

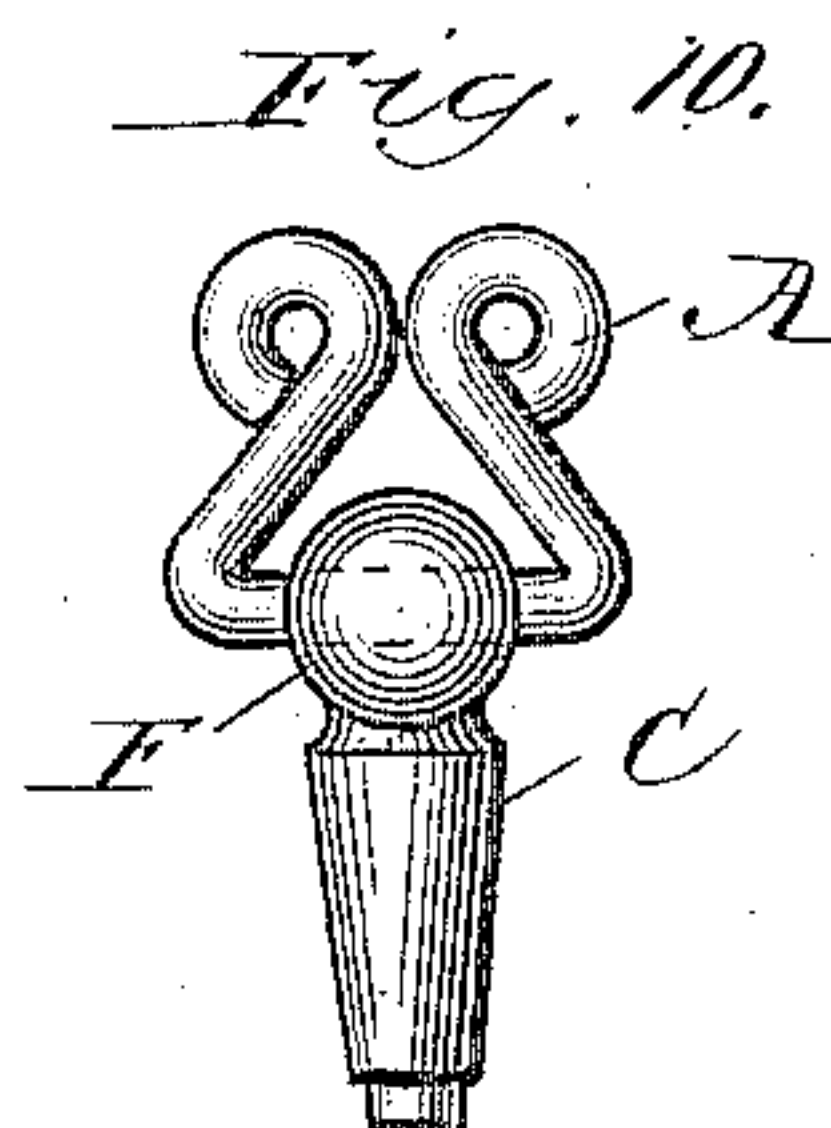
