

No. 896.772.

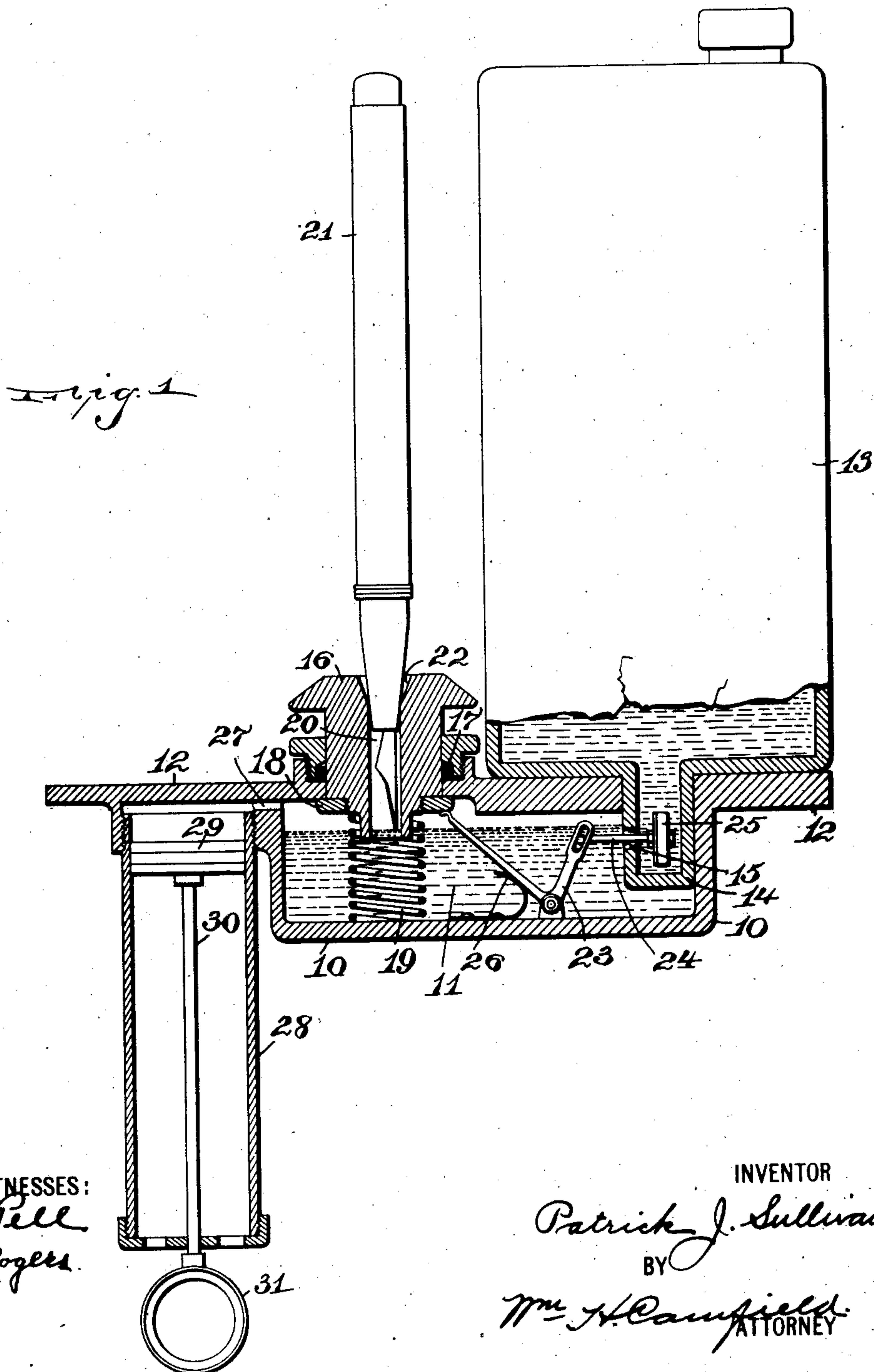
PATENTED AUG. 25, 1908.

P. J. SULLIVAN.

APPARATUS FOR FILLING FOUNTAIN PENS.

APPLICATION FILED APR. 15, 1908.

