

F. M. KEGRIZE.  
SELF FILLING FOUNTAIN PEN.

APPLICATION FILED MAR. 23, 1905.

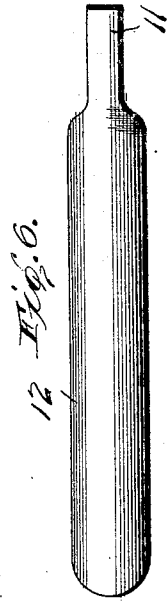
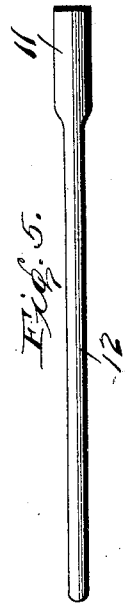
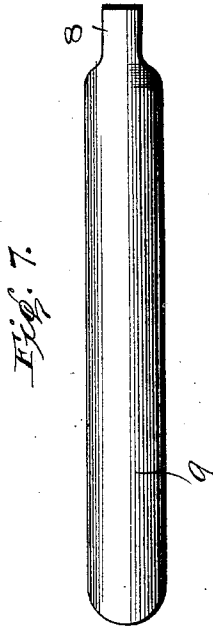
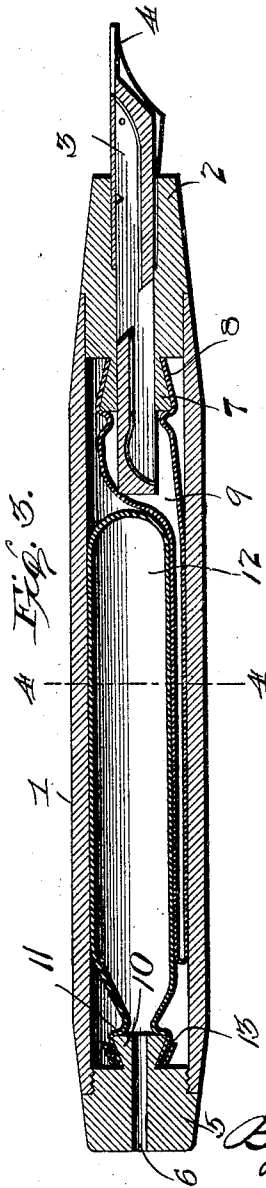
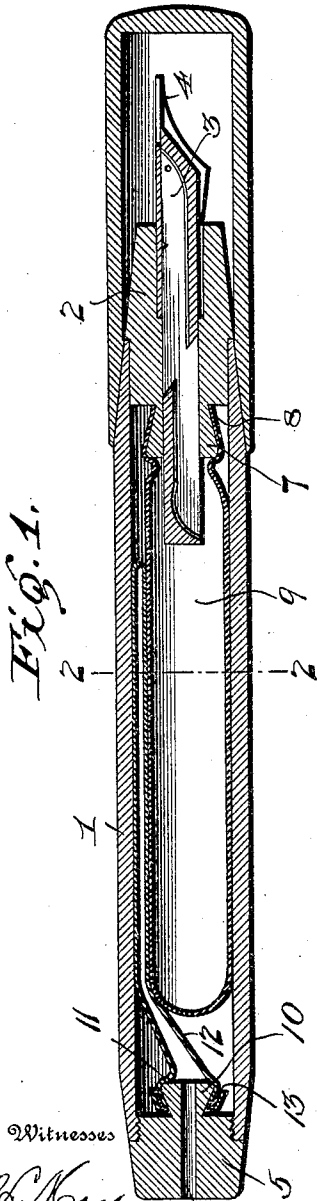
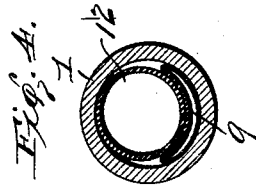
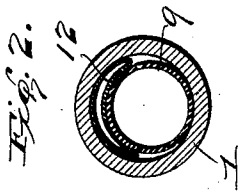


FIG. 1.

FIG. 3.

FIG. 7.

FIG. 5.

FIG. 6.

Witnesses

*W. K. ...*  
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# UNITED STATES PATENT OFFICE.

FRANK M. KEGRIZE, OF PHILADELPHIA, PENNSYLVANIA.

## SELF-FILLING FOUNTAIN-PEN.

No. 807,280.

Specification of Letters Patent.

Patented Dec. 12, 1905.

Application filed March 23, 1905. Serial No. 251,633.

*To all whom it may concern:*

Be it known that I, FRANK M. KEGRIZE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Self-Filling Fountain-Pen, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to fountain-pens, and has for its object to provide a simple and practical self-filling pen, or, in other words, a pen which may be quickly and readily filled without the use of the usual separate filler by simply placing the nozzle of the pen in a body of ink and creating a vacuum in the ink-chamber or exhausting the air therefrom, the means for exhausting the air from the ink-chamber being a part of the complete pen itself.

