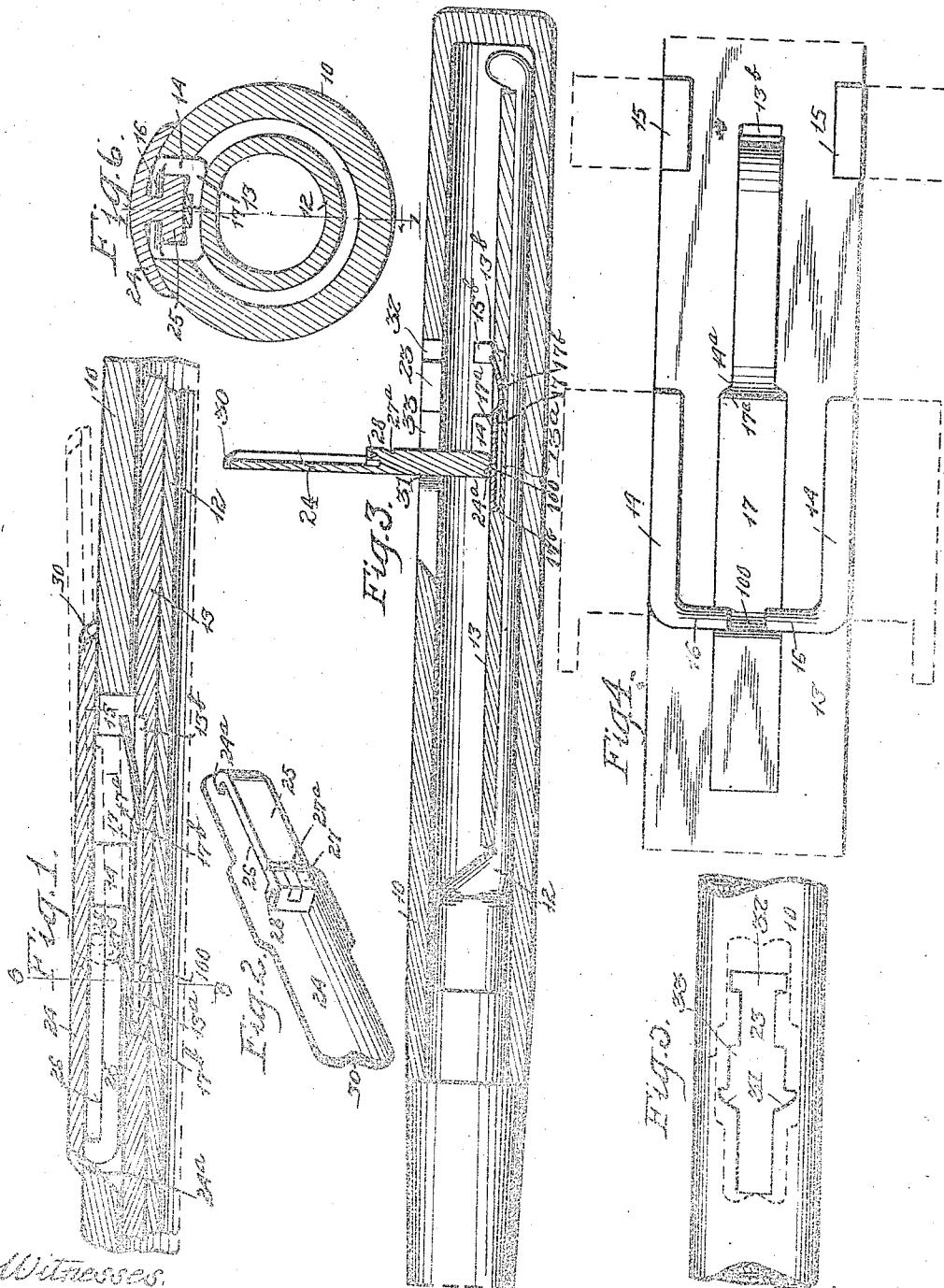


H. W. WOOD.
FOUNTAIN PEN.

APPLICATION FILED NOV. 10, 1911.

1,045,240.

Patented Nov. 26, 1912.



Witnesses.
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UNITED STATES PATENT OFFICE.

HARRY W. WOOD, OF COLFAX, IOWA.

FOUNTAIN-PEN.

1,045,240.

Specification of Letters Patent.

Patented Nov. 26, 1912.

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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.

My invention relates to that class of fountain pens in which the ink reservoir comprises a flexible tube which is compressed to exclude the air and is permitted to expand and draw in a supply of ink.

It is my object to provide in such a pen convenient means whereby the flexible ink reservoir may be quickly and easily compressed by the operator.

More particularly, it is my object to provide a cover plate and connected parts whereby such an ink reservoir may be compressed, which cap when not in use to compress the ink reservoir will lie close to the body of the pen and may be locked in position to form part of the outer cylinder of the pen so that it will not readily become accidentally loosened and to prevent accidental compression of the ink reservoir.

