

(No Model.)

J. H. SPRAGUE.
SELF CLOSING UMBRELLA.

No. 521,828.

Patented June 26, 1894.

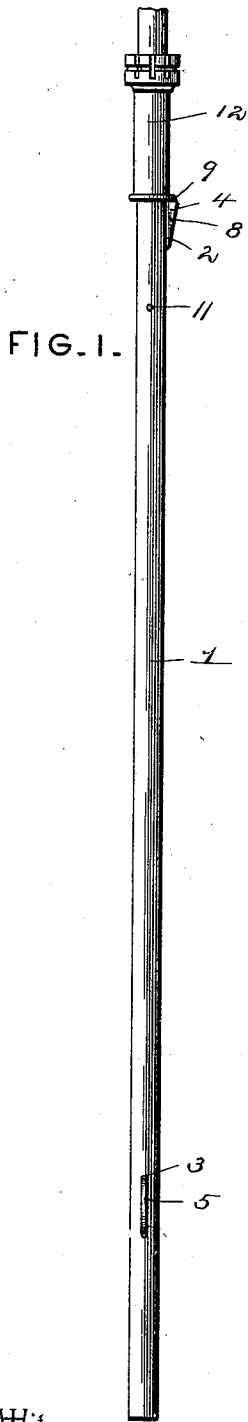


FIG. 1.

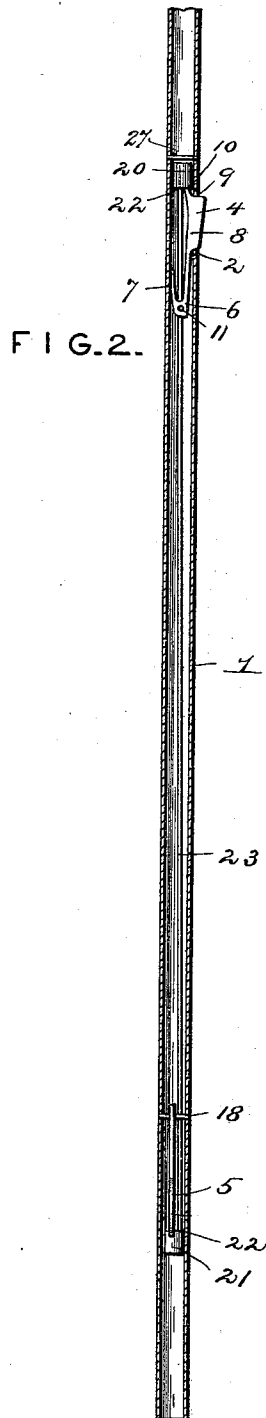


FIG. 2.

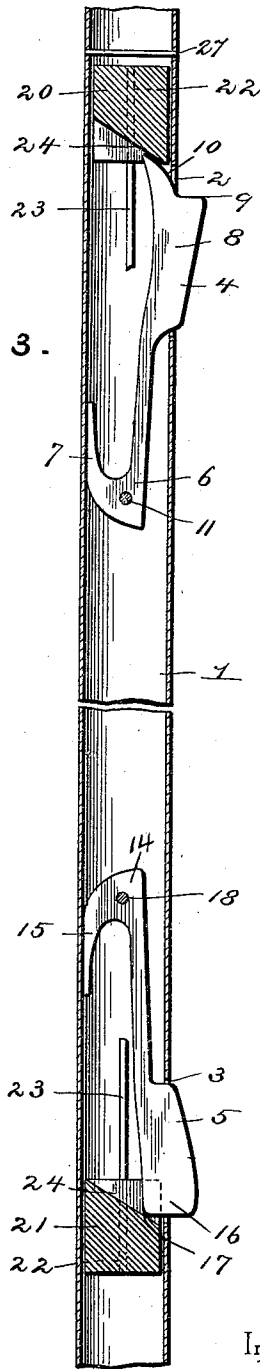


FIG. 3.

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UNITED STATES PATENT OFFICE.

JAMES H. SPRAGUE, OF NORWALK, OHIO.

SELF-CLOSING UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 521,828, dated June 26, 1894.

Application filed November 29, 1893. Serial No. 492,378. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. SPRAGUE, a citizen of the United States, residing at Norwalk, in the county of Huron and State of Ohio, have invented a new and useful Self-Closing Umbrella, of which the following is a specification.

My invention relates to improvements in umbrellas, and has special reference to the sticks thereof.

The objects of my invention are to provide a stick so constructed as to permit of a release of the umbrella-runner and a consequent lowering of the umbrella by a pressure upon the lower spring-catch commonly employed for securing the umbrella in a closed position. Heretofore means have been provided for lowering or releasing the umbrella-runner by a pressure upon the lower spring-catch, but such means were complicated, difficult of manufacture, frail, and for those reasons undesirable. By my invention however, I accomplish the same result with a much simpler means and at a less cost of manufacture and with an increase of durability. By such an arrangement numerous advantages arise in the handling of an umbrella, as for instance, but one hand is required to lower the umbrella, in that as soon as the runner is released the ribs on the stretchers will by reason of their pressure cause the umbrella to lower completely and close. But one hand is therefore required in the operation, and the other may be employed in holding bundles and other articles that need not be laid down for the purpose of closing the umbrella. A person entering a doorway during a rain-storm can conveniently close the umbrella as he enters and avoid turning around and reaching out in the rain to close it; also when attacked by sudden gusts of wind that tend to invert the umbrella a quick closing of the same by a pressure upon the lower spring, which may be always under the influence of the thumb, under such circumstances, will save the umbrella, and so on various advantages arise which will at once be obvious to the user of umbrellas.

