being formed with a screw-thread at one end, (that engages with a thread in the central opening of the plate E²,) and with a head, *f*, at the other end operating, when fastened in place, as shown, to clamp the roll C endwise within the embrace of the plates E E², which plates, for the purpose of embracing the roll endwise with sufficient firmness to practically secure the roll to said plates, are made slightly greater in diameter than the diameter of the central opening of the roll C and that of its contained core-blocks or wooden plugs D D. Each of the plates E E² is formed

or provided with a short cylindrical pin or stud, *g g*, projecting from its outer face, and these two studs *g g* enter and turn freely within holes in the arms *B B*, (near the outer ends of the latter,) thus forming the axes by which the roll *C* and its attachments are supported, and about which they turn, as will be presently explained. The pins or axes *g g* are arranged, it will be observed, eccentrically to the axis of the roll *C* and that of the clamping-rod (or axially-arranged shaft) *F*, for a purpose to be presently described.

H H are two arms, which project radially (and in the same plane) from the disk-like devices *E E*², and which support by their outer ends the serrated cutter-bar or knife-bar *I* in about the position or relationship to the roll *A* shown. These arms *H H* may of course be made either integral with the plates *E E*², or they may be in any other manner rigidly secured thereto; and the cutter-bar *I* may be rigidly secured to the arms *H H* by any suitable means, or may be made integral therewith, if deemed expedient, the only essential feature of the construction shown being in this respect the arrangement of the edge of the cutter-bar *I* in a line about parallel to the axis of the roll of paper and at a short distance from the periphery of the roll when the latter contains its full complement of paper.

In connection with the foregoing description of the construction and arrangement, together with the several parts, the following explanation, together with the drawings, will, I think, make clear to those skilled in the art the operation or method of working my improved contrivance:

Supposing the working parts of the machine and the paper roll *C* to be in the positions shown in all the figures, except Fig. 4, which are the positions occupied when the machine and its contained roll of paper are at rest, the person desiring to cut off a portion of the paper web simply grasps the depending free end *a*² of the paper, and pulling thereon, in somewhat the direction and manner indicated by the dotted line and arrow at Fig. 1, partially rotates the roll of paper, and with it the cutter-bar *I*, rigidly secured to the plates *E E*², (fastened to the ends of the paper-roll,) into about the position shown at Fig. 4, whereby the cutter is brought into contact with the upper surface of the unwound portion of the paper, as clearly shown, and whereby, also, by reason of the eccentricity of the axes *g g*, on which the roll turns, a preponderance of the weight of the roll *C* causes the knife *I* to press down on the unwound portion of the web, (the free end of which is still within the grasp of the person,) and operates to force the knife through the web and sever it, after which the roll and its attached cutter *I* continue to rotate or turn about the axes of the studs *g g*, by operation of both the gravity of the parts and the inertia thereof, (after having been set in motion,) until the bar *I* shall have made somewhat more than a complete revolution around the axes

g g, when by gravity the parts will settle back into their original positions. Immediately after the performance of the cutting operation the end of the paper remaining on the roll will be carried around in the direction of movement of the roll and the knife, more or less, (according to the suddenness of the pull given the paper and the consequent faster or slower motion given to the moving parts;) but by gravity the free end thus carried around will almost instantly thereafter drop down into the position shown at Fig. 1, ready for a reuse of the contrivance.

It is preferable in pulling off and cutting off the paper to pull the free end of the web a little to one side, as well as away from the roll, especially if the person pull slowly on the paper; but, usually, the cutting off and other operations will be effected with certainty no matter whether the web be pulled sidewise or not.

It will be seen that by the use of a knife or cutter, *I*, arranged to rotate always with the roll of paper and arranged and operating so that, when pulled over into the position seen at Fig. 4, the gravity (as well as the inertia) of the moving parts will operate to effect the severance of the paper by the cutter, the severance of the web is effected with certainty by the use of exceedingly simple and durable devices; and it will be understood that these desiderata may be gained irrespective of whether the action of gravitation made available be derived by hanging the roll eccentrically, as shown, or by hanging it axially, and then weighting it or the plates *E* or the shaft *F*, so as to make the roll assume always a given axis of motion and irrespective of whether the cutter assume just the position shown or some other whenever the moving parts come to rest. Another advantage arises, however, from the specific construction shown, by which the cutter *I*, when not at work, assumes always substantially the position seen, which advantage is that in such position the cutter is wholly out of the way of persons passing or standing near to the contrivance.

By the use of the disks or plates *E E*² and the screw-shaft *F*, which clamps them against the ends of the roll of paper, a simple and efficient means is provided for securing together the roll and the cutter, rigidly connected with said disks in such manner that while fresh rolls may be easily put into the machine, the cutter will always be forced to turn when the roll of paper is pulled round, and will always operate to receive the strain of the pull on the paper, and thus act with great positiveness in performing the cutting operation.

Although the described mode of operation of the revolving roll and rigidly-attached knife may be effected by having the roll arranged to rotate on axes concentric with its axial or central opening, and by providing either one or both of the plates *E E*² or the axial-shaft *F* with some sort of eccentrically-arranged weight, yet I deem the eccentric arrangement

of the studs *g g* a specific feature of construction, possessing the advantages of simplicity, durability, and economy of manufacture.

5 It will be understood that while I prefer in carrying my invention into practice to employ all three of the described and hereinafter-claimed parts or features of my invention in one machine, less than all of said described
10 separate features of novelty may be employed in a paper-holder machine without the use of the other parts of my invention, and with more or less advantage. I therefore wish it to be understood that my claims of invention are
15 designed to cover not only a machine embracing all three of the separate features of improvement made the subject of this application, but also a machine embodying any one of said improvements.

20 What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a suitable supporting stand or frame of means for supporting a roll of paper so that it may be turned round, and a knife or cutter arranged and operating
25 to turn always with the paper roll, substantially as and for the purpose set forth.

2. The combination, with a suitable support-

ing stand or frame and a cutter-bar, of plates arranged at either end of the roll of paper and having the cutter-bar rigidly connected there- 30 with and a shaft, *F*, which operates to clamp the said plates fast against the end of the roll, all substantially as and for the purposes set forth.

3. In combination with an ordinary stand or frame and the hollow roll or wound web of 35 paper to be supported thereon, a suitable device for supporting the hollow roll of paper, arranged concentrically therewith, but pivoted eccentrically in the stand or frame of the machine and having rigidly connected therewith 40 a cutter-bar, *I*, in such relationship to the points of pivotal connection between the stand or frame and the device for sustaining the hollow roll of paper as to cause the said cutter-bar to be counterbalanced by the eccentrically- 45 pivoted roll always at a locality about in rear of the roll of paper, as and for the purpose hereinbefore set forth.

In witness whereof I have hereunto set my hand this 14th day of July, 1885.

CHARLES C. JOHNSON.

In presence of—

JEROME W. PIERCE,
WM. H. H. SLACK.