A further object is to provide a self filling fountain pen having a compressor bar made from a single piece of metal, a cover plate and a spring on the compressor bar adapted to hold the cover plate in position when the pen is closed and designed to hold the cover plate in vertical position when it is used to depress the compressor bar.

A further object is to provide such a device constructed of few and similar parts which may be easily and inexpensively manufactured and assembled and which will not easily wear out.

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 portion of a fountain pen embodying my invention showing the cover plate in its closed position. The dotted lines show the position of the cover plate after the first operation in filling the pen. The view is taken on the line 1—1 of Fig. 6. Fig. 2 shows a perspective view of the cover plate. Fig. 3 shows a central vertical, longitudinal, sectional view of the pen holder

cylinder, with the parts in position for compressing the flexible ink reservoir. Fig. 4 shows an enlarged, detail plan view of the compressor plate with the spring thereon. Fig. 5 shows a top or plan view of a portion of the pen cylinder showing the slot therein. Fig. 6 shows a central, transverse vertical sectional view through a fountain pen embodying my invention taken on the line 6—6 of Fig. 1.

My pen comprises an ordinary cylinder or barrel 10, provided with an ordinary screw threaded portion not shown, for holding the pen point. Within the cylinder 10 is a flexible ink reservoir 12. Between the ink reservoir and the cylinder 10 is a compressor plate 13 for compressing the ink reservoir 12. The compressor plate 13 extends longitudinally within the cylinder as shown in Fig. 3, and is preferably cut from a single piece having side wings 14 opposite each other and side wings 15 opposite each other and spaced apart from the side wings 14. The portions of the side wings in the blank, are shown by the dotted lines in Fig. 4. The side wings 14 are provided with extensions 16 which in the blank are parallel with the compressor plate 13 as shown by the dotted lines in said Fig. 3. In completing the compressor plate the side wings 14 are bent at right angles to the plate 13 and the extensions 16 are bent inwardly toward each other at right angles to said side wings 14. The side wings 15 are bent at right angles to the bar 13.

For convenience of description, I will call the end of the pen which holds the point, the lower end and the other end, the upper end.

A spring 17 is mounted on the compressor plate 13 in the following manner: In the upper surface of the compressor plate 13 is a depression or recess 13^a which extends from a point spaced apart from the side wings 14 on the side toward the lower end of the pen to a point between the side wings 15. The depression 13^a is angular in outline and at its upper end is an extension 13^b narrower than the main portion thereof. The parts of the plate 13 at the point where the narrower part of the depression 13^a begins, form shoulders 14^a. Received in the recess 13 is a flat spring 17 of proper shape to fit in said recess, and having shoulders 17^a which rest against the shoulder 14^a thus holding the spring against longitudinal

movement. On the lower surface of the spring 17 are lugs 17^b which hold the spring 17 spaced apart from the bottom of the depression or recess 13. On the upper surface of the spring 17 between the lugs 17^b is a lug 100 the purpose of which will be hereinafter explained. The end of the spring 17, nearest the upper end of the pen, is narrower than the main body thereof so that it may rest in the portion 13^b of the recess 13^a. Said end of the spring is however, bent upwardly so that it normally stands spaced apart from the compressor bar 13 above the same as shown in Fig. 3.

15 In the upper portion of the cylinder 10 is a slot 23, the shape of which will be hereafter described. The purpose of the slot 23 is to permit the admission to the interior of the cylinder of the cover plate whereby the compressor plate may be operated to compress the ink reservoir. For covering the slot 23 I have provided a cover plate 24 of sufficient length to cover the slot 23. The cover plate 24 is provided with a central, longitudinal, downwardly extending portion 25 extending from the lower end approximately half the length of said cover plate. The portion 25 may be made integral with the cover plate as shown in Fig. 6, or may be secured thereto as shown in Fig. 2. On each side of the portion 25 adjacent to the body portion of the cover plate 24 are longitudinal slots 26 in which are received the ends of the extensions 16 as shown in Fig. 6. The slots 26 extend to a point near the end of the cover plate 24 adjacent to the lower end of the pen. See Figs. 1 and 3. The upper end 27 of the downward extending portion 25 is preferably made entirely separate from the cover plate 24 and is dovetailed to the rest of the portion 25 and detachably secured thereto by means of a pin 28, as shown in Figs. 2 and 7. The end 27 is made detachable for convenience in assembling the parts of the pen.

