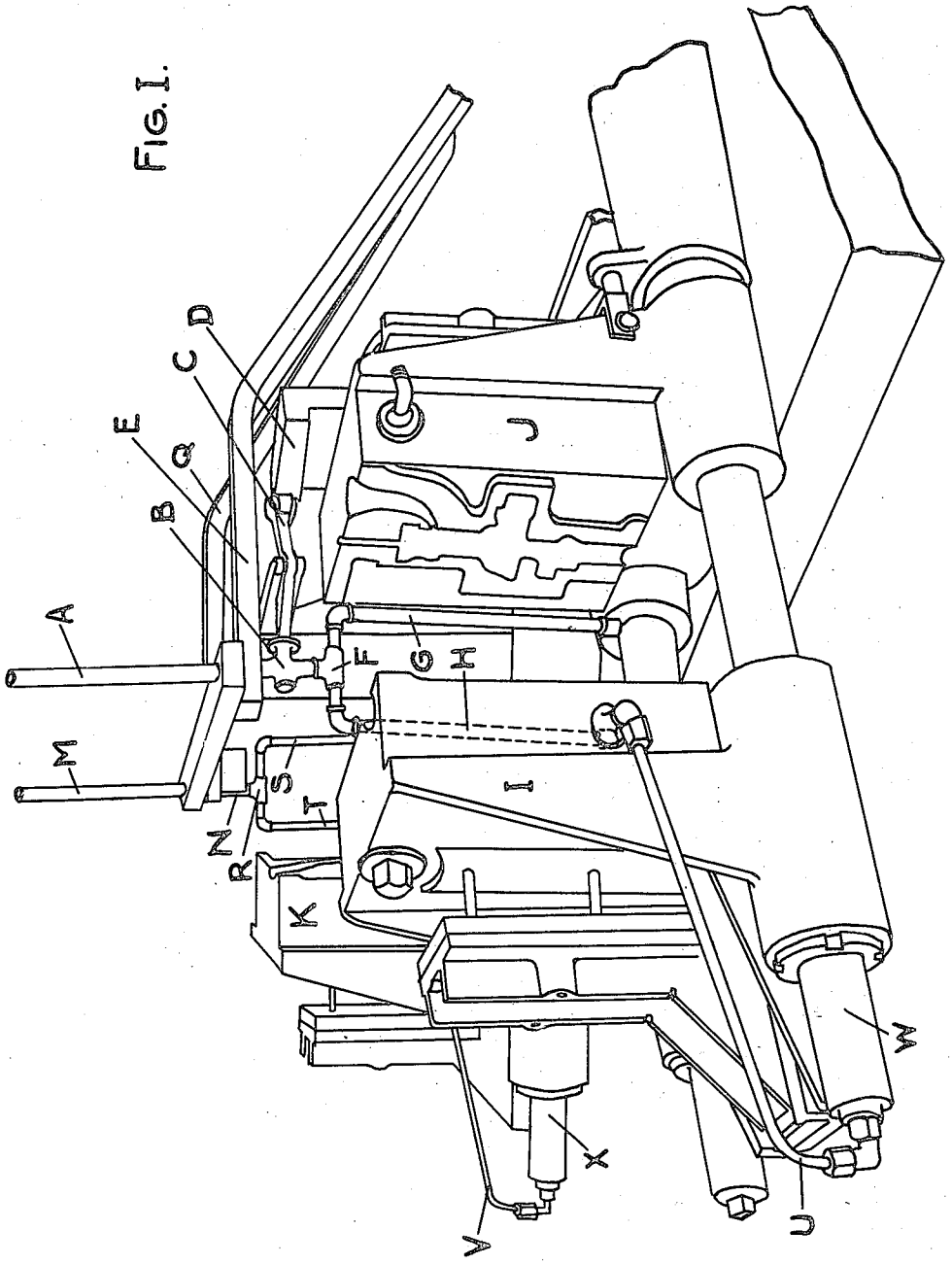
May 27, 1924. 1,495,728

J. L. DOSTAL

AUTOMATIC CLEANING AND APPLICATION OF LAMPBLACK TO METAL MOLDS

Filed June 15, 1922 4 Sheets-Sheet 1

FIG. I.



JOSEPH LOUIS DOSTAL
INVENTOR.

by S. M. Udale
Atty.

