

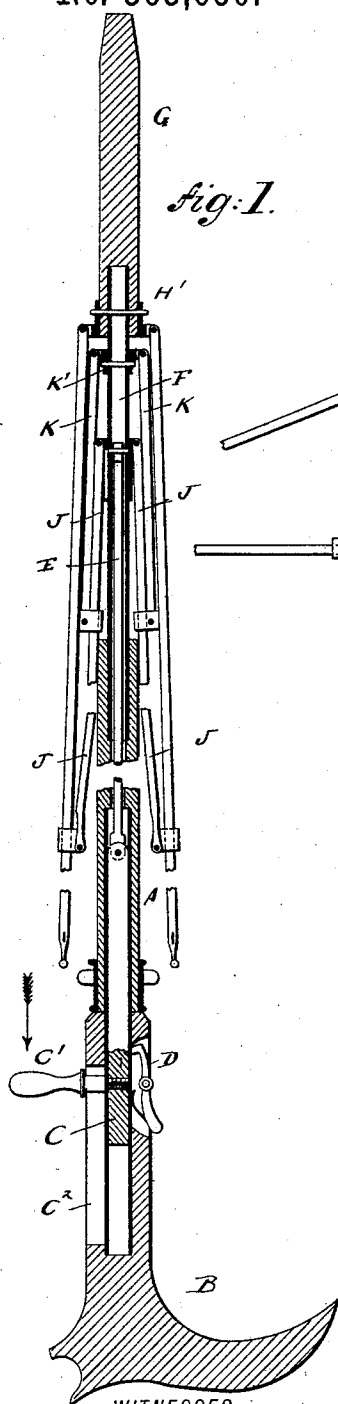
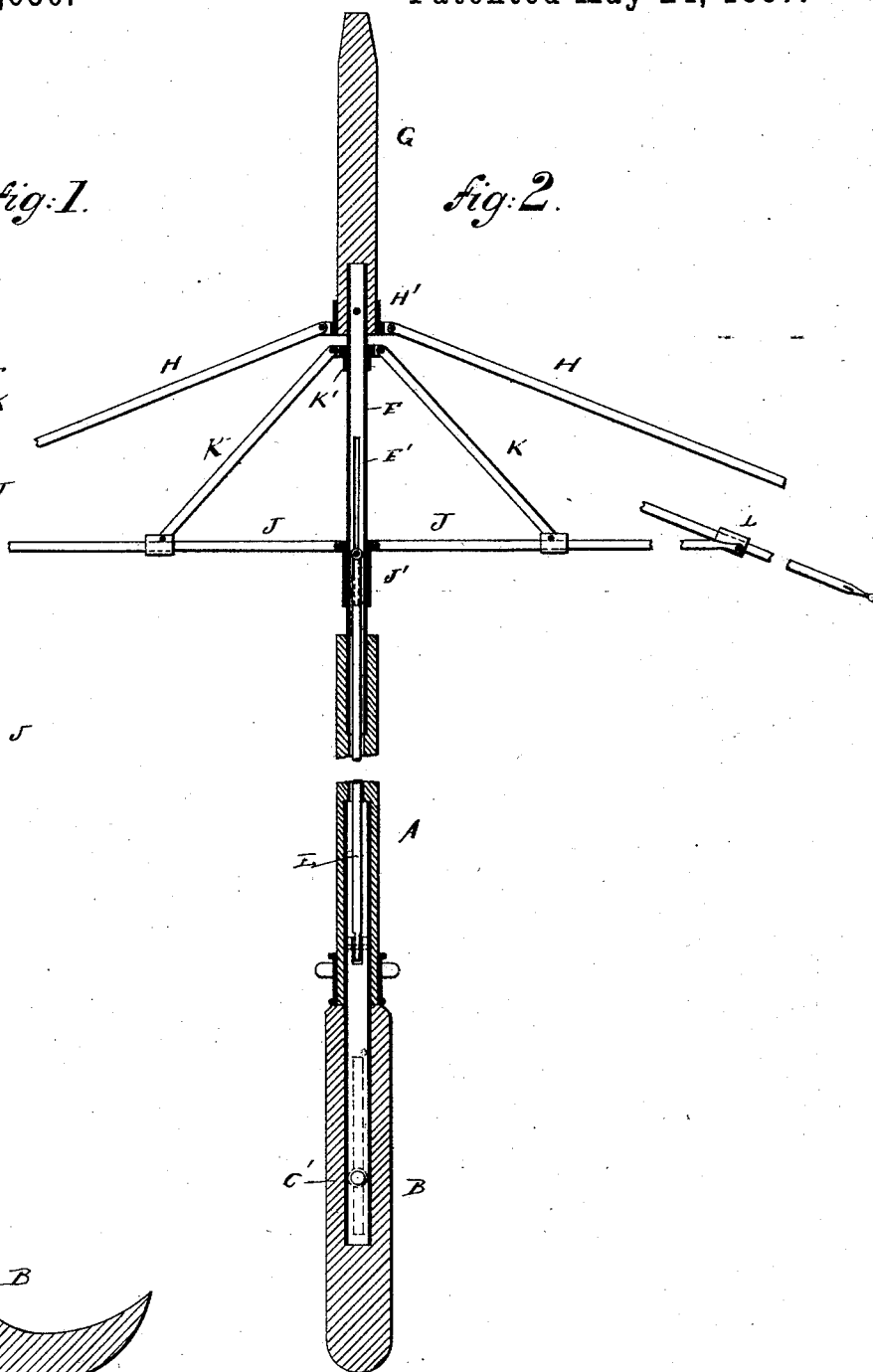
(No Model.)