The self-filling fountain-pen to be hereinafter particularly described may be said to be double-acting, in that two flexible tubes or sacks are employed, the same being arranged side by side within the barrel of the pen, one sack being intended to hold ink and the other air. When the ink-sack is filled, the air-sack is flattened or collapsed, and when the air-sack is inflated it acts to flatten or collapse the ink-sack and exhaust the air therefrom, so that when the pen-nozzle is inserted in a quantity of ink and the air released from the air-sack the ink-sack is allowed to expand and suck the ink therein, all as will hereinafter appear.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement herein fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a longitudinal section through my improved pen, showing the ink-sack expanded and the air-sack collapsed. Fig. 2 is a cross-section through the same on the line 2 2 of Fig. 1. Fig. 3 is a longitudinal section through the pen, showing the air-sack expanded and the ink-sack collapsed. Fig. 4 is a cross-section through the same on the line 4 4 of Fig. 3. Fig. 5 is an edge view of the normally collapsed air-sack. Fig. 6 is a plan view of the same. Fig. 7 is a plan view of the normally expanded ink-sack.

Like reference-numerals designate corresponding parts in all figures of the drawings.

The holder or barrel 1 is of the usual cylindrical form and may be made of any size,

said barrel being open only at the ends, no perforation or opening whatever being formed in the sides thereof. At one end the barrel has fitted therein a nozzle 2, preferably made tapering and provided with an opening extending lengthwise therethrough, in which is fitted a suitable feeder 3, which takes the ink from the ink chamber or sack, hereinafter described, and conducts the same to the pen-nib 4. A stopper 5 is fitted to the opposite end of the barrel 1 and is provided with an air-hole 6, said stopper being adapted to be used as a mouthpiece or as a receiver for an inflating device, such as an air-bulb. The nozzle 2 is provided at its inner end with a projection or boss 7, preferably cone-shaped, over which is fitted the constricted neck 8 of a flexible ink sack or chamber 9, the same being preferably formed of soft rubber, so that it will readily collapse in the manner shown in Fig. 3. The stopper 5 is likewise provided with a similarly - shaped boss 10, over which is fitted the constricted neck 11 of an air-sack 12.

In order to reinforce the connection between the air-sack and the stopper, the neck 11 is made long enough to be folded back upon itself over the boss 10, as shown in Figs. 1 and 3, and a securing-band 13, preferably of rubber, is placed around the inner thickness of the neck 11 and under the folded-back portion of such neck, as clearly shown, thus giving a firm hold on the neck of the air-sack and preventing the same from being dislodged during the operation of inflating the air-sack.

The air-sack is preferably made in such manner that it is normally flat or collapsed, as shown in Fig. 1, while the ink-sack is made so that it is normally expanded, as shown in the same figure.

In order to fill the pen with ink, air is forced through the hole 6 until the air-sack 12 is expanded, which results in flattening or collapsing the ink-sack. The nozzle of the pen is then inserted in a quantity of ink and the air-pressure relieved, which permits the air-sack to collapse and allows the ink-sack to expand and suck up the ink through the nozzle and feeder. The ink-sack and the air-sack are made in the manner described, so they will of their own accord assume the respective shapes described.

By reason of the fact that the barrel is imperforate or without openings of any kind in its sides even should the ink-sack leak the

ink cannot find its way out of the barrel to soil the hands and clothing, the only opening, with the exception of the feeder-opening in the nozzle, being the air-hole 6, which is always closed by the air-sack. It is therefore impossible for the pen to leak even in case the ink-sack gives out or becomes detached from the nozzle. The feeder 3 may be of any suitable or preferred construction, that shown being the same as the one set forth in a copending application filed by me.

Having described the invention, I claim—

1. A fountain-pen comprising a barrel, a flexible ink-sack therein, and a flexible air-sack for compressing the ink-sack.
2. A fountain-pen comprising a barrel, a flexible ink-sack therein, a flexible air-sack for compressing the ink-sack, and a feeder leading from the ink-sack to the nib.
3. A fountain-pen comprising a barrel, a flexible ink-sack therein, a flexible air-sack extending alongside the ink-sack, and means whereby air may enter and escape from the air-sack.
4. A fountain-pen comprising a barrel, a flexible normally expanded ink-sack therein, a flexible normally collapsed air-sack extending alongside the ink-sack, and means for

conducting the ink from the ink-sack to the pen-nib.

5. A fountain-pen comprising a barrel, a nozzle at one end thereof, an air-inlet stopper at the opposite end thereof, a flexible air-sack connected to the air-inlet stopper, and a flexible ink-sack connected to the nozzle.

6. A fountain-pen comprising a barrel, a flexible ink-sack therein, an air-inlet stopper, a flexible air-sack extending alongside the ink-sack and fitting over a portion of the air-inlet stopper, and a band fitting around the air-sack where the latter fits over the air-inlet stopper for securing the air-sack thereto.

7. A fountain-pen comprising a barrel, a nozzle at one end thereof, a pen-nib, an air-inlet stopper at the opposite end thereof, a flexible ink-sack connected with the nozzle, a flexible air-sack connected with the air-inlet stopper, and a feeder extending through the nozzle from the ink-sack to the pen-nib.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK M. KEGRIZE.

Witnesses:

W. A. WATSON,  
HARRY COOK.