20 In the lower surface of the portion 25 in the end thereof, adjacent to the upper end of the pen is a transverse recess 27^a designed to receive the lug 100 when the cover plate is in its closed position and to lock said plate in such position, as shown in Fig. 1. In the other end of the portion 25 adjacent to the main body of the cover plate 24 is a notch 24^a designed to receive the edge of the cylinder 10 when the cover plate is in closed position as clearly shown in Fig. 1, and also to receive the lug 100 on the spring 17, when the cover plate is in position for filling as shown in Fig. 3. The slot 23 is formed as follows: It is substantially rectangular and slightly shorter and narrower in length than the cover plate 24. At its upper end, the slot 23 is formed with lateral extensions 32 of proper size and properly located to receive the side wings 15 when the pen is filled

and the compressor plate is raised. Between the middle of the slot 23 and the lower end thereof, said slot is constructed with lateral extensions 31 of proper form and properly located to receive the cover plate 24 when the cover is raised to position at right angles to the longitudinal axis of the pen and inserted into the cylinder as shown in Fig. 3. The slot 23 is also provided with lateral extensions 33 to receive the wings 14 when the compressor plate is raised.

In the practical use of my improved fountain pen, the cover plate normally rests on the cylinder 10 as shown in Fig. 1, over the slot 23. The compressor plate 13 rests adjacent to the upper, inner surface of the cylinder, assuming that the slot in said cylinder is upward. The lug 100 is received in the recess 27^a thus locking the cover plate in its closed position. The raised end of the spring 17 extends into the space between the compressor plate 13 and the upper end of the cover plate.

When it is desired to compress the ink reservoir, and to fill the pen the cover plate 24 is pushed toward the upper end of the pen cylinder. The extensions 16 slide freely in the slots 26. As soon as the end of the portion 25 adjacent to the lower end of the pen has moved toward the upper end of the pen far enough to engage the extensions 16, the raised end of the spring engages the other end of the portion 25 and raises the cover plate as shown by the dotted lines in Fig. 1. The cover plate 24 may then be easily elevated to vertical position when the lug 100 will enter the recess 24^a and the cover plate may be inserted into the cylinder 10 through the slot 23 as shown in Fig. 3. The location of the lugs 17^b and of the lug 100 is such as to hold the central part of the spring spaced apart from the bottom of the recess 13^b. This permits considerable movement of the central portion of the spring 17 and enables me to utilize its full resiliency for locking the cover plate in its closed position and for holding the cover plate upright when the lug 100 is received in the recess 24^a.

In the lower end of the cover plate 24 is a notch 30 which is for the purpose of allowing the cover plate to be moved to position at right angles to the compressor bar 13 without engaging the spring 17. A similar notch is cut in the other end of the cover plate for the purposes of symmetry.

To close the pen after the reservoir 12 is filled, the cover plate is raised vertically and then lowered to position parallel with the surface of the cylinder 10 and shoved toward the lower end of the pen until the edge of the cylinder enters the notch 24^a and the cover plate wholly covers the slot 13 as shown in Fig. 1, and by the dotted lines in Fig. 5.

A considerable number of variations in

the construction of my improved fountain pen may be made without departing from the essential spirit of my invention.

My fountain pen has many advantages, particularly in the construction of the compressor plate 13 and the spring 17 and also of the cover plate 24 and in the cheapness with which these parts may be constructed. My compressor plate 3 is made of a single piece of metal and is completed with few and simple operations. The spring 17 can be made at a minimum of expense. The lug 100 locks the cover plate in its closed position. The raised end of the spring 17 slightly raises the upper end of the cover plate when the latter is moved longitudinally toward the upper end of the pen making it easy to raise the cover plate when it is desired to insert it into the pen cylinder for the purpose of compressing the ink reservoir 12.

I claim as my invention:

1. In a device of the class described, a compressor plate having side wings bent at right angles to said plate, opposite extensions on the free ends of side wings adjacent to each other at right angles to the free ends of said side wings, a cover plate pivotally and slidably mounted on said extensions, a spring on said compressor plate having a lug designed to engage said cover plate to hold the latter in its closed position, said cover plate being provided with a transverse recess on its lower surface designed to

receive said lug when the cover plate is closed.

2. In a fountain pen, a pen cylinder having a slot in one side thereof, a compressor plate therein having a recess in its upper surface, a cover plate designed to cover said slot, pivotally and slidably mounted on said compressor plate, a recess in the lower side of said cover plate, a spring received in the recess in said compressor plate, a lug on said spring designed to be received in said recess in said cover plate when the cover plate is closed and to lock same in its closed position.

3. In a fountain pen, a pen cylinder having a slot in one side thereof, a compressor plate therein having a recess in its upper surface, a cover plate pivotally and slidably mounted on said compressor plate and designed in one position of its movement to cover said slot, a spring received in the recess in said compressor plate having a portion inclined toward said cover plate and designed to engage said cover plate and raise one end of same when said cover plate is moved longitudinally from its closed position, downwardly extending lugs on said spring designed to hold it spaced apart from the bottom of said recess.

Des Moines, Iowa, Nov. 5, 1911.

HARRY W. WOOD.

Witnesses:

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J. B. RYAN.