2 SHEETS—SHEET 1.



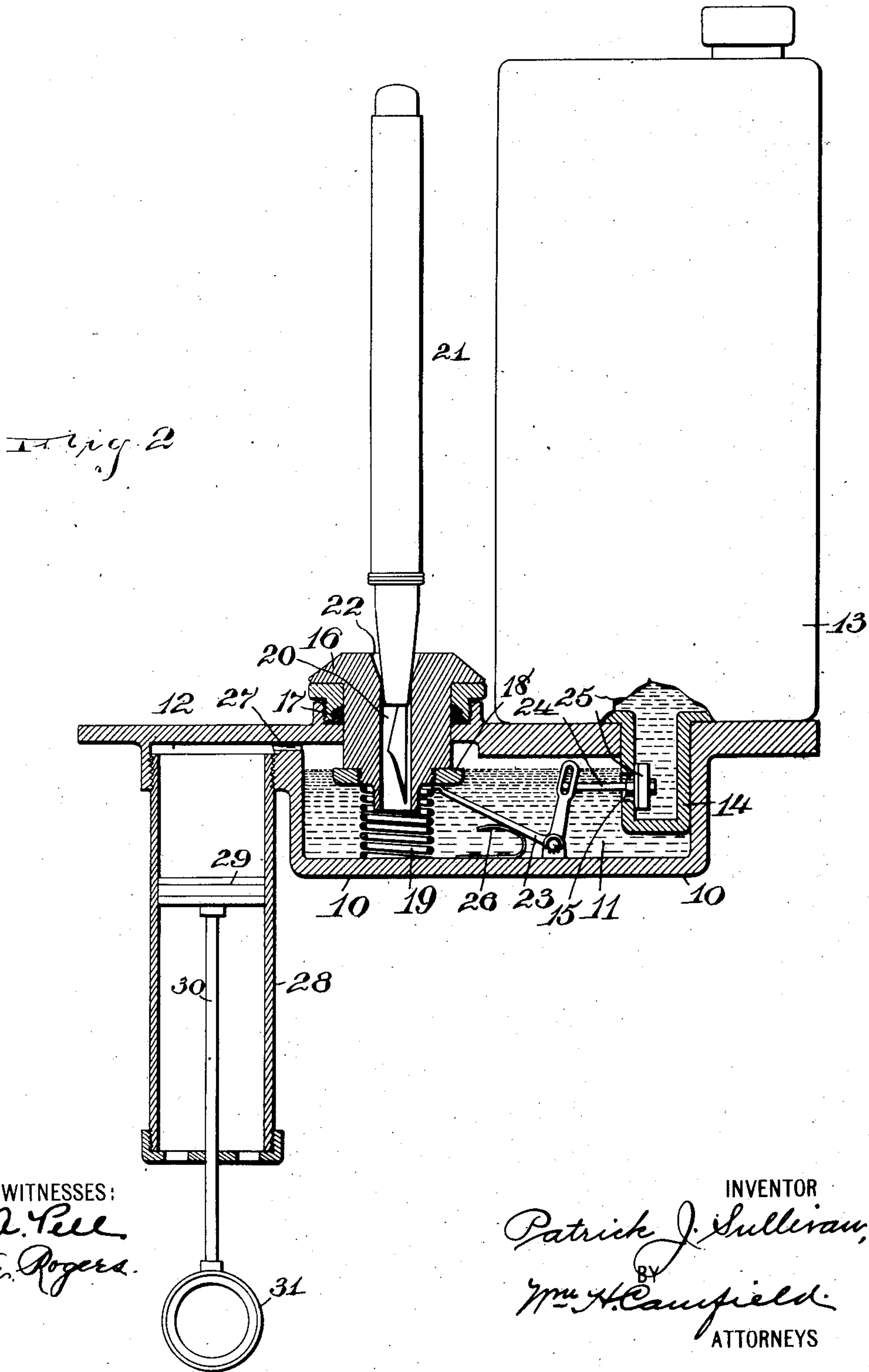
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UNITED STATES PATENT OFFICE.

PATRICK J. SULLIVAN, OF EAST ORANGE, NEW JERSEY.

APPARATUS FOR FILLING FOUNTAIN-PENS.

No. 896,772.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed April 15, 1908. Serial No. 427,099.

To all whom it may concern:

Be it known that I, PATRICK J. SULLIVAN, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Filling Fountain-Pens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to an apparatus for filling fountain pens without removing the pen point from the barrel of the pen. The device acts to withdraw the air from the pen and then force ink from a well into the pen. A reservoir is also used in connection with the apparatus, this reservoir being automatically shut off while a pen is being filled, and opened when the machine is not in use.

