

(No Model.)

H. PLACK, JR. & C. H. PIMLOTT.
UMBRELLA.

No. 570,857.

Patented Nov. 3, 1896.

Fig. 1.

Fig. 2.

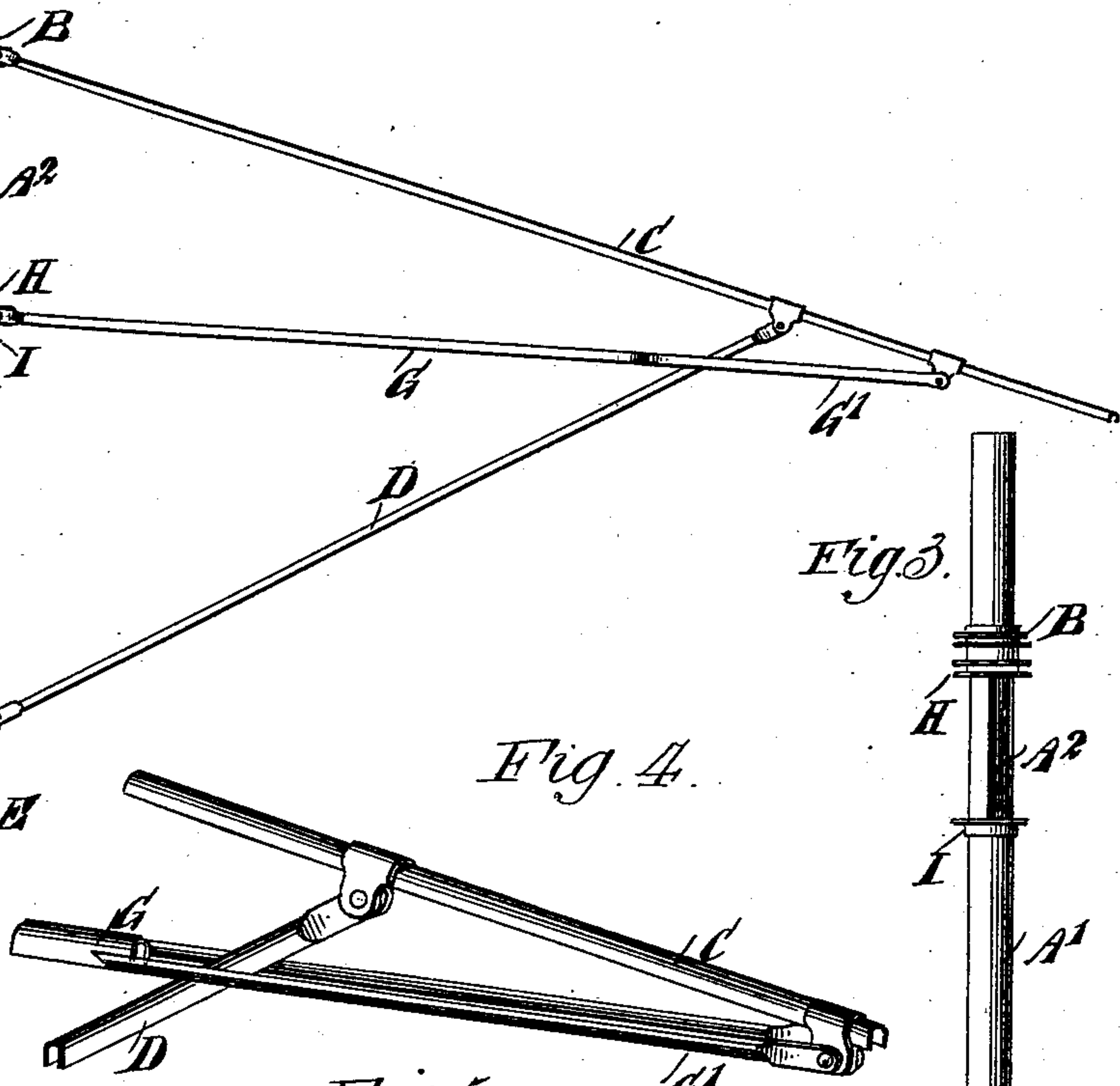
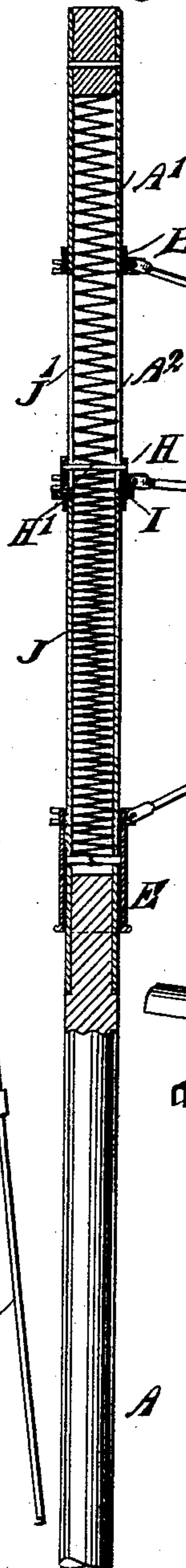
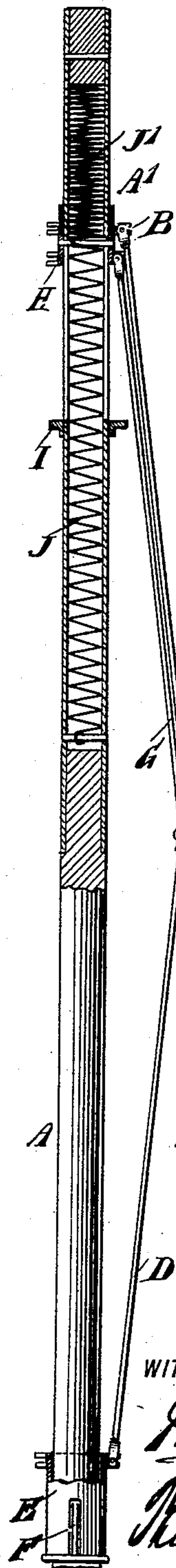


