

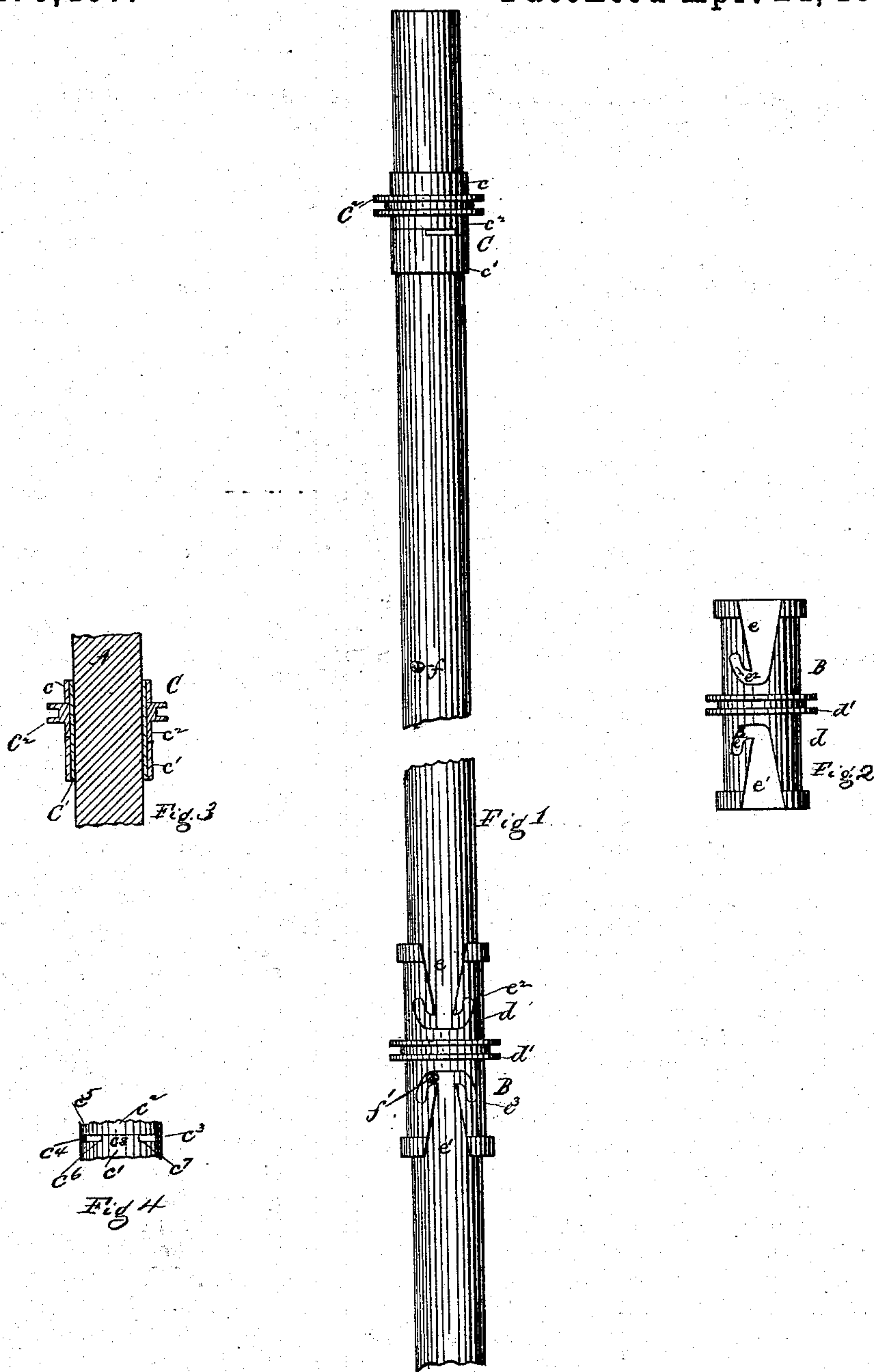
(No Model.)

W. S. HOKE.

UMBRELLA.

No. 276,407.

Patented Apr. 24, 1883.



Witnesses.
Will H. Powell.
Jas. Bernard.

Inventor
Walter S. Hoke
By Connolly Bros.
Attorneys.

UNITED STATES PATENT OFFICE.

WALTER S. HOKE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO CHARLES S. WESTCOTT, OF SAME PLACE.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 276,407, dated April 24, 1883.

Application filed December 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. HOKE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Umbrellas; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation of umbrella stick, runner, and notch. Fig. 2 is a side elevation of runner. Fig. 3 is a vertical section through stick and notch. Fig. 4 is a side elevation of collar.

My invention has for its object to provide means for locking or retaining an umbrella in its open and its closed positions, respectively, without the employment of the springs ordinarily used for that purpose, and which involve the weakening of the umbrella-stick.

My improvements consist in the peculiar construction of the runner and the notch and the combination of said parts with each other and with the umbrella-stick, as hereinafter fully set forth and claimed.

