

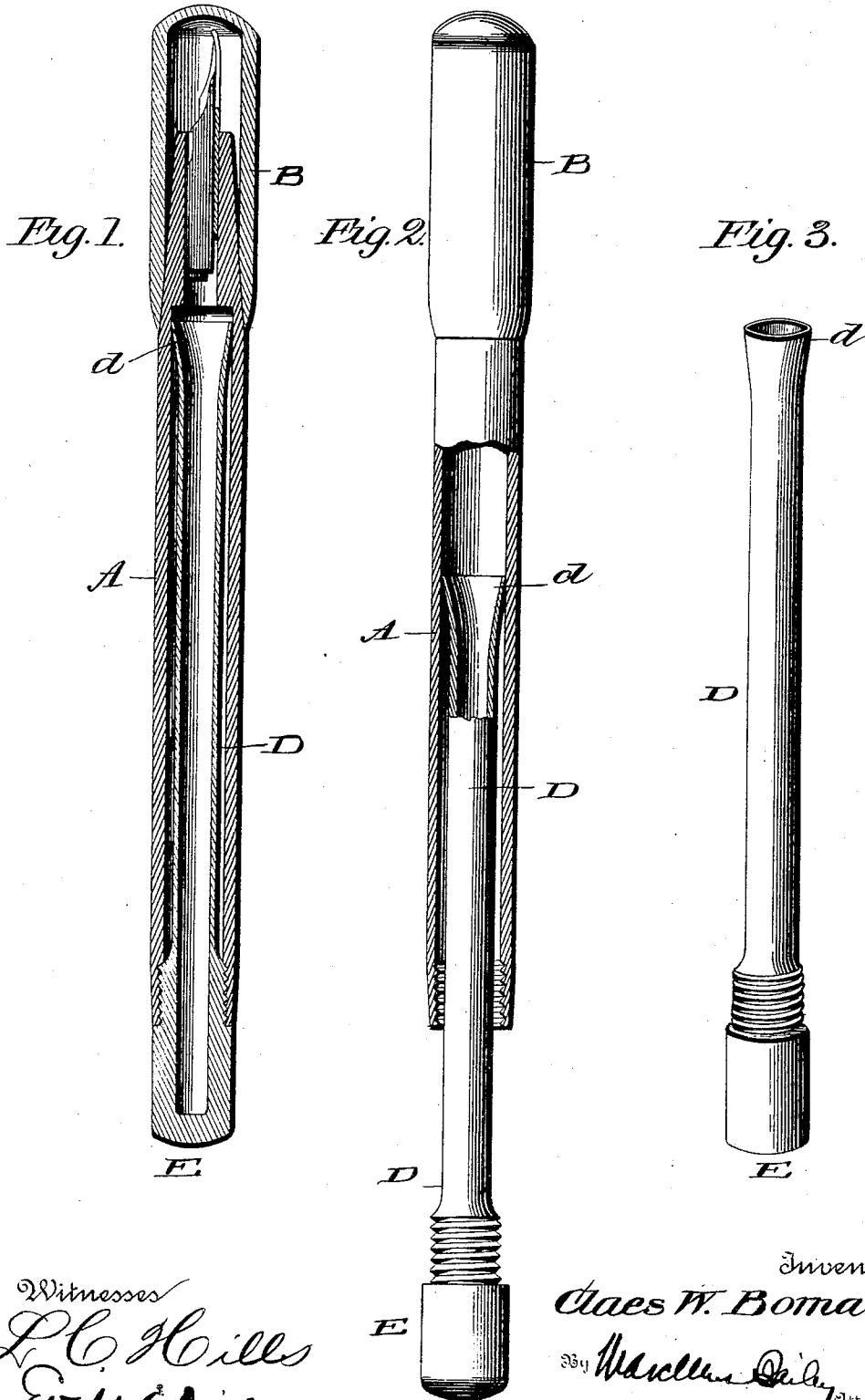
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Patented Sept. 5, 1899.

