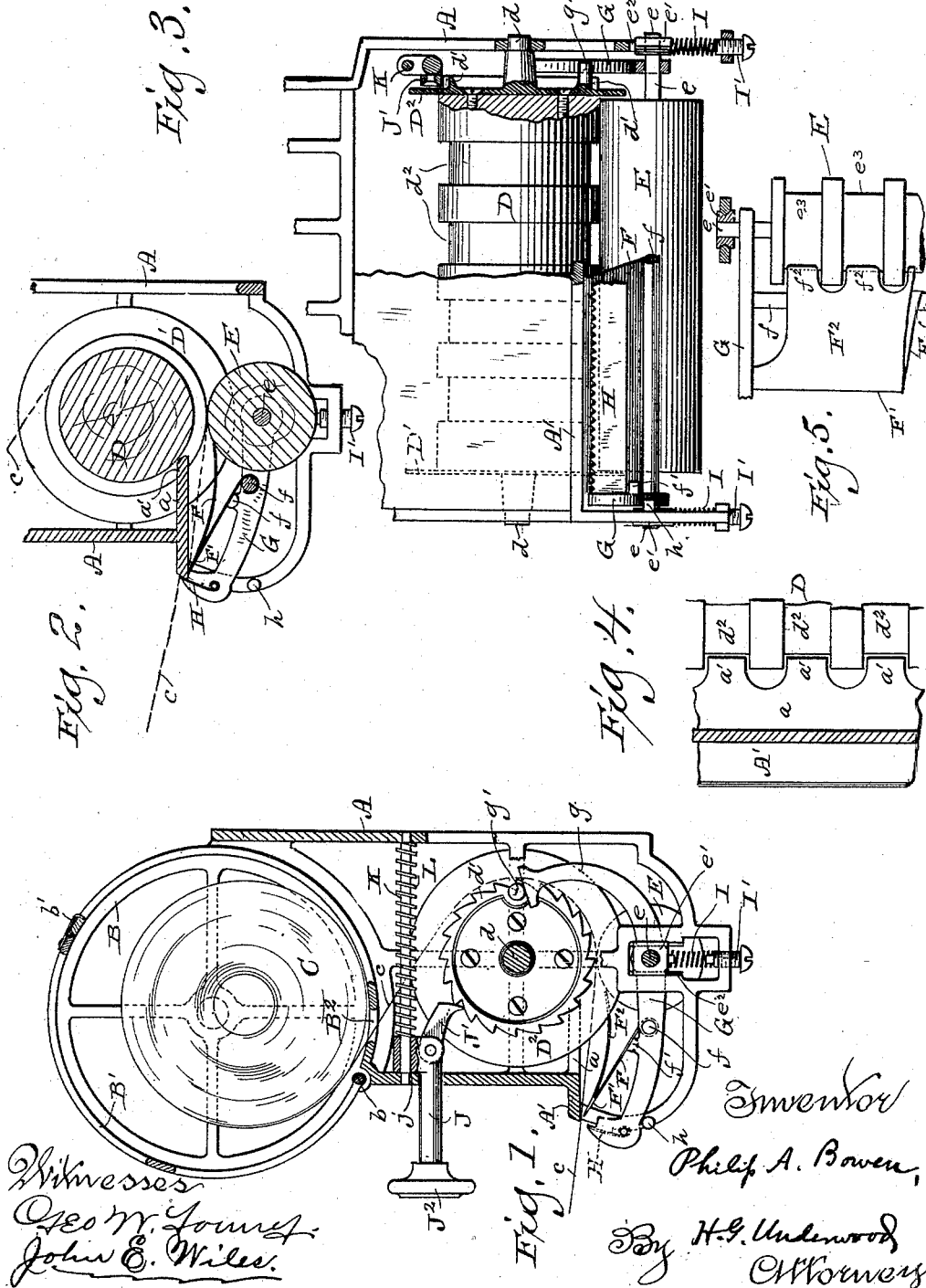


(No Model.)

P. A. BOWEN.
TOILET PAPER HOLDER.

No. 489,787.

Patented Jan. 10, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

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TOILET-PAPER HOLDER.

SPECIFICATION forming part of Letters Patent No. 489,787, dated January 10, 1893.

Application filed March 28, 1892. Serial No. 426,673. (No model.)

To all whom it may concern:

Be it known that I, PHILIP A. BOWEN, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, 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.

My invention relates to new and useful improvements in "toilet paper holders," and the invention consists in the matters herein-after described and pointed out in the appended claims.

The object of my said invention is to provide means for automatically grasping the paper after a certain predetermined length of the same has been unwound from the roll, so as to enable the user to tear off the unwound portion, but the construction being such as to prevent the user from unwinding more than this predetermined length of paper from the roll at one operation.

