

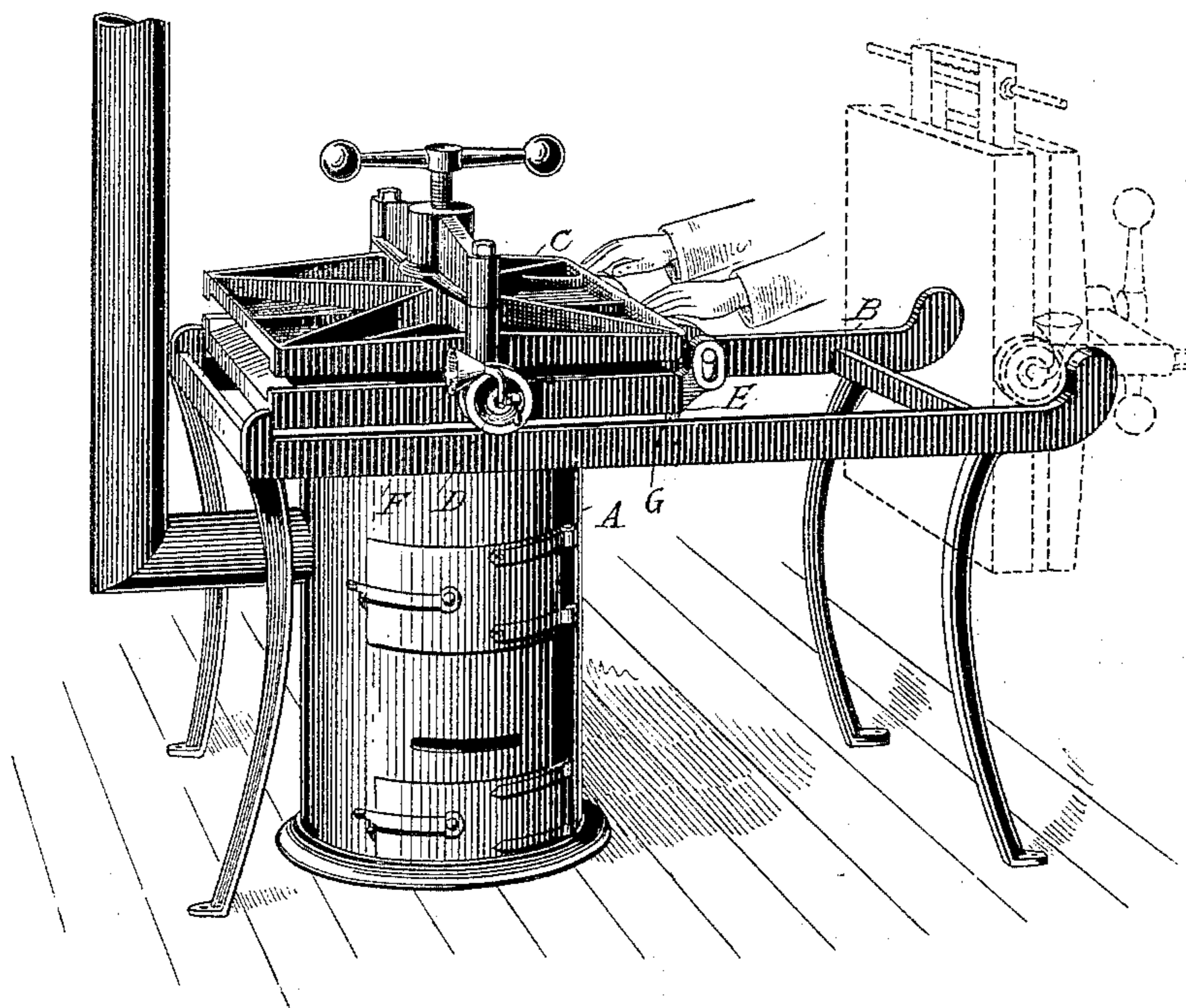
(No Model.)

M. J. HUGHES.

COMBINED FURNACE AND HOT WATER CASTING BOX.

No. 442,440.

Patented Dec. 9, 1890.



WITNESSES.

Raymond H. Warner.
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INVENTOR.

Marshall J. Hughes,

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MARSHALL J. HUGHES, OF NEW YORK, N. Y.

COMBINED FURNACE AND HOT-WATER CASTING-BOX.

SPECIFICATION forming part of Letters Patent No. 442,440, dated December 9, 1890.

