Feb. 8, 1938. H. G. HAAS 2,107,700

COMBINATION INK BOTTLE AND COMPANION FOUNTAIN PEN

Filed Feb. 6, 1937 2 Sheets-Sheet 1

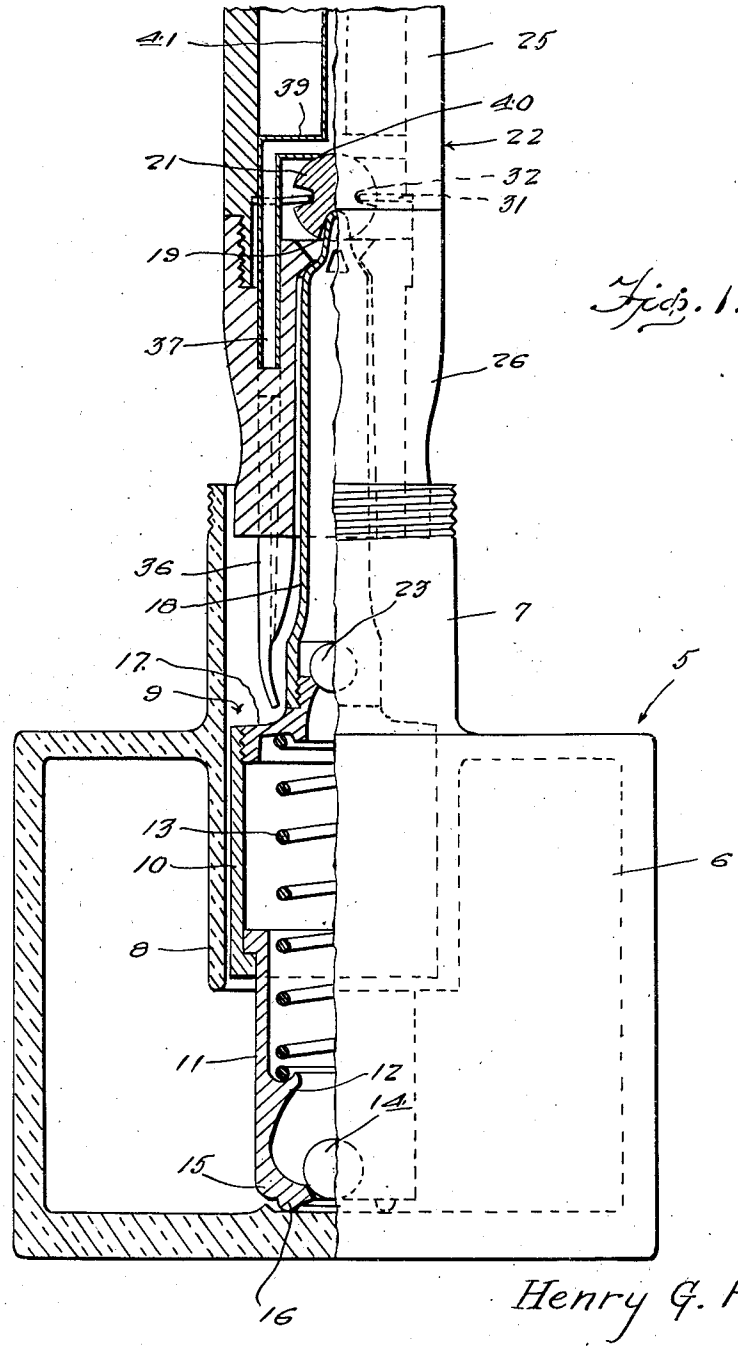


Fig. 1.

Inventor

Henry G. Haas

By Clarence A. O'Brien

Hyman Berman

Attorneys

Feb. 8, 1938. H. G. HAAS 2,107,700

COMBINATION INK BOTTLE AND COMPANION FOUNTAIN PEN

Filed Feb. 6, 1937 2 Sheets-Sheet 2

Fig. 2.