In the accompanying drawings illustrating my invention:—Figure 1, is a vertical sectional view of a device constructed in accordance with my invention, said section being taken transversely of the receptacle for paper and showing the mechanism at the ends of the rollers for feeding and gripping the paper. Fig. 2, is a similar sectional view of the lower portion of the device taken transversely of the feeding rollers. Fig. 3, is a front elevation of the lower portion of the device with portions broken away to show the construction of the feeding rollers. Fig. 4 is a horizontal sectional view of a portion of the device showing the arrangement of guard fingers engaging grooves in one of the feed rollers. Fig. 5 is a detail view illustrating a similar construction of the other feed roller.

In said drawings:—A represents a suitable casing for the operative portions of the device, and B a receptacle for the roll C of paper, said receptacle being provided with a lid or cover B' hinged to the frame at b, and provided with a suitable catch or fastening b'. A slot B² is provided in the lower portion of the receptacle B and communicating with the interior of the casing A, through which slot,

the strip c of paper is passed as illustrated more particularly in Fig. 1.

Within the casing A, is located a transverse roller D provided with annular flanges D' D² upon its opposite ends and with projecting trunnions d d which are journaled in opposite sides of the casing A as shown. A second transverse roller E is movably mounted in the casing A and arranged so as to normally bear against the surface of said roller D, the shaft e upon which said roller E is mounted, being journaled in movable blocks e' e' which are arranged to slide in ways in opposite sides of the casing as shown at e² e². Arms G G are arranged upon opposite ends of the shaft e outside of the ends of the roller E, said arms being pivotally supported on said shaft in a manner to permit of a vibrating motion of said arms, and one of these arms is provided with an extension g, adapted to engage with a projecting pin g' on the face of the flange D². Mounted upon the free ends of the arms G G is a transversely extending jaw H, preferably provided with teeth or serrations as shown. The blocks e' e' are pressed toward the roller D by springs I which are arranged to be adjusted as to tension by set screws I' I' and the arrangement of the arms is such that by a vibrating motion of the arms G G, the forward ends carrying the jaw H will be moved so as to bring the said jaw upward against the outer edge of a transverse ledge A' on the front of the casing A and the front ends of said arms against its lower side, and a further vibration of said arms will then operate to depress the blocks e' e' in an obvious manner.

Upon the disk or flange D² is provided an annular series of ratchet teeth d' d', and a push rod J is arranged to slide in a bearing in the front of the casing and is provided with a pawl J' adapted to engage with the teeth d' d' on said disk, said rod being provided with a push button J² by which it may be operated. A lateral extension j is provided on the push rod J within the casing and is arranged to slidably engage with a rod K extending from front to rear of the casing, and a spiral spring L surrounds said rod K and is arranged to bear against the projec-

tion *j* on the rod *J* to normally hold said rod in its extended position.

In the particular form of construction illustrated in the drawings, a spring plate *F* is arranged between the arms *G G*, being pivotally supported thereon by pins *f f* and arranged to rest against lugs *f' f'* on the inner surfaces of said arms. This spring plate is conveniently formed as illustrated in Fig. 1 of the drawings, with a forwardly and upwardly extending edge *F'* arranged to rest normally close to the lower surface of the ledge *A'*, and with a rearwardly extending portion *F²* arranged to rest above the front portion of the roller *E* as in Fig. 2. of the drawings. Stops *h h* are located on the inner surfaces of the casing and are arranged to engage with the forward ends of the arms *G G* to limit their movement away from the ledge *A'*. I also prefer to construct the roller *D* with one or more circumferential grooves *d²* as shown, and to provide upon the inside of the casing, a transversely extending flange *a* having fingers *a' a'* arranged to engage within the grooves *d² d²* in said roller.

The operation of my improved device is as follows:—The end of the strip of paper *c*, is passed through the slot *B²* in the bottom of the receptacle *B* and into the casing *A* behind the roller *D*, and is then passed between the two rollers *D* and *E*, and above the rearwardly extending portion *F²* of the spring plate *F* until it projects between the ledge *A'* and the jaw *H*. When the projecting end of the paper is grasped and drawn forward, the rollers *D* and *E* will revolve freely until the pin *g'* on the disk *D²* comes against the extension *g* of the arm *G*, when the strain upon the paper will cause the roller *D* to revolve a little farther until the said pin operates to crowd the end of the arm *G* down so as to throw the outer ends of the two arms *G G* upward and bring the jaw *H* against the ledge *A'*, thereby grasping the strip of paper and preventing any further withdrawal of the same from the casing. The user may now tear off the length of paper which projects outside of the casing, the serrations or teeth on the jaw *H* serving to facilitate the tearing of the paper in an obvious manner. Now, in order to again project the end of the strip of paper from between the jaw *H* and the ledge *A'*, the operator presses upon the push button on the outer end of the rod *J*, thereby actuating the pawl *J'* to rotate the roller *D* by its engagement with the ratchet teeth *d' d'* on the disk *D²*, and thereby pressing the pin *g'* strongly against the end of the extension *g* of the arm *G*, so as to crowd the same downward, when, the forward ends of the arms *G G* being held from further upward movement by the engagement of their forward ends with the ledge *A'*, the downward strain upon the end of said extension *g*, will operate to depress the blocks *e' e'* until the pin *g'* is permitted to pass by said end, when the springs *I I* will immediately return the blocks *e' e'* to their normal