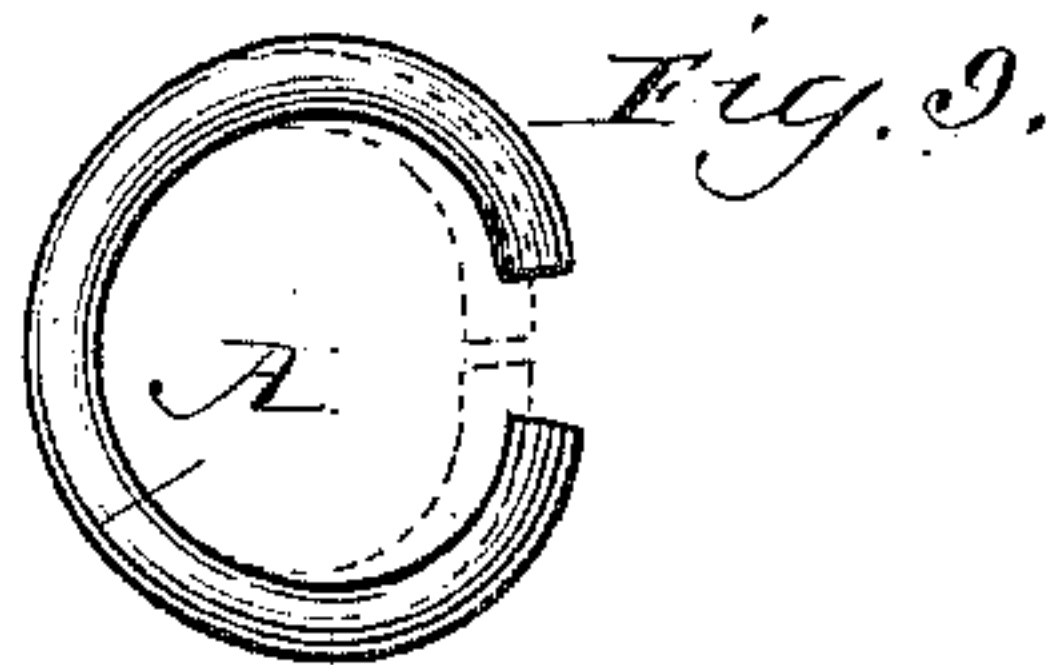
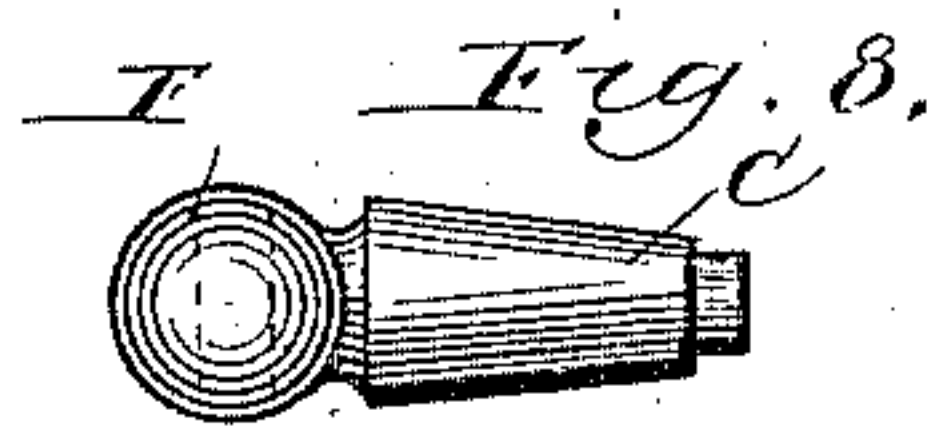
