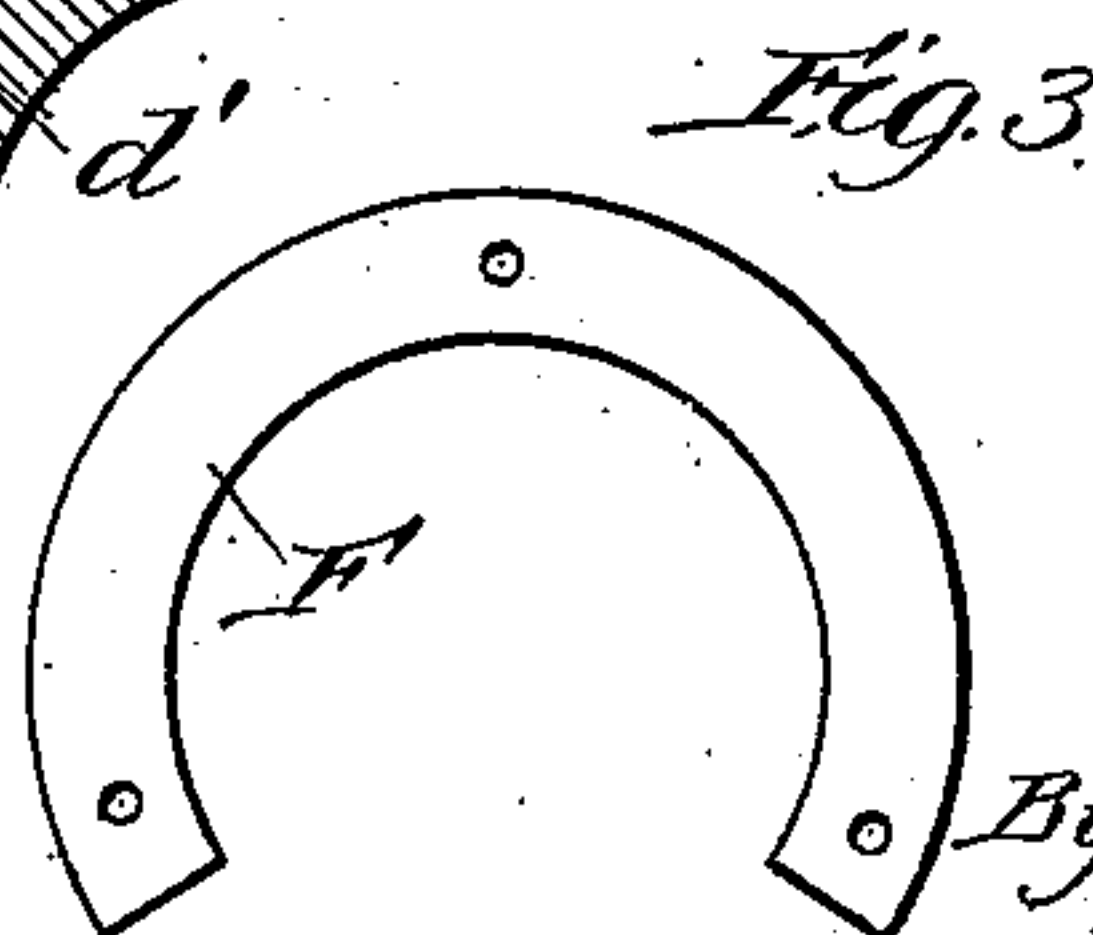
