(No Model.)

J. G. ZWICKER.

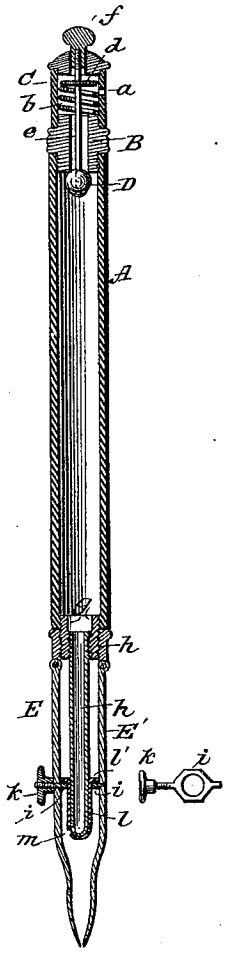
FOUNTAIN RULING PEN.

No. 394,634. Patented Dec. 18, 1888.

Fig. 1.



Fig. 2.



WITNESSES:

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JULIUS G. ZWICKER, OF AUSTIN, MINNESOTA.

FOUNTAIN RULING-PEN.

SPECIFICATION forming part of Letters Patent No. 394,634, dated December 18, 1888.

Application filed October 18, 1887. Serial No. 252,653. (No model.)

To all whom it may concern:

Be it known that I, JULIUS G. ZWICKER, of Austin, in the county of Mower and State of Minnesota, have invented a new and useful Improvement in Fountain Ruling-Pens, of which the following is a specification.

The object of my invention is to provide a ruling or draftman's pen for making straight lines which will carry a sufficient supply of ink to avoid the necessity of frequently refilling the pen, which is often a source of much embarrassment to the draftsman, as well as loss of india-ink in wiping the pen; and it consists in the peculiar construction and arrangement of parts for feeding the ink from its reservoir down between the jaws of the pen and still preserving the adjustment of the jaws, as will be hereinafter fully described.

Figure 1 is a side elevation of the pen, and Fig. 2 a central longitudinal section thereof.

In the drawings, A represents the tubular handle, which is made of hard rubber or gutta-percha, and forms the reservoir for the ink. Into the lower end of this tubular handle is screwed a short threaded sleeve, *g*, onto the outside of which is screwed a metal collar, *h*, flush with the handle. To this collar *h* is secured by pivots (or spring shanks) the usual jaws, E E′, of the pen. To the inner periphery of sleeve *g* is screwed a tube, *h*, of small diameter, leading down between the jaws and approaching the point. This tube has an opening in its end, through which ink is fed to the jaws. To close this opening a swiveling thimble, *l*, with a corresponding opening, *m*, is arranged over the end of tube *h*, which thimble has a milled flange, *l′*, by means of which the thimble may be turned to throw its opening *m* into or out of registration with the opening in tube *h* to admit ink to the jaws or cut off the supply, as may be desired. This thimble also serves to exclude the air and prevent the drying of the ink.

The two jaws E E′ have an adjustment to or from each other to make fine or wide lines, as may be desired. This adjustment is effected by a yoke-shaped piece, *i*, which is connected to one jaw, E′, and has a screw-threaded stem that passes through the other jaw and receives a nut, *k*, by turning which the jaws may be opened or closed to regulate the width of line made by the pen. The object in making the piece *i* yoke-shaped is to permit the tube *h* to extend therethrough and to give, also, a bearing for the thimble *l* to swivel in.

At the upper end of the handle A is fitted a hollow screw-plug, B, which in turn has a cap, C, screwed upon the same, which cap has an air-hole, *a*, in the side thereof. At the top of the cap C is a small knob, *f*, which is attached to a stem, *e*, that descends through the cap and plug B, and has attached to it at its lower end within the tube A a soft-rubber valve, D. This valve is tightly held up against the opening in plug B by means of a spiral spring, *b*, which is coiled around the stem of the valve, and bears at its lower end against the top of plug B and at its upper end against a disk or cross-head, *d*, of the stem.

The operation of the pen is as follows: The tubular reservoir is supplied with ink by removing plug B and cap C, the opening *m* at the lower end of tube *h* being closed. The plug B is then screwed to the top of tube A and the pen is ready for use. To supply ink to the lower portion of the jaws, the thimble *l* is first turned so that the outlet-orifices are in coincidence. The knob *f* is then slightly depressed by the finger, so as to open valve D and allow the atmospheric pressure to exert itself through hole *a* upon the top of the ink in tube. The ink will then descend through the opening *m* into the jaws in easily-regulated quantities.

To avoid clogging, the tube *h* and other parts of the pen which are liable to corrosion should be made of non-corrosive metal when gutta-percha or rubber cannot be used. The portions of the jaws below the tube *h* are also bent in toward each other, so as to give the ink a better chance to adhere to the jaws from cohesive attraction without dropping ink upon the paper. This portion of the jaws is also concaved, grooved, or fluted on the inner sides, so as to enable them to more tenaciously hold the ink and guide it in flowing down to the point.

Having thus described my invention, what I claim as new is—

1. The combination, with a ruling-pen having two jaws and a tubular handle or reservoir, of a yoke-shaped piece, *i*, and nut *k*, for adjusting the jaws, and a feed-tube, *h*, ex-

tended from the reservoir centrally down between the jaws, substantially as and for the purpose described.

2. The combination, with a ruling-pen having two jaws and a tubular handle, of the centrally-arranged feed-tube *h*, extended down between the jaws, the yoke-shaped piece *i*, with screw-nut *k*, for adjusting the jaws, and a swiveling-thimble, *l*, with opening *m*, to open or shut off the supply of ink and exclude air, substantially as shown and described.

The above specification of my invention signed by me in the presence of two subscribing witnesses.

JULIUS G. ZWICKER.

Witnesses:
EDW. W. BYRN,
SOLON C. KEMON.