

A. L. CASE.
METHOD OF PRODUCING STEREOTYPE PRINTING PLATES.
APPLICATION FILED DEC. 27, 1907.

Patented June 10, 1913.

1,064,052.

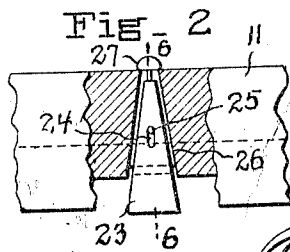
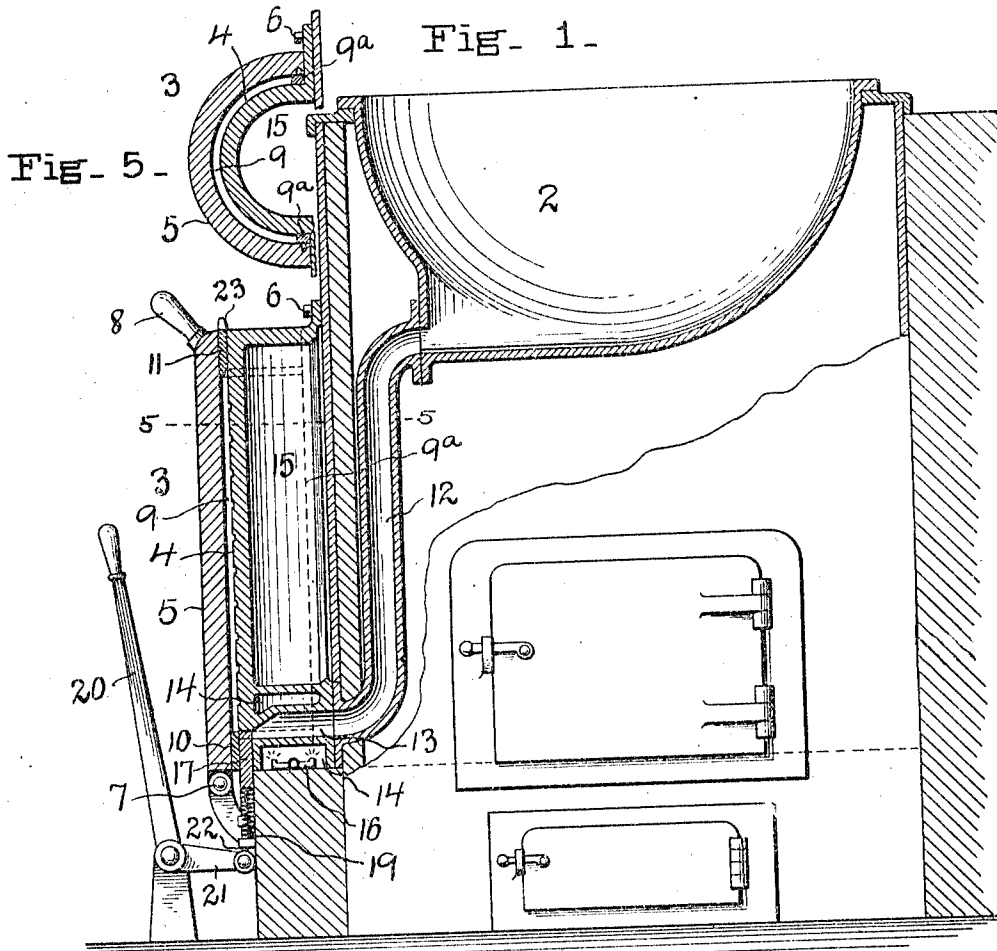
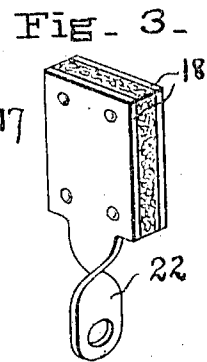
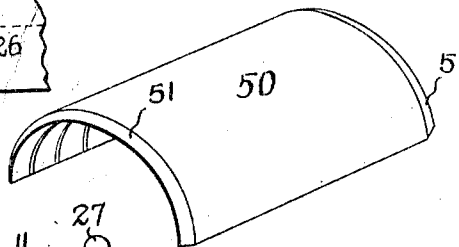
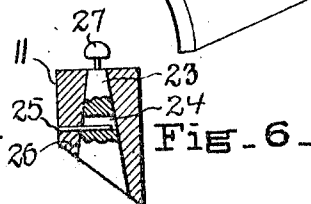


Fig. 4-



WITNESSES
J. P. [Signature]
R. C. [Signature]



INVENTOR
Arthur L. Case.
BY *[Signature]*
ATTORNEY

UNITED STATES PATENT OFFICE.

ARTHUR L. CASE, OF PLAINFIELD, NEW JERSEY.

METHOD OF PRODUCING STEREOTYPE PRINTING-PLATES.

1,064,052.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed December 27, 1907. Serial No. 408,232.

To all whom it may concern:

Be it known that I, ARTHUR L. CASE, a citizen of the United States of America, and a resident of Plainfield, Union county, New Jersey, have invented certain new and useful Improvements in Methods of Producing Stereotype Printing-Plates, of which the following is a specification.

