No. 664,197. Patented Dec. 18, 1900.

D. H. WATTS.

UMBRELLA STICK.

(Application filed Nov. 18, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

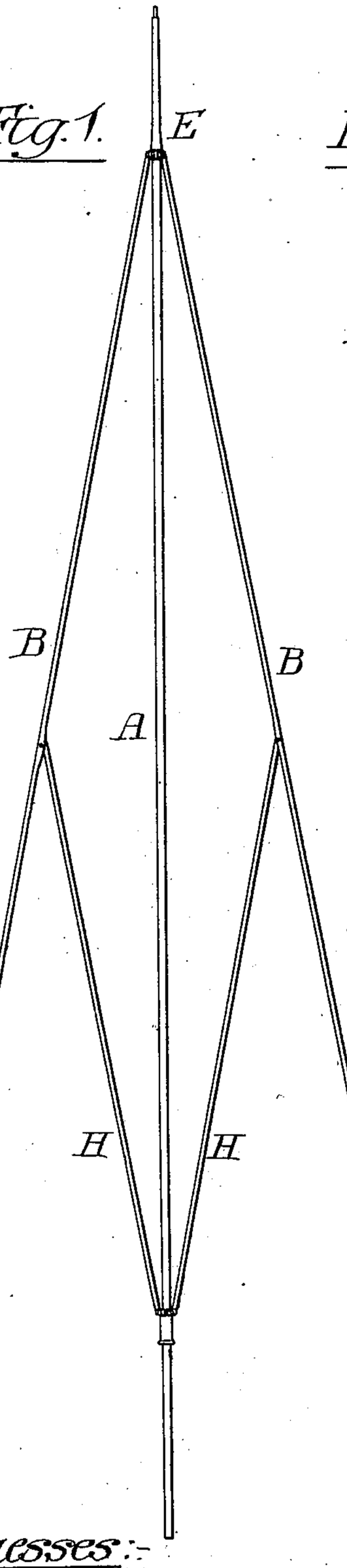


Fig. 3.

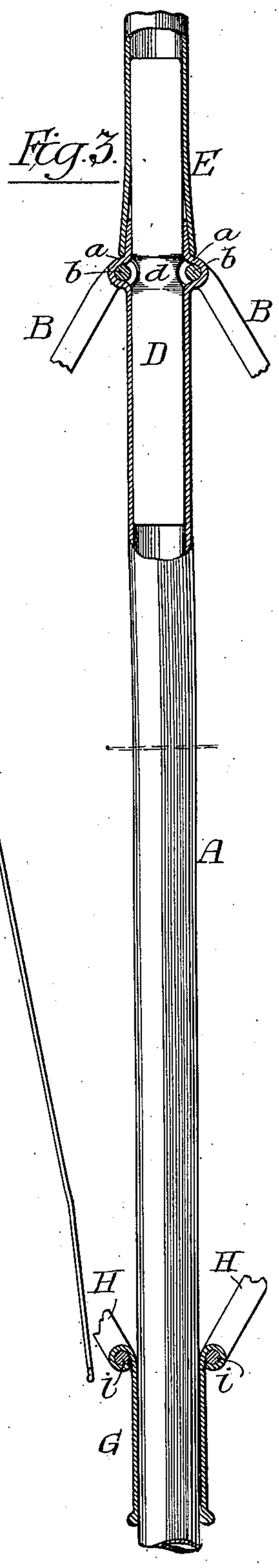
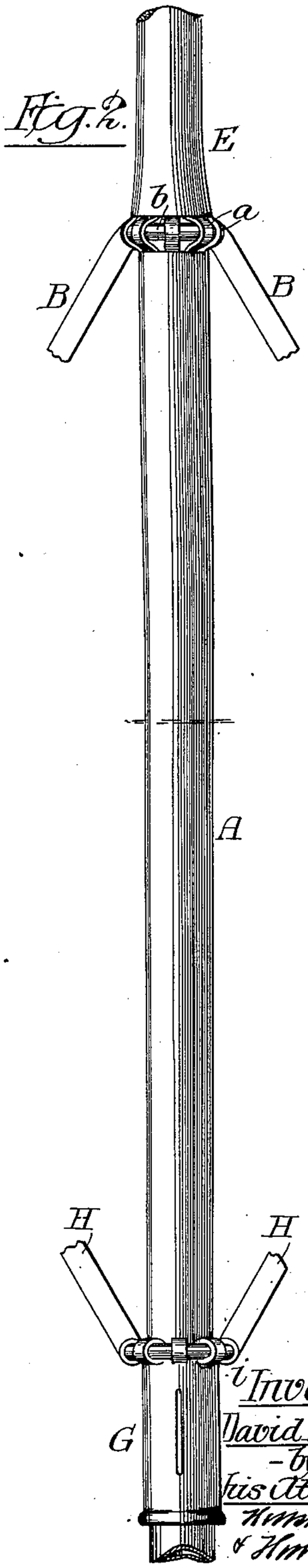


Fig. 2.



