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W. K. REDDEMANN

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TWIN FOUNTAIN PENS

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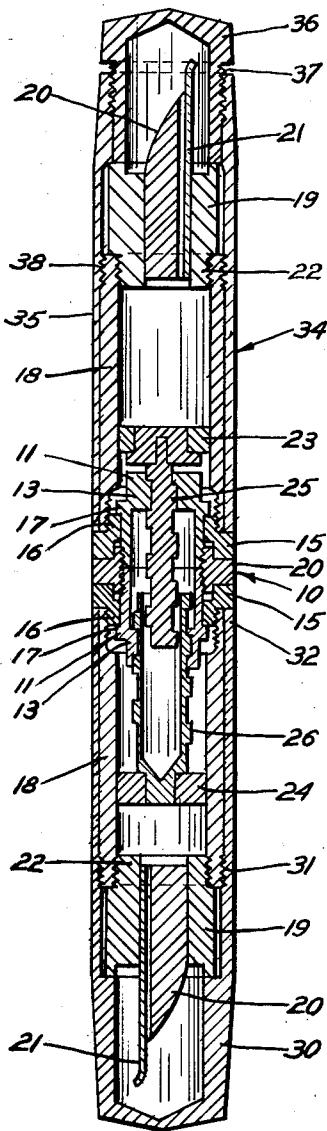


Fig. 1

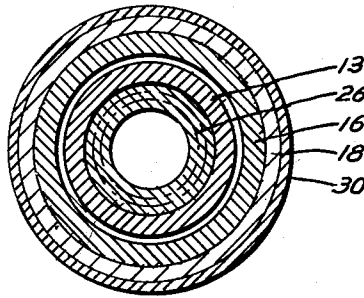


Fig. 3

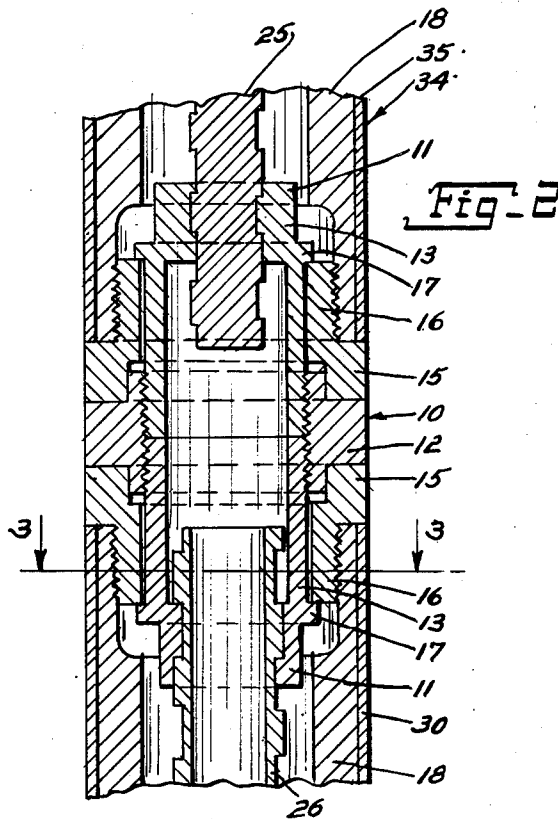


Fig. 2

INVENTOR.
WERNER KARL REDDEMANN
BY *Edward H. H. H.*
ATTORNEY.

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TWIN FOUNTAIN PENS

Werner Karl Reddemann, Detmold, Germany

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1 Claim. (Cl. 120—42.1)

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This invention relates to new and useful improvements in twin or double fountain pens.

Double fountain pens with two points and two filling chambers and ink barrels are known in connection with which each ink barrel is provided with a piston and shaft. These prior devices, however, practically speaking, consist of two individual fillers which are connected together at their ends by a coupling member. For filling they must, therefore, be uncoupled and separated inasmuch as the longitudinal piston of each one must be individually actuated by its own turning head.

On the other hand, double fillers have been manufactured which do not have any pistons, and therefore must be supplied with filler tubes. Finally, a double filler has been suggested, the two filling parts of which are connected to each other by a middle piece consisting of a common, turnable section, in which two spindles are displaceable with the suction pistons. In this construction the ink tubes and the center piece separate during filling of the fountain pen with ink. This separation of the parts causes looseness and leakage of ink, with resultant drying of ink in the moving parts, impeding operation. The present invention is intended to correct this defective construction.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure—

Fig. 1 is a central sectional view of a twin fountain pen constructed in accordance with this invention.

