Oct. 16, 1923. 1,471,028

W. HOGENSON

CHARGING FORK FOR ENAMELING FURNACES

Filed July 17, 1922 2 Sheets-Sheet 1

Fig. 1.

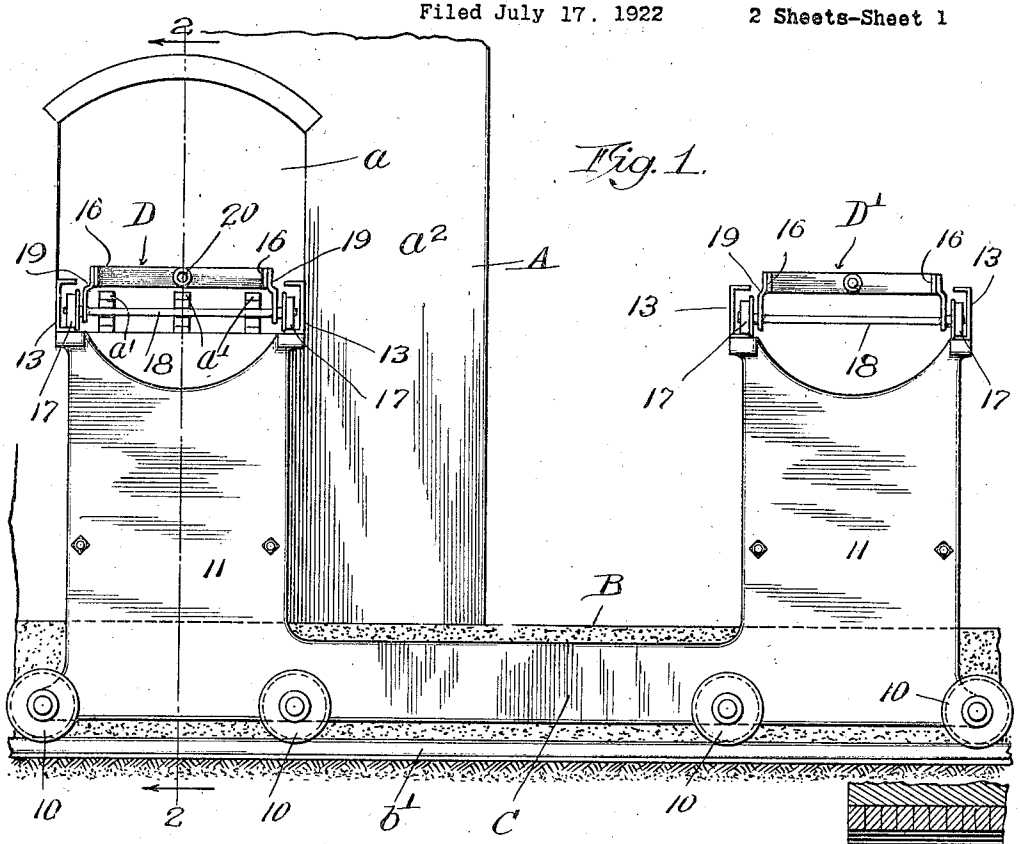
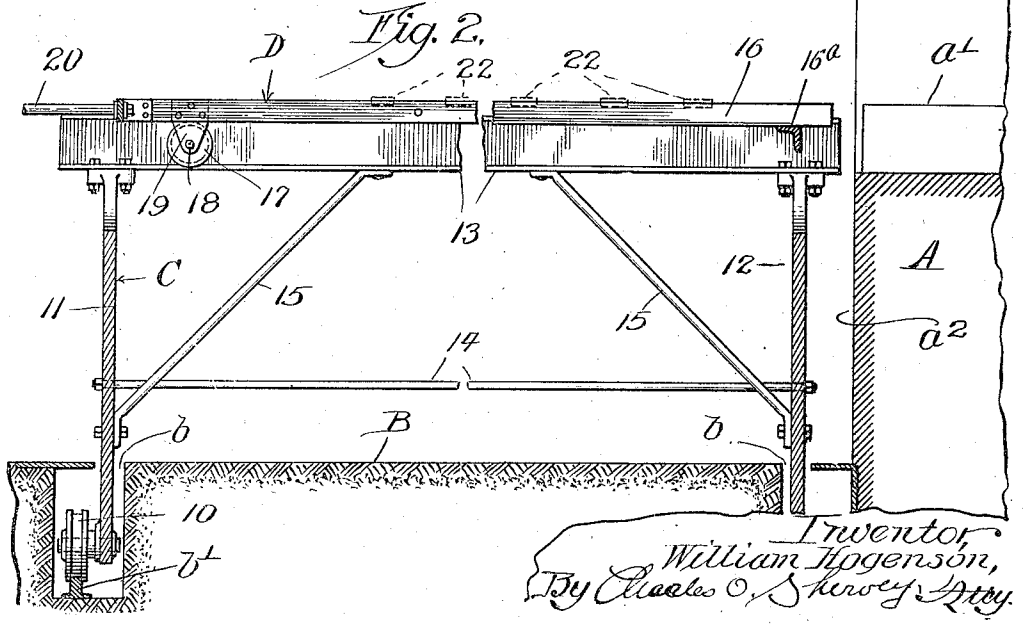


Fig. 2.