My invention therefore consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is an

elevation of a portion of an umbrella-stick constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view of the same, the movable plugs being shown in elevation. Fig. 3 represents enlarged sections of the upper and lower plugs, the intermediate connecting-wire being broken away or shown as disconnected, and the spring-catches shown in elevation.

Like numerals of reference indicate like parts in all the figures of the drawings.

I have illustrated my invention applied to a tubular stick and prefer to employ the same in connection with such stick. In the present instance the stick 1 is, as before stated, tubular and therefore of metal, and the same is provided with the upper slot 2 and the lower slot 3 designed for the reception of the upper and lower spring-catches 4 and 5, respectively. The upper spring-catch 4 consists of the lower widened end 6, perforated and designed to fit snugly in the bore of the stick the reduced spring-shank 7, and the upper head-portion 8 is provided at its outer side with the shouldered catch-end 9 and above the same with an upward projection having an inclined rounded or cam-surface 10. A rivet 11 is passed through the perforated lower end of the catch and secures the same within the tube. The tendency of the spring-shank is such as to normally press the shouldered-portion 9 outward through the upper slot 2, whereby it lies in the path of the runner 12 of the umbrella. The lower spring-catch consists of the widened head 14 formed at the upper end thereof and perforated and of such width as to fit snugly in the bore of the stick; furthermore in the depending spring-shank 15 and in the lower head 16 whose lower edge is rounded as at 17. A rivet 18 passes through the upper perforated widened portion 14 of the catch 5 and retains the same in position. The tendency of the spring-shank 15 is to throw the lower head 16 through the slot 3 of the stick.

Above the upper end of the spring-catch 4 and below the lower end of the spring-catch 5, are, in the present instance movable metal plugs 20 and 21, respectively. These plugs 20 and 21 are provided at one side with kerfs 22, in which are seated the opposite ends of a connecting-wire 23, the ends being secured

in any desired manner in the kerfs, as for instance, by upsetting the edges of the slots thereover or otherwise. Each of these plugs is provided, the upper upon its under side and the lower upon its upper side, with inclined slots 24, which slots receive respectively the upper rounded or cam-end 10 of the upper catch and the lower rounded edge 17 of the lower catch, the wire being of such length as to maintain them in position upon said ends. It will be seen that the plugs are normally in their elevated positions and are not operated upon by the inclined slots; and, it will furthermore be seen that the said slots are arranged at variance with each other. By reason of their arrangement it will be seen that when the lower spring-catch is pressed inward by the thumb against the tension of its spring-shank the rounded edge portion 17 thereof will operate upon the inclined face of the slot of the lower plug and by reason of the inclination of the latter and the immovability of the spring-catch, said plug will be caused to descend within the tube or stick and through the medium of its connecting-wire will draw upon the upper plug. This plug will descend and operate upon the rounded or cam-face 10 at the upper end of the upper catch 4, which will cause the said upper end to be drawn inward and hence withdrawn from the path of the runner. The tension or pressure of the ribs on the stretchers of the umbrella-frame will cause the umbrella to quickly and conveniently close and the runner to descend the stick and engage with the lower catch 5. Of course a release of the lower catch from the pressure of the thumb will return the parts to their normal positions, in which they are held by the part 10 of the catch 4 and by the rivet 27 above the upper plug, in that the lower catch will move forward and no longer bear upon the inclined face of the slot of the lower plug, and the upper catch will spring forward and ride against the inclined face of the slot of the upper plug forcing the latter upward. I thus accomplish the various objects set forth at the beginning of the specification in a very simple, efficient, and convenient manner, the construction being extremely durable and not likely to become impaired by frequent use.

To all appearances the umbrella is of the ordinary pattern, and can be operated the same, the mechanism for accomplishing the lowering being entirely hidden within the tube of the stick.

I do not limit my invention to the precise details of construction herein shown and described, but hold that I may vary the same

to any degree and extent within the knowledge of the skilled mechanic.

Having described my invention, what I claim is—

1. The combination with an umbrella-stick having upper and lower slots; of the upper and lower catches provided with rounded portions, and upper and lower connected plugs mounted for simultaneous movement within the stick and adapted to be engaged by the rounded portions of said catches, substantially as set forth.

2. The combination with an umbrella-stick having slots, and upper and lower spring-catches, of upper and lower plugs having inclined faces adapted to be moved against by the spring-catches, and an intermediate connecting-wire between the plugs, substantially as specified.

3. The combination with an umbrella-stick having upper and lower slots and upper and lower spring-catches having at their opposing outer ends rounded faces, of upper and lower plugs arranged at the rounded faces of the catches and having inclined slots receiving said rounded faces and opposing the same, and an intermediate connecting-wire for the plugs, substantially as specified.

4. The combination with the tubular stick having the upper and lower slots, and the upper and lower catches pivoted therein and having their shouldered portions extending through the slot, the upper catch having at its upper end the inclined rounded projection 10, and the lower catch having at its lower end the rounded edge 17, of the upper and lower plugs slidably mounted in the tubular stick above and below the catches and provided at their inner ends with inclined slots receiving the rounded parts of the catches, and with kerfs, and a connecting-wire let into the kerfs and having the metal upset thereover, substantially as specified.

5. The hollow umbrella stick having upper and lower slots, and the upper and lower spring catches arranged in the stick and projecting through the slots thereof, in combination with the upper and lower connected plugs mounted to move simultaneously, said plugs being engaged by the catches, and a rivet 27 to limit the movement of the upper plug, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES H. SPRAGUE.

Witnesses:

NICK SMITH,
HENRY S. MITCHELL.