

No. 671,645.

Patented Apr. 9, 1901.

M. M. APPLEMAN.
FOLDING UMBRELLA.

(Application filed Mar. 9, 1900.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 4.

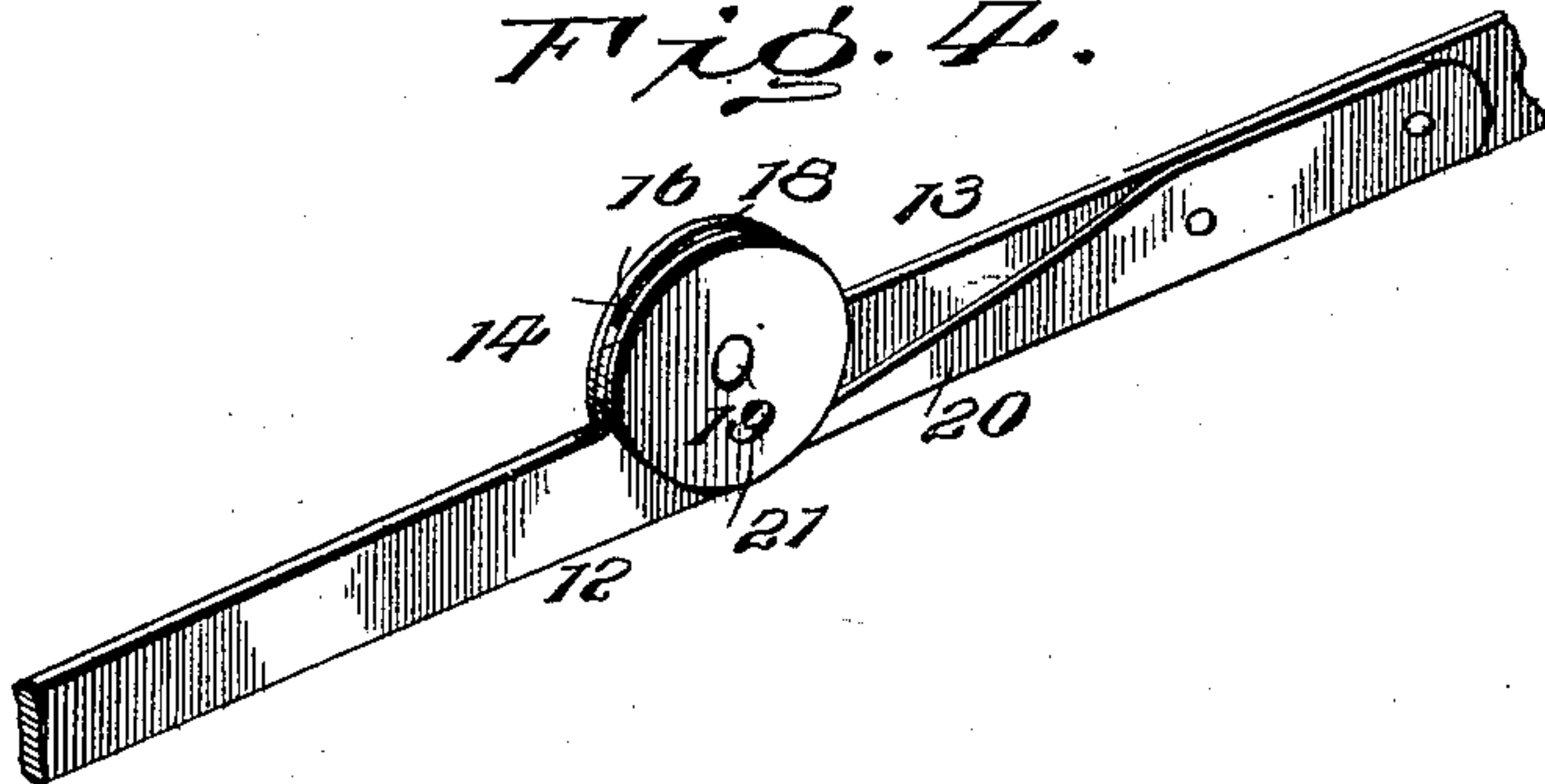


Fig. 5.