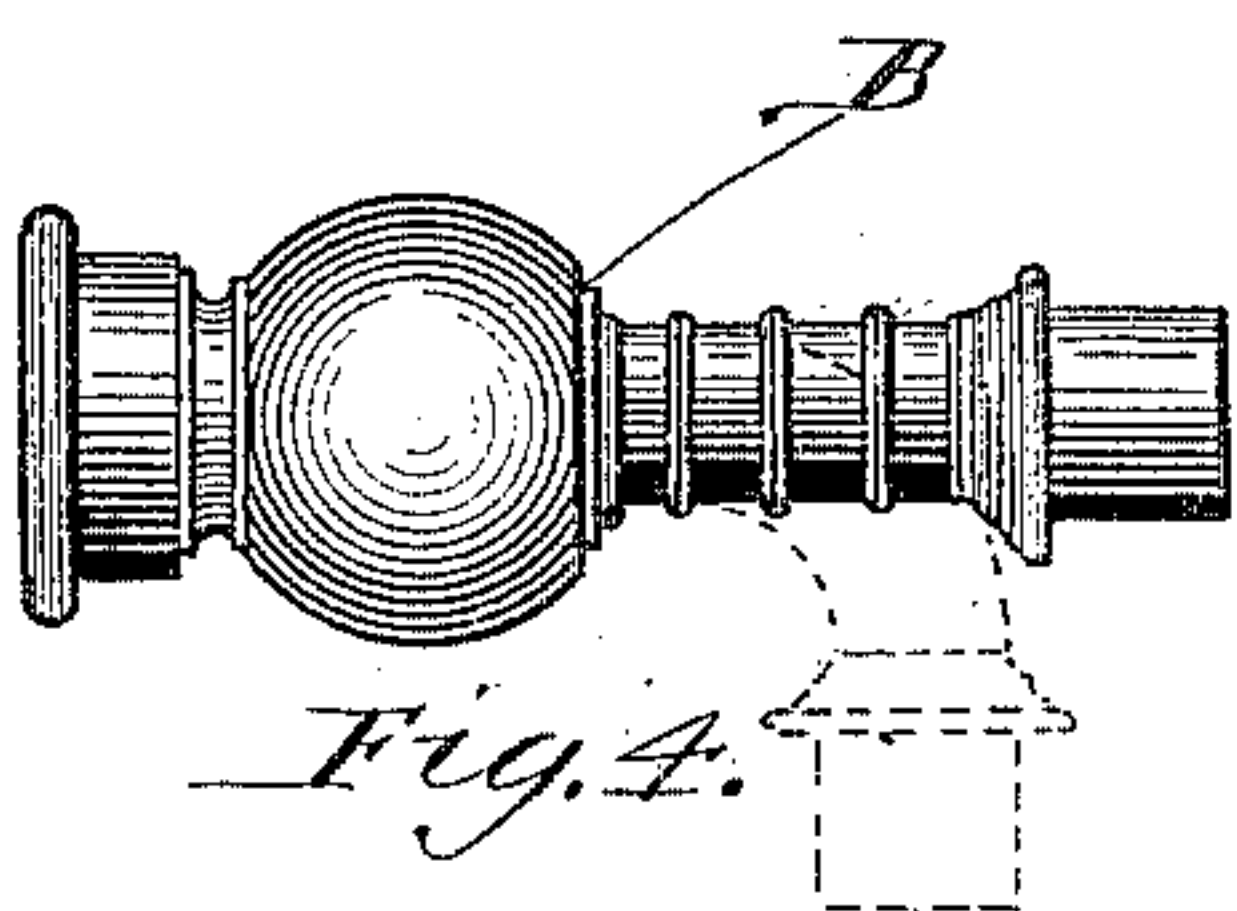
