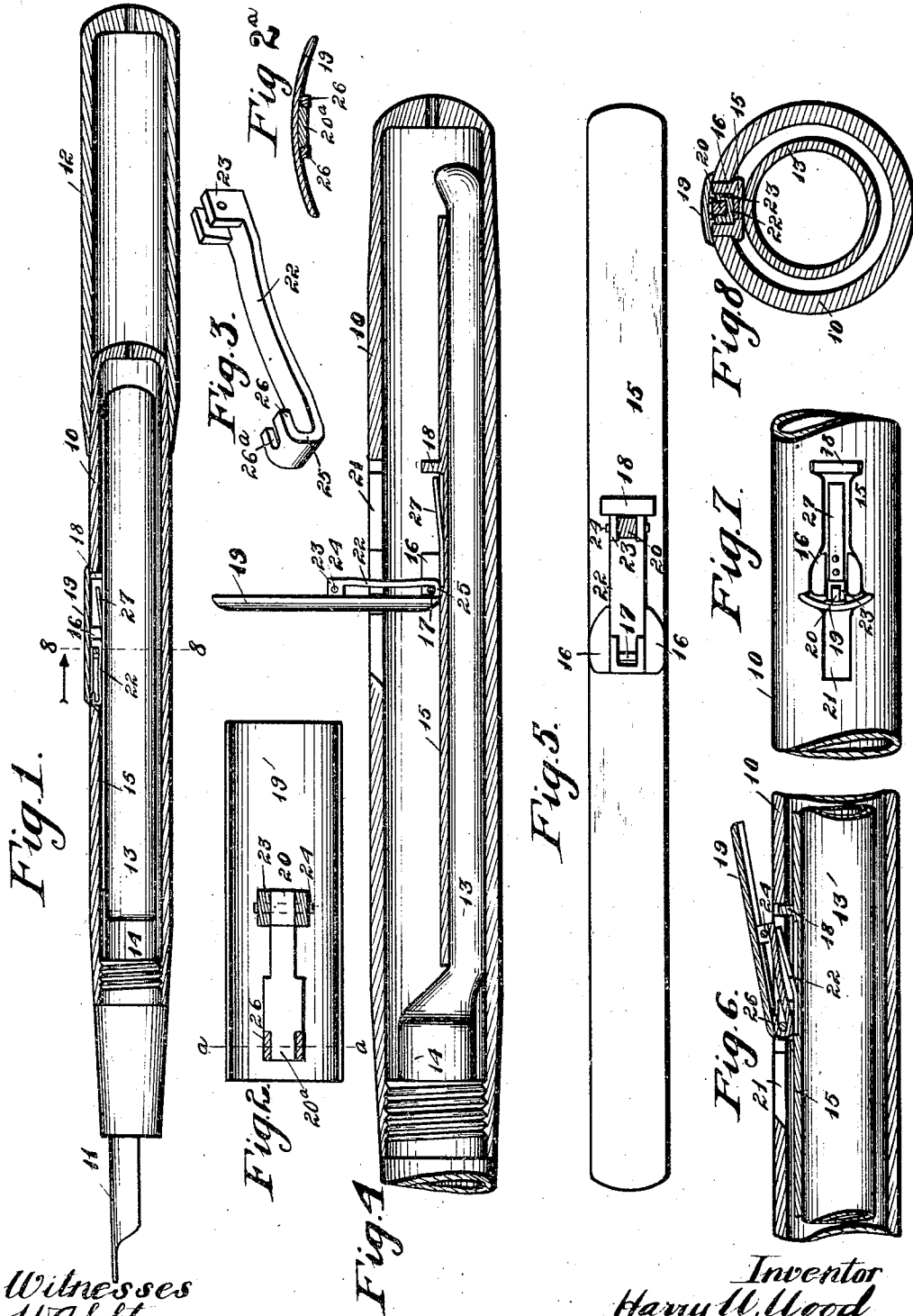


H. W. WOOD.
FOUNTAIN PEN.

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HARRY W. WOOD, OF COLFAX, IOWA.