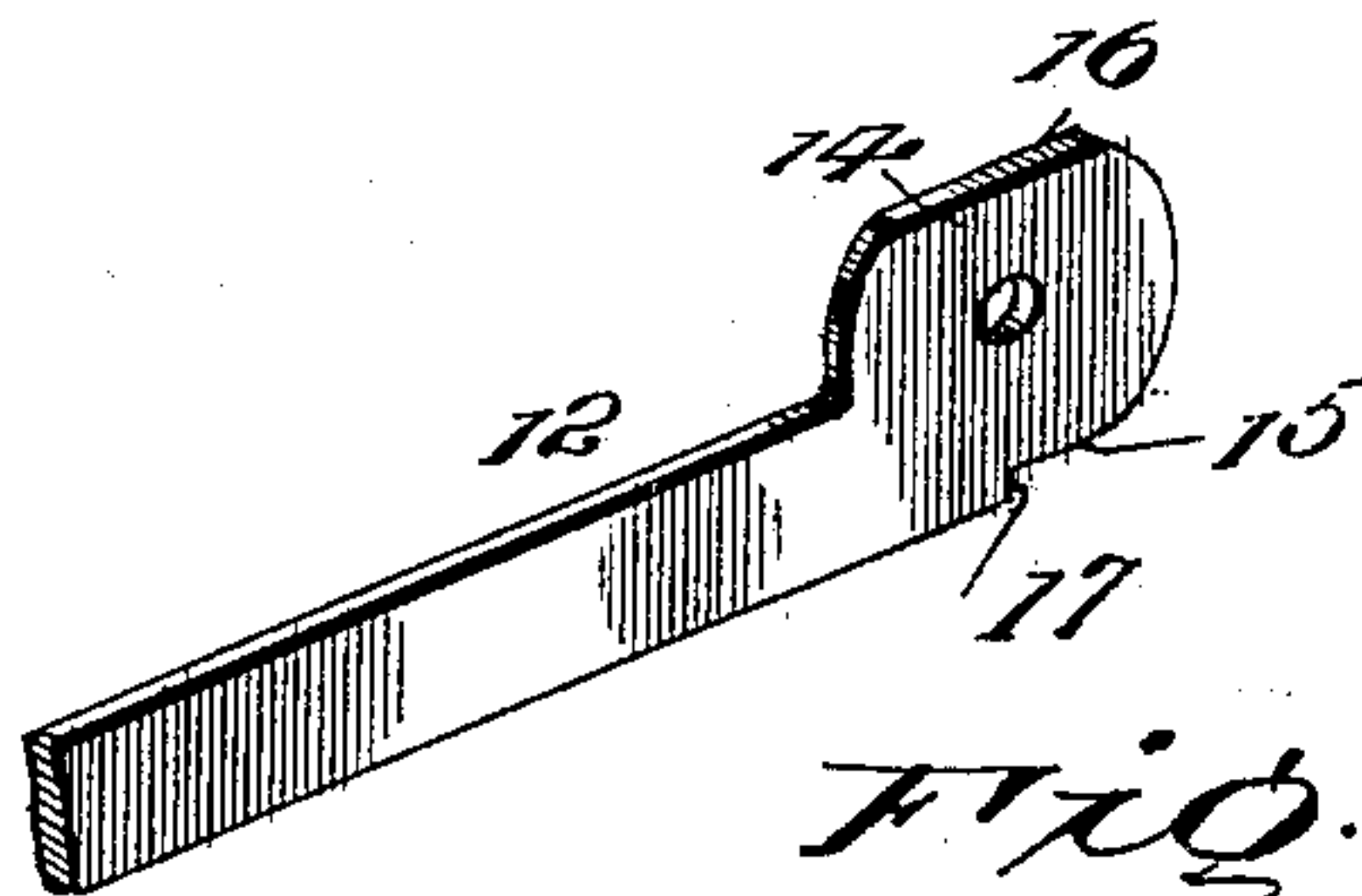


Fig. 6.