2 Sheets—Sheet 1.

E. KLEBER.
UMBRELLA.

No. 363,650.

Patented May 24, 1887.



WITNESSES:

A. Schehl.
Carl Kary

INVENTOR

Emil Kleber
BY Joseph & Macquay
ATTORNEYS.

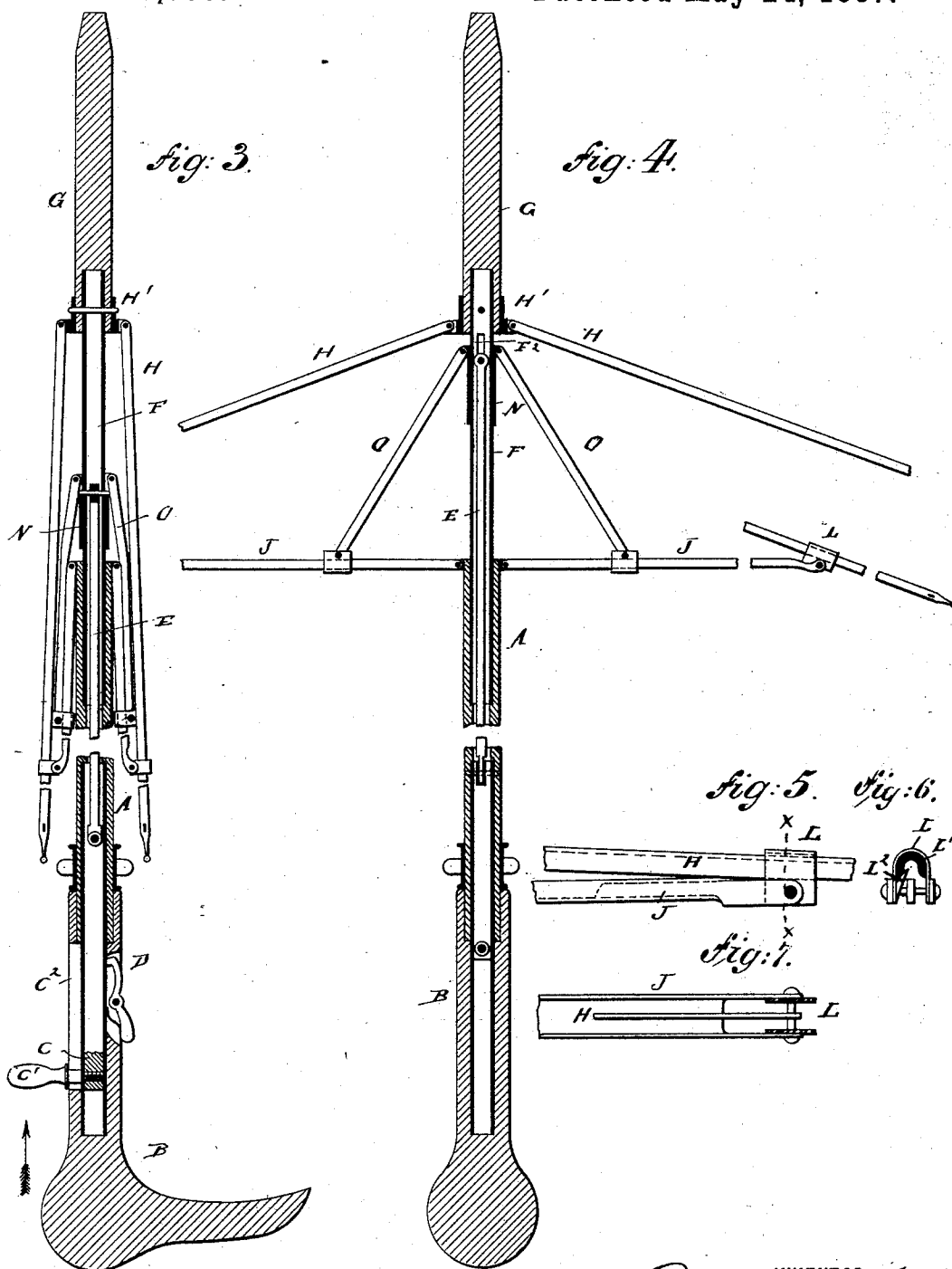
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UNITED STATES PATENT OFFICE.

