

(No Model.)

H. W. SCHOFF, B. FINKEL & F. E. PROBERT.  
SELF OPENING UMBRELLA.

No. 521,222.

Patented June 12, 1894.

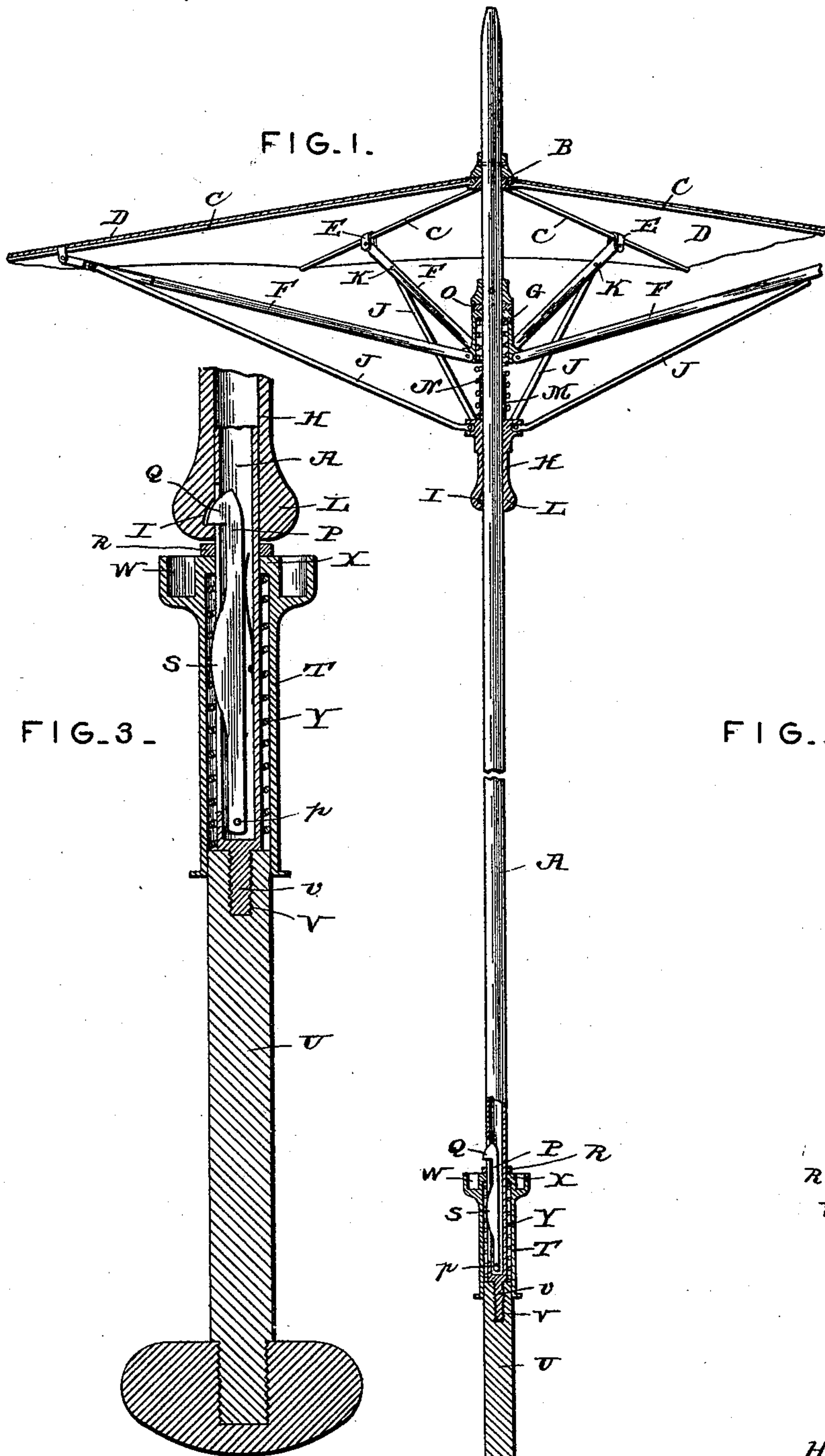


FIG. 1.

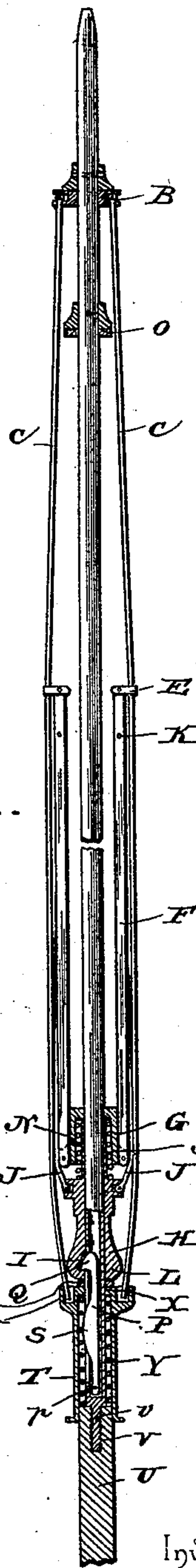


FIG. 2.