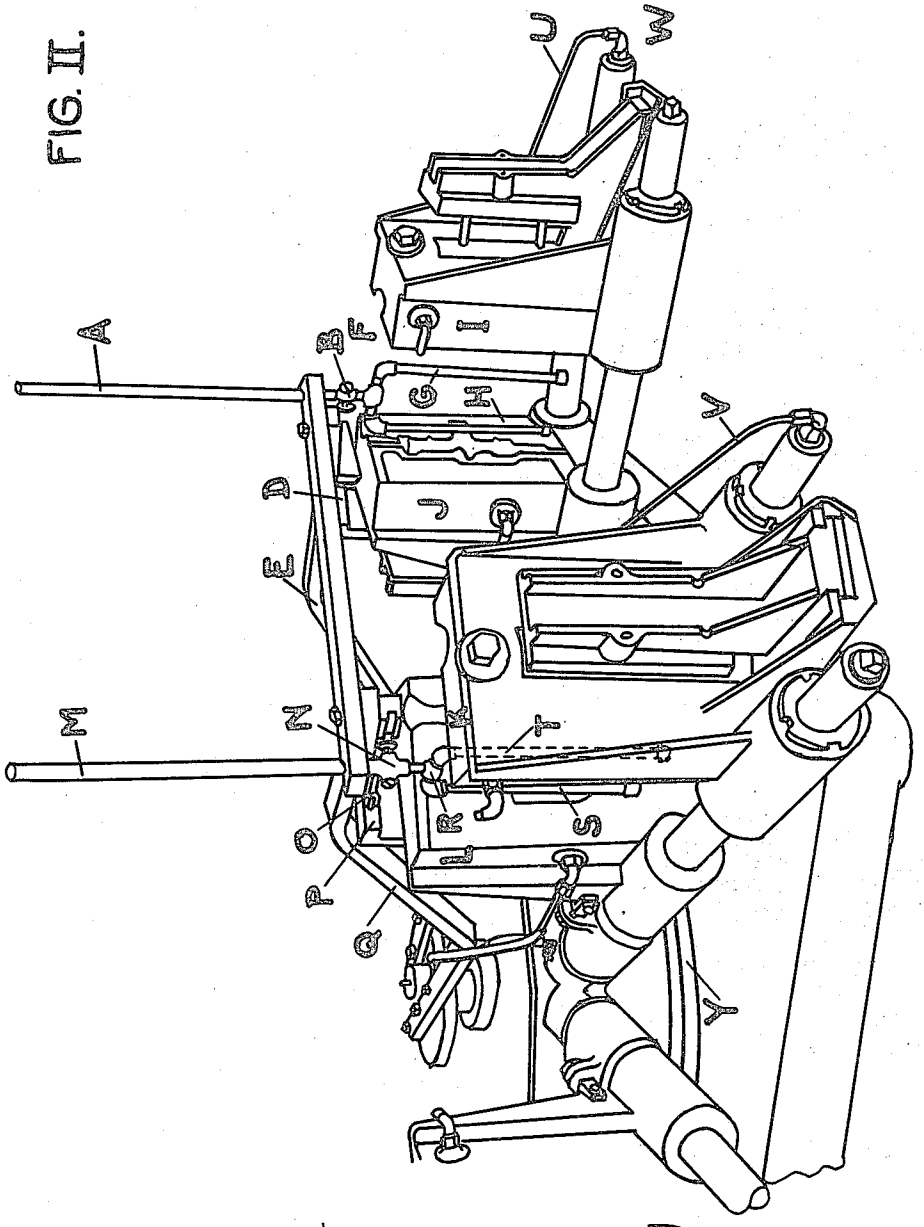
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AUTOMATIC CLEANING AND APPLICATION OF LAMPBLACK TO METAL MOLDS

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FIG. II.