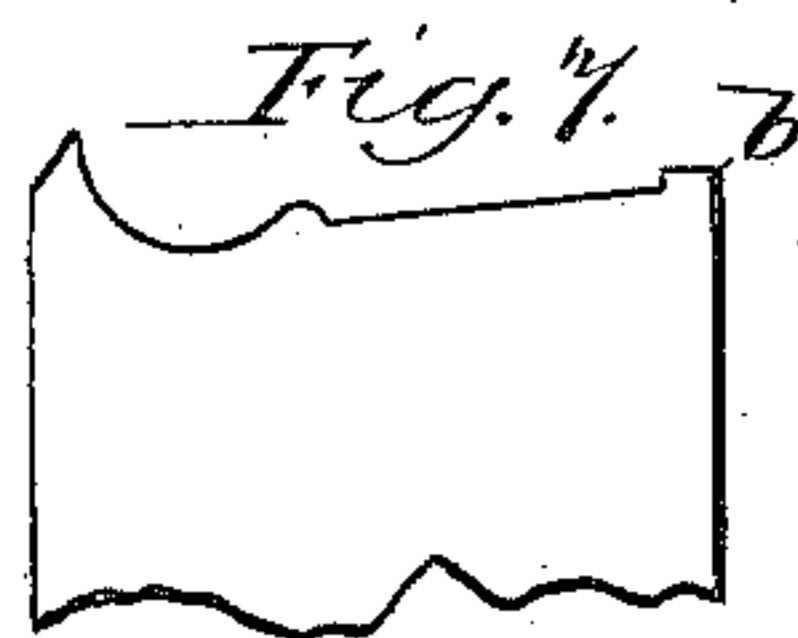
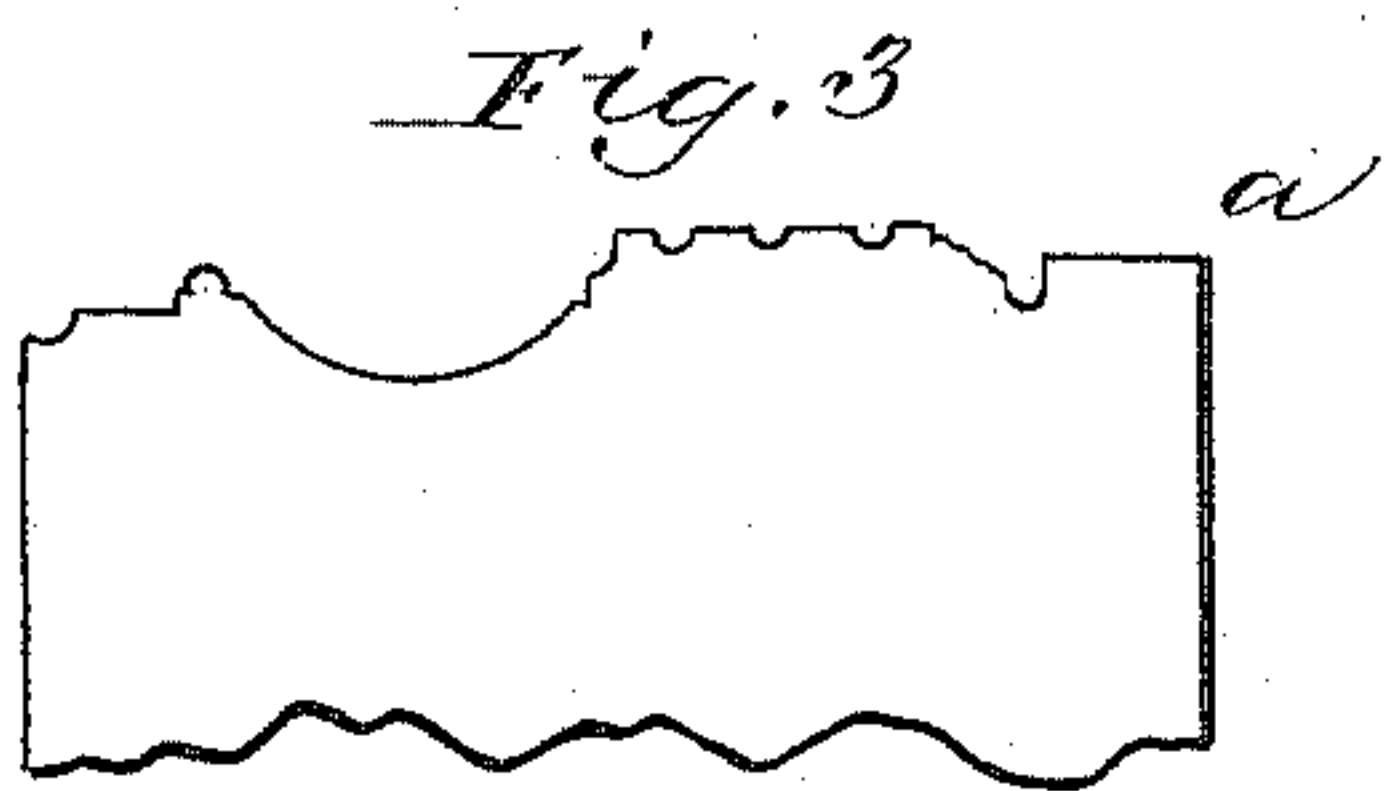
