

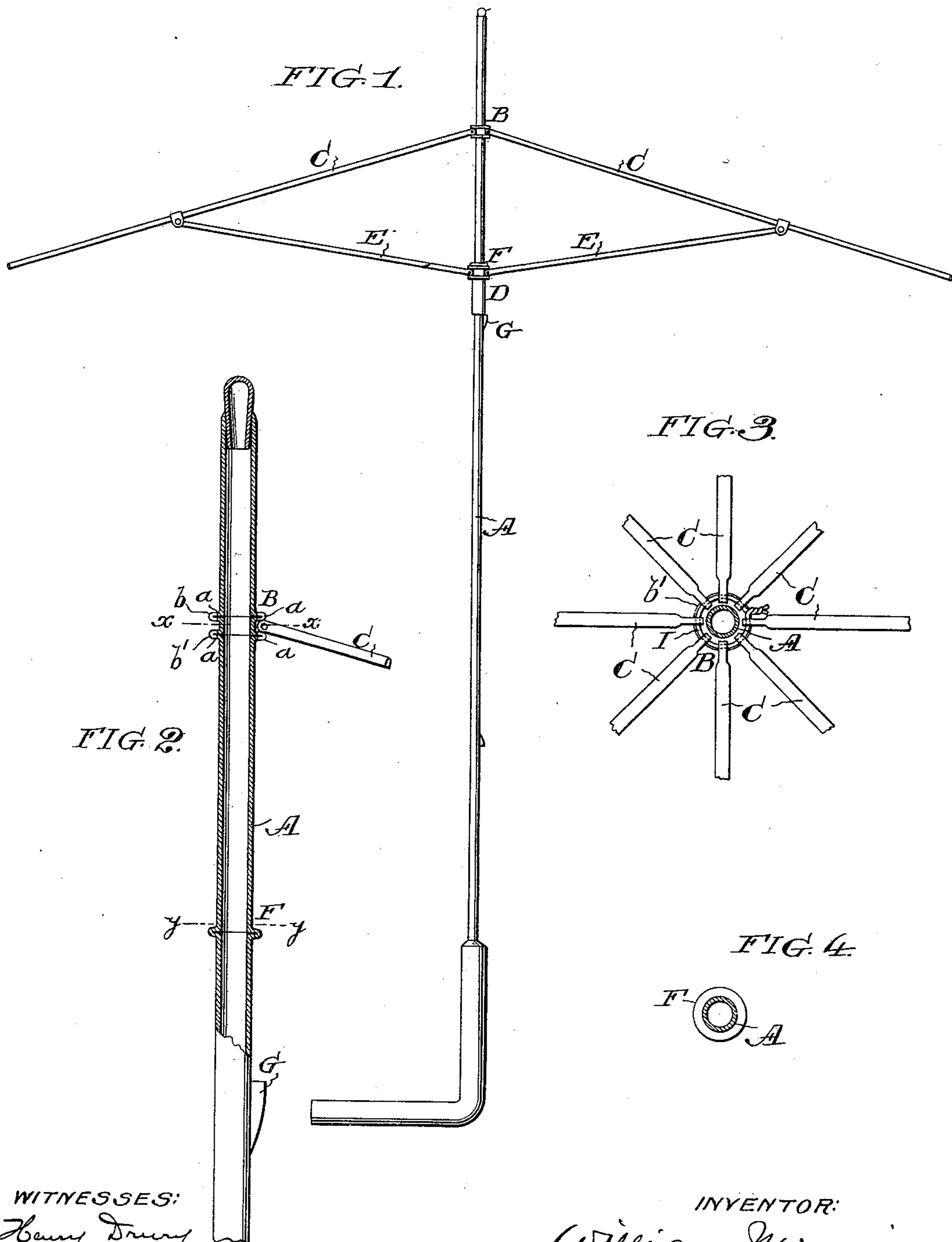
No. 619,831.

Patented Feb. 21, 1899.

W. MORRISON.
UMBRELLA STICK.

(Application filed Oct. 14, 1897.)

(No Model.)



WITNESSES:
Henry Drury
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By *[Signature]*

UNITED STATES PATENT OFFICE.

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UMBRELLA-STICK.

SPECIFICATION forming part of Letters Patent No. 619,831, dated February 21, 1899.

Application filed October 14, 1897. Serial No. 655,104. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MORRISON, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improve-
5 ment in Umbrella Sticks and Runners, of which the following is a specification.

My invention relates to umbrella-sticks; and it consists of the improvements which are fully set forth in the following specification
10 and are shown in the accompanying drawings.

It is especially desirable in certain classes of umbrellas and parasols to have a frame that will fit as closely as possible to the stick when closed, so that the umbrella may be
15 closely rolled into a body of small diameter. The closeness with which the umbrella may be rolled depends upon the closeness with which the ribs and stretchers may be brought to the stick when closed, and this is governed
20 by the thickness of the body of the top notch and its location, as the eyes of the ribs cannot be brought closer to the body of the stick than the intervening thickness of the body of the notch will permit. It has been cus-
25 tomary heretofore for the purpose of bringing the ribs close to the stick to employ a stick having a reduced end and to locate the notch on the reduced end adjacent to the body, so that the outer surface of the body
30 of the notch will be substantially even with the surface of the body of the stick. This is effective in bringing the ribs close to the stick; but the use of the reduced end is objectionable and does not enable the umbrella
35 to be made as close-rolling as is possible or desirable. The end, though reduced, must be of substantial diameter to possess the necessary strength, and it results either that the body of the stick is of a greater diameter than
40 would otherwise be necessary or that the ribs are not brought as close to the surface of the stick as is possible.