Application filed November 13, 1889. Serial No. 330,219. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL J. HUGHES, of New York, in the county of New York and State of New York, have invented a new and
5 Improved Combined Furnace and Hot-Water Stereotype-Casting Box, of which the following is a specification.

Heretofore the most popular method of drying the molds on the face of the type or form
10 was by the use of live steam, with its ever-leaking and expensive attachments used in connection with the chest of the drying-table or casting-box; and when steam was not accessible gas, gasoline, or coal-oil was generally
15 substituted, and many seriously objected to the latter from the fact that the heat derived was what is termed "dry," and if not supplied with care would result in serious injury to the type by overheating in the drying process.
20 Even steam by a too great a head or heat would prove injurious; and in every instance the two main, most important, and expensive parts of a stereotype outfit—viz., the casting-box and the furnace—were separated and
25 used separate and apart for their respective purposes. However, this my last improvement—the combination of the metal furnace and the casting-box by the use of hot water—is undoubtedly a most excellent one, producing an economy, simplicity, and practicability
30 to an extent never before obtained.

The object of my invention is to dispense with these separate appliances by utilizing the casting-box, which has a hollow bed or
35 platen for the reception of water to be heated by the same furnace which melts the metal for general stereotyping purposes, as herein-after described and claimed.

Reference is to be had to the accompanying
40 drawing, forming a part of this specification, in which similar letters of reference indicate corresponding parts.

The drawing represents a perspective view of my apparatus complete, showing the casting-box over the furnace in full lines and with-
45 drawn in dotted lines.

The furnace or melting-pot is designated by letter A and is of ordinary construction.

B is a railroad or suitably-constructed frame
50 for the transportation of the casting-box c, extending over and beyond the top of the furnace or melting-pot. The casting-box is

composed of the upper and the lower lids. D is the trunnion of the same, having a wheel or slide to be easily pushed backward or forward on the frame over the furnace or pot
55 for both mold-drying and casting purposes, as shown in the figure. For casting, the casting-box is simply pushed back from over the center of the furnace from its mold-drying
60 position to the rear end of the frame, where it is readily swung in a vertical position for the pouring in of the melted metal, as shown in dotted lines in the figure.

E is the hollow bed or platen. 65

F is a funnel or reservoir attached to the same to hold and to convey by the use of pipes or suitable channels the water to be heated.

G is an exhaust-pipe to conveniently supply hot water when needed for other purposes,
70 and also to empty the chest when desired.

By the consolidation, as shown, it will be seen that the most desirable result possible is obtained, and without any additional expense or trouble whatever, and there is nothing to
75 get out of order.

The bottom of the casting-box and mold-drying apparatus is a hollow chest on wheels or slide and is simply filled with water through a small funnel-reservoir attached, and in the
80 drying process of the mold it is on its railroad-frame easily run over and allowed to rest over the top of the metal-pot of the furnace, and the same heat that is used in the melting of the metal answers every purpose for the
85 mold-drying process. The hot water in the hollow chest of the casting-box thus equalizes the heat under the form molded and being dried, and it is impossible to secure overheat or any injurious effects, and, as before de-
90 scribed, after the mold has thus been dried, the casting-box can instantly be run off the furnace on its railroad-frame in the proper position for casting purposes by the various patented devices belonging to and forming a
95 part of the outfit.

This simple device renders stereotyping a grand success in the hands of any printer. The combined arrangement occupies but very
100 little room and can be placed in any printing-office where an ordinary stove-pipe can be run to a chimney or flue, and wood as well as coal can be used, if so desired. For mold-drying purposes it dispenses entirely with expensive

appliances, and also with the use of obnoxious gas, gasoline, coal-oil, steam, &c., and is devoid of any of the objectionable overheating or injurious effects as regards the use of such
5 in connection with the type.

I am aware that a hollow platen or bed for stereotyping purposes has been employed for the use of steam or hot water separate from the furnace and the frame, as described in a
10 patent issued to me February 7, 1882.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the furnace and the frame or track above the same with a casting- 15 box movably mounted on the frame and having a hollow water-holding bed, substantially as specified.

In testimony that I claim the foregoing as my invention I have signed my name, in pres- 20 ence of two witnesses, this 12th day of November, 1889.

MARSHALL J. HUGHES.

Witnesses:

T. H. PALMER,
GEO. H. BOTTS.