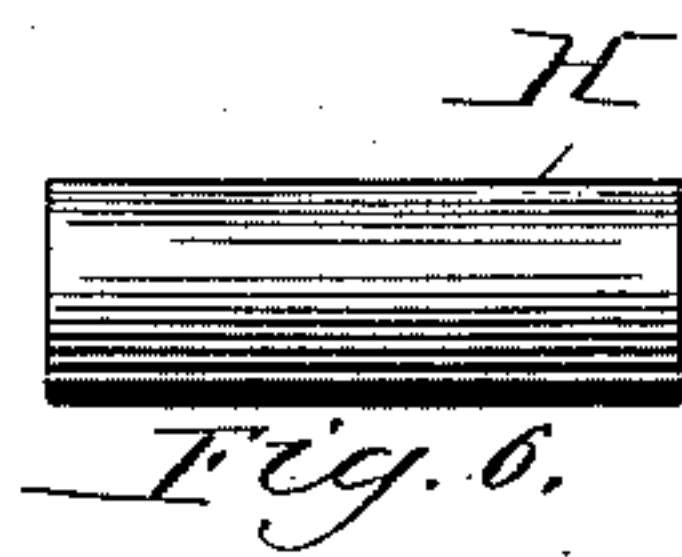
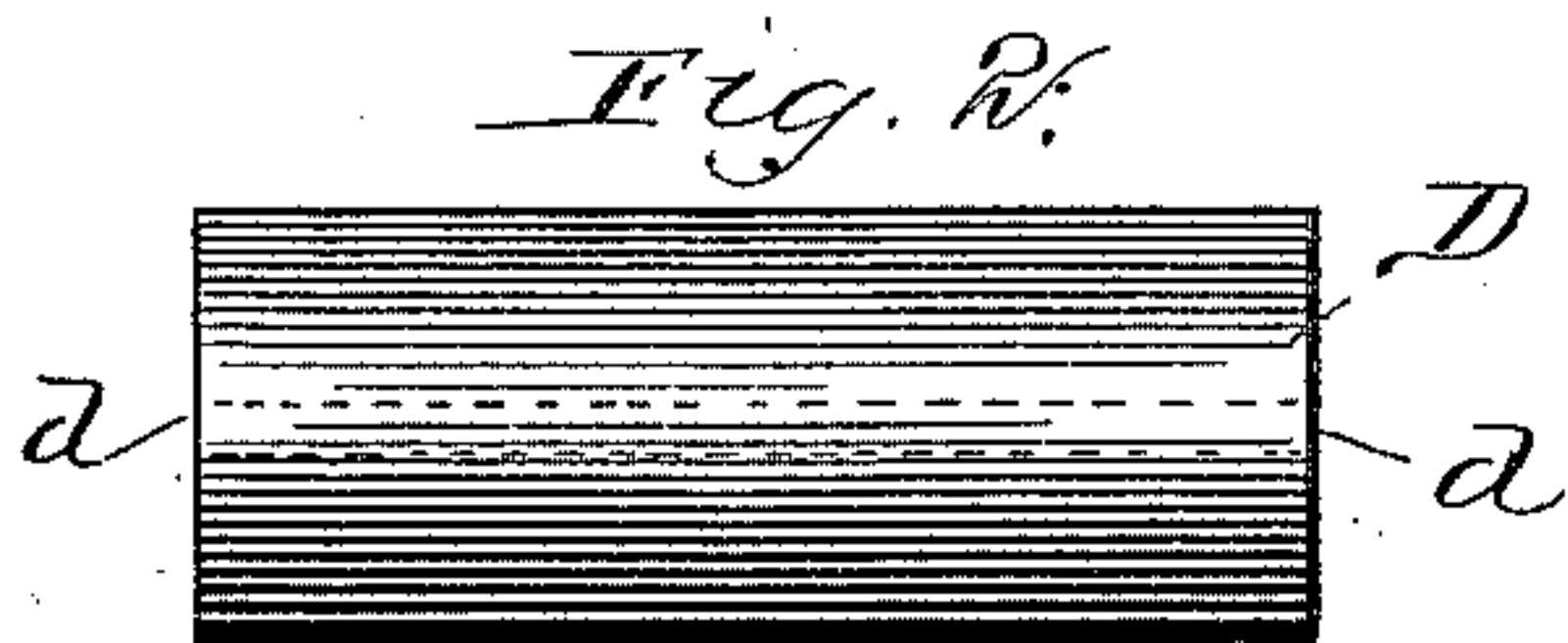
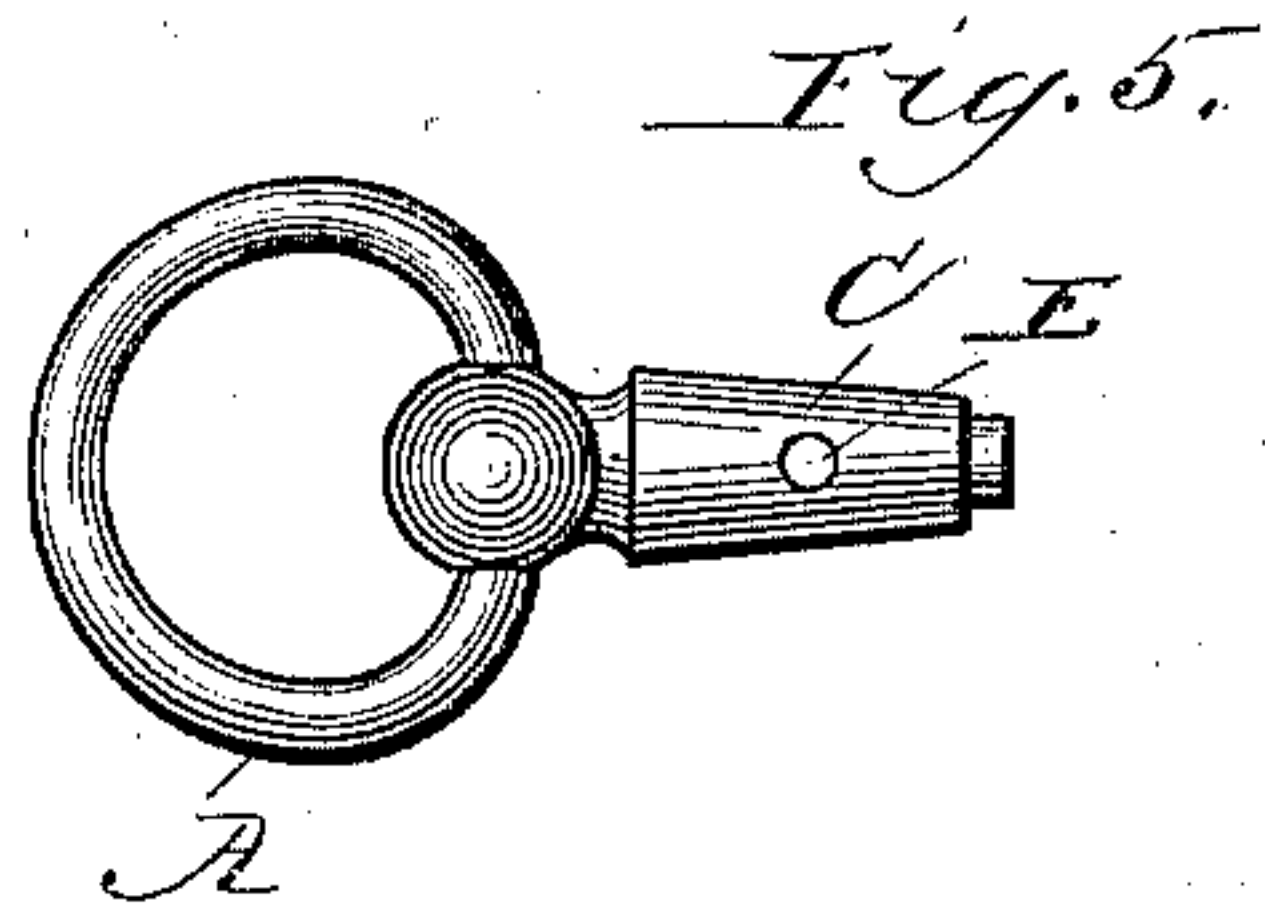