It is one of the objects of my invention to provide a stick with a notch of such construction that the ribs when folded may be brought
45 close to the body of the stick without the necessity of employing a stick having a reduced end, whereby a stick of uniform diameter throughout may be employed and of a minimum size to possess the requisite strength.

This object I accomplish by forming the notch of a rib or ribs of metal integral with the body of the stick and raised from the surface thereof, thus saving the space now occupied
55 by the tubular body of the notch and enabling the eyes of the ribs to be brought close up to the surface of the rod. In addition to this a notch so constructed possesses greater rigidity and strength, and the rod is not
60 weakened by the holes and attaching-pin by which an independent or attached notch is fastened to the stick.

It is a further object of my invention to provide a runner-stop without the necessity of forming holes in the rod and applying a pin
65 thereto, which has a tendency to cause weakness. This I accomplish by forming the stop of a rib or projection integral with the body of the rod and raised therefrom. Such a stop
70 possesses great strength and rigidity, is not liable to become loosened, and does not weaken the rod.

In the accompanying drawings, Figure 1 is a side elevation of an umbrella-frame embodying my invention. Fig. 2 is a longitudinal
75 vertical sectional view, enlarged, of the upper portion of the stick. Fig. 3 is a transverse sectional view on the line *xx* of Fig. 2, showing the attachment of the ribs to the notch. Fig. 4 is a transverse sectional view
80 on the line *yy* of Fig. 2.

A is the stick, which consists, preferably, of a hollow metallic rod.

B is the notch on the upper part of the rod to which the ribs C are hinged.
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D is the runner, which travels upon the stick A and to which the stretchers E are hinged.

F is the stop on the stick for arresting the upward movement of the runner when the
90 latter is elevated, and G is the retainer-spring carried by the stick for retaining the elevated runner.

The notch B is formed of metal integral with the rod A and preferably consists of two an-
95 nular ribs *b b'* a slight distance apart, which are notched transversely, as at *a*, in the usual manner to receive the eyes of the ribs, which are secured by the usual annular wire I, Fig. 3. These metal ribs may be formed of the
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body of the metal stick A in any suitable manner, as by spinning the metal or pressing it outward between dies. They may be formed by placing the hollow rod A between dies 5 having die-sinks corresponding with the ribs *b b'*, with an internal rod within the stick to resist inward compression and then compressing the metal stick longitudinally to force the metal outward into the die-sinks, and thus 10 producing the integral ribs *b b'* without affecting the diameter of the stick. The great advantage of forming the notch in this way is not only that it affords a stronger and more rigid notch, but that it brings the eyes of the 15 ribs at their points of connection close to the surface of the stick, so that the ribs will lie close to the stick when folded, and thus produce a "close-rolling" umbrella without the necessity of employing a reduced end upon 20 the stick. As the ribs *b b'* are integral with the body of the stick, the notches *a* may be cut substantially up to the outer surface of the stick itself, so that the eyes of the ribs may be brought close up to the body of the 25 stick, and all that space is saved which with an independent notch is occupied by the thickness of the metal of the body of the notch.

The stop F may be similarly formed by striking up an annular rib or lug in the metal of 30 the rod, thus making a stronger stop and avoiding the necessity of boring the rod and applying a pin, which tends to weaken it. While I have shown the stop consisting of a 35 continuous annular rib, it may, if desired, be formed simply as a lug or projection. When the integral top notch and stop are both used in the stick, they may be formed simultaneously.

40 I do not mean to limit myself to any particular method of forming the integral notch or stop on the metal rod, as they may readily be formed in other ways than those described by me; nor do I mean to limit my invention to the details of construction which 45 have been shown, as it is apparent that they may be modified without departing from my invention.

What I claim as new, and desire to secure by Letters Patent, is as follows: 50

1. As an article of manufacture, an umbrella-stick, consisting of a metallic rod of substantially uniform diameter throughout having the metal at a point adjacent to the upper end forced outwardly to form two in- 55 tegral projecting annular ribs finished to form the notch for the attachment of the stretchers.

2. As an article of manufacture, an umbrella-stick, consisting of a metallic rod of substantially uniform diameter throughout 60 having the metal at a point adjacent to the upper end forced outwardly to form two integral projecting annular ribs finished to form the notch for the attachment of the stretchers and also having the metal at another point 65 below the said notch forced outwardly to form a stop for the runner integral with the metal of the rod.

3. As an article of manufacture, an umbrella-stick consisting of a metallic rod of 70 substantially uniform diameter throughout having the metal projecting outward at a point adjacent to the upper end and finished to form a top notch for the attachment of the stretchers integral with the metal of the rod. 75

4. As an article of manufacture, an umbrella-stick, consisting of a metallic rod of substantially uniform diameter throughout having the metal projecting outward at a point adjacent to the upper end to form a 80 projecting runner-stop integral with the metal of the rod.

5. A top notch for a metallic umbrella-stick consisting of projecting and suitably-finished ribs integral with the metal which forms the 85 body of the stick at that part or section thereof at which the top notch is located, constituting a rigid integral notch especially adapted for a "close-rolling" umbrella.

In testimony of which invention I hereunto 90 set my hand.

WILLIAM MORRISON.

Witnesses:

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WM. L. EVANS.