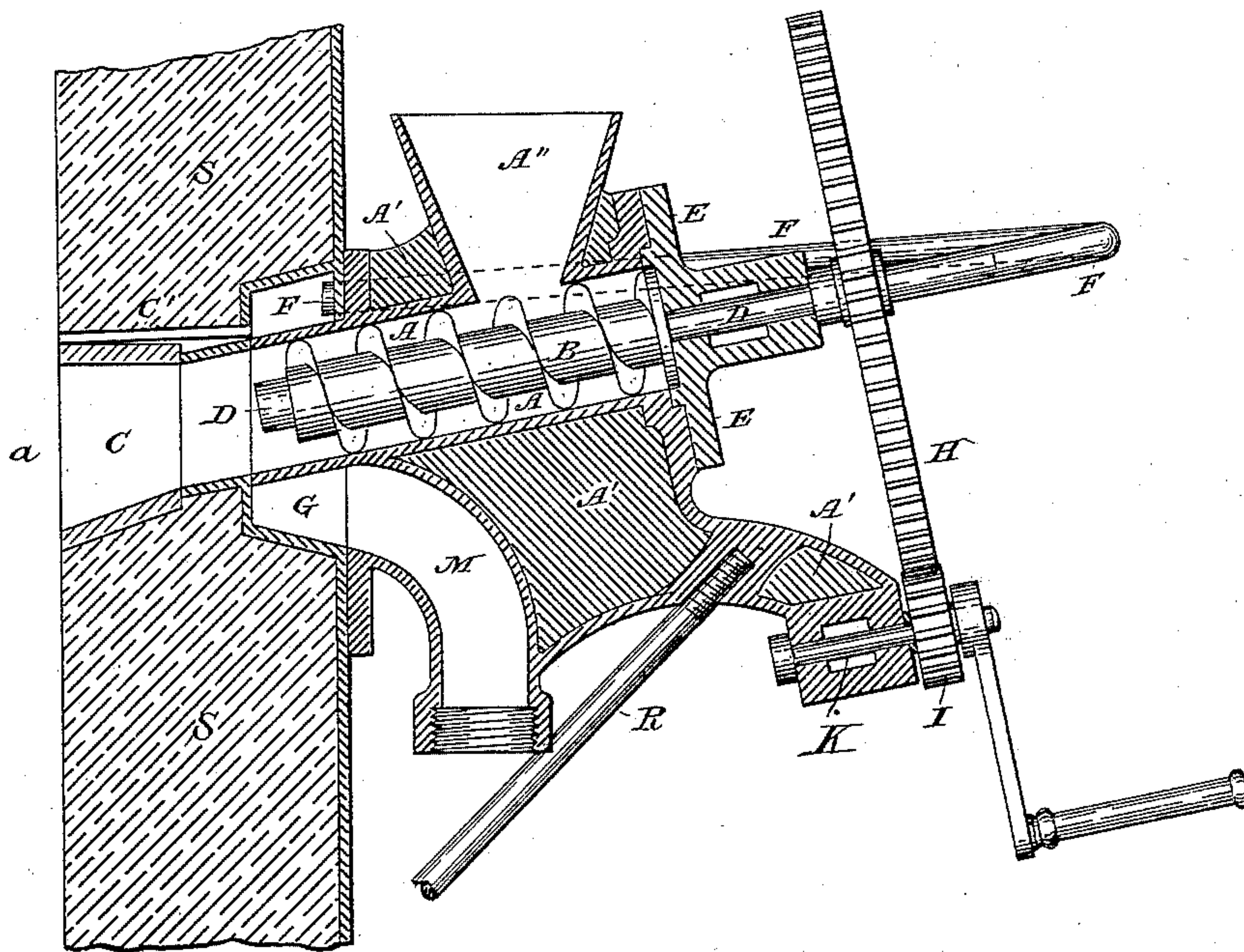


(No Model.)

J. HANSEN.
APPARATUS FOR SMELTING CAST IRON BORINGS, TURNINGS, AND
SHAVINGS.

No. 473,741.

Patented Apr. 26, 1892.



WITNESSES:

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JENS HANSEN, OF HELSINGÖR, DENMARK.

APPARATUS FOR SMELTING CAST-IRON BORINGS, TURNINGS, AND SHAVINGS.

SPECIFICATION forming part of Letters Patent No. 473,741, dated April 26, 1892.

Application filed October 4, 1889. Serial No. 326,008. (No model.) Patented in Switzerland January 18, 1890, No. 1,887.

To all whom it may concern:

Be it known that I, JENS HANSEN, a subject of the King of Denmark, and a citizen of Denmark, residing at Helsingör, Sjoelland, Denmark, have invented certain new and useful Improvements in Apparatus for the Smelting of Cast-Iron Borings, Turnings, and Shavings, (patented in Switzerland January 18, 1890, No. 1,887;) and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

For the smelting of cast-iron shavings there has hitherto, so far as I am aware, not been any practically applicable apparatus which might be used with advantage, and the said refuse has therefore been valueless.

The apparatus forming the subject of my invention and represented in the accompanying drawing, presses the shavings through an aperture in the side of the smelting-furnace opposite the smelting-compartment, and the introduction is done in such a manner that the shavings shall not be thrown back to the apparatus by the blast, nor can the apparatus be blown down by the furnace, as has happened hitherto when attempts have been made to smelt this kind of material.

The accompanying drawing, which forms a part of this specification, illustrates my invention by showing one of my improved apparatus in central vertical section, partly in elevation, in connection with the smelting-furnace, of which a piece of wall S, opposite to the smelting-compartment *a*, is shown.

A represents a cylindrically-shaped case, which is cast together with the stand A', and has also a funnel A'', which is cast upon it.

R represents a support, which is supported from the furnace-wall and carries both the stand and the other apparatus. In the case is placed an inclined screw B, firmly fixed on a tube D, which serves as an axle to it, and has its bearing in a socket E, which is screwed firmly onto the stand. The outermost end of the tube D is placed in such a connection with a stationary tube F that it can rotate

independently thereof, and the tube F has, as the drawing shows, a bend that leads to the furnace, where it debouches in an air-chamber G, which is walled into the furnace-wall S. On the tube D is also placed a large cog-wheel H, which engages with a smaller cog-wheel I on the short axle K, which is carried by the stand A'. The axle is provided with a crank-arm, by which motion may be imparted to it.

The shavings which are thrown into the funnel A'' are by the inclined screw B carried through the room C into the smelting-compartment *a* of the furnace. Contemporarily with this a strong air-current is led through the tube M into the air-chamber G. The latter surrounds the case A, which by that means is protected against the heat of the furnace and the furnace-wall. From the air-chamber a current of air is passing through the tube F and comes from this into the tube D, from the opposite end of which a powerful current of air is carried through the compartment C into the smelting-compartment *a*. The air-current to the air-chamber G has thus the double object to keep the case A cool and to prevent a counter-blast arising from the smelting-compartment against the apparatus, by which the shavings might be thrown back. C' is a flue from the air-chamber to the smelting-compartment.

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

In a smelting apparatus, the combination of the furnace, provided with an air-chamber, a stand provided with suitable supports and having a cylindrical case provided with a supply-hopper and opening into the furnace, a hollow tube revolubly mounted within the case and having a spiral wing, an air-pipe communicating with said tube, a bearing for said tube, and a hollow connection between the said tube and the air-chamber, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JENS HANSEN.

Witnesses:

A. G. SINDHART,
A. LARSEN.