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AUTOMATIC CLEANING AND APPLICATION OF LAMPBLACK TO METAL MOLDS

Filed June 15, 1922 4 Sheets-Sheet 3

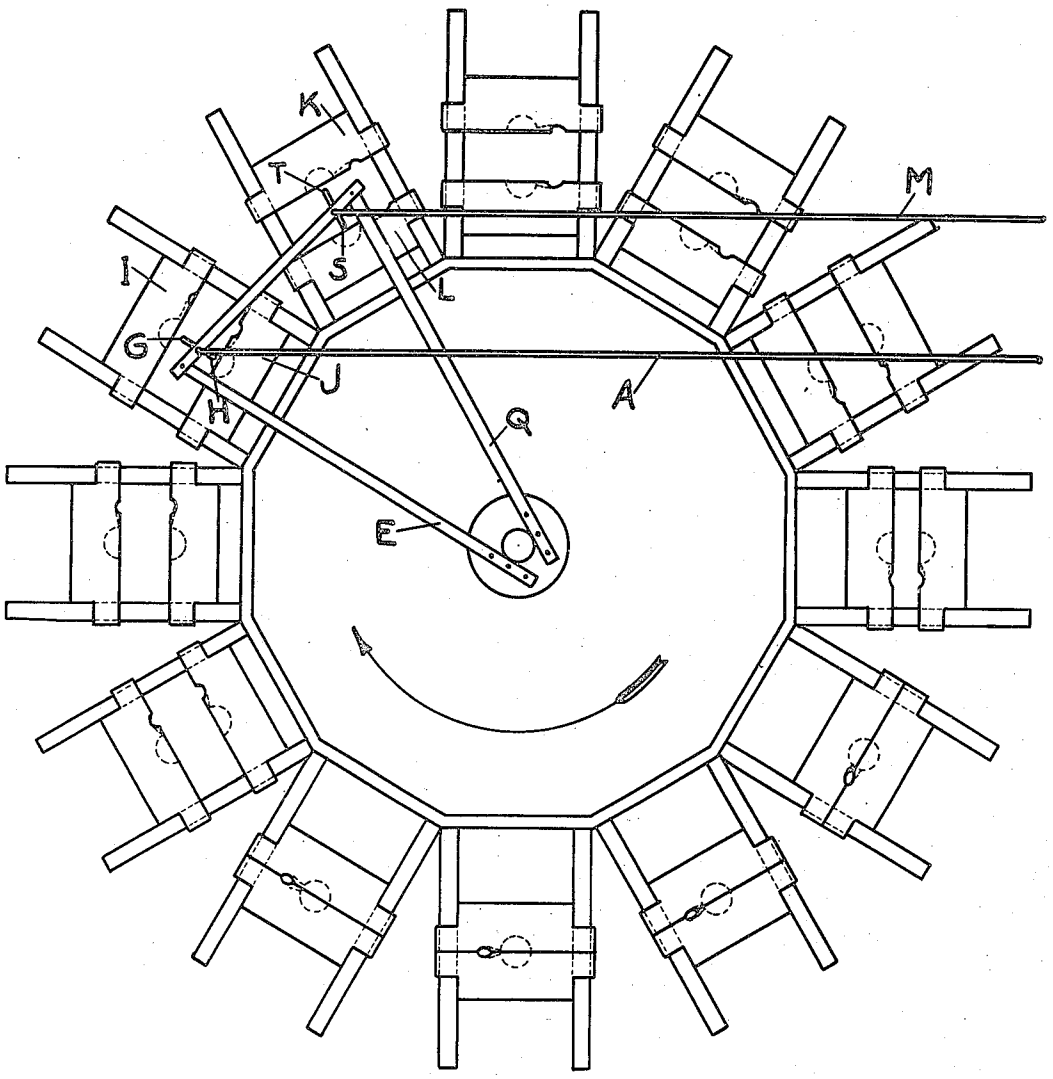


FIG. III.

JOSEPH LOUIS DOSTAL.
INVENTOR.

BY S. M. Udale
ATTORNEY.

