No. 688,215. Patented Dec. 3, 1901.

G. WEGELIN.

APPARATUS FOR MAKING LAMPBLACK.

(Application filed July 23, 1901.)

(No Model.)

Fig. 1.

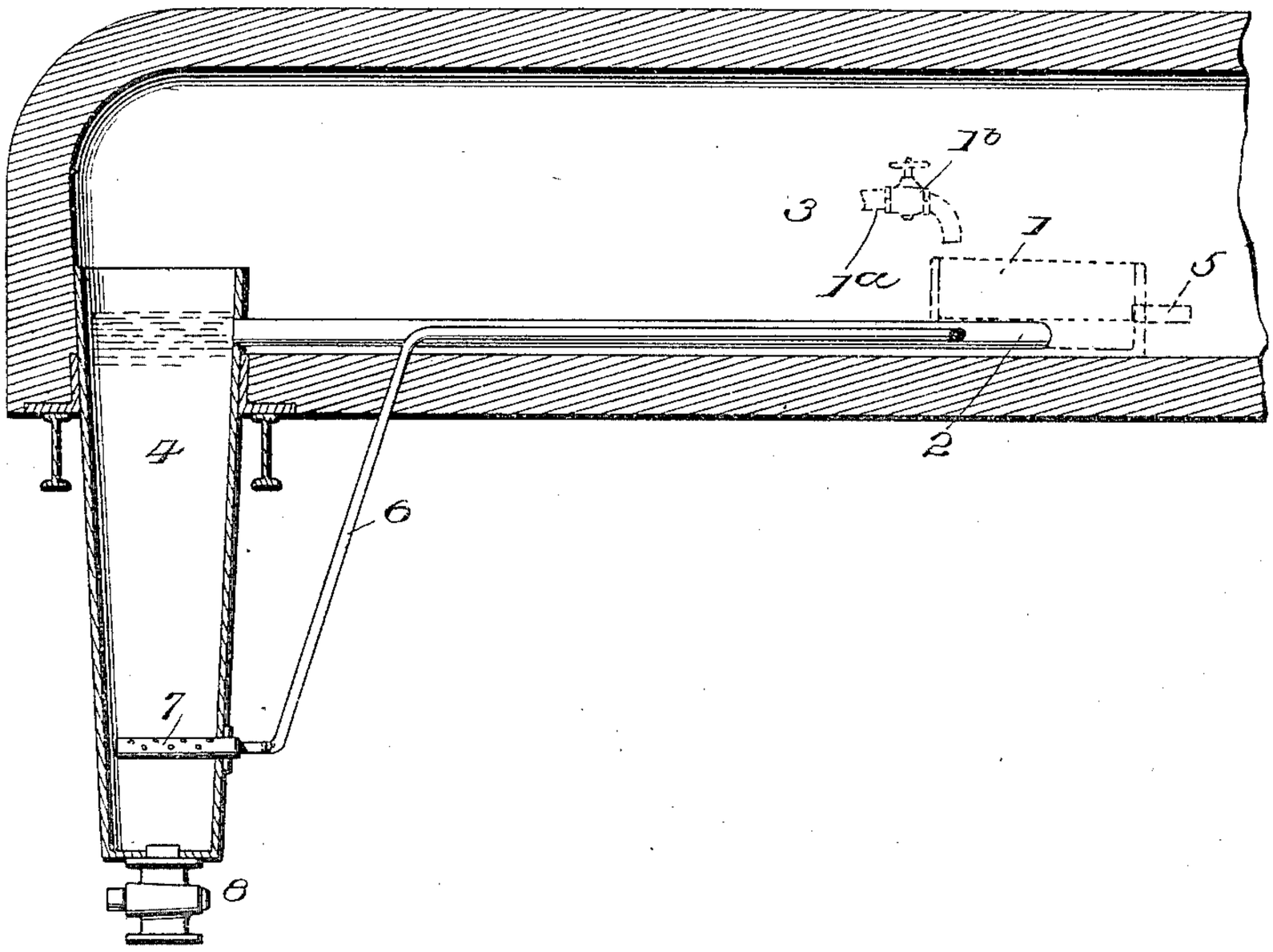
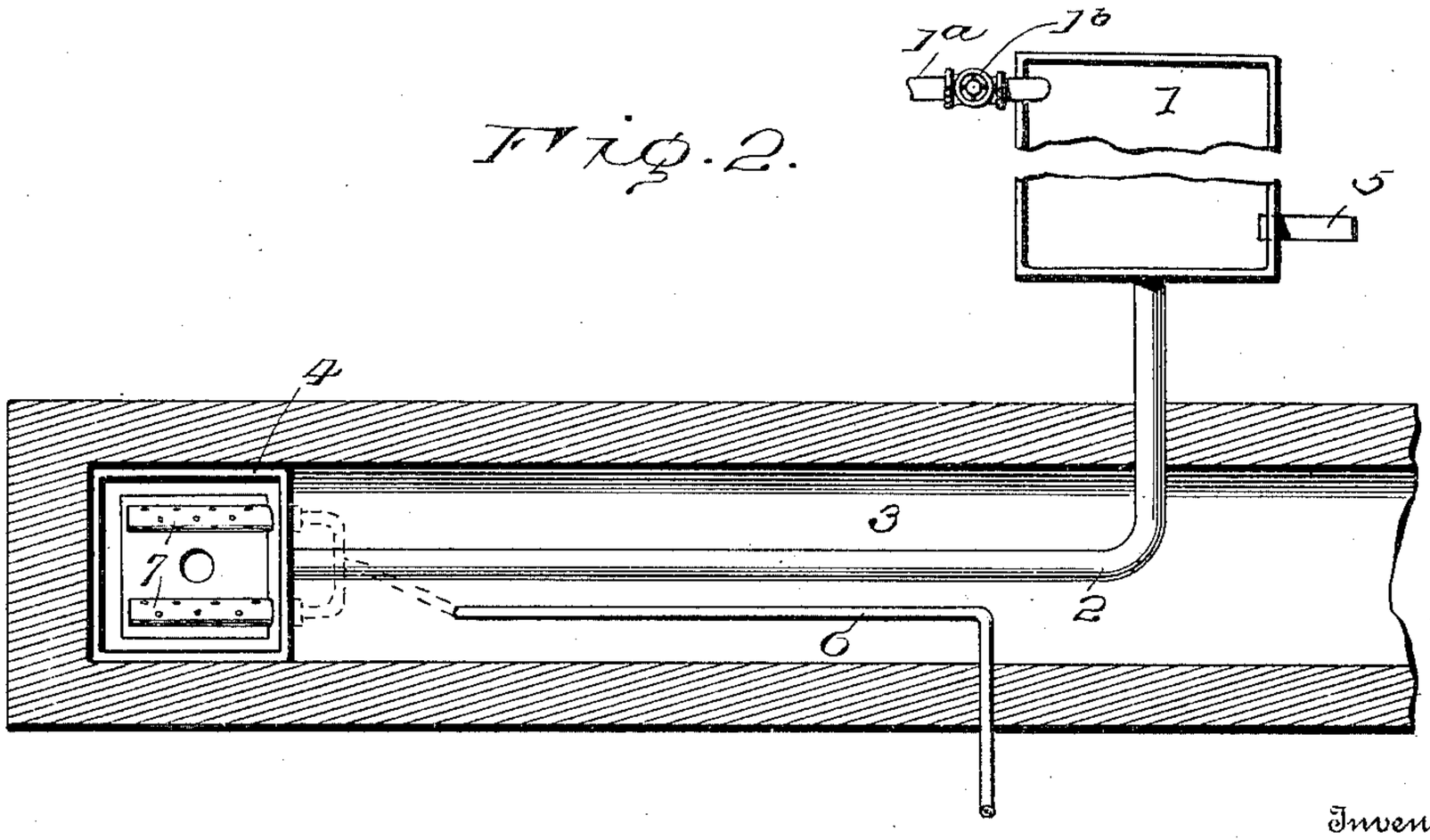