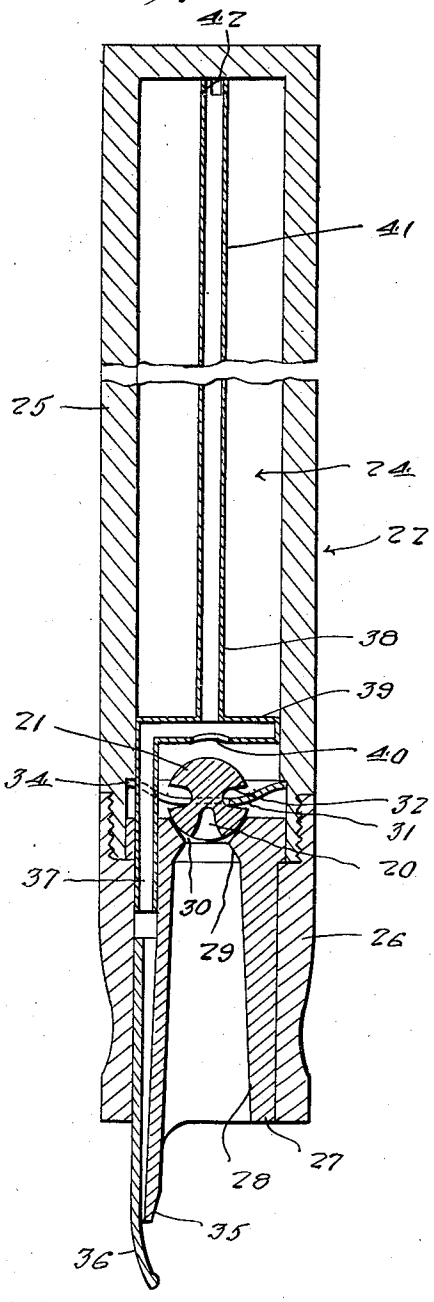


Fig. 3.

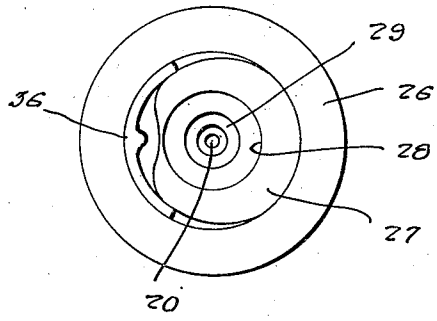
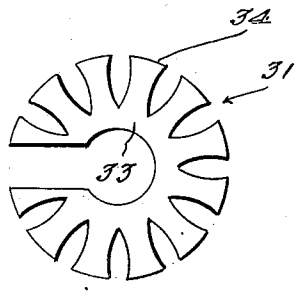


Fig. 4.



Inventor

Henry G. Haas

By Clarence A. O'Brien

Hyman Berman

Attorneys

Patented Feb. 8, 1938 2,107,700

UNITED STATES PATENT OFFICE

2,107,700

COMBINATION INK BOTTLE AND COMPANION FOUNTAIN PEN

Henry G. Haas, West Orange, N. J.

Application February 6, 1937, Serial No. 124,509

6 Claims. (Cl. 120—4)

This invention relates to a composite, multiple purpose assembly which may be collectively referred to as a combined ink containing and filling bottle and a companion pen expressly designed for association therewith to expedite effective charging or loading of the pen with ink, after which it may be used, in an ordinary manner, for miscellaneous writing purposes.

As is evident from a general observation of the drawings, novelty apparently resides in the construction of an ingenious pump-equipped ink containing and filling bottle and a closely applied fountain pen expressly made for use in connection with the bottle in such a way that the two parts coordinate in providing a unitary structural equipment for handy and reliable usage.

More specifically, novelty is predicated in one instance on the special construction of the ink bottle characterized primarily by the spring pressed plunger-type gun or pump having a pilot-type ejector nozzle designed for companionate use with an associated part of the detachable fountain pen.

By the same token, proportionate novelty is predicated on the particular construction of the fountain pen, this being characterized by adapter and valve means for use in association with the nozzle and having venting and ink delivery means constructed to promote adequate charging or filling of the pen, after which said pen may be utilized in a well known manner for desk or pocket use, as the case may be.

It is a matter of common knowledge that desk accessories and ornaments are, nowadays, combined into a unitary assemblage, whereby the two definitely coordinate in promoting requisite efficiency.

Other features and advantages will become more readily apparent from the following description and drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the same:

Figure 1 is a view partly in section and partly in elevation showing the so-called desk accessory or complete assemblage constituting the combined pen, pen holder, and filling or charging means.

Figure 2 is a longitudinal sectional view through the pen per se.

Figure 3 is a bottom plan view of Figure 2.

Figure 4 is a detail plan view of the especially constructed spring for the ball check valve mounted in the fountain pen.

Referring now to the drawings by distinguishing reference characters, the desk-type holder or main unit is denoted by the numeral **5**, this being in the nature of a valved reservoir or base. It is specifically an ink bottle **6** of appropriate design having a screw-threaded neck **7** to accommodate a screw-cap (not shown). The neck **6** includes a continuation or extension **8** which depends into the bottle. Slidably and removably mounted in this neck is the double valved inking gun or pump unit **9**. This comprises a cylinder **10** flanged at one end to accommodate the correspondingly flanged end of the valved piston or plunger head **11**. This is of cylindrical cross-sectional form and includes an internal channel as at **12** to accommodate one end of the coiled spring **13**. The plunger terminates in a suitable intake member formed into a valve seat to accommodate the ball check valve **14**. This valved member **15** is also provided with external projections or teats **16** serving as spacing feet or rests, engaging the bottom of the bottle to facilitate unimpeded inflow of the ink. These features **14**, **15** and **16** may be collectively referred to as the intake nipple. Attached by a suitable coupling or union **17** to the upper end of the plunger cylinder is the discharge or delivery nozzle **18** terminating at its top in an apertured pilot element **19** adapted for association with a recess **20** in the ball valve **21** of the fountain pen unit **22**. Before discussing the unit **22** in detail, attention is directed to the numeral **23** in Figure 1, which designates a ball check valve coordinated with the valve **14**. It follows that these valves **14** and **23** are alternately operable to completely charge the gun **9** with ink to be dispensed into the reservoir or chamber **24** of the fountain pen. This chamber is itself defined through the instrumentality of a receptacle or body **25** of appropriate proportions.