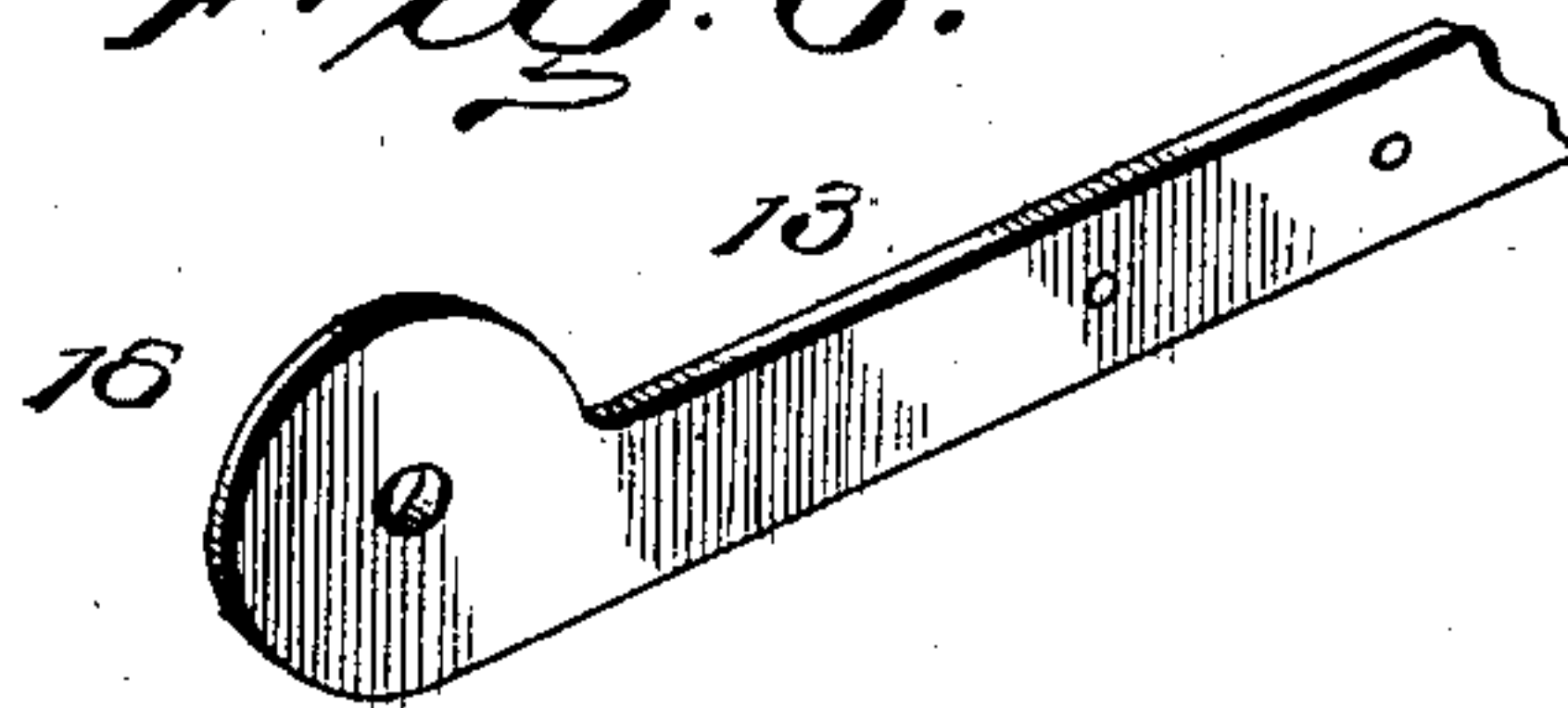


Fig. 7.

