

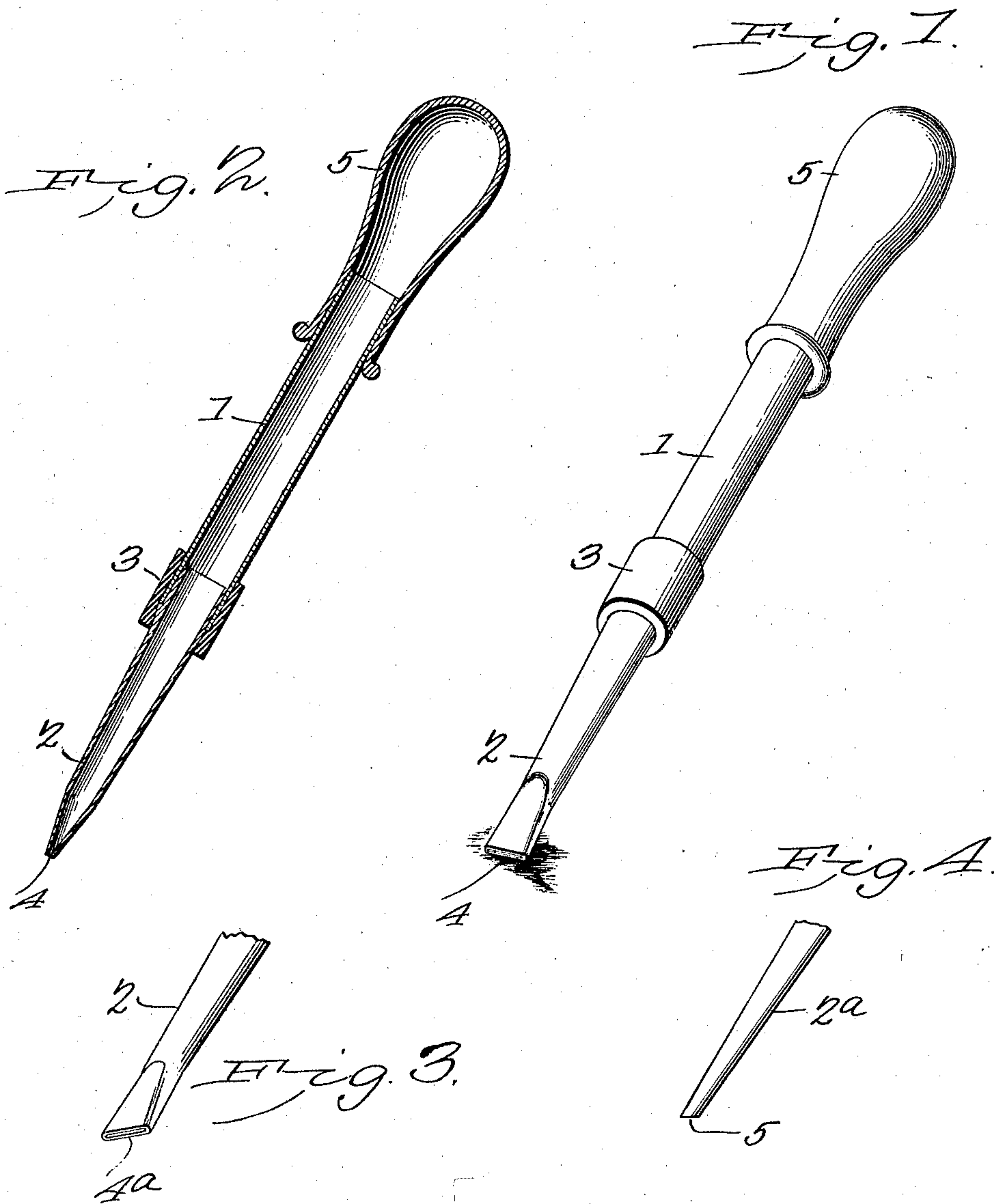
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C. C. CLEMENT.
MARKING AND LETTERING PEN.

APPLICATION FILED SEPT. 30, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

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MARKING AND LETTERING PEN.

SPECIFICATION forming part of Letters Patent No. 757,024, dated April 12, 1904.

Application filed September 30, 1903. Serial No. 175,186. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. CLEMENT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Marking and Lettering Pen, of which the following is a specification.

This invention relates to marking and lettering pens of the fountain type in which a reservoir is provided to contain a sufficient quantity of marking fluid to last for a considerable period and means is provided to insure the gradual feed of the marking fluid to the tip or point of the pen.

The object of the invention is to provide an improved marking and lettering pen susceptible of use with marking materials of different degrees of fluidity and having improved means for insuring the proper feed of the marking material at all times.

A further object of the invention is to simplify the construction of pens of the type specified and to adapt them for cleaning with great ease and despatch.

In obtaining the objects above mentioned I make use of the construction and combination of parts of a marking and lettering pen hereinafter described, illustrated in the accompanying drawings, and having the novel features thereof pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of one form of the pen in position for use. Fig. 2 is a longitudinal section through the pen in a plane at right angles to the edge presented by marking-tip. Fig. 3 is a detail view of a modified form of tip in which the flattened end is cut off at an oblique angle to the axis of the tip. Fig. 4 is a detail view of a modified form of tip which is not flattened at the lower end, but is cut off at an oblique angle to the axis of the tip.