FOUNTAIN-PEN.

988,237.

Specification of Letters Patent.

Patented Mar. 28, 1911.

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To all whom it may concern:

Be it known that I, HARRY W. WOOD, a citizen of the United States, residing at Colfax, in the county of Jasper and State of Iowa, have invented a certain new and useful Fountain-Pen, of which the following is a specification.

The object of my invention is to provide a fountain pen of simple, durable and inexpensive construction of the class in which the ink reservoir comprises a flexible tube which may be compressed to exclude air and then when it expands it will draw ink into it automatically.

More specifically it is my object to provide improved means for compressing the flexible ink reservoir which means when not in use will lie close to the outer surface of the pen holder cylinder so that it will not be in the way and so that it can not accidentally be pressed open to force out the contents of the flexible ink reservoir, and further to provide a device of this kind that may be quickly and easily moved to position where the operator can conveniently and easily operate it to compress the flexible ink reservoir.

My invention consists in certain details, in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which:

Figure 1 shows a central, longitudinal, sectional view of a fountain pen embodying my invention, the cover plate and connected parts being shown in their folded positions when the pen is being used for writing. Fig. 2 shows an inverted plan view on an enlarged scale of the cover plate, the link being connected therewith and being shown in section. Fig. 2^a shows a sectional view on the line *a-a* of Fig. 2. Fig. 3 shows a detail, perspective view of the link for connecting the cover plate with the compressor plate. Fig. 4 shows an enlarged, detail, longitudinal, sectional view of the pen holder cylinder with the parts in position for compressing the flexible ink reservoir. Fig. 5 shows an enlarged, detail, plan view of the compressor plate, and the link attached thereto. Fig. 6 shows an enlarged, detail, longitudinal, sectional view illustrating a part of the pen holder cylinder and showing

the position that the cover plate assumes after it is moved rearwardly preparatory to using it for compressing the ink reservoir. Fig. 7 shows a detail, top view illustrating a portion of the pen holder cylinder and showing the cover plate in position at right angles thereto ready for use in compressing the ink reservoir, and Fig. 8 shows a sectional view on the line 8-8 of Fig. 1 on an enlarged scale.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate the pen holder cylinder which is of ordinary construction. At one end thereof is the pen 11 and at the opposite end is a cap 12 which may be placed over a pen to conceal and protect it. On the interior of the pen holder cylinder is the flexible ink reservoir 13 preferably made of soft rubber and connected at one end with a screw plug 14 through which communication is provided to the pen 11. These parts of the device are of the ordinary construction and operate in the ordinary manner; that is to say, when the flexible ink reservoir is compressed air will be excluded from it and then when pressure upon it is released and the pen point is inserted in a quantity of ink the ink will fill the vacuum within the ink reservoir by suction through the screw plug 14 and the ink will be retained in the ink reservoir and will flow out through the pen in such quantities only as may be used up by the pen point in writing.

My improved means for compressing and releasing the flexible ink reservoir comprises a compressor plate 15 arranged within the pen holder cylinder and designed to engage the flexible ink reservoir. This compressor plate is provided with two lugs 16 spaced apart and a pin 17 is extended between them and fixed thereto. On the same surface of the compressor plate is a top plug 18. The cover plate is designed to rest upon the exterior of the pen holder cylinder and is shaped to fit thereon and is indicated by the numeral 19. It is provided at its central portion with a lug 20, the sides of which are tapered as shown in Fig. 8, and it is also provided at one end with a lug 20^a, the sides of which are tapered as shown in Fig. 2^a.