Fig. 2 is a fragmentary enlarged detailed view of the central portion of Fig. 1, but illustrated with the spindles of the pistons separated.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

The twin fountain pen, in accordance with this invention, includes a middle stationary hollow cylinder 10 having end portions 11. This hollow cylinder 10 is formed from three sections, namely, a central annular section 12, and end sections 13 threadedly mounted in and extending from the ends of said central annular section 12. An annular turnable member 15 is provided for each end portion 13, and is turnably mounted on said end portion coaxially of said cylinder 10. These turnable members 15 have reduced end portions 16 formed with external threads. The end sections 13 are provided with flanges 17 having bottom shoulders against which the ends of the turnable members 15 engage. The bottom shoulders of the flanges 17 are opposed by reduced end por-

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tions of the central annular section 12 of the cylinder 10 thus forming grooves into which portions of the turnable members 15 engage and by which the turnable members 15 are turnably supported.

An ink tube 18 is provided for each end portion 16 and is coaxially mounted thereon. The ink tubes 18 have internal threads threadedly engaging the external threads of said reduced end portions 16. The outer end of each ink tube 18 is provided with an end member 19 having an ink feed 20 and a pen point 21 mounted thereon. The end members 19 have reduced inner ends 22 which are threadedly engaged into the ends of the ink tubes 18.

A suction piston 23 is engaged in one of said ink tubes 18, and a suction piston 24 is engaged in the other of the ink tubes 18. These suction pistons 23 and 24 have tight fits in the ink tubes 18 in order to turn with the ink tubes when the latter are turned. A spindle 25 is rigidly connected with the piston 23. A spindle 26 is rigidly connected with the piston 24. These spindles 25 and 26 extend coaxially through the ink tubes 18 and threadedly engage through the ends of the hollow cylinder 10 in order to be displaced inwardly and outwardly as the ink tubes 18 are turned in one direction and the other. The spindle 26 is hollow and has an open end, and the spindle 25 is solid and telescopically engages into the open end of the spindle 26.

A cap 30 is removably engaged over the bottom pen point 21 and the bottom ink tube 18. This cap 30 has a central internal threaded portion 31 which threadedly engages external threads upon the bottom ink tube 18. The edge 32 of the cap 30 abuts the bottom turnable member 15. A top cap 34 engages over the top pen point 21 and the top ink tube 18. This cap 34 is made from two sections, namely, a tubular section 35 and an end section 36. The end section 36 threadedly engages into the end of the tubular section 35. There is a small space 37 between these sections for an ordinary fountain pen clip. The tubular section 35 is provided with an internal threaded portion 38 which threadedly engages external threads formed on the top ink tube 18. The inner end of the tubular section 35 abuts the top turnable member 15.

The operation of the new twin fountain pen may be understood from the following:

The caps 30 and 34 may be removed at will to expose the twin pen points 21. The hollow cylinder 10 is held stationary, while the turnable members 15 may be turned in one direction or the other in order to correspondingly turn the ink tubes 18. Since the suction pistons 23 and 24 are tight fits in the ink tubes 18, they will be turned with the ink tubes. Because the pistons 23 and 24 are turned, and spindles 25 and

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26 will be correspondingly turned, and because said spindles are threadedly engaged in the ends of the stationary hollow cylinder 10, the spindles will be longitudinally displaced and will correspondingly displace the pistons 23 and 24. In this way ink may be drawn into or expelled from the ink tubes 18.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

In a twin fountain pen, a middle stationary hollow cylinder having end portions, a turnable member turnably mounted on each end portion of said cylinder coaxially of said cylinder and having reduced portions coaxial of said cylinder, an ink tube coaxially mounted on each of said reduced portions, a suction piston for each of said ink tubes making a tight fit in each of said

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ink tubes in order to turn when said ink tubes are turned, a spindle for each of said pistons fixedly connected with each of said pistons, extending coaxially through said ink tubes, and threadedly engaging through the ends of said cylinder in order to be displaced as said ink tubes are turned, said cylinder having coaxial external peripheral grooves on its end portions and said turnable members being turnably mounted in said grooves in order that said ink tubes merely turn in relation to said middle stationary hollow cylinder without moving longitudinally of said middle stationary hollow cylinder when said pistons are displaced.

WERNER KARL REDDEMANN.

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