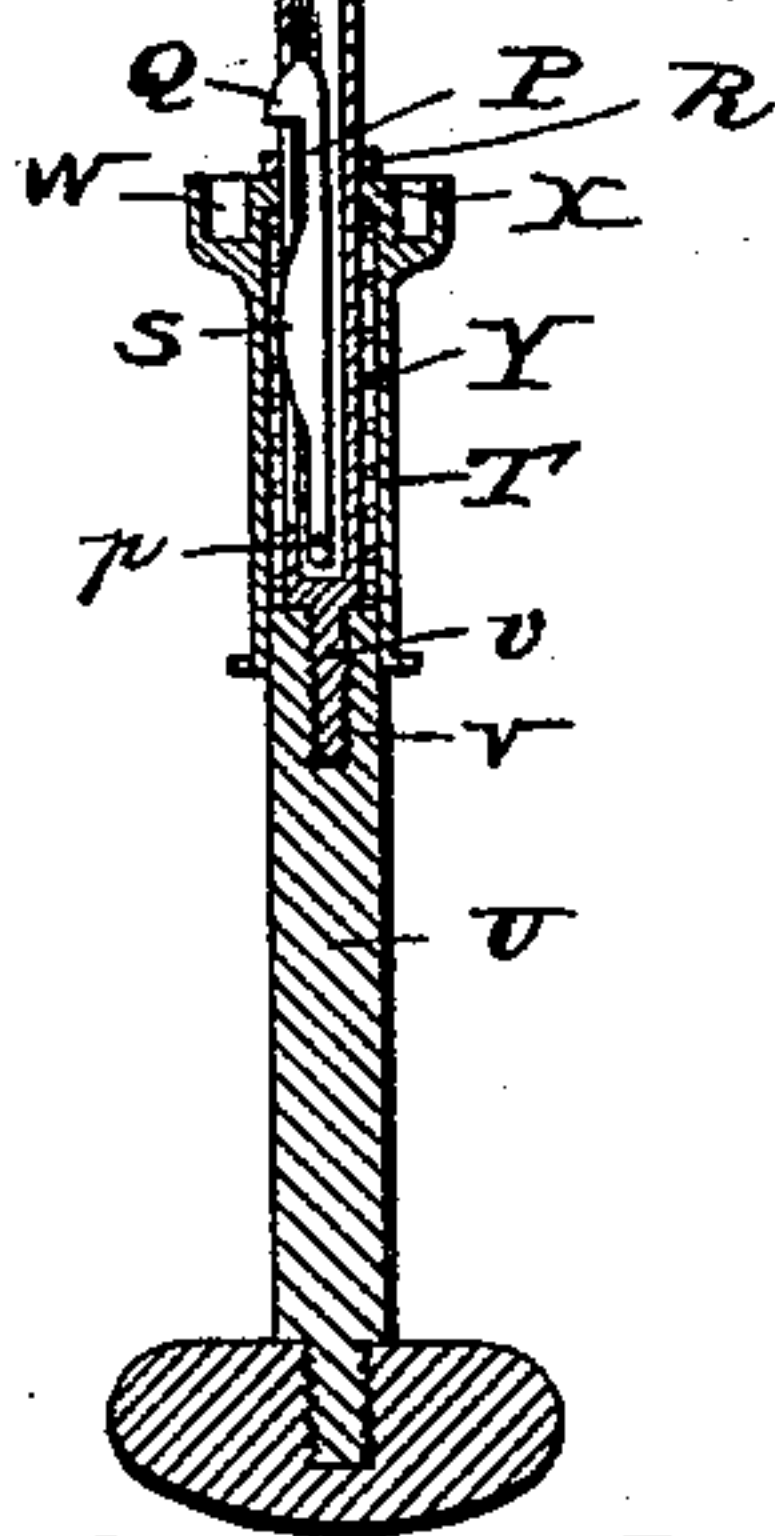


FIG. 3.

Witnesses  
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# UNITED STATES PATENT OFFICE.

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## SELF-OPENING UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 521,222, dated June 12, 1894.

Application filed January 6, 1894. Serial No. 495,996. (No model.)

*To all whom it may concern:*

Be it known that we, HENRY W. SCHOFF, BENJAMIN FINKEL, and FRANCIS E. PROBERT, citizens of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented a new and useful Self-Opening Umbrella, of which the following is a specification.

This invention relates to self-opening umbrellas; and it has for its object to effect certain improvements in that class of umbrellas which automatically open at the moment the runners thereof are released from the catches located near the handle end of the stick.

To this end the present invention contemplates certain improvements in automatic spring-opened umbrellas which shall be operated by the movement of the tip-cup which incloses the tip of the umbrella ribs when closed against the stick.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the drawings:—Figure 1 is a vertical sectional view of an automatically-opening umbrella constructed in accordance with this invention, being shown open. Fig. 2 is a similar view of the umbrella closed. Fig. 3 is an enlarged vertical sectional view of a portion of the umbrella showing more clearly the operation of the tip-cup sleeve to disengage the spring catch from the main runner.