positions and the roller *E* into engagement with the roller *D* to thereby grasp the strip of paper *c*. By this continued rotation of the roller *D*, the end of said strip *c* will have been projected sufficiently beyond the jaw *H* to enable it to be grasped and the operation before described repeated. By the arrangement of the spring plate *F* as shown, when the upward movement of the front ends of the arms *G G* is effected to bring the jaw *H* into engagement with the ledge *A'*, the front edge of said spring plate *F'* will be pressed up against the strip of paper immediately within the casing so as to hold the same in position when the projecting length of paper is torn off, thereby insuring the proper feeding of said strip at the next operation of the device, and preventing it from being caught against the jaw *H* as it is fed from the rollers.

By the construction illustrated in Fig. 4 of the drawings, the fingers *a' a'* of the transverse flange *a* are arranged to enter the circumferential grooves *d² d²* in the surface of the roller *D*, so as to deflect the end of the strip of paper downwardly and prevent it from adhering to and being carried round with the same as it is first fed between the rollers *D* and *E*. The latter roller may be either made smooth as illustrated in Figs. 2 and 3, or may be also grooved as shown in Fig. 5, at *e³ e³* and the rear edge of the spring plate *F²* provided with fingers *f² f²* adapted to engage within said grooves so as to insure the feeding of the end of the strip *c* of paper above said plate in the same manner as above described with reference to the other roller. Where the roller *E* is made smooth, the rearwardly extending portion *F²* of the spring plate is arranged to lie closely against the surface of said roller so as to prevent the end of the strip of paper from passing between the edge of said plate and the said roller.

Various other modifications may also be made in the details of construction without departure from my invention, and I do not desire to limit myself to the exact form of construction and arrangement of parts herein described and illustrated in the drawings.

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

1. A toilet paper holder comprising a suitable receptacle for a roll of paper, feeding rollers between which the strip of paper is fed as it is unwound from said roll, a stationary jaw and a movable jaw between which the strip of paper is fed, means carried by one of said rollers for actuating the movable jaw to grasp the paper after a predetermined length of the same has been unwound, and means within the reach of the operator for actuating said movable jaw to release the paper, substantially as described.

2. A toilet paper holder comprising a suitable receptacle for a roll of paper, feeding rollers adapted to engage with the strip of paper as it is unwound from said roll, a sta-

tionary jaw and a movable jaw between which said strip is fed, a pivoted arm connected with said movable jaw, a pin carried by one of said rollers and adapted to engage with
5 said arm to move said jaw toward the stationary jaw so as to grasp the paper, and a push rod extending to the outside of the device and adapted to move the said roller into a position to free the said arm from engage-
10 ment with said pin, substantially as described.

3. A toilet paper holder, comprising a suitable receptacle for a roll of paper, two feeding rollers adapted to engage with the strip of paper as it is unwound from the roll, a sta-
15 tionary jaw and a movable jaw between which said strip is fed, arms pivoted to the casing or frame and serving as supports for said movable jaw, one of said arms being provided with an extension, a pin carried by one of the
20 feeding rollers and adapted to engage with said extension of said arm to cause the arms to close the movable jaw upon the strip of paper, and a spring carried by said arms and adapted to engage with said strip immediately
25 within the casing, substantially as described.

4. A toilet paper holder, comprising a suitable receptacle for a roll of paper, two feeding rollers adapted to engage with the strip of paper as it is unwound from said roll, a fixed jaw and a movable jaw between which
30 said strip is fed, a lever for actuating said jaw to close it against the said strip, a pin carried by one of the feeding rollers and adapted to engage with said lever, ratchet teeth upon said roller and a push rod extend-
35 ing to the outside of the device and carrying a pawl adapted to engage with said teeth and adapted to be operated to free said pin from engagement with said lever, and a spring for
40 normally extending said push rod, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

PHILIP A. BOWEN.

Witnesses:

JOHN E. WILES,

H. G. UNDERWOOD.