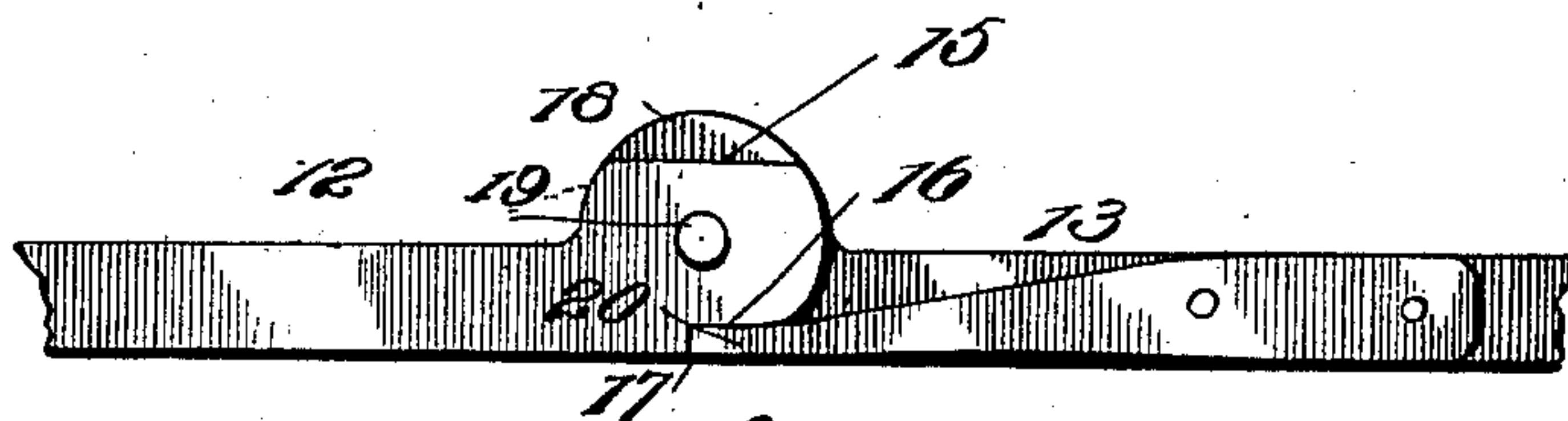
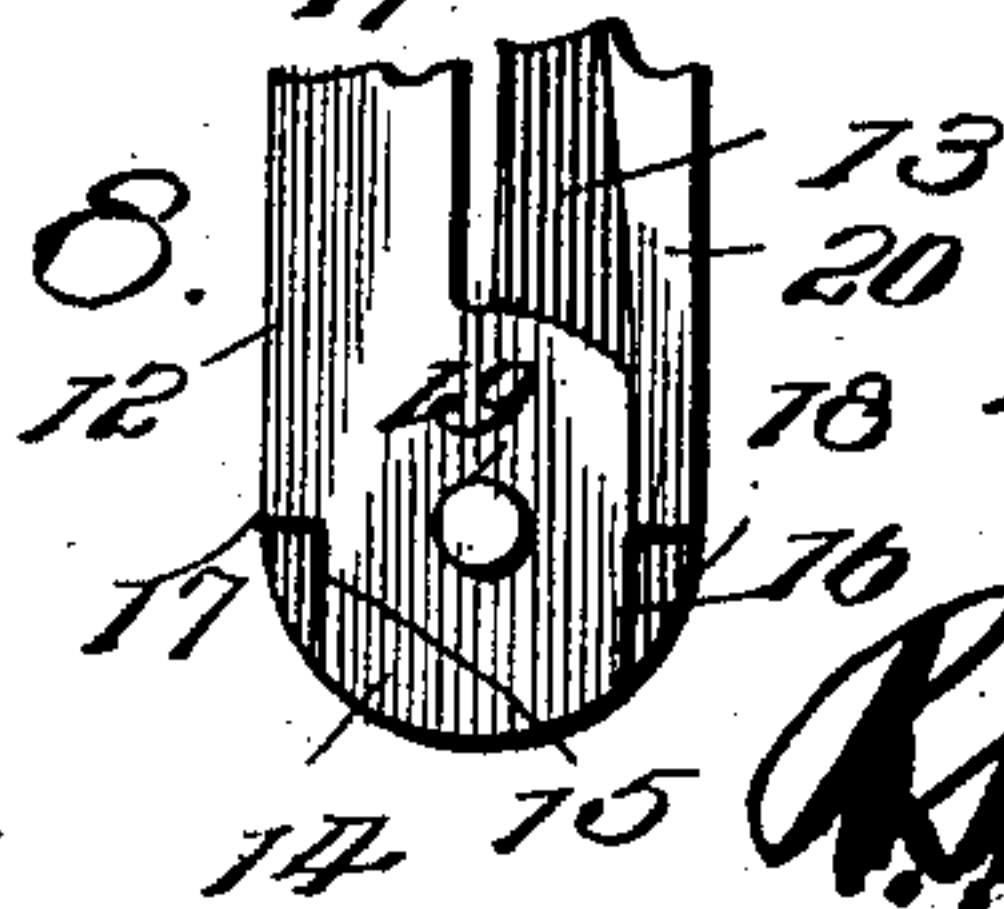