Fig. 4.

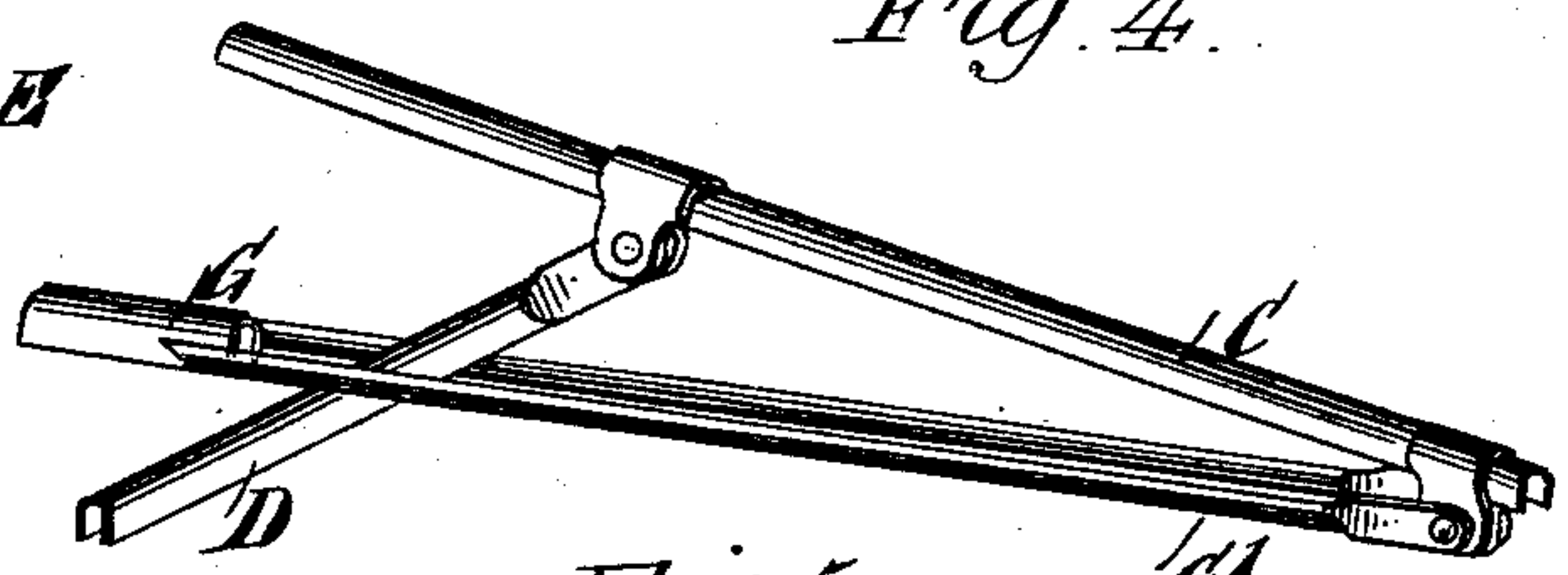


Fig. 5.