May 27, 1924. 1,495,728

J. L. DOSTAL

AUTOMATIC CLEANING AND APPLICATION OF LAMPBLACK TO METAL MOLDS

Filed June 15, 1922 4 Sheets-Sheet 4

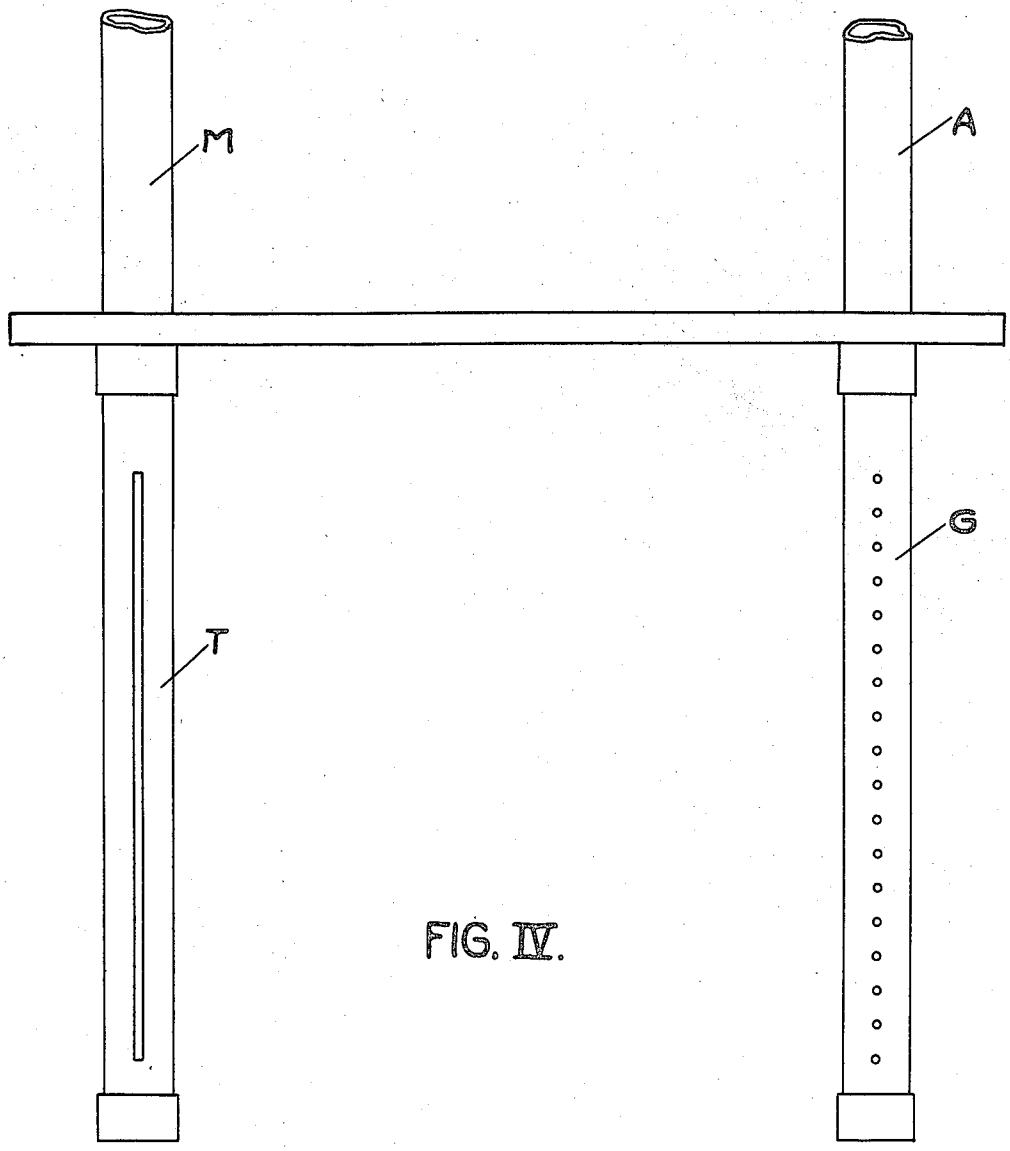


FIG. IV.

JOSEPH LOUIS DOSTAL
INVENTOR.

BY

L. M. Udale.
ATTORNEY.

Patented May 27, 1924. 1,495,728

UNITED STATES PATENT OFFICE.

JOSEPH LOUIS DOSTAL, OF DETROIT, MICHIGAN, ASSIGNOR TO GEORGE M. HOLLEY, OF DETROIT, MICHIGAN.

AUTOMATIC CLEANING AND APPLICATION OF LAMPBLACK TO METAL MOLDS.

Application filed June 15, 1922. Serial No. 568,405.

To all whom it may concern:

Be it known that I, JOSEPH LOUIS DOSTAL, a citizen of the United States, residing at 8530 Dexter Boulevard, Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in the Automatic Cleaning and Application of Lampblack to Metal Molds, of which the following is a specification.

The object of this invention is to provide means for first automatically cleaning and cooling the outer surface of permanent metal molds when used for the continuous production of iron castings and then applying a coating of lamp black so that the surface of the metal molds is cleaned and the coating of lamp black renewed between each casting.

The novel feature is the means provided whereby the cleaning and cooling blast of air is automatically controlled and the smoky flame which provides the coating of lamp black is likewise automatically controlled. The novelty also resides in the application of this automatic cleaning and coating device to a series of molds rotating in a horizontal plane so that a stationary air cleaning and coating device successively cleans and coats a number of molds.