Fig. 2.



Witnesses

Inventor

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By

Attorney

UNITED STATES PATENT OFFICE.

GOTTFRIED WEGELIN, OF KALSCHEUREN, GERMANY.

APPARATUS FOR MAKING LAMPBLACK.

SPECIFICATION forming part of Letters Patent No. 688,215, dated December 3, 1901.

Application filed July 23, 1901. Serial No. 69,389. (No model.)

To all whom it may concern:

Be it known that I, GOTTFRIED WEGELIN, of Kalscheuren, Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Apparatus for Manufacture of Lampblack; 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.

Heretofore in the manufacture of lampblack from tar more or less waste has occurred by reason of the conversion of the tar into coke and considerable time and heat have been required in evolving the heavy oils and anthracene.

By my present invention the surface of the tar is disturbed by a practically constant supply of fresh tar, and the air which is forced up through the tar to aid in evolving the heavy oils, &c., is heated before entering the body of the tar, preferably by being passed through the combustion-chamber.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view showing a preferred form of embodiment of my invention. Fig. 2 is a horizontal sectional view.

Referring to the drawings, 1 designates a tank, to which the tar is continuously supplied by a pipe 1^a, the flow in which may be regulated by a valve 1^b. A pipe 2, which is passed through combustion-chamber 3, connects tank 1 to a vessel 4, wherein the tar is burned, such pipe opening into the vessel just below the normal level of the tar therein. The level of the tar in vessel 4 is thus constantly the same as in tank 1, in which it is maintained constant by an overflow-pipe 5. By the described means the tar is supplied to vessel 4 at about the level of the liquid therein, thereby in practice keeping the level agitated and preventing the formation of coke. By heating the tar while in transit to the vessel where it is to be inflamed it is readily freed of its volatile materials. The vessel 4 at its upper end opens into the combustion-chamber, so that the smoke arising from the inflamed liquid will pass thereinto and the lampblack will be deposited in chambers (not shown) provided for that purpose.

Heated compressed air is supplied to the tar within vessel 4 through a pipe 6, leading from a suitable compressor (not shown) and extending throughout a portion of its length within the combustion-chamber, terminating in two perforated tubes 7 within the vessel. This air-pipe being passed through the combustion-chamber the air conveyed therethrough will be thoroughly heated before being discharged into the liquid tar, and by reason thereof the air will quickly and thoroughly mix with the fumes before ignition and facilitate evolving the last of the heavy oils and anthracene.

In the bottom of vessel 4 is a cock 8, through which pitch may be drawn as the gases are evolved. The quality of the pitch may be regulated by opening this cock a greater or lesser extent, the same depending on the quantity of the evolved fumes. The less the cock is opened the longer the tar is heated or burned and more fumes evolved, and in consequence the harder is the pitch.

The advantages of my invention are apparent to those skilled in the art.

I claim as my invention—

1. In combination, in an apparatus for the manufacture of lampblack, a combustion-chamber, a hydrocarbon-liquid-containing vessel opening thereinto, means for automatically supplying such liquid to such vessel, and means for supplying preheated air to said vessel beneath the surface of the liquid therein, as set forth.

2. In combination, in an apparatus for the manufacture of lampblack, a combustion-chamber, a hydrocarbon-liquid-containing vessel opening thereinto, a supply-pipe for the liquid leading through the combustion-chamber and opening into the vessel at a point near the normal surface of the liquid therein, a pipe for conveying air under pressure into such liquid beneath the surface thereof, and means for heating the air before its discharge into the vessel, as set forth.

3. In combination, in an apparatus for the manufacture of lampblack, a combustion-chamber, a hydrocarbon-liquid-containing vessel, a supply-pipe for the liquid opening into such vessel at a point near the normal

surface of the liquid therein, a pipe for conveying air under pressure into such liquid beneath the surface thereof, said pipe being carried through the combustion-chamber a portion of its length; as set forth.

4. In combination, in an apparatus for the manufacture of lampblack, a combustion-chamber, a tar-containing vessel, a supply-tank, a pipe leading from the latter through the combustion-chamber and opening into the vessel beneath the surface of the liquid therein, an overflow in said tank located in line with the normal level of the liquid in such vessel, a pipe for conveying compressed air leading through the combustion-chamber and having perforated tubes opening into the vessel beneath the surface of the liquid therein, and an outlet-cock in the bottom of the vessel, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GOTTFR. WEGELIN.

Witnesses:
WILLIAM H. MONROE,
WM. H. DAY.