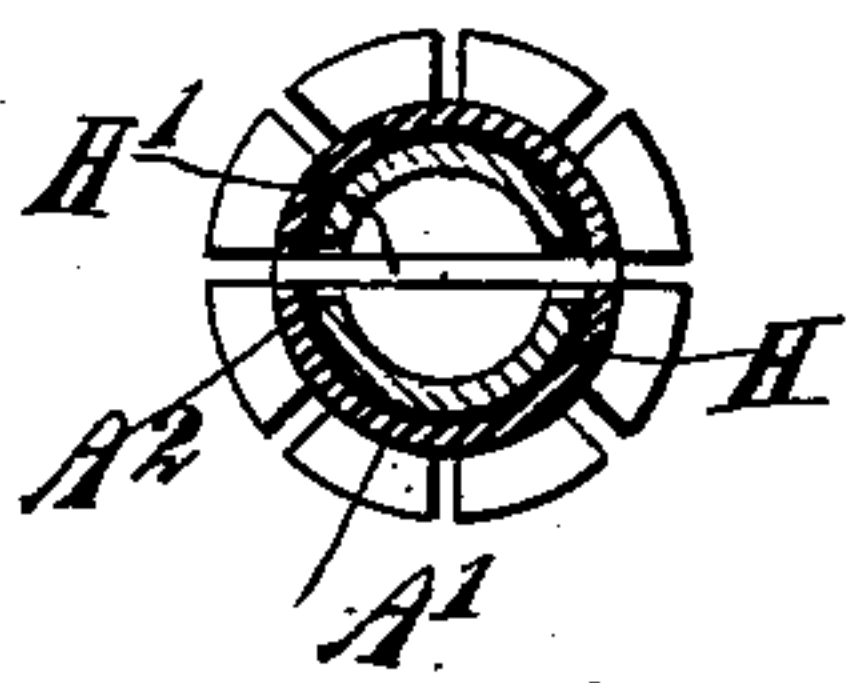
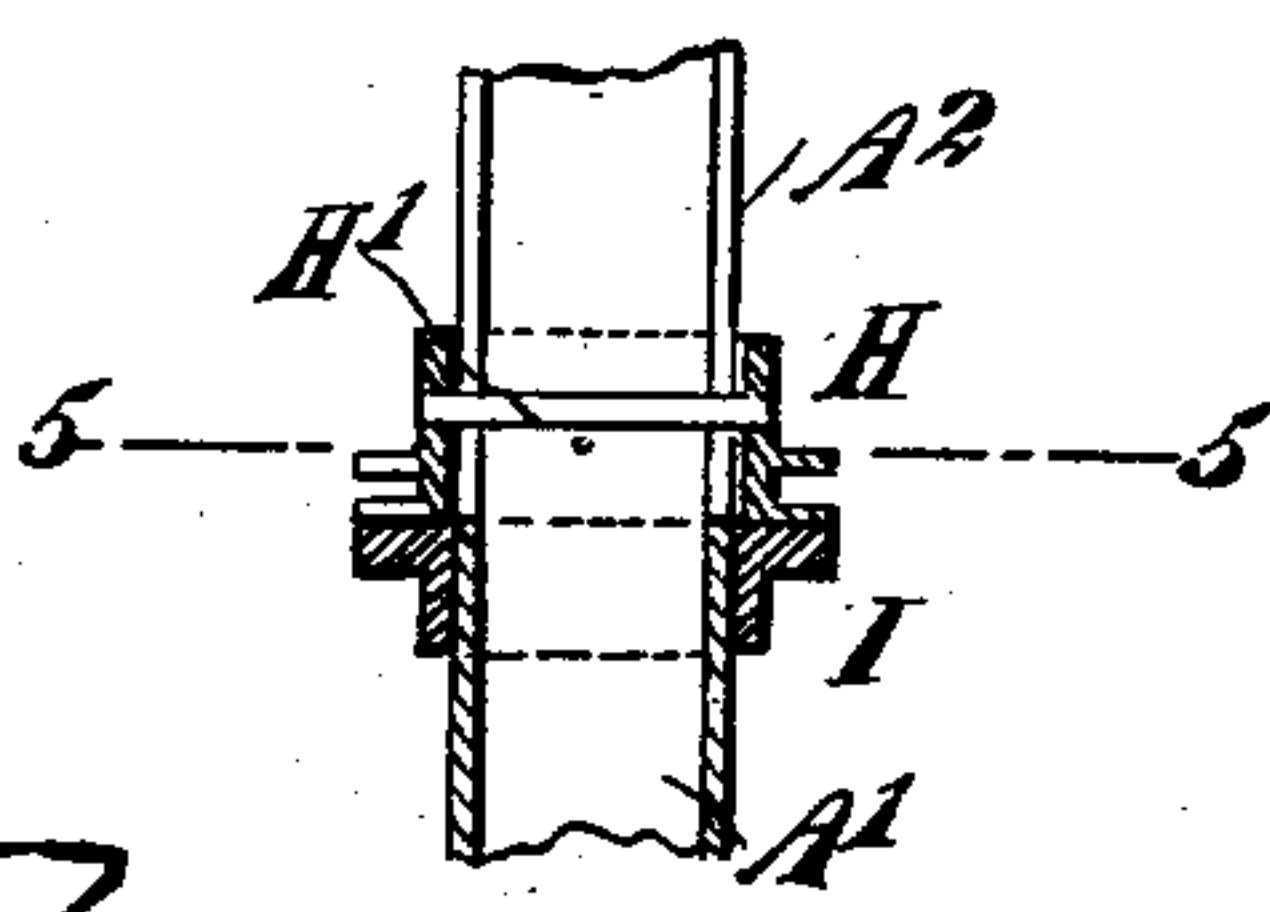