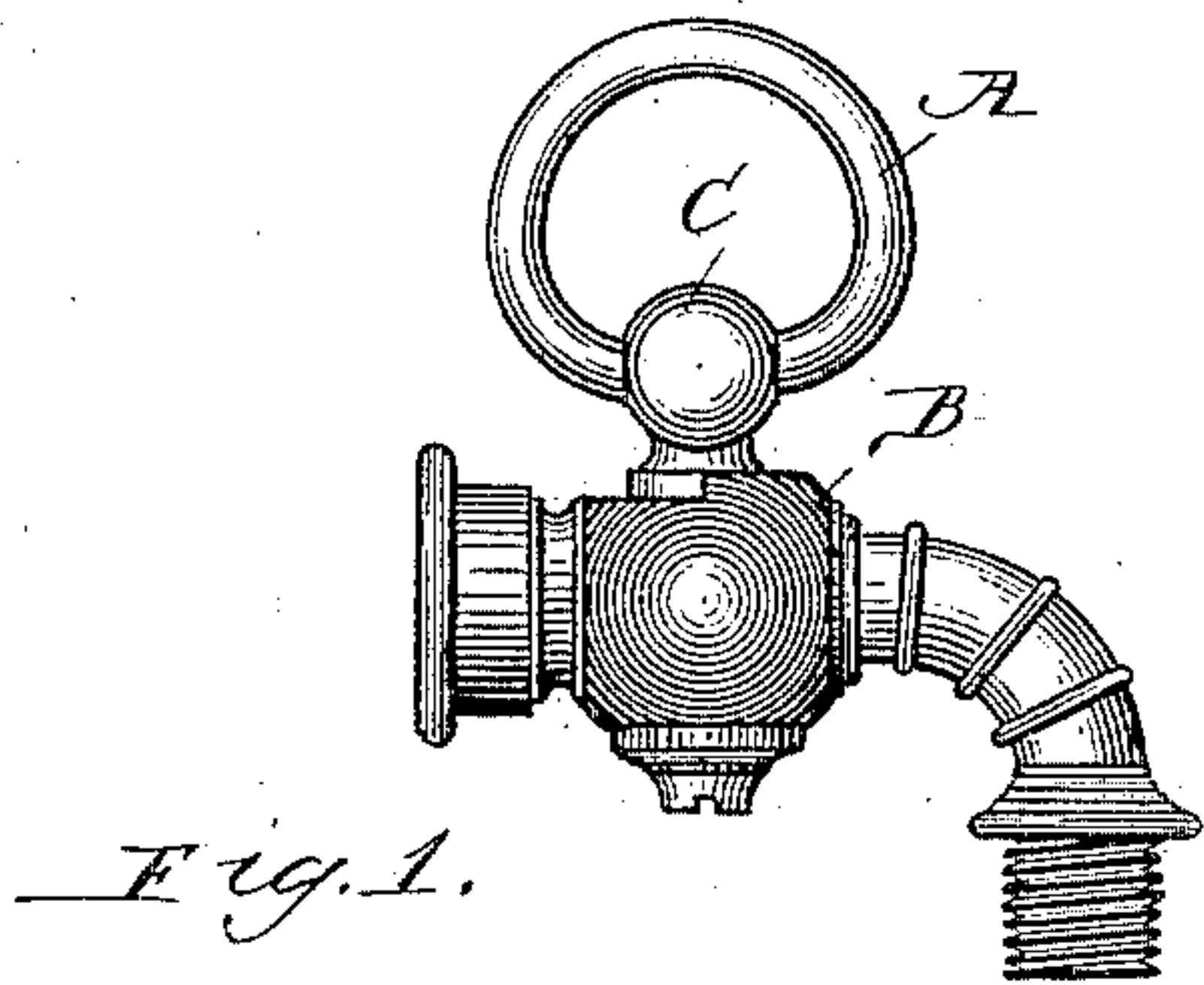
(No Model.)

