

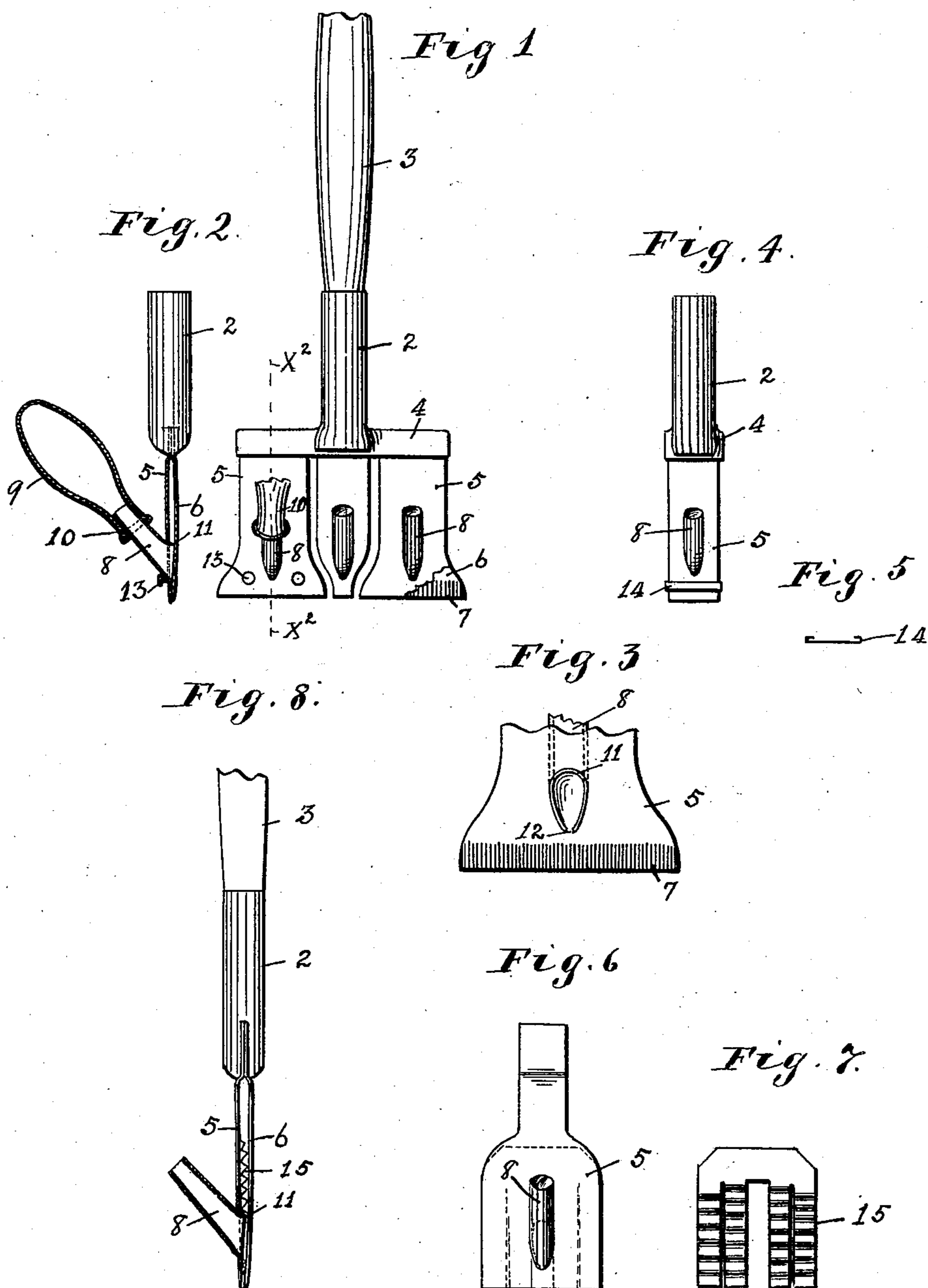
No. 686,675.

Patented Nov. 12, 1901.

F. X. KOEMPEL.
FOUNTAIN MARKING PEN.

(Application filed June 27, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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FOUNTAIN MARKING-PEN.

SPECIFICATION forming part of Letters Patent No. 686,675, dated November 12, 1901.

Application filed June 27, 1900. Serial No. 21,746. (No model.)

To all whom it may concern:

Be it known that I, FRANK X. KOEMPEL, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Fountain Marking-Pens, of which the following is a specification.

My invention relates to improvements in fountain marking-pens, its object being to provide a marking-pen with means for receiving and holding a large quantity of ink or other marking liquid and facilitating its flow to the marking end of the pen and preventing it from running out at the sides.

To this end my invention consists in the features of construction, combination, and arrangement of parts hereinafter described, and particularly claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a front elevation of a multiple marking-pen comprising three pens arranged side by side, with the ink-bulb of two of the pens removed and the bulb upon the third partly broken away. Fig. 2 is a longitudinal section of the same, taken on line x^2x^2 of Fig. 1 and showing the ink-bulb complete. Fig. 3 is a view of the under side of one of the upper blades. Fig. 4 is a front view of a single marking-pen with a device for regulating the distance between the pen-blades. Fig. 5 is a detail of the regulating device. Fig. 6 is a front view of a modified form of pen provided with corrugated strips for regulating the supply of ink. Fig. 7 is a detail of the corrugated strips, and Fig. 8 is a side view of the modified form of pen secured to the penholder.