Fig. 6.



WITNESSES:

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SPECIFICATION forming part of Letters Patent No. 570,857, dated November 3, 1896.

Application filed February 7, 1896. Serial No. 578,319. (No model.)

To all whom it may concern:

Be it known that we, HENRY PLACK, JR., and CHARLES HERVEY PIMLOTT, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and Improved Umbrella, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved umbrella which is simple and durable in construction, self-opening, and stormproof.

The invention consists principally of ribs pivotally connected by braces with the ordinary runner and auxiliary braces pivotally connecting said ribs with an auxiliary spring-pressed runner or thimble.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement in a closed position. Fig. 2 is a similar view of the same in an open position. Fig. 3 is a reduced side elevation of the stick. Fig. 4 is an enlarged perspective view of part of the rib and braces connected therewith. Fig. 5 is an enlarged sectional plan view of part of the improvement on the line 5 5 of Fig. 6; and Fig. 6 is a sectional side elevation of the same.

The improved umbrella is provided with a stick A, made at its upper end in the form of a tube A', on which is secured a crown B, on which are pivoted the ribs C in the usual manner. The ribs C are pivotally connected by braces D with the usual runner E, fitted to slide on the stick A and adapted to be locked thereon when in a lowermost position by a spring-catch F. Each of the ribs C is also pivotally connected by an auxiliary brace G, with an auxiliary runner H, fitted to slide on the tube A' below the crown B, as plainly indicated in Figs. 1 and 2, the outer ends of each brace being forked, as at G', to permit the outer end of the corresponding brace D for the same rib to pass between the members of the fork. (See Fig. 4.) The forks

G' of braces G are extended out and pivoted at their extremities to the opposite sides of clips secured to the ribs C.

The pivotal connection of the auxiliary brace G with the ribs C is a suitable distance outward beyond the pivotal connection of the brace D for the same rib C, and when the umbrella is open, as indicated in Fig. 2, the braces D extend downwardly and inwardly from the ribs C, while the auxiliary braces G extend inwardly and slightly upwardly to the runner H. The latter is provided with a transversely-extending cross-piece H', passing through vertical slots A², formed in the sides of the tube A', so as to guide the runner H in its up-and-down movement.

The cross-piece H' extends through a spring thus formed into the lower and upper springs J and J', of which the spring J extends downwardly in the lower part of the tube A', while the other spring, J', extends in the upper portion of the tube, as will be readily understood by reference to Figs. 1 and 2. The ends of the springs J J' are securely fastened in place, so that the runner H in moving upward compresses the spring J' and draws out the spring J, while on the downward movement of the runner H both springs J' and J pull on said runner.

A particular feature of our invention is the construction of the springs J J', which, as shown, are made of one piece and separated by the cross-bar H' or the auxiliary runner, and one portion being coiled stronger than the other. This construction is very simple and is superior to making the two springs separate instead of making them continuous, as fastening devices for securing the springs to the cross-bar H' are dispensed with.

Now it will be seen that when the runner E is moved downward on the stick A to close the umbrella the auxiliary braces G push the runner H upwardly to compress the spring J' and extend the spring J, as previously explained. When the umbrella is closed, the runner E is locked in place in the usual manner by the spring-catch F. When it is desired to open the umbrella, the operator simply loosens the catch F to release the runner E and permit the springs J' and J to push or pull on the auxiliary runner H in a downward direction,

and cause said runner to slide downward, and in doing so force the ribs C upward and outward in an extended position. Thus it will be seen that the umbrella is self-opening, and
 5 by the use of the auxiliary braces G a storm-proof umbrella is produced.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

10 1. An umbrella, comprising a stick having a longitudinally-slotted tubular portion, a runner mounted to slide on the stick, ribs carried on the stick, braces connecting the runner and ribs, an auxiliary runner mounted to slide on
 15 the tubular portion of the stick, a cross-piece carried by the auxiliary runner and playing in the slotted portion of the stick, auxiliary braces connecting the auxiliary runner with the ribs, and springs arranged in the hollow
 20 of the tubular portion of the stick and engaging the cross-piece, substantially as set forth.

2. An umbrella, comprising a stick, a main runner and an auxiliary runner movable on the said stick, and under the control of
 25 springs, as set forth, ribs connected to the stick, main braces secured to the ribs and to the main or lower runner, and auxiliary braces secured to the auxiliary or upper run-

ner and to the ribs at points nearer to the free ends of the ribs than the connection with
 30 the main braces, the two sets of braces crossing each other, and each brace of one set being forked to allow the corresponding brace of the other set to pass between the members
 35 of the fork, substantially as described.

3. An umbrella comprising a stick having a longitudinally-slotted portion, a runner mounted to slide on the stick, ribs carried on the stick, braces connecting the runner and the ribs, an auxiliary runner mounted to slide
 40 on the tubular portion of the stick, a cross-piece carried by the auxiliary runner and playing in the slotted portion of the stick, auxiliary braces connecting the auxiliary runner with the ribs, and a spring arranged in
 45 the hollow of the tubular portion of the stick and extending beyond the said cross-piece, so that said cross-piece divides the spring into an upper and lower portion, substantially as described.

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