Figures I and II show a pair of molds in position for cleaning.

Figure III shows the general arrangement of the molding machine to which the cleaning and coating device is applied.

Figure IV shows the cleaning and the smoking tubes in detail.

In Figures I and II the pipe conveying the cleaning and cooling air is shown at A and the pipe conveying the combustible gas which supports the smoky flame is shown at M. These two pipes are supported by bars E and Q, which in their turn are supported from the center of the rotating molding machine, it being understood that the pipes A and M remain stationary and the molds rotating past them.

B is the valve controlling the supply of cooling air and this valve is controlled by means of a bell crank lever C, see Figure I. This bell crank lever C contacts with the cam D which is carried on the mold J. The bell crank lever C is supported by a bracket projecting from the bar E. This bar E is supported from the stationary center portion of the rotating molding machine, see Figure III. After passing the valve B the air supply forks at F and is delivered against the surface of the molds I and J through the perforated pipes G and H, see Figure I.

In Figure II the arrangement whereby the smoky flame is controlled is shown in detail. The combustible gas flows through M and is controlled by the valve N through a bell crank lever O which is similar to the bell crank lever C shown in Figure I. This bell crank lever is operated by the cam P similar to the cam D which is carried on the mold L. The bell crank lever O is supported from the bar Q from the center of the molding machine, see Figure III, and is therefore stationary. After the combustible gas passes the valve M the passage forks at R and is delivered through two slotted pipes S and T against the surface of the molds L and K, see Figure IV.

A pilot jet not shown is kept burning so that the combustible gases are ignited the moment they escape from the slot in S and T. The reason for slotting the pipe and not perforating it is to avoid trouble with dirt clogging the perforations and also to provide a very liberal quantity of gas so that every portion of the mold is positively covered with lamp black during the short period the molds are passing the slotted pipes S and T. This slotted orifice gives a "paint brush" effect, duplicating exactly the result obtained by a manual application of lamp black with a brush.

The pipes U and V indicate the air cooling device conveying air from the hollow guides W and X supporting the hollow molds I and K. The outer molds I and K are operated by a cam Y, this mechanism being the subject of a co-pending application by D. W. Candler, Ser. No. 504,988.

An advantage of the above described cooling and coating device is that any loose particles of dirt adhering to the surface of the mold are first of all removed and then a thick coating of lamp black is applied. The continuous movement of the molds past the stationary slotted pipes S and T assures a uniform distribution of the lamp black over the entire working surface of the molds.

What I claim is:

1. In a molding machine having a plurality of permanent metal molds arranged to be automatically opened and closed and

to be translated in a closed circuit; a stationary perforated pipe delivering a cooling and cleaning fluid against the surface of the mold; a stationary pipe conveying combustible gas against the surface of the mold; valves controlling the supply of said cooling fluid and said combustible gas, said pipes being arranged to pass between said molds; a cam carried by each pair of molds operating the two valves in sequence whereby the surface of each mold is first cleaned and then covered with lamp black.

2. In a molding machine having a plurality of permanent metal molds arranged to be automatically opened and closed and to be translated in a closed circuit; a stationary perforated pipe delivering a cooling and cleaning fluid against the surface of the molds; a valve controlling the supply of said cooling fluid, said pipe being arranged to pass between said molds; a cam carried by each pair of molds operating the valve whereby the surface of each mold is cleaned and cooled.

3. In a molding machine having a plurality of permanent metal molds arranged to be automatically opened and closed and to be translated in a closed circuit, a perforated pipe delivering a cooling and cleaning fluid against the surface of the mold, a perforated pipe discharging a combustible gas against the surface of the mold and arranged so as to deposit lamp black upon said molds after the surface of the molds has been cooled and cleaned by the said cleaning fluid.

4. In a molding machine having a plurality of permanent metal molds arranged to be automatically opened and closed and to be translated in a closed circuit, a member containing a passage adapted to conduct a cleaning and cooling fluid, a plurality of nozzles located on said member and adapted to act as discharge outlets for said cooling and cleaning fluid from said passage against the surfaces of the metal molds, a second member containing a passage adapted to convey a carbon supplying fluid, a plurality of outlets from said passage adapted to discharge said carbon supplying fluid against the surfaces of the metal molds so as to deposit carbon upon said molds after the surfaces of the molds have been cleaned and cooled by the said cleaning fluid.

In testimony whereof I affix my signature.

JOSEPH LOUIS DOSTAL.