The present invention relates to stereotype printing plates and to the method of producing the same.

In the prior art of stereotyping it has been customary to cast the plate in an open or non-inclosed casting chamber, thereby producing a plate having considerable overcast. This plate has to be trimmed and the surplus metal removed.

The object of this invention is to obviate the necessity of trimming the plate after it is cast. This is effected by originally casting the plate to its required length and devoid of overcast.

In the accompanying drawings is shown a preferred form of an apparatus for carrying out the invention. This apparatus is not claimed herein but forms the subject matter of an application filed by me on the 14th of March 1907 Serial No. 362,343.

In the said drawings: Figure 1 is a side view in elevation, partly broken away and in section, of a stereotype casting machine for carrying out the invention. Fig. 2 is a detail view partly in section of one of the head gages. Fig. 3 is a perspective view of the valve for regulating the admission of metal to the casting chamber. Fig. 4 is a perspective view of my improved stereotype printing plate. Fig. 5 is a transverse sectional view through the cope and drag on the line 5-5 of Fig. 1. Fig. 6 is a sectional view on the line 6-6 of Fig. 2.

Similar characters of reference indicate corresponding parts in the different views.

1 indicates a metal melting furnace of any usual or suitable structure and provided with the melting pot 2. Located adjacent to this metal melting furnace is in this instance an upright stereotype casting mold, indicated by 3. The casting mold is composed of two parts, a stationary part, here called the drag and indicated by 4, and a movable part, here called the cope, indicated by 5. The stationary part can conveniently be placed with the back against the metal melting furnace and is secured thereto by any suitable means, as the bolts 6. The means

for moving the cope toward and away from the drag may be of any suitable construction. In the present instance, the cope is hinged at its lower end by means of the pivot 7 and may be provided with the operating handle 8.

The casting chamber 9 is substantially of the contour and dimensions of the plate to be cast being inclosed by the cope and drag, by two side gages 9^a and by the lower and upper head gages indicated respectively by 10 and 11, the said head gages being beveled in opposite directions as shown.

Suitable means of communication from the pot to the casting chamber are provided. The particular form here followed consists of a duct 12 leading from the pot and extending downwardly within the metal melting furnace, and outwardly to the exterior thereof where it communicates with a horizontal passage 13 in the lower end of the drag which leads into the casting chamber. This passage 13 is surrounded by an air space 14 which separates it from or renders it free from contact with the usual water back 15, so that the water in the latter will not tend to cool the metal before it enters the casting chamber. If desired, some auxiliary heating means, as the gas jets 16 may be utilized to heat the passage 13.

17, indicates a valve for regulating the admission of the molten metal into the casting chamber. This valve consists of two plates 18 of sheet metal, between which is interposed a body of asbestos or the like. It is normally held in its closed position by means of the spring 19 and is opened by means of the lever 20 and connections 21 and 22. When this valve is closed it forms a part of the wall of the casting chamber as shown.

Located in the upper head gage is a valve 23 for allowing the air to escape as the casting chamber is filled. This valve is provided with a shot 24 in which plays a suitable stop 25 carried by the gage so that the valve by its own weight is normally open. The rise of the molten metal serves to close the valve in its seat 26 by reason of the complementary tapered surfaces in the valve and seat, and when so closed it forms a part of the wall of the casting chamber, the said valve being beveled to correspond to the bevel of the gage. A signal or indicator 27 can conveniently be carried by this valve and will be caused to rise or project outside the mold when the latter is full.

The plate shown in Fig. 4 is the product of the method employed in originally casting the plate to its required length. The said plate 50 is characterized by the fact that it is originally devoid of overcast and is originally formed with oppositely beveled surfaces 51 at its upper and lower ends.

What is claimed is:

1. The method of producing a stereotype printing plate or other article which is initially devoid of overcast, consisting in flowing molten metal into a casting chamber of the proper size and contour of the plate to be cast, allowing the air to escape from the casting chamber as it is displaced by the metal entering the chamber, and finally, when the casting chamber is completely filled with molten metal, closing and sealing off the casting chamber both at the point of entrance of metal and the point of exit of air.

2. The method of producing a stereotype printing plate initially devoid of overcast, which consists in flowing by gravity molten metal into a casting chamber of the proper size and contour of the plate to be cast, allowing the air to escape from the casting chamber as it is displaced by the metal en-

tering the chamber, and finally, when the casting chamber is completely filled with molten metal, closing and sealing off the casting chamber both at the point of entrance of metal and the point of exit of air.

3. The process of producing a stereotype printing plate originally free of overcast, which consists in flowing molten metal into the lower end of a substantially upright casting chamber, permitting the air to escape from the upper portion of the chamber as it is displaced by the entering molten metal, closing off the air outlet as the chamber becomes completely filled with metal, and, after the chamber has been completely filled with metal, closing off the inlet in the bottom portion of the chamber at the point of entry into the chamber, whereby the molten metal completely filling a closed casting chamber of the required dimensions, will produce a perfect printing plate devoid of overcast.

Signed at New York city this 24th day of December, 1907.

ARTHUR L. CASE.

Witnesses:

AXEL V. BEEKER.

GEO. A. MARSHALL.