The pen holder cylinder is provided with a slot 21 through which the cover plate may be inserted in the manner shown in Fig. 4 and also to receive the link hereinafter de-

scribed. I provide for connecting the cover plate with the compressor plate by means of a link 22, which link is provided at one end with two lugs 23 tapered at their inner surfaces as clearly shown in Figs. 3 and 8 to fit the tapered lug 20 of the cover plate. A pin 24 is inserted through said lugs to thereby firmly connect them. The body portion of the link is made of resilient metal and is slightly arched as clearly shown in Fig. 3 and at the opposite end of the link is a rounded hook-shaped portion 25 designed to encircle the pin 17. On the hook-shaped portion 25 is an extension 26 having a slot 26^a provided with tapered sides as shown in Fig. 2^a designed to fit the tapered lug 20^a. By this arrangement it is obvious that the said link may be placed in position on the cover plate by sliding the link to position with the lugs 20 and 20^a between the lugs 23 at one end and into the tapered slot 26^a at the other end so that the single pin 24 will firmly hold the link in position relative to the cover plate. The rounded end of the link stands close to the adjacent end of the cover plate so that the cover plate may swing on the pin 17 that is extended between the link and the cover plate to the position shown in Fig. 4; that is to say, at right angles to the compressor plate 15. The object of having the central portion of the link arched is to have it frictionally engage with the pin 17 in such a manner as to prevent accidental longitudinal movement of the cover plate 19. Assuming that the cover plate is in its closed position, as shown in Fig. 1, it cannot be moved longitudinally of the pen holder without flattening out the arched central portion of the link and this furnishes sufficient resistance to prevent accidental misplacement of the cover plate and yet the cover plate may be moved longitudinally by the operator's finger thereon in a direction tending to move the cover plate toward the outer end of the pen holder. Connected with the compressor plate at a point between the lugs 16 and 18 is a leaf spring 27 normally extended upwardly from the compressor plate at its end that is adjacent to the stop plug 18.

Assuming that the parts are assembled in the manner illustrated and described, and assuming that the cover plate is in the position shown in Fig. 1, it is obvious that it will be firmly held in position flat against the surface of the pen holder cylinder on account of the arched link 22 engaging with the pin 17 of the compressor plate which obviously will hold the compressor plate toward the adjacent side of the pen holder cylinder and at the same time hold the cover plate firmly in position against movement in any direction and as said cover plate is very thin and conforms in shape to the exterior of the pen holder cylinder it will not in any

way interfere with the use of the pen or will be at all objectionable. When it is desired to refill the flexible ink reservoir the operator presses a finger upon the cover plate with sufficient force to slide it longitudinally. When it has moved longitudinally to such an extent that the link has moved to position where the pin 17 will engage the end of the link in the manner shown in Fig. 6, then the cover plate is free to swing upwardly and the spring 27 will move it upwardly to the extent indicated in Fig. 6. In this connection it is to be noted that the function of the stop plug 18 is to engage the pen holder cylinder and prevent longitudinal movement of the compressor plate when the same is in position close to the interior of the pen holder cylinder. By thus having the end of the cover plate tilted away from the pen holder cylinder by said spring, the operator may readily and easily grasp it and move it to position at right angles to the pen holder cylinder whereupon it may be used to force the compressor plate to the position shown in Fig. 4 and exclude the air therefrom to create a partial vacuum; then when the pen point is dipped in ink and the pressure upon the cover plate is withdrawn the flexible ink reservoir will be filled with ink and the cover plate may then be swung to position parallel with the outer surface of the pen holder cylinder and moved toward the pen point to thereby again lock it in position by having the arched portion of the link 22 move past the pin 17.

I claim as my invention:

1. A fountain pen, comprising a pen holder cylinder having a slot therein, said slot being provided with a widened extension near its central portion, a flexible ink reservoir, a compressor plate for the ink reservoir, and a cover plate pivotally and slidingly connected with the compressor plate, and so shaped that when in one position it may move longitudinally of the pen holder to position with one end adjacent to the widened portion of the slot and when in said position it may be moved to position substantially at right angles to the pen holder cylinder and be pressed downwardly through the widened portion of the slot, for the purposes stated.