EMIL KLEBER, OF BERLIN, GERMANY, ASSIGNOR TO LEO WOLFF, OF SAME PLACE.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 363,650, dated May 24, 1887.

Application filed October 1, 1886. Serial No. 215,052. (No model.) Patented in Germany September 1, 1886, No. 33,254; in England September 14, 1886, No. 11,672; in Belgium September 14, 1886, No. 74,533; in Denmark September 14, 1886, No. 955; in Italy September 14, 1886, No. 20,501; in France September 14, 1886, No. 178,493, and in Austria-Hungary January 15, 1887, No. 36,487 and No. 67,548.

To all whom it may concern:

Be it known that I, EMIL KLEBER, a subject of the King of Prussia, German Emperor, and residing at the city of Berlin, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Umbrellas, (for which Letters Patent have heretofore been granted to me by the governments of Great Britain, dated September 14, 1886, No. 11,672; Germany, No. 39,254, dated September 1, 1886; Belgium, No. 74,533, dated September 14, 1886; Denmark, No. 955, dated September 14, 1886; Italy, No. 20,501, dated September 14, 1886; France, No. 178,493, dated September 14, 1886, and Austria-Hungary, No. 36,487 and No. 67,548, dated January 15, 1887,) of which the following is a specification.

The object of my invention is to provide a new and improved umbrella which can be opened easily from the handle of the same without requiring cords or pulleys.

The invention consists in an umbrella having a tubular stick in which a rod is mounted to slide longitudinally, said rod acting directly or indirectly on the braces of the ribs, and thereby serving to swing the ends of the ribs outward and upward when the umbrella is to be opened and downward toward the handle when the umbrella is to be closed, all as will be fully described and set forth hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of my improved umbrella, the same being closed and parts being broken out. Fig. 2 is a longitudinal sectional view of the same in a plane at right angles to the plane shown in Fig. 1, the umbrella being open. Fig. 3 is a longitudinal sectional view of my improved umbrella, the same being closed and parts broken out. Fig. 4 is a longitudinal sectional view of a modification in a plane at right angles to the one shown in Fig. 3, the umbrella being open and parts broken out. Fig. 5 is an enlarged detail side view of the connection of the brace with the rib. Fig. 6 is a cross-sectional view on the line *xx*, Fig. 5; and Fig. 7 is a top view of Fig. 5.

Similar letters of reference indicate corresponding parts.

In the drawings the covering is not shown on the umbrella. The stick A, provided at the lower end with a handle, B, of any suitable shape, is made tubular, the tube-bore extending down into the handle. The lower part of the stick and the handle contain a sliding piece, C, provided with a handle-knob, C', passed through a longitudinal slot, C², in the handle. A spring catch or latch, D, pivoted in a recess or slot in the handle, serves to engage said sliding piece C.