Referring to the drawings, 2 represents the thimble of the penholder, adapted to receive at its upper end the handle 3 and formed at its lower end with a transverse backing-strip 4, to which are secured the blades of the pen. The pen consists of two broad flexible blades—an upper or outer blade 5 and an under or inner blade 6, the outer blade being preferably the longer—secured to the backing-strip 4, with their lower ends in contact with each other. A single pair of these blades may be used, as in Figs. 4 and 8, or two or more pairs may be arranged side by side, as shown in

Fig. 1, in order to form a multiple pen wherein, if desired, inks of different colors may be used in the different pens. The lower or marking end of either or both of the blades, preferably of the upper blade alone, is formed with short longitudinal grooves 7 upon its inner side to assist the flow of the ink. Near its lower end the upper blade 5 is formed with an orifice from which an ink-supply tube or conduit 8 leads upwardly and outwardly to an exterior bulb or reservoir 9, of rubber, metal, or other suitable material, adapted to receive and hold a supply of ink or other marking material. The reservoir is preferably secured to the conduit detachably to facilitate the cleaning of the parts. In the drawings the bulb is shown made of rubber and formed with a neck 10, fitting closely around the tube.

In order to direct and facilitate the flow of ink downward toward the marking end of the pen and to prevent its rising above the orifice, I arrange between the pen-blades, above and adjacent to the orifice, a wall or dam of sufficient height or thickness nearly or quite to bridge the space between the blades when the pen is in use and the blades are pressed together. This I accomplish, preferably, by carrying the upper side of the conduit through the upper blade 5 until its inner end 11 nearly touches the inner side of the under blade 6, while the lower side of the conduit 8 is carried a less distance inward, preferably not beyond the inner side of the upper blade 5, and is formed at the end with a slot 12 to assist the flow of ink downward and to allow air to pass up through the conduit as the ink passes down.

Owing to the flexibility of the blades, and particularly when the upper blade is somewhat longer than the lower blade, the distance between their marking ends when in use will depend upon the angle at which the pen is held and the pressure thereon; but the distance between the ends of the blades may be regulated positively, if desired, by set-screws 13, working in the upper blade 5, with their ends adapted to engage the inner side of the lower blade 6 and force the blades apart, or by the sliding band 14, (shown in Figs. 4

and 5,) having its ends turned inwardly over the side edges of the blade to which it is applied.

While with my method of constructing the ink-supplying devices the ink will be supplied uniformly to the marking end and will not run from one to another of the pens when several are used side by side in the multiple pen, I can further hold the ink and regulate its supply by inserting between the blades a series of transversely-corrugated strips 15, as shown in Fig. 7.

In operation the bulb 9 is filled with a suitable quantity of ink or other desired marking liquid and secured in place upon the tube 8. The marking liquid will then flow gradually and regularly to the inside of the lower end of the pen. It is possible to supply the ink directly to the tube 8 by a medicine-dropper or other suitable means; but the storage-bulb connected directly with the tubes constitutes a more or less permanent source of supply, so that the pens may be used a considerable time without refilling. Furthermore, by having a bulb closed to the air except where it communicates with the tube 8 the contained ink works down gradually as needed.

By having a reservoir outside of the pen-blades and supplying the ink near the marking end of the pen I am enabled to dispense with the partitions commonly used between the pens of a multiple marking-pen when supplied with inks of different colors to prevent the ink in one pen mixing with the ink in another.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A pen of the class described comprising two flexible blades, the upper or outer blade being formed in its lower end with an orifice, a conduit leading outwardly from said orifice, and a dam or wall arranged between the blades above, and adjacent to, the orifice.

2. A pen of the class described, comprising, in combination, two flexible blades, a conduit secured to the upper blade near the lower end thereof, the upper side of said conduit at its outlet end extending through and beyond the upper blade and nearly into contact with the inner side of the under blade, and the lower side of said conduit extending only to the inner side of the outer blade.

3. A pen of the class described, comprising, in combination with the penholder, two flexible blades, and a conduit secured to the up-

per blade near the lower end thereof, the upper side of said conduit at its outlet end extending through and beyond the upper blade and nearly into contact with the inner side of the under blade, and the lower side of said conduit extending only to the inner side of the outer blade, and a receptacle secured to said conduit and communicating therewith.

4. A pen of the class described comprising a plurality of pairs of flexible blades arranged side by side so that the upper and under blades of each pair are in substantially the same plane with the upper and under blades respectively of every other pair, the upper blade of each pair being formed near its lower end with an orifice, and an exterior conduit leading outwardly from each orifice and carrying an independent reservoir.

5. A pen of the class described comprising a plurality of pairs of flexible blades arranged side by side so that the upper and under blades of each pair are in substantially the same plane with the upper and under blade, respectively, of every other pair, the upper blade of each pair being formed near its lower end with an orifice, and provided on its inner side above, and adjacent to, said orifice with a transverse wall or dam, and an exterior conduit leading outwardly from each orifice and carrying an independent reservoir.

6. A pen of the class described comprising two blades secured together at their upper ends, a conduit secured to the upper blade near the lower end thereof, the upper side of the conduit at its outlet end extending through and beyond the upper blade and nearly into contact with the under blade, and the lower side of the conduit being formed with a channel to direct and facilitate the flow of ink or other marking material.

7. A pen of the class described comprising two blades, an exterior conduit secured to the upper blade near the lower end thereof and extending therethrough, the upper side of the conduit at its outlet end extending inward nearly into contact with the inner side of the under blade and the lower side of the conduit extending a less distance inward, and a reservoir communicating with the conduit.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK X. KOEMPEL.

Witnesses:

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