

April 2, 1929.

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1,707,937

APPARATUS FOR CHARGING TILTING SMELTING FURNACES

Filed Feb. 29, 1928

Fig. 1.

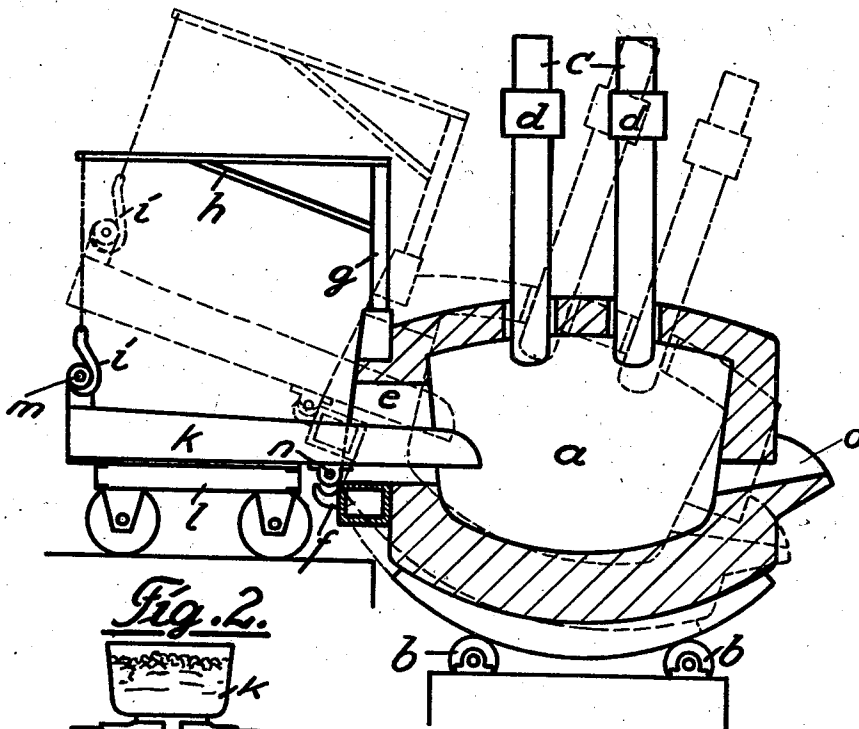
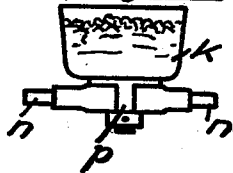


Fig. 2.



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APPARATUS FOR CHARGING TILTING SMELTING FURNACES.

Application filed February 29, 1928, Serial No. 257,988, and in Germany February 28, 1927.

The method usually adopted for charging tilting smelting furnaces, more particularly electric furnaces, is to pass in a chute, filled with the material to be fed to the furnace, through the furnace door by means of a special crane or hoisting gear, then to place the chute at such an angle that the charge slides down into the furnace, and, in order to increase the angle of discharge of the chute the furnace is tilted.

According to the invention the chute is connected to the furnace in such manner that the tilting of the furnace causes the chute to discharge its load into the furnace.

The invention is diagrammatically illustrated by way of example in the accompanying drawings.

Figure 1 illustrates the whole apparatus, and

Figure 2 shows a detail view.

The electric furnace *a* is supported upon the rollers *b* so as to be tiltable. The electrodes *c*, which are in an elevated position, have the clamps *d* by which they are carried, connected to the furnace *a* in known manner.

Two hooks *f* are fixed one on each side of the furnace opening *e*, through which the charge is introduced, and above the middle of the door a jib *h* is attached to the pillar *g* and carries at its other end the hook *i*. The open, forward end of the chute *k* on a truck *l* is advanced by way of example through the opening of the door, so that the pin *m* attached to the closed end of the chute comes into a position above the hook *i*, while the ends of the pins *n* projecting at each side of the chute come into a position above the hooks *f*. If the discharge lip *o* is pressed down, the hooks *f* engage under the ends of the pins *n*, and the hook *i* under the pin *m*, and the chute takes part in the tipping movement, that is, it is brought into the position shown in dotted lines in Figure 1, so that the material slides into the furnace.

In order to spread the charge out in the furnace it is advantageous to attach the pin *n* to the chute *k* so that it may rotate about a vertical shaft *p* as shown in Figure 2 and to

mount the jib *h* so as to rotate about the pillar *g*.

I claim:

1. Apparatus for charging tilting smelting furnaces more particularly electric furnaces, consisting in combination of a tilting smelting furnace having a charging opening at one side of the furnace that is adapted to be raised on the furnace being tilted, a chute adapted to enter within the said charging opening, a support for the said charging chute near its front end, said support being carried by the said furnace, and means also carried by the said furnace for the support of the outer end of the said chute, substantially as hereinbefore described.

2. Apparatus for charging tilting smelting furnaces more particularly electric furnaces, consisting in combination of a tilting smelting furnace having a charging opening at one side of the furnace that is adapted to be raised on the furnace being tilted, a chute adapted to enter within the said charging opening, a support for the said charging chute near its front end, said support being carried by the said furnace and means comprising a jib carried by the said furnace in position above the charging opening for the support of the outer end of the said chute, substantially as hereinbefore described.

3. Apparatus for charging tilting smelting furnaces more particularly electric furnaces, consisting in combination of a tilting smelting furnace having a charging opening at one side of the furnace that is adapted to be raised on the furnace being tilted, a chute adapted to enter within the said charging opening, a support for the said charging chute near its front end, said support being carried by the said furnace and being rotatable about an axis disposed perpendicular to the said chute, and means comprising a jib, also rotatable about an axis disposed perpendicular to the said chute, carried by the said furnace in position above the charging opening for the support of the outer end of the said chute, substantially as hereinbefore described.

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