Fig. 8.



Witnesses

Mr. Minnie
Gladys L. Thompson

Inventor

Mathias M. Appleman

by

W. H. Lacey his Attorney

UNITED STATES PATENT OFFICE.

MATHIAS M. APPLEMAN, OF ROHRSBURG, PENNSYLVANIA.

FOLDING UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 671,645, dated April 9, 1901.

Application filed March 9, 1900. Serial No. 8,045. (No model.)

To all whom it may concern:

Be it known that I, MATHIAS M. APPLEMAN, a citizen of the United States, residing at Rohrsburg, in the county of Columbia and State of Pennsylvania, have invented certain new and useful Improvements in Folding Umbrellas; and I do hereby 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 umbrellas and parasols, and most especially to the variety which are adapted to fold to reduce their length for convenience of packing, carrying, and stowing away in a small space. Rigidity of structure combined with lightness and simplicity are the chief characteristics.

The invention also consists of the novel features, details of construction, and combination of the parts, which hereinafter will be more fully disclosed and finally claimed, and for this purpose and also to acquire a knowledge of the merits of the invention and the structural details of the means whereby the results are attained reference is to be had to the appended description and the drawings hereto attached.

While the essential and characteristic features of the invention are necessarily susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical central section of an umbrella embodying the essence of the invention, the same being open. Fig. 2 is a view of the same folded and as it will appear for packing and carrying. Fig. 3 is a diagrammatical view of the frame and stick, showing the relation of the parts when folded. Fig. 4 is a detail view of the joint formed between the sections of a brace or rib. Fig. 5 is a detail perspective view of one member of the joint. Fig. 6 is a similar view of the other member. Fig. 7 is a side elevation of the joint, showing the sections extended, the near cap being omitted. Fig. 8 is a view similar to Fig. 7, showing the relation of the parts when the sections are folded.

Corresponding and like parts are referred to in the following description and indicated

in all the views of the drawings by the same reference characters.

In its organization the umbrella comprises the usual parts, the ribs being pivotally connected at their inner ends to the notch 1 and the braces having similar attachment with the runner 2. Each of the ribs and the braces is composed of sections pivotally connected, so as to fold, thereby enabling the length of the umbrella to be reduced, as shown most clearly in Figs. 2 and 3. The braces fold upward between the ribs and stick, and the outer ends or sections of the ribs fold in a like manner. The cover 3 is attached to the frame in the usual manner and lies between the sections of the ribs when the latter are folded.

