

(No Model.)

L. B. MARKS.

APPARATUS FOR MOLDING AND PRESSING CARBONS.

No. 505,775.

Patented Sept. 26, 1893.

Fig. 1.

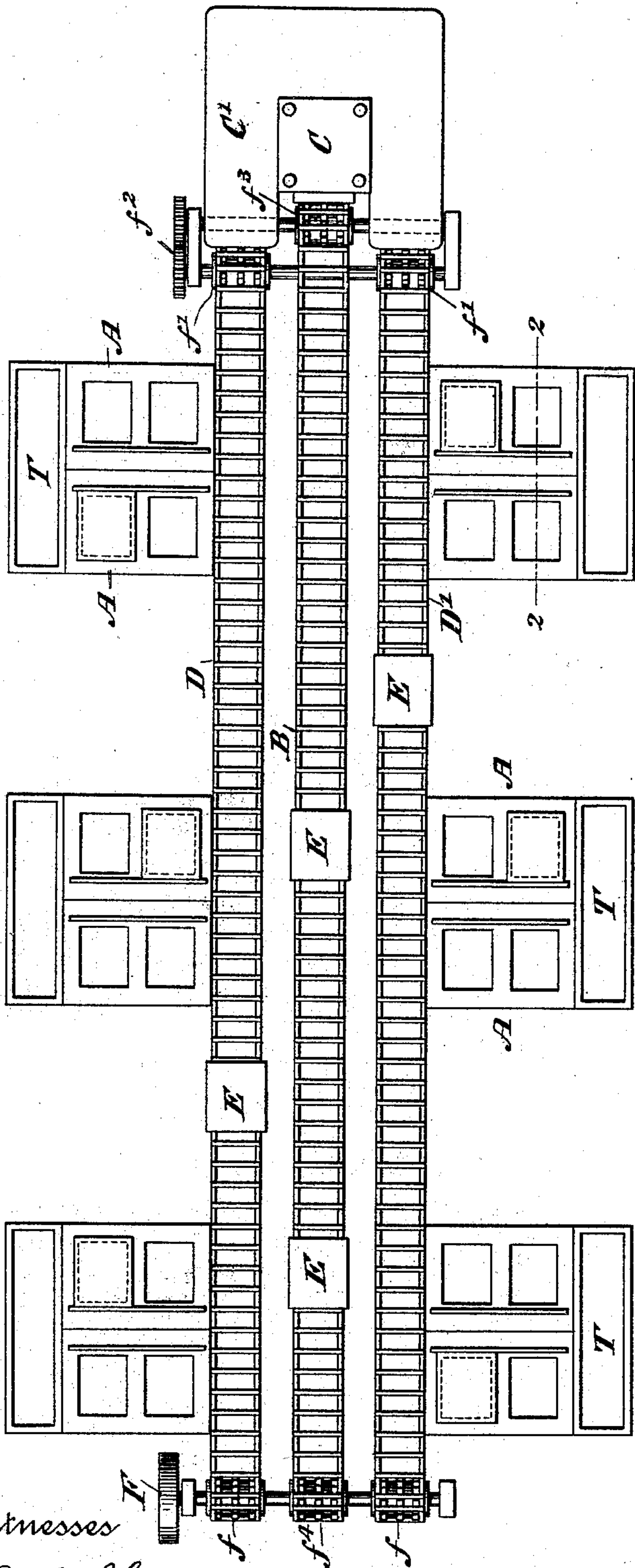


Fig. 2.