It is to be observed that a suitably shouldered fitting **26** is carried by the screw-threaded end of the pen body **25** and this serves to maintain in place a special adapter sleeve **27**. This sleeve has a tapered socket **28** to accommodate the correspondingly shaped valved nozzle **18**. Then, too, it is provided with inner and outer seats **29** and **30**. The seat **30** serves to accommodate the ball check valve **21** when it is closed as shown in Figure 2. It is to be noted that the valve **21** is maintained normally closed by a retaining spring device denoted generally by the numeral **31**. As seen in Figure 2, the ball is divided into upper and lower halves by way of a surrounding endless channel **32** receiving the inner peripheral edge portion **33** of the valve spring **31**. The outer marginal portion of the spring is serrated to pro-

vide a plurality of fingers 34 resting against the adjacent shoulder and providing the requisite spring closing action. The adapter sleeve 28 is provided with an appropriate projecting nib 35 for use in association with the pen point 36. Then, too, this adapter sleeve is constructed to receive the delivery branch 37 of the ink supply means which comprises a substantially T-shaped member 38. That is to say, it comprises a tubular cross-head 39 having a port at 40 and a tubular stem portion 41 which projects up into the reservoir 24 and provides an air vent at the point 42.

In practice it is obvious that the valved intake end of the fountain pen is inserted into the guide neck 7. By depressing the pen, the ink charged gun 9 serves to deliver a charge of ink into the pen. As seen in Figure 1, when the pen is depressed, the ported pilot 19 fits up into the pocket or recess 20, thus lifting the valve 21 to open position off of its feet 30 and against the tension of the spring closing member 31. As the valve is lifted it seats itself in the port 40. Thus, the incoming ink in the chamber or reservoir 24 builds up an air column which escapes down through the venting tube 41 and passes on out through the branch 37. This permits proper filling of the pen. When the pen is extracted for use, the valve 21 closes and the ink in the chamber 24 passes through the port 20 and the branch 37 where it is delivered by gravity for ready writing use.

It is thought that the description taken in connection with the drawings will enable a clear understanding of the invention to be had. Therefore, a more lengthy description is thought unnecessary.

While the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of invention claimed may be resorted to if desired.

I claim:

1. In a structure of the class described, in combination, an ink bottle having a neck, a valved pump unit in said bottle and neck including a ported discharge nozzle, and a fountain pen located removably in said neck and having a valved fitting provided with a socket for reception of said nozzle, in the manner and for the purposes described.

2. As a component part of an assemblage of the class described, a fountain pen including a reservoir forming barrel and a valved writing head, said writing head including an adapter sleeve having a socket for reception of ink injecting means.

3. In a combination ink bottle and companion fountain pen assembly of the class described, in combination, an ink bottle having a filler neck, a valved pump unit located in said bottle and neck and including an upstanding pen charging nozzle, valve means in said nozzle, a fountain pen fitted removably in said neck and provided with a valved socket for telescopic reception of the nozzle.

4. In a combination ink bottle and complemental fountain pen assembly of the class described, in combination, an ink bottle having a neck extending exteriorly and interiorly, the interiorly extending portion depending into the bottle, a bodily removable ink dispensing pressure pump located in said neck, said pump resting on the bottom of the bottle and including a valved spring-pressed plunger, a cylinder in which the plunger is mounted for reciprocation, and a ported and valved discharge nozzle connected with the cylinder and extending upwardly through and beyond the exteriorly disposed portion of the neck, and a bodily removable fountain pen including a pen-equipped head having a valved adapter socket for telescopic reception of said nozzle.

5. As a component part of an assemblage of the class described, an ink bottle having an integral neck of cylindrical cross-sectional form, a portion of the neck extending exteriorly beyond the top of the bottle and a portion extending interiorly into the bottle and terminating in spaced relation with respect to the bottom of the bottle, and a bodily insertible and removable ink dispensing pump unit mounted in said neck, said pump unit resting normally on the bottom of the bottle and including a valved spring-pressed plunger in contact with said bottom, a cylinder in the neck into which said plunger telescopes for reciprocation, and a concentric ported and valved discharge nozzle connected with the cylinder and rising therefrom and projecting through and beyond the exteriorly disposed portion of said neck.

6. As a component part of an assemblage of the class described, a fountain pen including a body in the form of a receptacle constituting an ink containing reservoir, a head attached to the intake end of said receptacle and including an internal adapter sleeve providing a socket, said socket being adapted for telescopic reception of a charging nozzle, being provided at its inner end with an adapter seat for the nozzle, and an additional ball check valve seat, and a normally closed spring retained ball check valve engaging said last named seat, said check valve being provided with a detent recess for accommodation of an adjacent portion of the aforementioned nozzle.

HENRY G. HAAS.