The stick involves a sectional construction and comprises the tip 4, sections 5 and 6, and handle 7, the latter having detachable connection with the lower end of the section 6, preferably by means of a slip-joint, the latter being of sufficient length to insure rigidity and prevent casual displacement of the handle when in position. The inner or adjacent ends of the tip 4 and section 5 are formed with kerfs in coincident relation, and a plate 8 has its end portions fitted in the kerfs of the parts 4 and 5 and secured therein by pivot-fastenings. When the tip is in alignment with the section 5, the joint is stiffened and maintained by means of a sleeve 9. When the umbrella is folded, the sleeve 9 is slipped upon the tip 4 toward its outer extremity and said tip is folded laterally, as shown in Figs. 2 and 3. The contiguous ends of the sections 5 and 6 are formed with kerfs and are pivotally connected by a plate 10, in a manner similar to the connection formed between the parts 4 and 5, the joint being stiffened by a sleeve 11, slidably mounted upon the section 5. The parts 4 and 6 fold inward about parallel with the section 5, as shown most clearly in Fig. 3, thereby occupying a minimum amount of space.

The joints formed between the sections of the braces and ribs are substantially identical. Hence a detailed description of one only will be given. The joints of the ribs are disposed inversely to the joints of the braces, this being necessary in order to enable the outer or lower sections of the ribs folding up-

ward and the braces to break joint by an upward movement. It is immaterial which section of either a rib or brace carries the spring and which the cam. Hence the sections will
5 be designated hereinafter irrespective of their relative location.

The joint of the ribs or braces comprises the sections 12 and 13, the section 12 having its butt-end formed with a cam-shaped head
10 14, with its opposite edges flattened, as shown at 15 and 16, a shoulder 17 being formed at the inner end of the flattened edge 15 and constituting a stop to hold the sections in alinement. The section 13 has its pivotal end
15 formed with a circular portion 18, constituting a cap which overlaps one side of the joint and receives the pivot-fastening 19. A spring 20 is secured to a side of the section 13 and coöperates with the cam 14 to hold the sections in alinement, the terminal of the spring
20 abutting against the shoulder 17 and limiting the movement of the sections when alined. This spring 20 exerts a pressure against the flattened edges 15 and 16 of the cam and holds
25 the joint either open or closed, according to the relation of the parts. A cap 21, corresponding with the cap 18, is placed against the opposite side of the joint and is secured thereto by the pivot-fastening 19, by means of
30 which the sections 12 and 13 are connected. By having the parts of the joint located between the caps 18 and 21 the spring 20 is prevented from lateral displacement and is maintained at all times in the plane of the cam 14.
35 In this connection it is to be understood the cap 21 may be formed with the section 12 or be separate and independent therefrom, as shown.

For daily use the ribs and braces of the umbrella may be expanded, the joints being of

such a nature as to hold the sections in alinement, and the umbrella may be opened and closed in the ordinary manner by manipulating the runner 2, as well understood. When
45 it is required to reduce the umbrella to a compact form for convenience in carrying or packing in a valise, trunk, or the like, the outer sections of the ribs are folded upward, the braces folded in a like manner, the sleeves 9 and 11 moved to permit the folding of the tip
50 4 and section 6, and the handle 7 detached and placed alongside of the umbrella and the whole bound into a compact bundle, as indicated in Fig. 2.

Having thus described the invention, what
55 is claimed as new is—

A jointed brace or rib for folding umbrellas and parasols, composed of sections having their inner ends overlapped and approximately of circular outline, one of the circular
60 ends having its inner and outer edges cut away to provide flattened edges at diametrically opposite points, the outer flattened edge having a shoulder at its inner end, a spring attached to the side of the section having the circular
65 end and adapted to bear against the flattened edges and the shoulder of the cut-away circular end, a pivot-fastening connecting the sections, and a circular cap mounted upon an
70 end of the pivot-fastening and acting jointly with the outermost circular end to confine the free end of the said spring and the cut-away circular end and prevent lateral displacement thereof, substantially as described.

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

MATHIAS M. APPLEMAN. [L. s.]

Witnesses:

MILES M. BETZ,
R. R. ZARR.