Witnesses:-
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Inventor:
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Hamm
& Hamm

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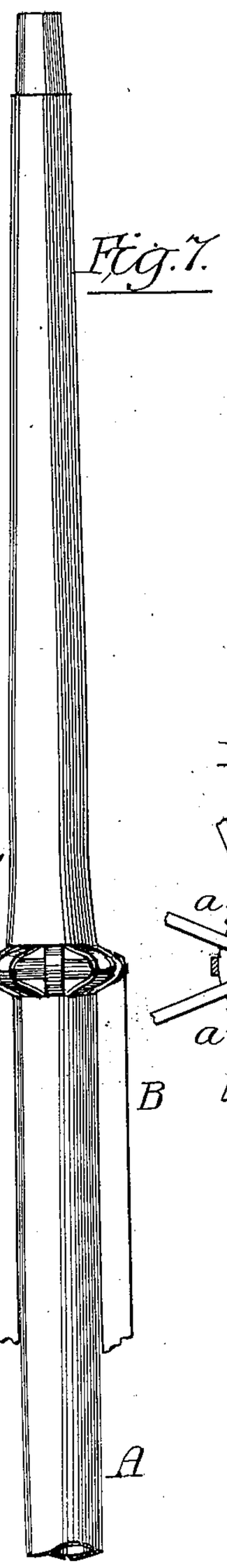


Fig. 7.

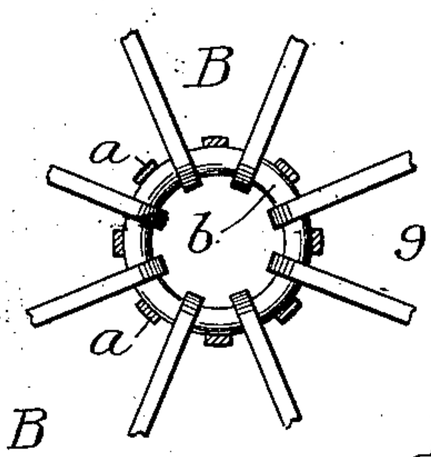


Fig. 9.

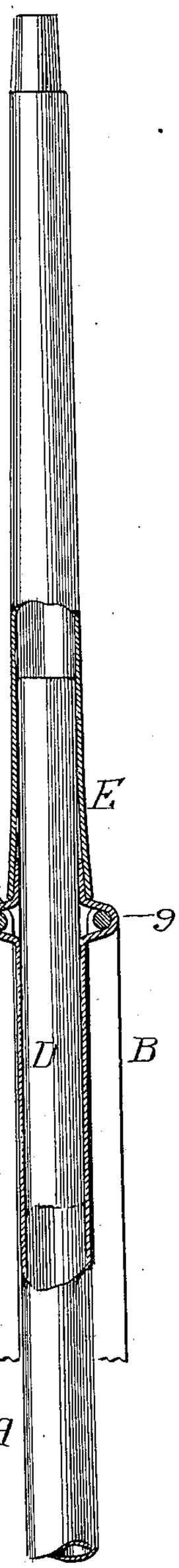


Fig. 8.

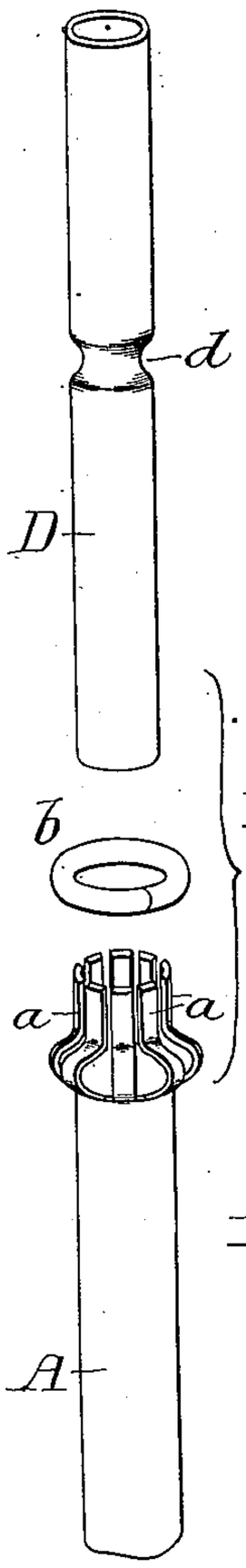


Fig. 5.

