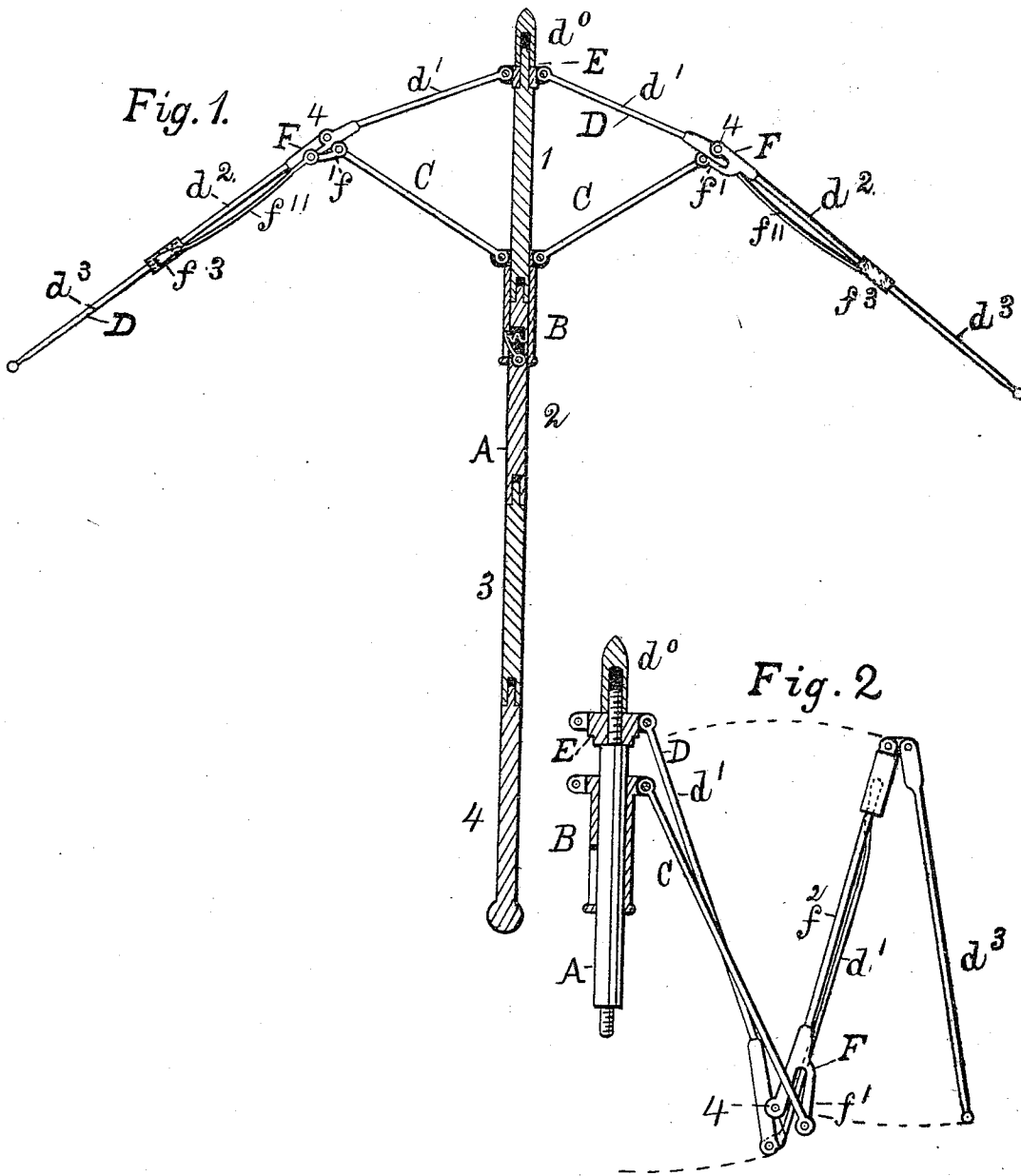


O. HEINRICH.
Folding Umbrellas.

No. 148,883.

