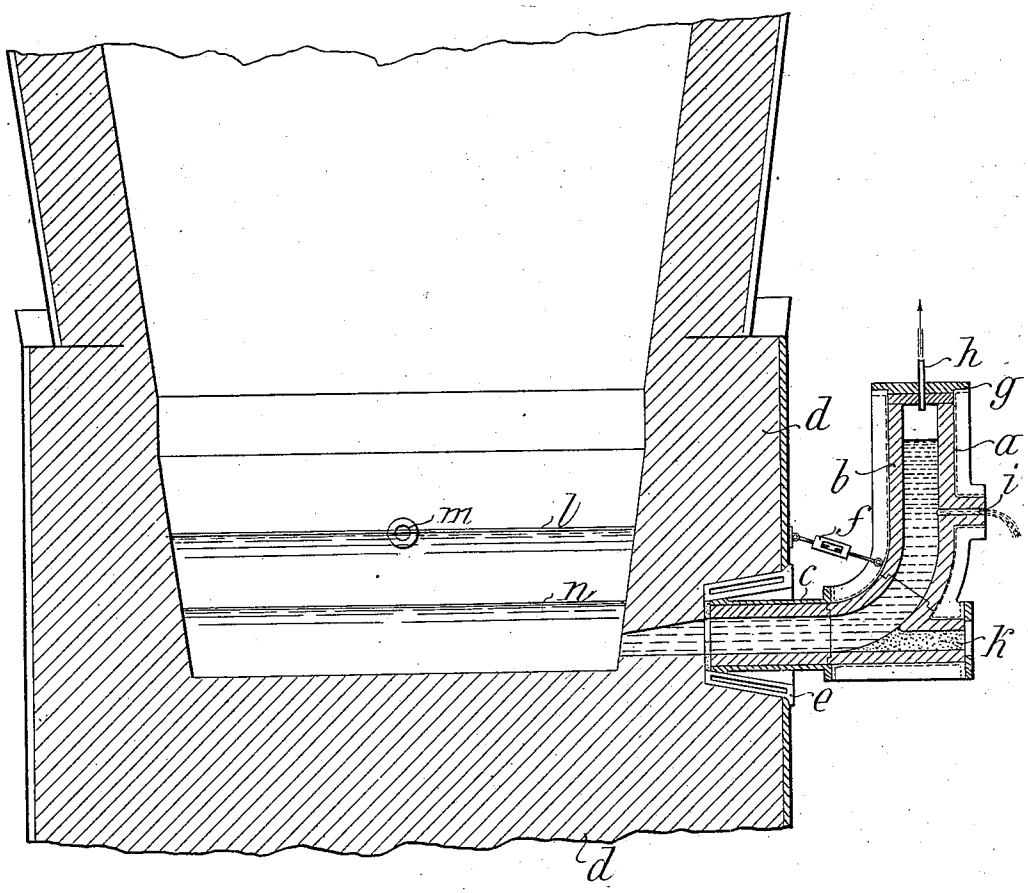
No. 728,727. PATENTED MAY 19, 1903.

A. VON KERPELY.

DEVICE FOR CONTINUOUSLY TAPPING PIG IRON FROM BLAST FURNACES.

APPLICATION FILED JAN. 19, 1903.

NO MODEL.



Witnesses:

James L. Norris, Jr.

W. B. Kelly

Inventor

Anton von Kerpely

By James L. Norris.

Atty.

No. 728,727. Patented May 19, 1903.

UNITED STATES PATENT OFFICE.

ANTON VON KERPELY, OF VIENNA, AUSTRIA-HUNGARY.

DEVICE FOR CONTINUOUSLY TAPPING PIG-IRON FROM BLAST-FURNACES.

SPECIFICATION forming part of Letters Patent No. 728,727, dated May 19, 1903.

Application filed January 19, 1903. Serial No. 139,685. (No model.)

To all whom it may concern:

Be it known that I, ANTON VON KERPELY, a subject of the Emperor of Austria-Hungary, residing at Vienna, Austria-Hungary, have invented certain new and useful Improvements in Devices for the Continuous Tapping of Pig-Iron from Blast-Furnaces, of which the following is a specification.

A pig-iron-tapping device for blast-furnaces according to this invention is designed with the object of avoiding as far as practicable the collection of liquid pig-iron in the hearth. This is attained by the aid of a pipe, which projects laterally from near the bottom of the furnace and is bent upward and closed at the top and in which the liquid pig-iron is caused to rise by the pressure prevailing in the blast-furnace, assisted by the suction of an air-pump connected with the pipe, so that the pig-iron can run off through a discharge-outlet made in the side of the pipe.

The accompanying drawing illustrates a sectional elevation of my improved tapping device as applied to a blast-furnace, the latter being broken away and also shown in section.

A cast-iron curved pipe *a*, which is provided inside with a refractory lining *b*, is carried by a support *c*, which is secured to the blast-furnace by means of a casting *e*, built into the masonry of the blast-furnace. The pipe *a*, which is held firmly in its position by a tie-bar *f*, is closed at the top by a lid *g*, through which there passes a pipe *h*, leading to an air-pump. At about half-way up the pipe there is an outlet-orifice *i* and at the lowest point an auxiliary tapping-hole *k*.

The reference character *l* represents the level of the slag, which runs off through an outlet *m*. The level of the molten pig-iron is *n* in the furnace and *o* in the pipe *a*. By changing the level *o*, which can be done by means of the air-pump, which is adapted to be used as a suction or pressure pump, it is possible to regulate the speed of the discharge of the pig-iron at *i*.

I claim—

The combination with a furnace, of a support, means for securing the said support to the furnace at its outlet, an upwardly-extending curved pipe carried by said support and provided at its bottom with an outlet and intermediate its end with an upper outlet, a lining of refractory material for said support, said pipe and its outlet, means connected to the furnace and to said pipe for retaining the said pipe in position, and a pipe extending through the top of said curved pipe and adapted to communicate with a suction device, substantially as herein shown and described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ANTON VON KERPELY.

Witnesses:

ALVESTO S. HOGUE,

AUGUST FUGGER.