2. A fountain pen, comprising a pen holder cylinder having a slot therein, a flexible ink reservoir within the cylinder, a compressor plate for the flexible ink reservoir, a cover plate designed to fit against the exterior of the pen holder cylinder, a link connected with the cover plate and having a sliding connection with the compressor plate and also being so arranged that when at one limit of its sliding movement the cover plate may move to position at right angles to the compressor plate, for the purposes stated.

3. A fountain pen, comprising a pen

holder cylinder having a slot therein, a flexible ink reservoir within the cylinder, a compressor plate for the flexible ink reservoir, a cover plate designed to fit against the exterior of the pen holder cylinder, a link connected with the cover plate and having a sliding connection with the compressor plate and also being so arranged that when at one limit of its sliding movement the cover plate may move to position at right angles to the compressor plate, and a spring arranged to move the cover plate away from the pen holder cylinder when the cover plate is moved to one limit of its movement relative to the compressor plate.

4. An improved fountain pen, comprising a pen holder cylinder having a slot therein, a flexible ink reservoir, a compressor plate, two lugs on the compressor plate, a pin extended between them, a cover plate, a link fixed to the cover plate and having its body portion extended parallel with and spaced apart from the cover plate and also having one end provided with a part extended at right angles to the body and another part extended parallel with the body, said parts being designed to pass around the pin on the compressor plate, and said parts being so arranged that the compressor plate and cover plate will be held close together when the cover plate is in closed position and also being so arranged that when the cover plate is moved longitudinally to one limit of its movement the cover plate will have a pivotal connection with the compressor plate, for the purposes stated.

5. An improved fountain pen, comprising a pen holder cylinder having a slot therein, a flexible ink reservoir, a compressor plate, two lugs on the compressor plate, a pin extended between them, a cover plate, a link fixed to the cover plate and having its body portion extended parallel with and spaced apart from the cover plate and also having one end provided with a part extended at right angles to the body and another part extended parallel with the body, said parts being designed to pass around the pin on the compressor plate, and said parts being so arranged that the compressor plate and cover plate will be close together when the cover plate is in closed position and also being so arranged that when the cover plate is moved longitudinally to one limit of its movement the cover plate will have a pivotal connection with the compressor plate, and a spring fixed to the compressor plate to engage said link and retard the longitudinal movement of the cover plate and also to throw the cover plate outwardly

away from the pen holder cylinder when at one limit of its movement.

6. An improved fountain pen, comprising a pen holder cylinder having a slot therein, a flexible ink reservoir, a compressor plate, two lugs on the compressor plate, a pin extended between them, a cover plate, a link fixed to the cover plate and having its body portion extended parallel with and spaced apart from the cover plate, and also having one end provided with a part extended at right angles to the body and another part extended parallel with the body, said parts being designed to pass around the pin on the compressor plate, and said parts being so arranged that the compressor plate and cover plate will be held close together when the cover plate is in closed position, and also being so arranged that when the cover plate is moved longitudinally to one limit of its movement the cover plate will have a pivotal connection with the compressor plate, a spring fixed to the compressor plate to engage said link and retard the longitudinal movement of the cover plate and also to throw the cover plate outwardly away from the pen holder cylinder when at one limit of its movement, and a stop plug connected with the compressor plate and designed to enter the slot in the pen holder cylinder to prevent longitudinal movement of the compressor plate, for the purposes stated.

7. An improved fountain pen, comprising a pen holder cylinder having a slot therein, a flexible ink reservoir, a compressor plate, a spring metal link detachably fixed to the cover plate and having its body portion spaced apart from the cover plate and slightly curved in a direction toward the cover plate, a pin carried by the compressor plate and inserted between the body portion of the link and the cover plate, said parts being so arranged that when the cover plate is flat upon the surface of the pen holder cylinder the curved portion of the link will frictionally engage the pin in such a manner as to resist the sliding longitudinal movement of the cover plate, and said parts being also so arranged that when the cover plate is moved to position with the pin adjacent to one end of the link the cover plate and link may be moved to position at right angles to the compressor plate, for the purposes stated.

Des Moines, Iowa, April 22, 1910.

HARRY W. WOOD.

Witnesses:

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