L. FILSTRUP.

PROCESS OF MANUFACTURING POLISHED METAL COCKS.

No. 421,257.

Patented Feb. 11, 1890.



Witnesses,  
H. Peters.  
W. J. Smith

Inventor  
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Att'y.



# UNITED STATES PATENT OFFICE.

LARSEN FILSTRUP, OF CHICAGO, ILLINOIS.

## PROCESS OF MANUFACTURING POLISHED METAL COCKS.

SPECIFICATION forming part of Letters Patent No. 421,257, dated February 11, 1890.

Application filed July 13, 1889. Serial No. 317,396. (No model.)

*To all whom it may concern:*

Be it known that I, LARSEN FILSTRUP, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Art or Process of Manufacturing Polished Metal Cocks, the kind of cocks to which my invention principally relates being cocks of small size used upon gas-fixtures, and commonly denominated "gas-cocks." The art or process may, however, be adapted to the manufacture of polished metal cocks of small size suitable for other uses.

The usual and common process of manufacturing polished metal gas-cocks is to first cast the metal in molds forming the shape and size of the several parts of the cock, and then, by a process of turning, fitting, and adjusting, obtain the accurate joining and fitting of the several parts, and finally buffing the surfaces of the several parts to obtain the desired external polish, the process of reducing the rough surface of the casting to the polish and smoothness desired being an extremely tedious, expensive, and difficult operation, representing in the workman's time necessarily expended thereon the major part of the expense of producing the cock, the operation of polishing being specially difficult on account of the irregular shape and peculiarly-formed surfaces of the cock.

My process differs from the old method in all material points. Instead of casting the metal in molds, I take wrought metal in bars or rods and shape the same with tools which leave the surface entirely smooth and polished when the cock is formed, whereby I save the tedious and difficult operation of polishing the irregular castings used in the old method.

My process may be more fully shown and described by reference to the accompanying sheet of drawings, which is hereby made a part of this specification.

In the said sheet of drawings, Figure 1 is a full-size view of a gas-cock. Fig. 2 is a view of a blank of brass rod from which I form by my process the body of the cock. Fig. 3 is a view of the cutting-edge of the tool which I use to form the body of the cock from the blank shown in Fig. 2. Fig. 4 is a view of

the body of a cock as formed from the blank shown in Fig. 2, turned down by the tool shown in Fig. 3. The dotted lines show the shaping of the barrels of the cock by a bending process which is employed after the same is shaped and polished. Fig. 5 is a view of the gate and key of a gas-cock. Fig. 6 is a view of a blank of brass rod from which by my process I form a gas-cock gate. Fig. 7 is a view of the cutting-edge of the tool which I employ in forming a gate. Fig. 8 is a view of a gate formed from a blank, as shown in Fig. 6, turned down by the tool shown in Fig. 7. Fig. 9 is a view of a ring-shaped key formed of polished brass rod. Fig. 10 is a view of a gate and key, the key shaped differently from that shown in Figs. 5 and 9, but constructed from polished metal rod.

In the several figures of said drawings like letters of reference indicate like parts.

A is the key by which gate is operated.

B is the body of the cock.

C is the gate.

D is a metal blank of round rod.

E is the way through gate.

H is a metal blank of round rod.

*d* is the way or channel through the barrel of the cock which connects with way or channel E in gate C.

*a* is the cutting-edge of turning-tool used in forming the body of the cock from the blank D.

*b* is the cutting-edge of the turning-tool used in shaping the gate C.

The operation of making a polished cock by my process may be thus described: Blanks of brass rod containing the channel *d* are first placed in a lathe and turned to the shape indicated in Fig. 4 by use of a tool shaped as indicated by *a* in Fig. 3. The turning process usually leaves a bright and highly-polished surface; but if a higher polish is desired the part may be buffed in the lathe easily and quickly while the part remains straight. The screw-threads necessary at each end are then cut and the part removed from the lathe and bent in shape indicated by dotted lines. The gate is then formed from a blank, turned to shape, a way, as indicated by E, drilled through, and the head drilled through to receive key A. The key A is



formed from round metal rod polished while straight and bent into suitable form or configuration and inserted in the head of the gate. The gate and body are then put together and attached by a screw or other suitable fastening, thus forming a complete cock.

The special utility of my process is to save labor and expense in polishing the several parts and in cutting the screw-threads at the ends of the body of the cock. My process of forming the body of the cock and the key straight admits of their being easily, quickly, and perfectly polished before being bent into their final shape, while, were the pieces first rigidly cast in shape, as in the common method, the operation of polishing would be difficult and necessary to be accomplished principally by hand, and then in a manner which compares unfavorably with lathe polishing.

My process may be adapted to the manufacture of cocks differing from the shape of body and key shown in drawings.

The art or process for which I claim discov-

ery, and which I desire to obtain a patent for, is—

1. In the manufacture of polished gas or other cocks, the process of forming a polished gas or other cock body from a blank by first shaping, polishing, and cutting threads upon a straight blank and afterward bending the same to proper shape.

2. In the manufacture of polished gas or other cocks, the process of forming gate-keys from round or other shaped rods of metal polished while straight by bending the same after polishing into the desired shape and attaching same to gate-head, all substantially as above set forth, specified, and shown.

In witness whereof I have hereunto affixed my signature in presence of two subscribing witnesses.

LARSEN FILSTRUP.

Witnesses:

W. KNOX HAYNES,  
LENA YORK.