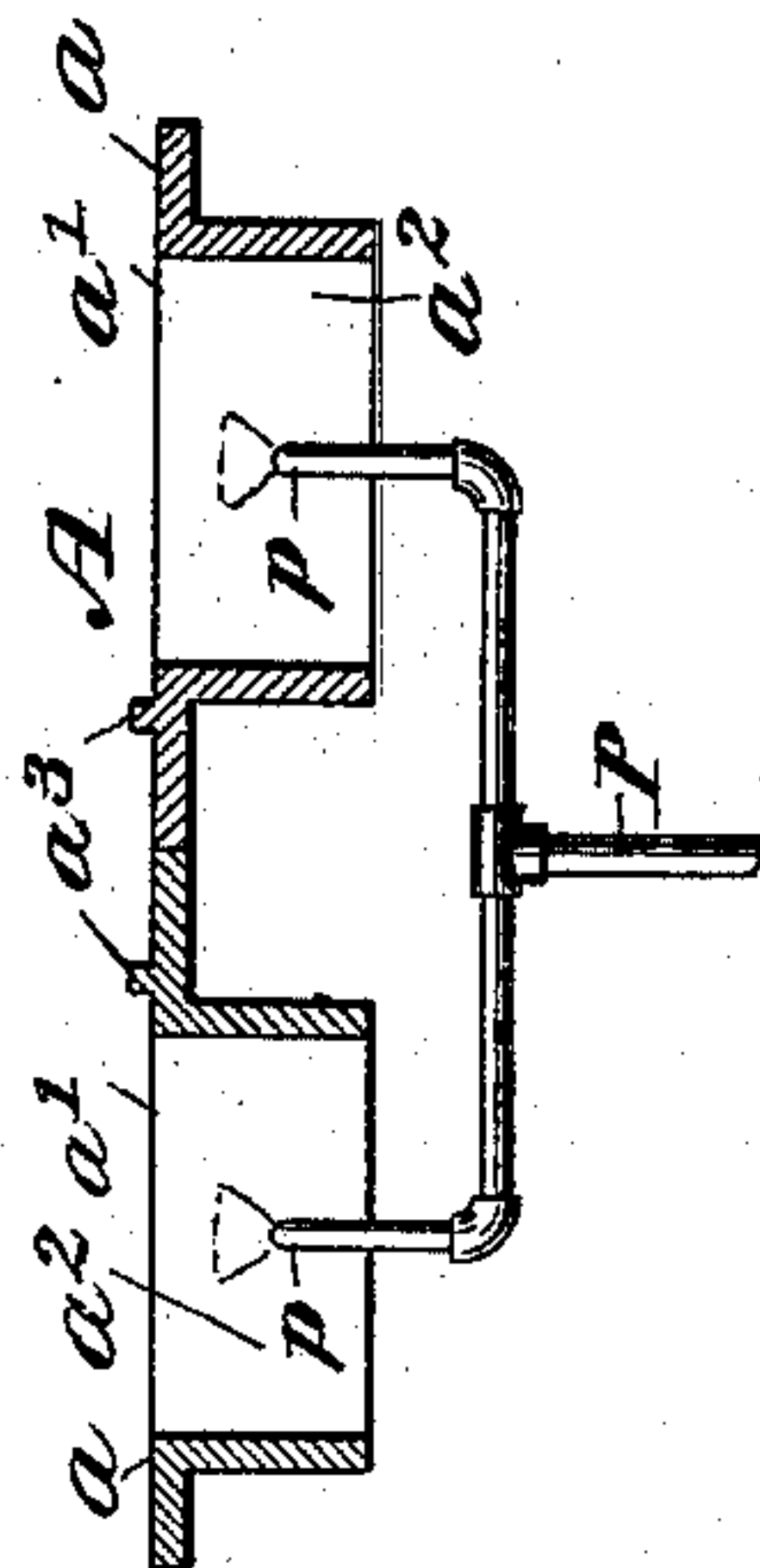