Referring to the accompanying drawings, A indicates an umbrella-stick, having a runner, B, to which the lower ends of the stretchers are attached, and a notch, C, in which the inner ends of the ribs are secured in the usual manner. Said runner consists of a sleeve, *d*, with an annular fast collar, *d'*, which encircles its middle or at a point about midway between its ends. In this collar the ends of the stretchers are secured. The sleeve *d* has two flaring slots, *e e'*, which extend, respectively, from the upper and lower edges toward the middle of said sleeve. These slots terminate at their inner extremities in branches *e² e³*, one on either side. In Fig. 1, I have shown double branches for both the slots *e e'*; but a single branch may only be provided for each slot, and in such case the branch may be practically but a continuation of the slot, the latter being curved substantially as shown in Fig. 2. The branches are for the reception of the pins *f f'* on the stick A, and the slots are the entrances thereto. When the pin *f'* is in the branch *e³* the

umbrella is held closed, and when the pin *f* is in the branch *e²* the umbrella is held open. To cause the stick-pins to enter the slots *e e'* and thence the branches, the runner is slid along the stick and then slightly turned or rotated on its longitudinal axis. To withdraw the pins the motion is reversed—i. e., the stick is first slightly turned, and afterward the runner is slid thereon.

To permit the stick to be turned, and yet so to limit the extent of its rotation as to keep the pins thereon substantially aligned with the slots in the runner, the notch or crown C is constructed as follows:

C' represents a cylinder or tube, which is made fast to the stick, so as to turn with the latter. Said tube has two annular ribs or flanges, *c c'*, respectively, one of which at least may be integral with the tube. Between these flanges, and fitted in the annular groove which they form on the tube, is a loose collar, *c²*, or a collar fitted so as to swivel or turn freely on the tube C' or permit the latter to be rotated within it. To said collar the notch proper or crown C² is securely fastened; or said collar and crown may be integral. The crown receives the inner ends of the umbrella-ribs.

The collar *c²* is formed with shoulders *c³ c⁴*, produced by cutting a recess, *c⁵*, in its lower edge. The flange *c'* has also two shoulders, *c⁶ c⁷*, which are the sides of a projection, *c⁸*. When the stick is rotated, carrying with it the tube C', one of the shoulders *c³ c⁴* meets one of the shoulders *c⁶ c⁷*, said shoulders thus forming stops and limiting the rotation of the stick and preserving the alignment of the stick-pins with the runner-slots, so as to insure the ready and certain entrance of said pins to said slots. There is thus a community of operation between the runner, the notch, and the stick, the latter being rotatable inside of said runner and notch, and the notch limiting the rotation of the stick so as to preserve the alignment of its pins with the runner-slots.

Inasmuch as the stick is free to be rotated within the runner, (the latter not being designed to be rotated,) when said runner is slid along the stick, the latter will be automatically rotated, when one of its pins enters one of the slots in the runner, by reason of

the impingement of the pin against the inclined side of the slot, and said pin will be guided into the branch at the inner extremity of the slot, which branch will form the bearing or rest for said pin. The wide ends of the runner-slots are of such extent and the rotary movement of the stick is so limited by the stops on the notch that the stick can never be turned so far as to get its pins out of alignment with the slots. Hence, in opening and closing the umbrella, after turning the stick sufficiently, all the movement required is simply a straight push or pull of the runner, as with umbrellas of ordinary construction.

What I claim as my invention is as follows:

1. The combination, with stick A, having pins $f f'$, and runner B, having slots $e e'$ and fast collar d' , of notch C, comprising tube C' , with flanges $c c'$, and loose collar c^2 , with stops, said stick being free to rotate within said runner, and limited in the extent of its rotation by said notch, substantially as shown and set forth.

2. The notch C, comprising a tube, C' , with flanges or annular ribs $c c'$, and a loose collar, c^2 , with stops, substantially as shown and set forth.

3. The combination of an umbrella-stick having locking or catch pins, a runner having branched slots for the engagement of said pins, and a notch having an internal tube to which

the stick is fastened, and a swiveled collar, said tube and collar having stops for limiting the rotation of the former within the latter, so as to maintain the alignment of the stick-pins with the runner-slots, substantially as shown and set forth.

4. An umbrella-notch consisting of a collar and sleeve, the latter being swiveled in the former and having the extent of its rotation limited by stops, substantially as shown.

5. The combination of an umbrella stick, slide, and notch, said several parts being constructed as follows: the notch composed of a collar and a sleeve swiveled therein and limited in its rotation by stops, the stick secured to said sleeve and having locking-pins, and the slide having notches into which the stick-pins enter, whereby the stick is locked and unlocked by turning it in the slide, the notch-sleeve rotating with said stick, and the notch-collar and slide remaining stationary with respect to such rotation, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of December, 1882.

WALTER S. HOKE.

Witnesses:

WILL H. POWELL,
J. ALFRED SMITH.