

UNITED STATES PATENT OFFICE.

CLEMENT NEIDIG, OF BOURBON, INDIANA.

FOLDING UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 529,459, dated November 20, 1894.

Application filed May 21, 1894. Serial No. 512,001. (No model.)

To all whom it may concern:

Be it known that I, CLEMENT NEIDIG, a citizen of the United States, residing at Bourbon, in the county of Marshall and State of Indiana, have invented certain new and useful Improvements in Folding Umbrellas; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to an improvement in folding umbrellas, and it has for its object to improve such devices by adapting the parts for joint operation so that the ribs may be folded as well as the handle, and the whole closed into a parcel of a very small size, so that it may be conveniently carried in such folded or closed form when not in use, and the parts may be quickly adjusted and opened when it is desired to use the umbrella.

Other objects and advantages will appear from the following description and claim when taken in connection with the annexed drawings, in which—

Figure 1, is a view of my improved umbrella, partly in longitudinal section and partly in elevation, with the same opened. Fig. 2, is a view, partly in elevation and partly in section with the runner in the position to which it is moved to permit of the outer rib sections being easily folded back against the inner sections. Fig. 3, is an enlarged detail view of one of the ribs and braces, illustrating the slide loop in position. Fig. 4, is a sectional detail view of the handle taken at the joint and illustrating the parts folded, and Fig. 5, is a detail view of a modification.

Referring by letter to said drawings:—A, indicates the handle. This handle comprises an upper section *a*, and a lower section *b*, and these sections, are hinged together by a loose hinge joint *c*, which joint is adapted to allow the section *b*, to fold flat against the section *a*, as illustrated in Fig. 4, of the drawings, and a tubular slide *d*, is employed for fixing the sections in a rigid manner as shown in Fig. 1, of the drawings when brought over the joint *c*. The top notch B, may be of the character usually employed in this class of devices and is fixed to the stick or handle in the ordinary manner, and below the top notch is provided a spring stop C. This stop C, by

limiting the upward movement of the runner and the inner ends of the braces will prevent the umbrella from being turned inside out in a storm. Said stop is however designed to be pressed into the recess in the handle when the umbrella is to be folded into a small parcel, so as to enable the runner to slide upwardly past the same.

D, indicates the runner, which may be of the ordinary construction, and E, the braces which may be also of the construction usually employed, and the stick is provided at a suitable point in its length below the stop C, with a spring stop F, which is designed to engage the runner and hold the umbrella open in the usual manner.

G, indicates the ribs. These ribs comprise an outer section *e*, and an inner section *f*. The outer section is secured at its outer end to the cloth or fabric H, in the usual manner, and the inner end of the inner section is pivoted in the top notch, as shown. The inner section of the ribs has a recess on its inner side for a sufficient distance at its outer end, as shown at *g*, and said inner section is pivoted at its outer end to the outer section, at a sufficient distance from its inner end, as shown at *h*, leaving the inner end of the outer section with a projected or extended portion *i*, beyond the pivotal connection of the two sections. The outer end of the inner section of the rib which has the recess *g*, on its inner side, carries a slide loop or ring *j*, which is designed to slide over the inner end of the outer section when the rib has been extended or unfolded to its fullest extent, and confine the two parts together.

I, indicates a spring catch. This spring which may comprise a rod of steel or other suitable material, is secured at its inner end as shown at *k*, to the rib section *f*, and its outer end which is bent angularly as shown at *l*, is designed to be seated in the concavity or recess *g*, and the said angular end enters the slide ring or band *j*, and said band has a hole *m*, near one end and a hole *n*, near the opposite end to receive the angular branch of the spring-catch I. When the angular branch is in the hole *m*, it will hold the slide band or ring from displacement and in a position confining the overlapping inner end of the outer section *e*, within the recess *g*, of the inner sec-

tion, and when the ribs have been folded or the joints broken, these spring catches entering the holes *n*, of the slide rings or bands, will hold them in proper position to allow the ribs to be again formed or extended for use. It will be seen that when the bands have been slid up over the joints on the inner sections of the ribs, the outer sections, may be folded outwardly and compactly against the outer sides of the inner sections with the cloth or fabric between them. The braces *E*, are pivoted at their outer ends to the outer sections of the ribs at a suitable distance in rear of the pivotal point, so as to properly brace the ribs when extended. The lower section *b*, of the handle or stick is provided with a spring stop or catch *J*.

In operation, it will be seen that when it is desired to fold the umbrella, the slide bands or rings *j*, must first be slid up upon the inner sections of the ribs so as to free the same from engagement with the inner ends of the outer sections; the springs *I*, having been first disengaged from the upper holes of said slides. The runner *D*, is then moved down on the handle to about the position shown in Fig. 2, and the outer rib sections *e*, are then folded up against the inner sections *f*, or against the cloth or fabric *H*, which, when the outer rib sections *e*, are folded up rests between the inner and outer rib sections. The runner *D*, is then moved upwardly past the stops *F*, and *C*, so as to permit the braces *E*, and the folded ribs to lie close to the handle, after which the slide band *d*, of the handle may be moved to a position above the hinge joint *c*, and the handle can also be folded.

The umbrella when folded will be of a

length only about one half the length of the handle when extended, and as the parts fold very compactly, the device will occupy but little space in transportation and storage, and the improvements can be applied to an umbrella at a comparatively small expense, there being nothing about it to get out of order.

In order to prevent the slide *d*, from moving too far down on the handle, a pin or stud might be placed at a suitable point below the joint and the slide might have a bayonet slot to receive said pin as shown in Fig. 5.

Having described my invention, what I claim is—

The herein described folding umbrella comprising a stick or handle made in two hinged sections and carrying a slide ring or band, a top notch, a runner, and a stop for the runner, braces connected to the runner and the ribs *G*, consisting of the inner sections *f*, pivotally connected at their inner ends to the top notches and provided at their outer ends with recesses *g*, the outer sections *e*, pivotally connected at an intermediate point of their length to the outer ends of the sections *f*, and having their inner portions pivotally connected to the outer ends of the braces, slide bands *j*, adapted to confine the inner ends of the sections *e*, in the recesses *g*, of the inner sections *f*, and the spring catches adapted to engage and hold the slide bands, all substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CLEMENT NEIDIG.

Witnesses:

JNO. O. CUTTER,
CHAS. MCKINNY, Jr.