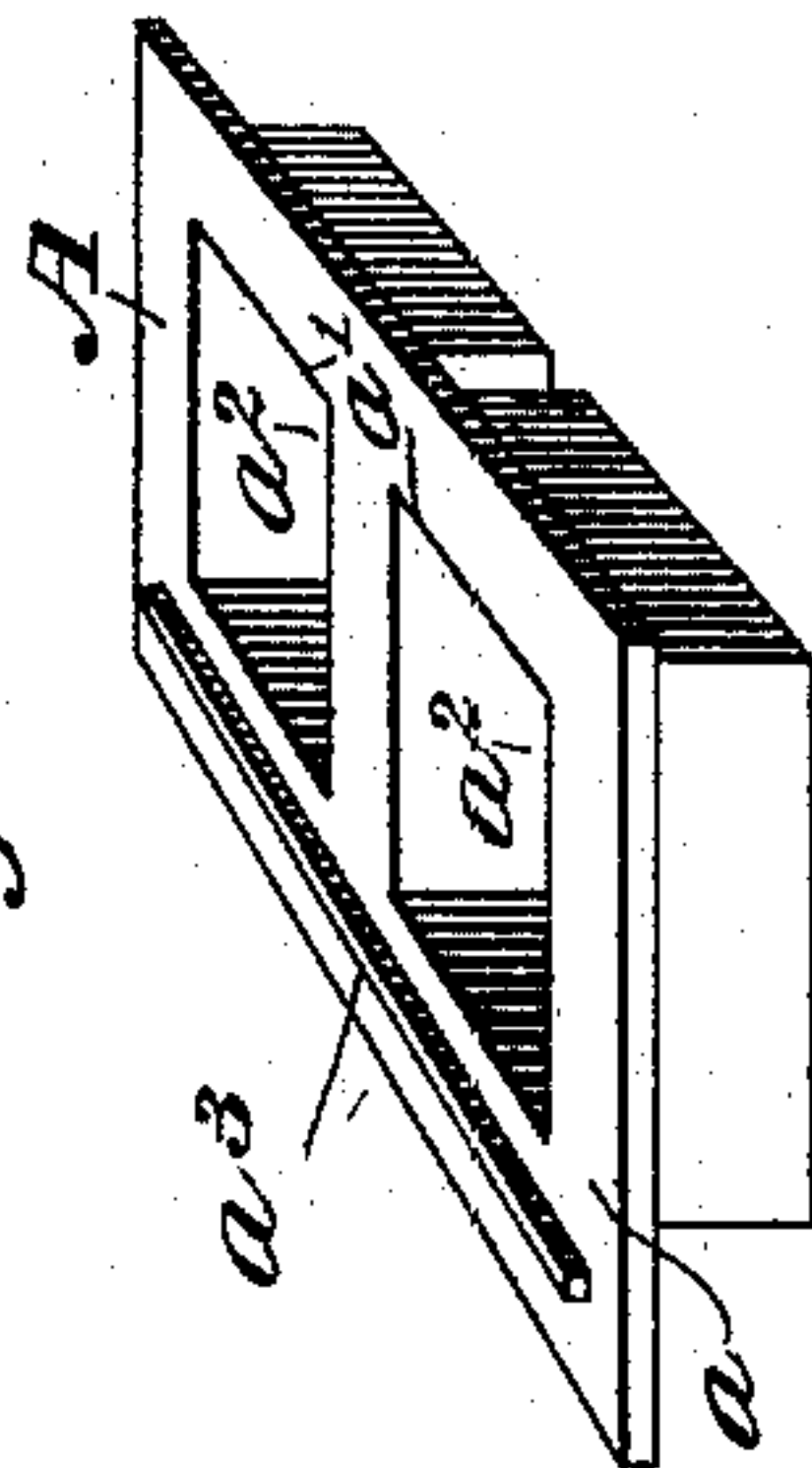