Referring to the drawings, in which corresponding parts are designated by similar characters of reference, 1 designates the barrel of the pen, which is tubular in form, as shown, and may be made of any suitable material, and 2 designates the marking-tip, which tapers toward the lower end and is secured to the barrel 1 in any suitable manner, as by

means of a collar 3. The tip 2 tapers gradually toward the lower end, as above mentioned, and is flattened to present at its extremity a straight edge 4, in which is formed a narrow slot for the escape of the marking fluid which is contained in the pen. Both ends of the barrel 1 are open, as shown, and upon the upper end of the barrel there is fitted somewhat loosely a small rubber bulb of the form commonly used on medicine-droppers and the like.

To fill the pen for use, the tip will be introduced into the marking fluid and the bulb 5 will be compressed to force the air contained in the barrel of the pen out through the tip and the bulb will then be allowed to expand quickly. The quick expansion of the bulb will cause a sufficient quantity of the marking fluid to be drawn up into the pen. The surplus fluid of the outside of the tip will then be removed, if the marking fluid be of a kind that flows very readily, and the pen will be ready for use.

In using the pen it will be gripped between the thumb and fingers in the way in which marking and lettering pens are ordinarily held and will be moved over the paper or other surface with the slot in the tip in contact therewith. When the marking fluid flows very readily, the pen will be inclined toward the horizontal and when a thicker fluid is used the pen will be held nearly vertical.

When a thin marking fluid which flows readily is employed, the capillary action due to the taper of the tip, aided by the natural effect of gravity, will insure satisfactory feeding of the marking fluid. With thicker fluids which flow less readily it will be necessary to compress the bulb slightly by pressure against the forefinger from time to time to accelerate the feed. As the bulb fits loosely on the upper end of the barrel, the ink forced downward when the bulb is compressed to a slight degree will not be retracted when the bulb is allowed to expand; but instead air will find its way between the bulb and the barrel to fill the space formed by the expansion of the bulb. The occasional pressures upon the bulb in order to feed thick marking fluid may be made by an

expert in the use of the pen without lifting the tip from the paper or pausing in the stroke.

It will be observed that there is no constriction between the barrel of the pen and the narrow slot through which the marking fluid escapes; but instead there is a gradual narrowing from the barrel to the slot, which enables thick marking fluids which would clog a constricted throat and interrupt the feed to be used successfully in the improved pen. This feature is one of especial value, because the enamel-paints used in making many ornamental sign-cards may be used to advantage in this pen, while their use in the marking-pens of ordinary type is impossible. Previous to my invention lettering with enameled paints had been done exclusively with the brush and a very considerable amount of time had been required to do satisfactory work therewith. By means of my improved pen, however, enamel-paints can be used in lettering with results as good or better than those obtained with the brush and with the expenditure of much less time.

The modified form of tip shown in Fig. 3 is adapted for use in a slightly-different position from the common form of tip shown in Figs. 1 and 2 in that the axis of the tip is not perpendicular to its edge 4^a. The use of the modified form of tip shown in Fig. 3 is, however, substantially the same as that of the form already described.

The modified form of tip shown in Fig. 4, in which the tip is not flattened at its lower end, is especially adapted for use in Gothic lettering and in the formation of all letters in which a uniform width of line is employed throughout. In this modified form of tip the tube 2^a is given a uniform taper toward the lower end and is beveled at a slightly-oblique angle to the axis of the tube.

It is of course to be understood that the pen will be made in widely-varying sizes to adapt it for use in forming lines of different widths, and I have found that with the small-sized pens the bulb may be dispensed with after filling and the combined effects of gravity and capillary

attraction be depended upon to produce a satisfactory flow of the marking material.

The pen is best adapted for use in the formation of letters of the "old English" and kindred types, and the sharp corners at the ends of the slot in the tip are especially useful in making the fine spurs so common in such letters. The pen is, however, susceptible of very general use and gives good results in the formation of letters of many different types.

In manufacturing the pen the barrel may be made of any suitable material, as hard rubber, glass, or metal; but the tip should always be made of metal or provided with a metal extremity to receive the wear and keep the corners sharp.

Having thus described the construction and use of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A fountain marking-pen comprising a tubular barrel open at its upper end and having a tapering tip at its lower end, and a bulb of compressible material fitted loosely upon the upper end of the barrel, whereby slight pressure upon the bulb will be effective to increase the flow of marking fluid from the tip of the pen and the relaxation of pressure upon the bulb will not cause the marking fluid to be drawn upward in the barrel of the pen.

2. A fountain marking-pen comprising a short barrel having both ends open, a tapering tubular tip secured at the lower end of the barrel, and a compressible bulb fitted loosely upon the upper end of the barrel, the entire structure being of such dimensions that when in use the bulb will lie in contact with the hand of the user and the increased pressure upon the pen in making a bold stroke will cause pressure against the bulb and increase the rate of flow of the fluid from the tip of the pen.

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

CHARLES C. CLEMENT.

Witnesses:

CHESTER W. CLEMENT,
WILLIAM C. CLEMENT.