To the upper end of the sliding piece C a rod, E, is pivoted, which extends upward through the tubular stick and into a tube, F, projecting upward from the upper end of the tubular stick and forming an extension of the same. The point G is secured to the upper end of the tube F. Ribs H are pivoted to a ring, H', fastened on the lower end of the point G, and the braces J are pivoted to a sleeve, J', mounted to slide on the tube F, said tube being provided with a longitudinal slot, F', through which a pin passes, which connects the sleeve J' with the upper end of the rod E. Rods K are pivoted to the ring K', fastened to the tube F near to the upper end of said tube, the lower ends of the rods K being pivoted to the braces J. It is necessary that the ends of the braces J should slide on the ribs H, and for this purpose the outer ends of the braces are pivoted to the U-shaped pieces or caps L, mounted to slide on the ribs, said U-shaped pieces preferably having a lining, L', of rubber, to produce slight friction. A prong, L², on the inner side of the cap or U-shaped piece L, slides on the rib H for the purpose of guiding the piece L. When the umbrella is closed, as shown in Fig. 1, the handle-knob C' is raised. When it is desired to open the umbrella, the latch D is disengaged from the sliding piece C and said sliding piece moved downward by means of the handle-knob C', whereby the inner ends of the braces J are pulled downward by the rod E and sleeve J', and their outer ends are swung outward and upward and raise and stretch the ribs H.

If the rods K were not provided, the braces

J would merely slide downward when the piece C is pulled down, and would not open the umbrella. To close the umbrella, the piece C is moved upward, whereby the inner ends of the braces J are moved upward, the braces swinging on the ends of the rods K, and thus swinging the outer ends of the ribs H toward the handle. The piece C is always locked in place by means of the latch D, which engages with suitable notches. (Not shown.)

In the construction shown in Figs. 3 and 4 the handle B, slide C, slot C', handle-knob C', latch D, tubular stick A, tube F, the point G, and the ribs H are all arranged in the manner shown in Figs. 1 and 2, and have the same letters. The tube F, secured in the upper end of the stick, is provided with a longitudinal slot, F', near its upper end. The rod E, connected with the sliding piece C, is connected, by a pin passed through the slot F', with the sliding sleeve N of the tube F, to which sleeve N rods O are pivoted, their lower ends being pivoted to the braces J, which braces in this case are pivoted to the upper end of the tubular stick A. The rods O just mentioned are the equivalents of the rods K shown in Figs. 1 and 2. The connection of the ends of the braces with the ribs is the same as that described in Figs. 1 and 2. When the umbrella is closed, the slide C is lowered, as shown in Fig. 3.

To open the umbrella, said slide C is pushed upward, whereby the sleeve N is moved upward, and by means of the rods O swings the braces J and ribs upward and outward, the braces J turning on their pivots on the upper end of the tubular stick. To close the umbrella, the sliding piece C is pulled downward, whereby the ribs and braces are swung toward the handle.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An umbrella having a tubular stick, a sliding rod in said stick, ribs pivoted at the inner or upper ends to a fixed piece on the umbrella-stick in the usual manner, braces connected with the stick and having their outer ends mounted to slide on the ribs, rods pivoted to braces and to a sleeve on the extension of the stick, which sleeve is located between the piece to which the ribs are pivoted and to the sleeve on the stick to which the braces are fastened, substantially as shown and described.

2. In an umbrella, the combination, with a tubular stick, of ribs pivoted to a fixed piece on the stick in the usual manner, braces connected with the stick and mounted to slide on the ribs, rods pivoted to the braces and to a sleeve on the stick, which sleeve is between that part of the stick to which the ribs are pivoted and that part of the stick at which the inner ends of the braces are connected with the stick, and a sliding rod in the tubular stick, which sliding rod is connected directly or indirectly with the ribs, substantially as shown and described.

3. In an umbrella, the combination, with the ribs H, of U-shaped pieces L, mounted to slide on the ribs, braces pivoted to the U-shaped pieces, and the guide-lugs L', projecting from the U-shaped pieces, substantially as shown and described.

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

EMIL KLEBER.

Witnesses:

MAX NAHMMACHER,
B. Roi.