C. W. BOMAN.
FOUNTAIN PEN.

Application filed June 27, 1898.

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

CLAES WILLIAM BOMAN, OF NEW YORK, N. Y., ASSIGNOR TO THE EAGLE PENCIL COMPANY, OF NEW YORK.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 632,633, dated September 5, 1899.

Application filed June 27, 1899. Serial No. 722,046. (No model.)

To all whom it may concern:

Be it known that I, CLAES WILLIAM BOMAN, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented a new and useful Improvement in Fountain-Pens, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal central section of the pen. Fig. 2 is a similar view with the ink-reservoir partly withdrawn from the tubular sheath or handle. Fig. 3 is a view of the ink-reservoir detached from the handle.

A is a tubular sheath or handle made of any suitable material, preferably hard rubber. B is the usual feeder-plug inserted in its front end. This feeder-plug, which may be of any preferred construction, conducts the ink from the ink-reservoir in the handle to the pen C in the usual way, the pen being inserted and held between the feeder and the front end of the handle.

The ink-reservoir is shown at D. It is made of any proper material, preferably hard rubber, is open at its front end and closed at its rear end by a plug E, which is externally screw-threaded to screw into the correspondingly internally screw-threaded open rear end of the handle A. The reservoir is inserted into the handle from the rear of the latter, and the screw-plug E, with which it is provided, forms a convenient means of securing it. The screw-joint, however, is not essential to the making and maintaining of an air and liquid tight joint between the reservoir and the handle, and so far as that is concerned the screw-joint might be replaced by a bayonet-catch or a slip or friction joint. The liquid-tight joint for preventing leakage of ink between the reservoir and the tubular sheath or handle is internal and at the front end of the reservoir and is made and maintained independently of the external joint. The front end of the reservoir is in effect a piston which has an elastic and compressible packing between it and the cylindrical interior of the tubular handle A. In other words, it works in the handle about as a packed piston does in its cylinder. This effect I obtain by slightly flaring or expanding the front end of the reservoir, as shown at *d*, and by making it of such material—as, for example, hard rubber—and of such thinness that it will be elastic and compressible. It is flared or ex-

panded at its front end to such an extent as to be normally a little greater in diameter than the internal diameter of the cylindrical part of the handle A, in which it moves or through which it travels when being inserted in and withdrawn from the handle. Thus when the reservoir is inserted in the handle the flared or enlarged part *d* in the act of entering the smooth cylindrical interior of the handle will be slightly compressed and by its elasticity will make with the interior of the handle a tight and close joint, which will effectually prevent all leakage. This joint is complete and effective after the front end of the reservoir has once entered the handle far enough to pass beyond the internally screw-threaded end of the latter, which is just a little greater in diameter than the smooth internal cylindrical bore beyond it. The joint, for example, between the front end of the reservoir and the handle is just as complete and finished when the reservoir is only part way in, as in Fig. 2, as it is when the reservoir is completely in, as in Fig. 1. Thus it is immaterial, so far as this joint is concerned, whether the plug E is screwed home or not, or, indeed, whether the plug E is engaged at all with the handle.

The elastic and compressible enlargement *d* not only avoids the necessity of nice and accurate finish and fitting, but it acts as a wiper for the interior of the barrel or hollow handle to keep it clean and unclogged.

Having described my invention, what I claim herein as new, and desire to secure by Letters Patent, is—

In a fountain-pen, the combination with the hollow handle A, of a tubular ink-reservoir D adapted to enter the handle from the rear end of the latter, and provided with a flaring, elastic and compressible open front end, of greater diameter than the body of the reservoir with which it is integral, and which piston-like fits closely and with elastic pressure against the cylindrical interior of the handle, as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 26th day of June, 1899.

CLAES WILLIAM BOMAN.

Witnesses:

SAMUEL KRAUS,
M. REGENSBURG.