G. P. CLARKE.

Cane.

No. 202,094. Patented April 9, 1878.

Fig. 1.

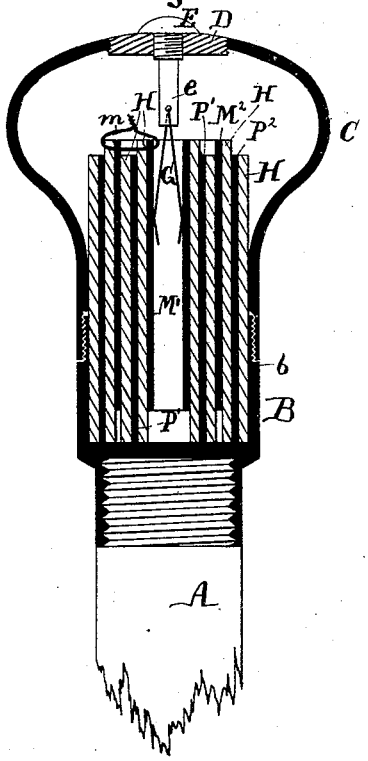
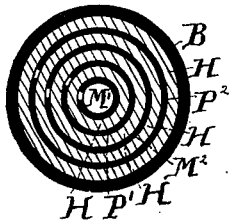


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE P. CLARKE, OF NEW YORK, N. Y.

IMPROVEMENT IN CANES.

Specification forming part of Letters Patent No. **202,094**, dated April 9, 1878; application filed February 6, 1878.

To all whom it may concern:

Be it known that I, GEORGE P. CLARKE, of New York city, county and State of New York, have invented certain new and useful Improvements relating to Canes, of which the following is a specification:

I have devised and practically wrought out the combination of a galvanic battery with a cane, in such manner that the use of the cane induces a gentle current of the fluid through the palm of the hand.

I believe that a gentle electric current directed through the peculiarly nervous structure of the palm of the hand is capable of producing an important influence for good.

My improved cane is made with a head as large as is allowable for convenient use as a cane, the thick part extending down a little way on the body of the cane. I make this, by the introduction of proper parts, a dry battery, with the negative pole in the center of the top, and the positive pole connected to the rim. The surface of the cane-head may be continuous, the space between the two poles being made of hard rubber or other suitable non-conductor.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a vertical central section, and Fig. 2 is a horizontal section, through the handle of my improved cane.

Similar letters of reference indicate like parts in both the figures.

A is the body of the cane, and B metal top piece permanently fixed thereto. The piece B is increased in diameter above the cane A, and is made hollow and screw-threaded on the exterior down to a shoulder, *b*, as shown. C is a peculiar cap, which forms the knob or head proper of the cane. It is screw-threaded on its interior, and adapted to fit upon the screw-threaded portion of B, and to match tightly down upon the shoulder *b*. In the extreme top is a considerable orifice, which is tightly closed by the aid of a knob or button of metal, E, surrounded by a ring of hard rubber, D. The surface of the central button E projects considerably above the rubber D, which increases the certainty of contact of this part with the hand when the cane is held loosely. A metallic stem, *e*, projects downward from the button E, and in its lower end is formed an eye, which receives the bite of a piece of wire, G, which is doubled and sufficiently twisted to insure its retention. The wire G should be of springy material, and tend to stand with its lower ends spread apart. M^1 M^2 are hollow cylinders of copper, held out of contact with the inclosing-casing, tied together at their upper edges by a metallic connection, *m*. When the cane is put together the doubled wire G is forced within the inner cylinder M^1, its elasticity being certain to hold it in contact therewith. Thus both the copper cylinders M^1 and M^2 are in electric connection with the central button E. P^1 P^2 are hollow cylinders of sheet-zinc, of less length than the cylinders M^1 M^2. The zinc P^1 lies between M^1 and M^2. The zinc P^2 lies exterior to M^2. These cylinders of zinc P^1 P^2 rest on the base of the cavity in the part B. They insure an electric connection between these parts and the main exterior of the cap or handle C of the cane. A cylinder of elastic woolen cloth, H, of proper diameter and thickness, is introduced between each cylinder and the next—that is to say, one is between M^1 and P^1, another is between P^1 and M^2, and another is between M^2 and P^2, and a fourth is exterior to P^2. All these are sufficiently thick and elastic to maintain a tolerably firm contact with the adjacent metals, so as to not only excite galvanic action when properly conditioned as to moisture, &c., but also to mechanically hold the parts in position. The outer woolen piece H presses against the interior of the cavity in the part B, and the whole is incapable of any considerable amount of motion. No part can rattle when the cane is shaken. The woolen rings H should be drawn up a little above the bottoms of the zinc rings P^1 P^2, while the copper rings M^1 M^2 should be drawn up above the lower edges of the adjacent fibrous rings H, so that the latter may close together below them, and insure that the copper is kept out of contact with the bottom of the cavity.

On or before applying the parts together the several pieces of fabric H should be moistened with salt-water. About the condition of

ordinary sea-water serves well; but if it becomes considerably more salt from evaporation or other cause, no harm results.

Modifications may be made, especially by increasing or diminishing the number of the plates. This construction makes the battery peculiarly efficient within the limited space available, and allows it to be very easily taken apart and cleaned, or otherwise attended to.

The advantages of a dry battery in this position will be obvious from the liability of the cane when in use to be shaken and held in all kinds of positions.

A tight joint between the parts B and C is desirable for many reasons, one of which is to prevent or reduce evaporation from the moist fabric. The cane should at intervals be taken apart and the fabric H remoistened.

The effect of a gentle galvanic current on the human organization is not in the present state of electrical and physiological science fully explained. My construction provides a peculiarly efficient battery in a small space, and to apply its force to a sensitive part of the system in connection with exercise, and consequently with a corresponding stimulus to the insensible perspiration.

The cane A may be the rod of an umbrella or parasol, or handle of any portable tool or weapon, as a policeman's club or the like, if desired.

Instead of salt-water, a solution of bichromate of potash and sulphuric acid, or other proper acidulated solution, may be used.

My cane may be used in all respects like the ordinary cane. Its functions as a battery for the relief or cure of diseases of the nerves, or that class which may be favorably affected by galvanic influences, are performed whenever the cane is grasped in the ordinary manner, so that one part of the hand will be on the part C, and another part on the knob or button E.

I claim as my invention—

1. As a new article of manufacture, a cane with a galvanic battery arranged in its head, as herein specified.

2. The dry battery described, composed of the alternate rings M^1 H P^1 H M^2 H P^2 H, in combination with the knob or button E, insulating-ring D, and cap or cane-head C, and adapted to apply on a cane or portable rod, A, as herein specified.

In testimony whereof I have hereunto set my name in presence of two subscribing witnesses.

GEORGE P. CLARKE.

Witnesses:
CHAS. C. STETSON,
J. K. OULAHAN.