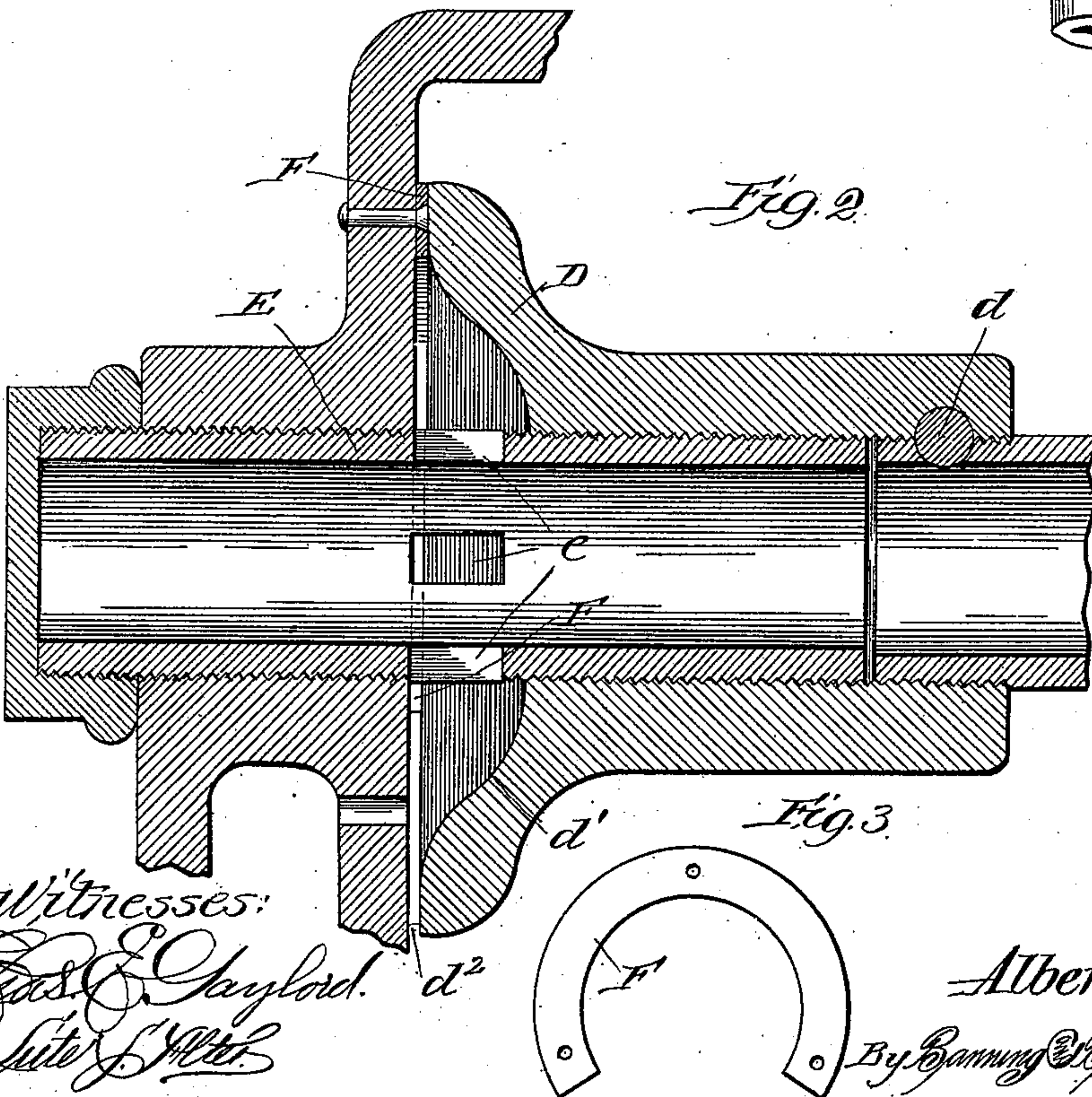