Patented March 24, 1874.



Witnesses.

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OSWALD HEINRICH, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN FOLDING UMBRELLAS.

Specification forming part of Letters Patent No. 148,883, dated March 24, 1874; application filed February 5, 1874.

To all whom it may concern:

Be it known that I, OSWALD HEINRICH, of Philadelphia, in the State of Pennsylvania, have invented an Improvement in Folding Umbrellas, of which the following is a specification:

The object of my invention is to produce an umbrella that can be readily separated from the staff and covering fabric, together with the ribs and braces or stretchers, folded together into such a small, compact condition as will be suitable for putting into one's coat-pocket.

I will now proceed to describe my invention with reference to the accompanying drawings, in which—

Figure 1 is a longitudinal central section of the staff and of the runner, in connection with a side view of two of the like braces or stretchers and their respective ribs, all raised up and extended into the relative positions on the staff, which they will attain when the cover (not shown) has previously been applied thereto in the usual manner. Fig. 2 is a detached section (enlarged) of the staff and runner, with a side view of one brace or stretcher in connection with one rib partially folded in the directions which, when continued, will bring them into close contact, side by side, with each other, whether the section of the staff be either retained or withdrawn.

The staff A is made of hard wood in four (more or less) short sections, with screw-stems and corresponding sockets, whereby the sections may be readily screwed together or separated with facility, as may be desirable at any time. The runner B and the braces or stretchers C are made and articulated together, substantially in the usual well-known manner. The ribs D are each made in three sections, d^1 d^2 d^3 , and articulated together, as shown in Fig. 2, and the free end of section d^1 articulated to the head E, also in the usual manner. The said head E is, in this improvement, made thicker and stronger than heretofore, and the long screw-stem in the upper end of section 1 of the staff passes through it far enough to project sufficiently to receive upon it a screw-cap, d^0 , whereby the said head E can be forced down upon the shoulder of the section 1 of the staff to keep the head from turning around on the staff, and so, also, that the cap d^0 may be screwed up to the shoulder of the section 1 when the staff is withdrawn

for use as a walking-cane. At a point, 4, of section d^1 of each of the ribs D, or half an inch (more or less) above the swing-joint which connects d^1 to d^2 , a supplementary hinge, F, with an arm, f' , is secured to d^1 , and also to a supplementary rib, f'' , and to the opposite end of this rib a through-socket, f^3 , is fixed so as to embrace and slide freely over the swing-joint which connects d^2 and d^3 together, as will be fully explained. Each of the braces or stretchers C is articulated to its respective arm f' of the supplementary rib f'' , and the length of each of said supplementary ribs f'' from the joint 4 to the end of the socket f^3 is about half an inch (more or less) shorter than the length of the section d'' of the rib D, and consequently, when the umbrella is being hoisted to the spread condition indicated in Fig. 1, the socket f^3 will be slid downward and around the swing-joint which connects d^3 to d^2 , and thus keep it stiff, or prevent it from turning as a hinge-joint, as indicated in Fig. 1, and thus stretch the covering fabric (not shown) of the umbrella; and when the umbrella is lowered or closed, or the staff A withdrawn, as before stated, the sliding socket f^3 will have been withdrawn from around the swing-joint which it had covered, and thus permit the section d^3 of the rib to be folded inward in the direction shown in Fig. 2, and, in like manner, all the other ribs of the umbrella.

The operation of unfolding and hoisting the umbrella brings the parts into the spread or extended positions shown in Fig. 1.

The staff A can be readily withdrawn and used as a walking-cane, or separated with facility into short sections for one's coat-pocket, and with equal facility reinserted as before.

I claim as my invention—

1. A folding umbrella having the ribs D D made in three sections of length, d^1 d^2 d^3 , and articulated together substantially in the manner set forth.

2. In a folding umbrella, the supplementary ribs consisting each of the parts F f' f'' f^3 , in combination with the ribs D D and braces or stretchers C C, substantially as and for the purposes hereinbefore set forth and described.

OSWALD HEINRICH.

Witnesses:

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