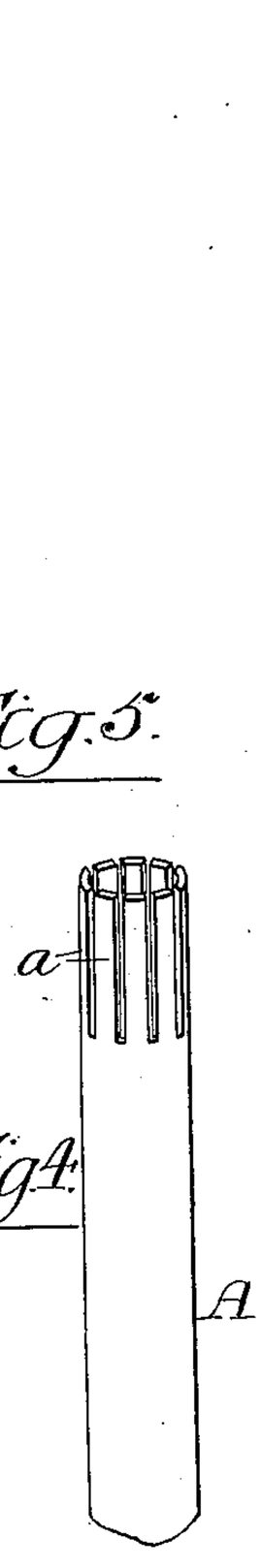
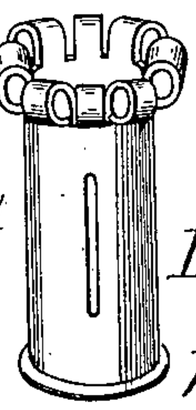


Fig. 4.

Fig. 6



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Inventor
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by
His Attorneys:
Munn & Munn

UNITED STATES PATENT OFFICE.

DAVID H. WATTS, OF PHILADELPHIA, PENNSYLVANIA.

UMBRELLA-STICK.

SPECIFICATION forming part of Letters Patent No. 664,197, dated December 18, 1900.

Application filed November 18, 1899. Serial No. 737,507. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. WATTS, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Umbrellas, of which the following is a specification.

My invention relates to certain improvements in umbrellas; and the object of my invention is to simplify the construction of an umbrella and to make it compact when closed. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of sufficient of my improved umbrella to illustrate my invention, two ribs only being shown. Fig. 2 is an enlarged side view of a portion of the umbrella. Fig. 3 is a sectional view of Fig. 2. Fig. 4 is a view of the end of the umbrella-stick being bent to form the notch. Fig. 5 is a perspective view showing the parts detached. Fig. 6 is a perspective view of the runner, and Figs. 7, 8, and 9 are views of modifications.

A is the ordinary metallic stick of an umbrella. This stick, as shown in Fig. 4, is cut or punched, so as to form a series of ribs or fingers *a*. These fingers are bent, as shown in Fig. 5, forming an internal groove for the reception of the pivot wire or ring *b*. On this pivot-wire are hung the ribs B.

D is a core inserted in the end of the umbrella-stick, and this core projects beyond the end of the fingers *a*, as clearly shown in Fig. 2, and adapted to this core is the tip or end piece E, which overlaps the ends of the fingers *a*, as clearly shown in Fig. 2, so that only the projecting portion of each finger *a* is exposed. The core D may be made solid or hollow, as desired, and may be permanently attached to the section E or to the section A. Thus when the parts are in position the fingers are securely held between the core D and the end of the tip E, and the tip can be fastened to the core by a pin or other suitable fastening.

In order that the umbrella will be compact when closed, I groove the core D at *d* and offset the ends of the ribs B, so that when they are mounted in the notch on the stick they will rest in the groove *d* in the core, and consequently when the umbrella is closed the ribs rest against the body of the stick.

Figs. 7, 8, and 9 show a slight modification in which the groove in the core is dispensed with and the loops of the fingers extended, so that the ribs will swing clear of the core.

G is the umbrella-runner, made of a tube slotted at one end to form bearings. The slotted portions are bent outward and coiled around the pivot-ring *i*, to which the rib-stays H are connected. Thus the stays when the umbrella is closed lie close to the umbrella-stick.

It will be seen by the above description that I am enabled to make an umbrella or parasol that can be cheaply manufactured, very compact, and substantial, doing away entirely with the independent notch usually employed and utilizing the metal of the stick to form the notch. Furthermore, the notch is not open as ordinarily, but is a closed notch, as the pivot-ring is inserted when the fingers are expanded, so that when they are contracted the ring rests within the notch and cannot be displaced without removing the tip and expanding the fingers. The tip can be removed very quickly and the fingers expanded when it is desired to remove the ring or one of the ribs.

I claim as my invention—

1. The combination of an umbrella-stick having fingers at its end, said fingers being bent to form a notch to which ribs are pivoted, and having their ends extended beyond the notch, with a tubular tip constructed to fit over and to confine the said ends of the fingers, substantially as described.

2. The combination of an umbrella-stick having fingers at its end which are bent to form a notch for the reception of the ends of ribs, said fingers having their ends extending beyond the notch, a tip fitting over the ends of said fingers and a core in the tip and in the stick supporting the fingers, substantially as described.

3. The combination of a hollow stick, having fingers at the end bent to form an umbrella-notch, a core extending into the stick and beyond the ends of the fingers, an annular groove therein, ribs having offset ends constructed to enter said groove and a tip adapted to the core and extending over the ends of the fingers, substantially as described.

4. The combination in an umbrella, of a

stick slit at the end to form fingers, each of said fingers being bent at a point where they join the stick to form a closed notch and having their ends projecting beyond said notch and adapted to receive and be held in place by a tip, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DAVID H. WATTS.

Witnesses:
WILL. A. BARR,
JOS. H. KLEIN.