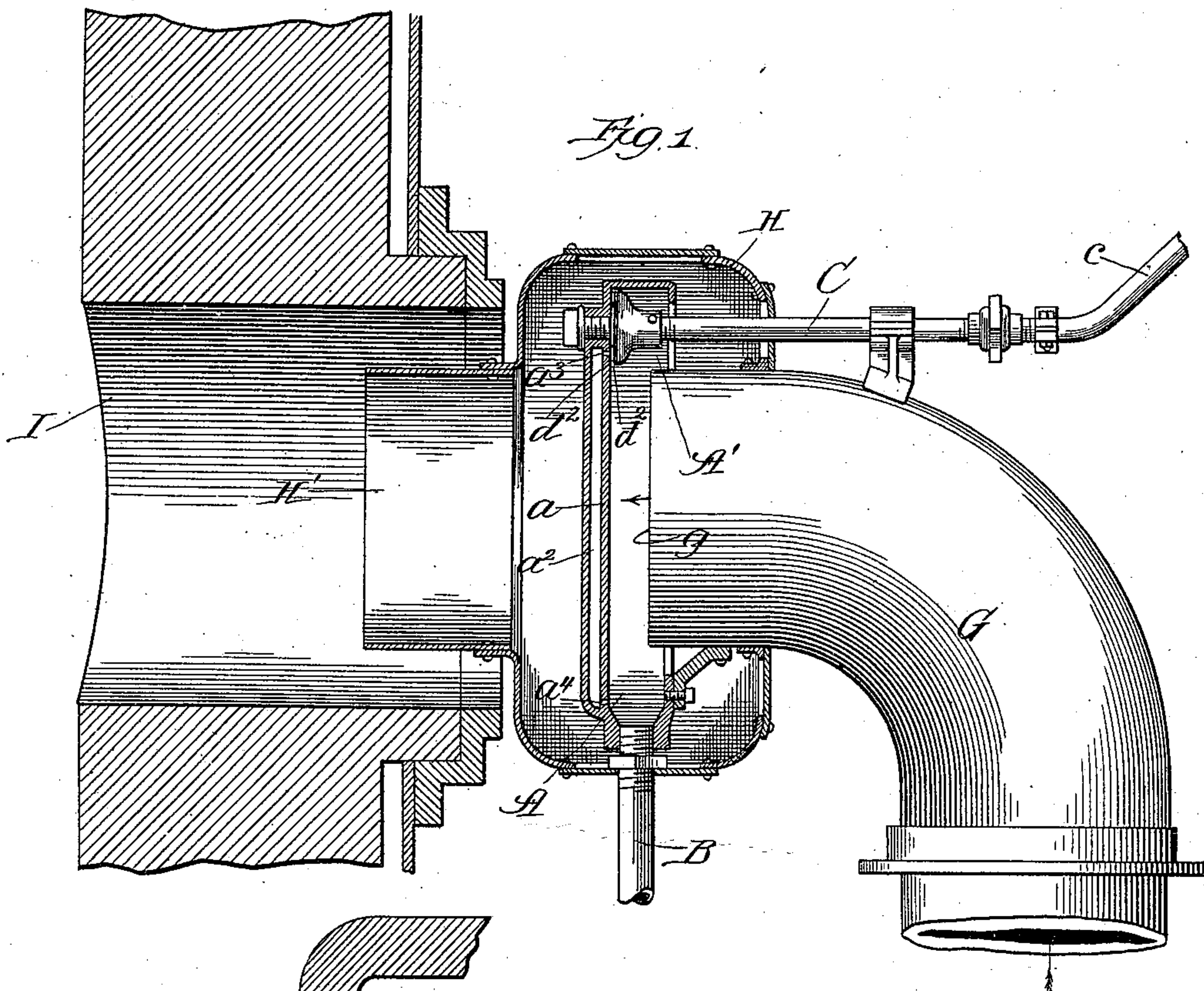