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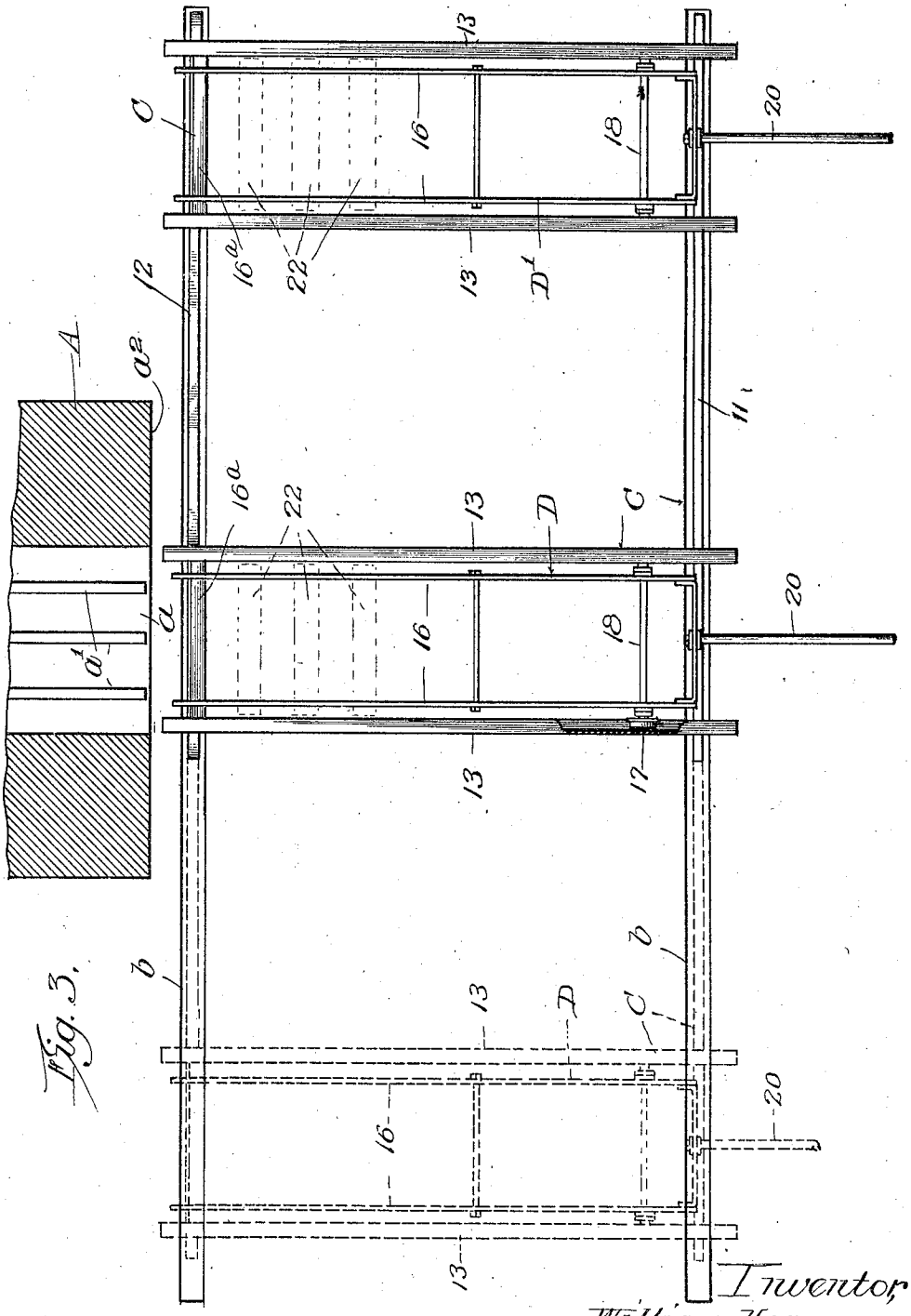


Fig. 3.

Inventor,
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Patented Oct. 16, 1923. 1,471,028

UNITED STATES PATENT OFFICE.

WILLIAM HOGENSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHICAGO VITREOUS ENAMEL PRODUCT COMPANY, OF CICERO, ILLINOIS, A CORPORATION OF ILLINOIS.

CHARGING FORK FOR ENAMELING FURNACES.

Application filed July 17, 1922. Serial No. 575,667.

To all whom it may concern:

Be it known that I, WILLIAM HOGENSON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Charging Forks for Enameling Furnaces, of which the following is declared to be a full, clear, and exact description.

This invention relates to charging forks for enameling furnaces, and its principal object is to provide means for economizing time in charging enameling furnaces with articles on which enamel is to be baked. In the ordinary practice, enamel ware is loaded upon a charging fork which, when loaded, is inserted into the furnace, the material deposited therein, and the fork withdrawn. When the articles have been left in the furnace for a sufficient time to bake the enamel thereon, the fork is retracted, and the hot articles removed from the furnace. Thereafter they are removed from the fork, and a fresh supply loaded thereon and inserted as before. This manner of handling the articles takes time, fuel is wasted, and while the baking process is going on, the fork is idle and time of the workmen is wasted.