Fig. 3.



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APPARATUS FOR MOLDING AND PRESSING CARBONS.

SPECIFICATION forming part of Letters Patent No. 505,775, dated September 26, 1893.

Application filed October 26, 1892. Serial No. 450,015. (No model.)

To all whom it may concern:

Be it known that I, LOUIS B. MARKS, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Apparatus for Molding and Pressing Carbons, of which the following is a specification.

In the manufacture of carbons for use in electric arc-lamps, voltaic batteries and other like purposes, the material is formed within steel molds while in a plastic condition, being maintained in such plastic condition during the filling of the molds, by the prior application of heat thereto, after which the said molds are again heated, together with their contents, and are then subjected to hydraulic or other heavy pressure, so as to compress and consolidate the plastic material within, and thus complete the formation of the carbons, which are afterward hardened by being burned in a kiln or furnace.

The object of my invention is to facilitate the performance of these operations, in case such carbons are required to be made in large quantities, and especially to enable a constant heat to be applied to the molds while in the act of being filled.

In the accompanying drawings, Figure 1 is a plan view of an apparatus embodying my invention. Fig. 2 is a vertical transverse section through one of the double furnaces and Fig. 3 is a perspective view of one of said double furnaces.

In Figs. 2 and 3, A represents a furnace which is so constructed as to enable the molds to be placed upon it and kept hot while being filled with the plastic carbonaceous material. I prefer to construct such furnaces in the form of a flat horizontal bench a of cast-iron, having one or more rectangular openings $a' a'$, each of which forms the open mouth of an iron box as seen at $a^2 a^2$ which box may with advantage be cast as an integral part of the horizontal plate a . Within the boxes $a^2 a^2$ are inclosed one or more burners or heaters $p p$, which are preferably supplied with fuel-gas or vaporized hydro-carbon oil, through a pipe P communicating with a main supply pipe. The molds E E, which are rectangular boxes of steel, are a little larger

than the openings $a' a'$, and while being filled with plastic carbonaceous material are placed directly over said openings, so as to form a cover for them. When in this position the flame from the burners impinges directly against the bottom of the mold and thus keeps it hot, and its contents in a plastic condition, ready to be pressed as soon as the operation of filling or molding is completed. A rib a^3 is formed upon the surface of the plate a and serves as a guide to the operator in placing the mold in proper position over the opening in the furnace frame so as to receive the full force of the heat from the burner P.

In Fig. 1, twelve sets of furnaces of the construction shown in Figs. 2 and 3 are ranged at convenient intervals along each side of a set of conveyers, consisting of link-belts B, D and D', which are kept constantly moving at a uniform rate of speed in a horizontal direction as hereinafter shown. At C is a hydraulic or other powerful press, preferably surrounded by a table C'. The link-belt B moves constantly toward the press C while the other two link-belts D and D' move in the opposite direction, or away from the press C. This movement is effected by mechanism as follows: Upon a horizontal shaft, driven by suitable power applied to a pulley F, are fixed sprocket-wheels f and f' which drive the link-belts D D' in a direction away from the press C. The said belts pass around and drive other sprocket-wheels $f' f'$ fixed upon a shaft which is geared at $f^2 f^2$ to a parallel shaft carrying another sprocket-wheel f^3 revolving in an opposite direction. The middle link-belt B passes over this last named sprocket-wheel, and also over another similar wheel which is loose upon the shaft of the pulley F. The function of these moving endless link-belts is to convey the molds to and fro, between the several furnaces and the press C as hereinafter explained.

The furnaces A A are arranged, preferably in pairs, as shown in Fig. 1, and back to back, so that a trough T containing the plastic carbonaceous mixture may be placed in convenient proximity. The molders stand in pairs at the furnaces, facing each other. Each separate mold is provided with a distinguishing character, indicating the particular molder

by whom it has been filled. Each molder fills his molds in succession, from the contents of the trough T, placing them meanwhile upon the furnace over the openings, so that they
5 are constantly kept hot during the operation; when the molding is completed, the mold is placed at once, without further heating, on the center-belt B, as shown at E and E, and is thereby conveyed to the press C and after
10 having been subjected by the attendant to the operation of the press, it is placed on one or the other of the outer belts D or D' and returned, and when it reaches the person who filled it, he slides it off on to his bench. The
15 pressed carbons are then removed and subjected to the subsequent operation of trimming and baking, thus leaving the mold in readiness to be refilled.

I claim as my invention—

20 1. In an apparatus for molding carbons a bench provided with a series of openings, a plurality of molds adapted to cover the openings, a receptacle for the carbon mixture ac-

cessible to each operator manipulating the respective molds, and one or more gas or vapor burners beneath each opening, whereby
25 each operator may manipulate his mold while the same is being heated.

2. In an apparatus for molding carbons a bench provided with a series of openings in
30 front of the several operators, a plurality of molds adapted to cover the openings, a receptacle for the carbon mixture, one or more gas or vapor burners beneath each opening, and a projecting rib upon the surface of each
35 bench for determining the position of the mold with reference to the opening, as set forth.

In testimony whereof I have hereunto subscribed my name this 22d day of October A.
40 D. 1892.

LOUIS B. MARKS.

Witnesses:

J. C. EWING,
DAVID STERRETT.