(No Model.)

A. E. DEACON.
GAS WASHING APPARATUS.

No. 601,888.

Patented Apr. 5, 1898.



Witnesses:
E. S. Gaylord.
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UNITED STATES PATENT OFFICE.

ALBERT E. DEACON, OF CHICAGO, ILLINOIS.

GAS-WASHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 601,888, dated April 5, 1898.

Application filed May 13, 1897. Serial No. 636,274. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. DEACON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas-Washing Apparatus, of which the following is a specification.

The object of my invention is to provide a simple, economical, and efficient apparatus for washing and cleansing blast-furnace and similar gases; and the invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of a portion of a furnace with an apparatus for washing and cleansing gas constructed in accordance with my improvements attached thereto in operative position; Fig. 2, an enlarged sectional view of the water-distributor, and Fig. 3 a front elevation of the metal strip used in providing the water-outlet.

In constructing an apparatus in accordance with my improvements I provide a cup-shaped disk A of the desired size, having its inner face *a* arranged, preferably, in a vertical plane, so that a sheet of water may flow down the same and be carried off by means of a drip or waste pipe B. To provide the sheet of water, I use an inlet or feed pipe G, which is connected by means of a flexible tube *c* with any source of water-supply. I provide the inner end of this tube with a water-distributor D, which has threaded engagement therewith and prevents it from turning by means of the pin *d*. The disk is provided with a threaded nipple E, which is screw-threaded therein and which supports the inner end of the water-distributor and practically forms a continuation of the feed-pipe for purposes more fully hereinafter described. This threaded nipple is provided with several radial openings *e*, which allow the water to force its way into the inside of the distributor and drip down its surface *d'* and out through the opening *d''* onto the face of the disk. To provide the opening *d''*, I interpose a strip of metal F between the distributor and the face of the disk, which prevents the lower end of the distributor from contacting the

disk, thus providing the desired width of opening.

It is often desirable to clear out the inlet-opening *d''* when it has become clogged with sediment, dirt, or foreign substances, and in order to do this all that is necessary to do is to turn the pipe C, which action rotates the distributor on the threaded nipple, provides a larger inlet-opening, and flushes or cleanses the inlet-opening of all sediment and foreign substances. By turning the pipe C in an opposite direction the distributor is forced back again into its operative position, as shown in Fig. 2.

The gas is led into the chamber of the cup-shaped disk preferably by means of an elbow G, which has its discharge-opening *g* arranged in front of the disk, so that as the gas enters the chamber it contacts the downflowing sheet of water in such a manner that the dust, dirt, and foreign substances are caught by the water and carried down and off through the waste-pipe. I further provide a housing or casing H, which entirely surrounds the opening of the gas-pipe and the outlet-opening A' of the cup-shaped disk, so as to confine the gas after it has been cleansed and to carry it over and around through such chamber, where it emerges through the outlet H' into the furnace I or other desired receptacle, where it may be consumed.

In order to protect the disk from the fierce heat of combustion, I make it preferably double, so as to provide a water-jacket *a''*, which is in communication with the water-inlet by means of the perforations *a'''* and secures a circulation of water therethrough.

In operation the water is turned on in the feed-pipe C, enters the chamber of the distributor, and is forced out through the opening *d''* down and over the face of the disk in a steady sheet. The gas being turned on enters the chamber of the cup-shaped disks and contacts the downflowing sheet of water, where it is thoroughly cleansed. It then rises and flows through the chamber of the casing out through the opening H' and into the furnace or other place where it is desired to consume the same.

I claim—

1. In a gas-washing apparatus, the combi-

nation of a disk or similar element, a nipple
screw-threaded in the upper portion thereof
and provided with longitudinal lateral open-
ings, a water-distributor secured to the
5 threaded nipple and provided with a supply-
opening at one portion thereof, a feed-pipe
screw-threaded into and connected with the
water-distributer so that such distributer may
be rotated therewith, a waste-pipe for carry-
10 ing off the water, and a gas-supply pipe ar-
ranged with its outlet-opening adjacent to the
surface of the disk, substantially as described.

2. In a gas-washing apparatus, the combi-
nation of a disk provided with a water-jacket,
15 a water-distributer arranged in the upper

portion thereof so as to flow a sheet of water
down and over the inner surface of the disk,
a water-discharge pipe connected with the
lower portion of the disk, a gas-supply pipe
arranged with its outlet adjacent to the face 20
of the disk, and a casing provided with an
outlet surrounding the disk and outlet of the
gas-supply pipe to compel the gas after be-
ing cleansed to pass out through the outlet
of such casing, substantially as described. 25

ALBERT E. DEACON.

Witnesses:

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