I have overcome the objectionable features by providing a double fork by means of which at least one fork is practically always in use, and the workmen's time is continuously employed in loading or unloading one of the forks; the furnace also being continuously in use in baking the enamel upon the articles. With these ends in view, this invention consists in a pair of charging forks, each operable independently of the other, and both mounted upon wheels whereby either may be brought into charging position before a furnace door, while the other is disposed at one side thereof, whereby it may be loaded and unloaded while the baking process is being carried on. The invention further consists in the several novel features hereinafter fully set forth and claimed.

The invention is clearly illustrated in the accompanying drawings, in which:

Fig. 1 is a front elevation of a charging fork and fragment of an enameling furnace, and illustrating one embodiment of the invention; Fig. 2 is a vertical cross section taken on line 2—2 of Fig. 1, and Fig. 3 is a plan of the charging fork, a fragment of the enameling furnace being shown in horizontal section.

Referring to said drawings, the reference character A, designates an enameling furnace of ordinary and well known construction having the usual furnace door opening a, closed by a suitable door, and having the usual piers a^1, for supporting the articles which are to be baked. Extending along the floor B, or in grooves b, in the floor, are rails b^1, that run parallel with the front wall a^2 of the furnace. Upon said rails is a fork carriage C, upon which is mounted a pair of charging forks D, D^1. The fork carriage C, is mounted upon grooved wheels or rollers 10, which run on the rails b^1, and preferably said fork carriage comprises front and back frames 11, 12, connected by two sets of horizontal track bars 13, 13, and horizontal tie rods 14, and braced by braces 15. Other tie bars 16^a connect the track bars of each set. The parts are securely bolted or otherwise fastened together to provide a strong, rigid and substantial frame. The track bars 13, are approximately as high as the piers a^1, and in the operation of the device one set of track bars, is brought directly in front of the door opening a, and piers a^1, in position to enable the associated fork to be inserted into the furnace to deposit articles on the piers therein, or to remove them therefrom.

The forks may be of any suitable form and construction, and may be hand or power operated. The forks shown illustrate one form of manually operated forks; they are similar in construction and a description of one will suffice for both. Two parallel spaced fork bars 16, are mounted, at one end, on wheels or rollers 17, that run on one pair of track bars 13. Said track bars are preferably formed of channel iron bars, set with their channels facing each other and the wheels or rollers 17 run in said channels. The wheels or rollers are mounted upon a shaft or axle 18, which is held in bearing brackets 19 that are secured to the fork bars 16. A long rod 20 secured to the fork acts as a handle by means of which the form is manipulated. Cross bars 16^a at the rear end of the carriage form supports for the rear ends of the forks, and support said ends while the forks are being loaded and unloaded.

A work support is provided for carrying

the articles to be baked, and said work support may comprise spaced cross bars 22, which are adapted to rest on the fork bars 16 of each fork, and upon the piers a^1, when placed in the furnace.

In operation, the fork carriage is moved along on the rails until a loaded fork is brought directly in front of the furnace door opening; the door of the opening is then raised and the fork is moved forward into the furnace, and the work support, and articles carried thereby, are deposited on the piers in the furnace in the usual manner. The fork is then withdrawn from the furnace. While the baking process is being carried on, the other fork is being loaded with articles to be baked, and when the articles in the furnace are finished, the furnace door is opened, the empty fork is inserted into the furnace, underneath the work support, the handle depressed, and the work support, and articles carried thereby, are lifted from the piers, and the fork is withdrawn from the furnace. The carriage is thereupon moved over, bringing the freshly loaded fork directly in front of the furnace door opening and the fresh supply of articles is deposited in the furnace, as above described, the fork withdrawn, and the furnace door closed. During the baking operation, the first mentioned fork is unloaded and reloaded with a fresh supply, and when the articles in the furnace are finished they are withdrawn with the empty fork, the carriage moved back and the fresh supply introduced to the furnace. In this way the furnace may be kept in continuous operation, and there is no loss of time between and during the heats.

More or less variation of the exact details of construction is possible without departing from the spirit of this invention; I desire, therefore, not to limit myself to the exact form of the construction shown and described, but intend, in the following claims, to point out all of the invention disclosed herein.

I claim as new, and desire to secure by Letters Patent:

1. Charging means for enameling furnaces, comprising a traveling, wheeled carriage, two widely spaced sets of track bars secured on said carriage, and two fork frames mounted on rollers that travel on said track bars, each fork being movable independent of the other, and there being free and unobstructed loading and unloading passages between said sets of track bars, and between said fork frames, whereby either fork frame may be loaded and unloaded from either side.

2. A charging fork for enameling furnaces, comprising a pair of sunken rails, a fork carriage having wheels traveling on said rails, two widely spaced sets of track bars secured on said carriage, and two charging forks mounted to travel on said track bars, there being free and unobstructed loading and unloading passageways between said sets of track bars, and between said charging forks, whereby either fork may be loaded and unloaded from either side.

WILLIAM HOGENSON.