The invention is illustrated in the accompanying drawings, in which

Figure 1 is a section of a machine with a pen in place at its insertion in the machine, and Fig. 2 is a similar view showing the pen while being filled and illustrating the shutting off of the reservoir.

I use a casing 10 which forms a well 11 and has a top plate 12 on which rests the ink reservoir 13 which has a neck 14 extending down into the well 11, the neck being provided with an outlet 15 to supply the well with ink and so disposed that it shuts off the ink when the surface of the ink in the well is above the outlet 15. A block 16 adapted to slide is installed in the top of the well 11 and is made air tight by the washer or packing 17 held in place in any well known manner. The block 16 has a flange 18 to limit its movement in one direction, the spring 19 tending to normally hold the block 16 in the position shown in Fig. 1. The block 16 also has a bore 20 to receive the end of the barrel of the fountain pen 21, the tapered portion 22 permitting different sizes of pens to be admitted to the bore 20, the usual taper on the end of the barrel of the pen combining with the bore to make an air-tight juncture.

A bell crank 23 has one arm operated by the block 16 and has its other arm connected with the stem 24 of the valve 25, which valve is adapted to open and close the outlet 15 of

the reservoir 13. A spring 26 or similar means returns the valve and the bell crank to the position shown in Fig. 1, when the parts are released.

Connected with the well 11 above the level of the ink therein, by means of a passage 27, is a pump 28 having the piston 29 and rod 30 therein, and also having a handle 31 for the manual manipulation of the pump.

When a pen is to be filled it is placed in the block 16 and then forced down as in Fig. 2. This action seals the block 16 more securely, but also closes the valve 25 by means of its operative connection therewith. Then the pump 28 is operated by drawing its piston out, thus drawing the air from the well and creating a partial vacuum therein which in turn causes the air in the pen to be drawn therefrom. This causes a partial vacuum in the pen barrel. When the piston is released, the atmospheric pressure thereon, or manual operation thereof, will cause a pressure of air in the well which will force ink up into the pen. The pressure can only force the ink in the pen, since the valve 25 is held shut by the downward pressure by the operator on the pen. The operation requires only one withdrawal of the piston 29 and its return to fill a pen and takes but a second or two. The force of the pressure also removes particles in the feed tube of the pen, and acts to clean the pen when filling it. The reservoir replenishes the ink supply of the well whenever the filling operation is completed.

It will be evident that this machine is well adapted for use with a coin or check controlling apparatus, and can be used in conjunction with such a device if desired.

Having thus described my invention, what I claim is:—

1. An apparatus for filling fountain pens comprising a well to contain ink having a bore for the insertion of a fountain pen, an air pump connected with the well, a reservoir having an outlet in the well, and automatic means for closing the outlet of the reservoir when a pen is in place.

2. An apparatus for filling fountain pens comprising a well to contain ink, a block in the top of the well having a bore therein for the reception of a fountain pen, the block being adapted to slide, a reservoir having its outlet in the well, a valve for closing the outlet of the reservoir, an operative connection between the block and the valve for closing the valve when the pen is in place and the

block is slid, and a pump connected with the well above the level of the ink to cause a vacuum or a pressure in the well.

3. An apparatus for filling fountain pens comprising a well to contain ink, a block adapted to slide in the top of the well, the block having a bore for the reception of a fountain pen, means for maintaining the block in its normal position, a reservoir having its outlet in the well, a valve to close the outlet of the reservoir, an operative connection between the valve and the sliding block to close the valve when the block is slid in the well, and a pump connected to the well above the level of the ink, the projecting end of the piston rod of the pump having means thereon for manual manipulation, whereby the pump can be operated to cause a vacuum or a pressure in the well.

4. An apparatus for filling fountain pens comprising a well to contain ink, a block adapted to slide in the top of the well, the

block having a bore for the reception of a fountain pen, a spring for maintaining the block in its normal position out of contact with the ink in the well, a reservoir having its outlet in the well, a valve to close the outlet of the reservoir, a bell-crank connected with the valve and with the block operating to close the valve when the block is slid in the well, and a pump connected to the well above the level of the ink, the projecting end of the piston rod of the pump having means thereon for manual manipulation whereby the pump can be operated to cause a vacuum or a pressure.

In testimony, that I claim the foregoing, I have hereunto set my hand this 11th day of April 1908.

PATRICK J. SULLIVAN

Witnesses:

WM. H. CAMFIELD,
E. A. PELL.