Referring to the accompanying drawings, A represents an umbrella stick made of wood or metal, but preferably of the latter material in order to insure the effective operation of the automatically working parts of the umbrella. The umbrella stick A, has attached thereto near its outer end the usual notched rib collar B, to which are pivotally connected the inner ends of the ribs C, over which is stretched the ordinary cover D, showing only in Fig. 1.

At a point intermediate of their inner and outer ends, the umbrella ribs have pivotally connected thereto as at E, the outer ends of the U-shaped or hollow stretchers F, the inner ends of which are pivotally connected to

the socketed runner G, which, as the umbrella opens and closes, is adapted to slide on the stick to and away from the main runner H. The main runner H, is provided at one end thereof with the inner locking notch I, and has pivotally connected to the other inner end thereof, the inner ends of the supplemental stretchers or tension rods J, the outer ends of which are pivoted to the main stretchers F, near their pivotal connection with the ribs, as at K. The main runner H, is also provided at its inner end with the knob L, which is grasped by the hand in closing the umbrella, and beyond the inner end to which the stretchers or rods J, are pivoted, the said runner H, is further provided with a projecting neck M, which is adapted to work into the socket runner G, when the umbrella is closed, and has coiled thereon the opening spring N, which is also partly arranged inside of the socketed runner G. When the main runner H, is slid out toward the handle end of the stick, the stretchers F, will cause the socketed runner G, to be moved over the neck M, of the runner H, against the tension of the spring N, and at the same time the supplemental stretchers or tension rods J, will move into the U-shaped or hollow stretchers F. Immediately upon releasing the runner H, the tension of the spring N, will tend to spread the two runners away from each other, and this will cause the two sets of stretchers to spread apart and allow the runners to quickly slide out on the stick toward its outer end, to open the umbrella, and in this movement the runner G, engages against the stationary cushion buffer O, secured to the stick near the rib collar B, thereon.

The stick A, is provided near its handle end with the slot a, in which works the spring catch P. The spring catch P, is pivoted at one end as at p, in the slot of the stick, and is provided at its other end with the hook catch Q, normally projected out of the slot and adapted to engage the locking notch I, at the inner end of the runner H, when the umbrella is closed. The said spring catch P, is retained in position within the slot a, by the retaining ring or band R, encircling the stick near the hook-catch Q, and at a point intermediate of its ends, the said spring-catch



P, is provided with a cam lug S, which normally projects through and beyond the slot *a*, and is adapted to be engaged by one end of the tip-cup sleeve T. The tip-cup sleeve  
5 T, is mounted to slide on the outer end of the stick A, and the larger removable handle section U. The removable handle section U, may be provided at one end with any suitable character of knob, while the other end thereof is  
10 provided with a threaded socket V, which detachably engages the threaded neck *v*, at the outer end of the stick proper.

The tip-cup sleeve T, which is mounted to slide on the handle section and the outer end  
15 of the stick proper, is provided at its inner end with the tip-cup W, in which are held the tips of the ribs when the umbrella is closed, and with a contracted neck X, which snugly embraces the stick proper, and which  
20 is adapted to be moved over the cam lug S, so as to depress the spring catch within the slot *a*, and thereby release the said catch from the runner H, and allow the umbrella to automatically open as already described.  
25 The said tip-cup sleeve is normally held against the retaining band or ring R, by means of the coiled spring Y, arranged inside of the same and held in position by the inner end of the handle section U, which forms a shoulder  
30 at its inner end, by reason of being of a larger diameter than the stick proper. When the umbrella is closed, the runner H, is engaged by the spring-catch P, and the tip-cup sleeve is in a position with its cup receiving the rib-tips and the contracted neck X, at one side  
35 of the cam-lug S. By grasping the tip cup sleeve and moving it against the tension of the spring Y, out toward the outer end of the stick handle, the rib tips will be released and

fly outward at the moment the cam-lug S, is 40 depressed to disengage the spring-catch P, from the runner H, and this operation will cause the umbrella to automatically open.

Changes in the form, proportion and the minor details of construction may be resorted 45 to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is— 50

In an automatically opening umbrella, the combination of the umbrella stick having a slot near its outer end and a shoulder beyond such slot, the spring-actuated runner sliding 55 on the stick and having a locking notch in its outer end, a normally projected spring catch mounted in the slot of the stick and having a hook catch at one end to engage the runner notch and a normally projected cam lug intermediate of its ends, a sliding tip-cup sleeve 60 mounted on the stick over the spring catch and having at one end a tip-cup, and a contracted neck adapted to be moved over said projected cam lug to release the catch from 65 the runner, and a supporting-spring arranged inside of the tip-cup sleeve and supported on the shoulder of the stick, substantially as set forth.

In testimony that we claim the foregoing as 70 our own we have hereto affixed our signatures in the presence of two witnesses.

HENRY W. SCHOFF.  
BENJAMIN FINKEL.  
FRANCIS E. PROBERT.

Witnesses:

JOSEPH SCHLENKER,  
EMIL BAIERLE.