(No Model.)

G. N. SCEETS.

DEVICE FOR MIXING MOLTEN METALS.

No. 534,378. Patented Feb. 19, 1895.

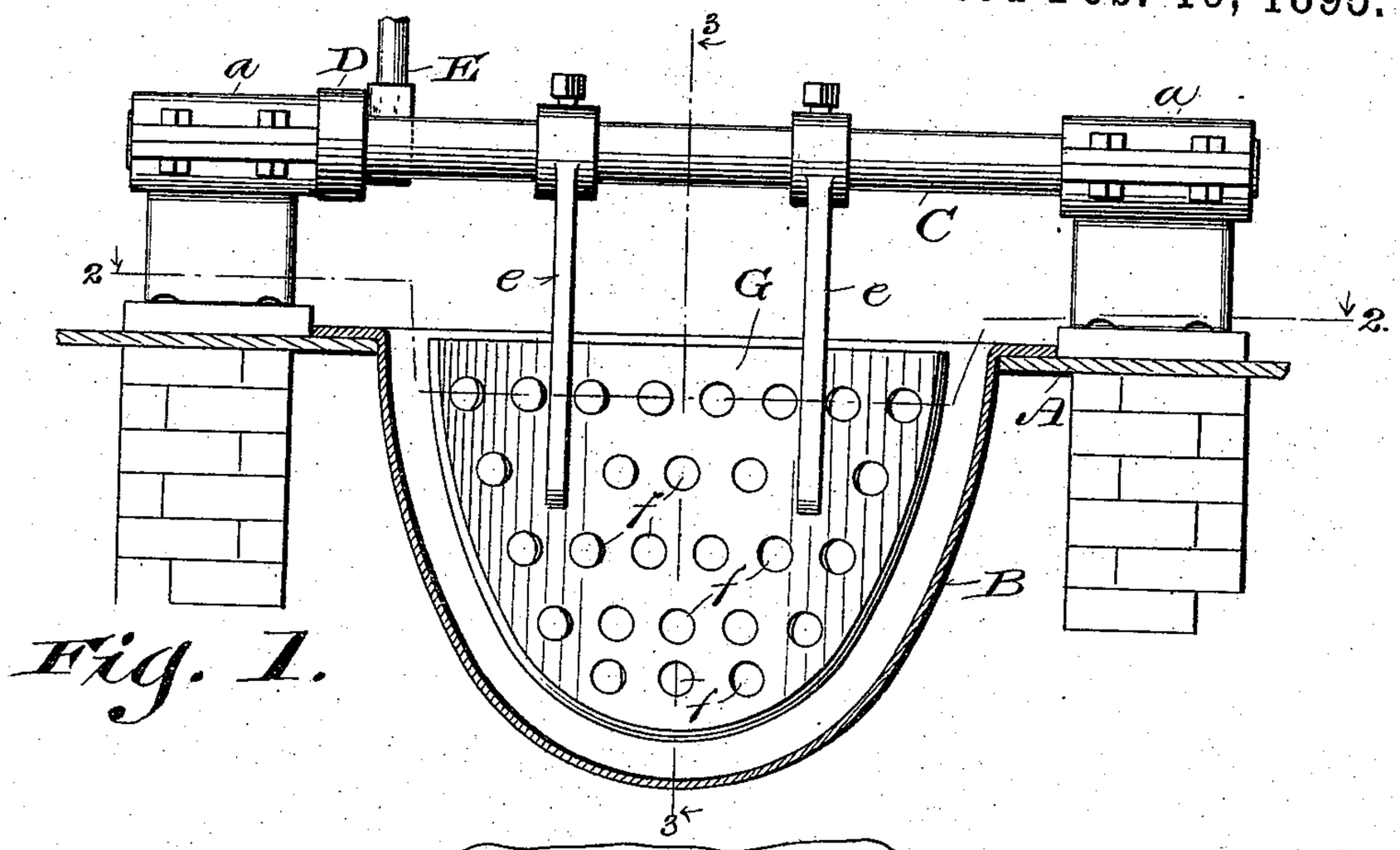
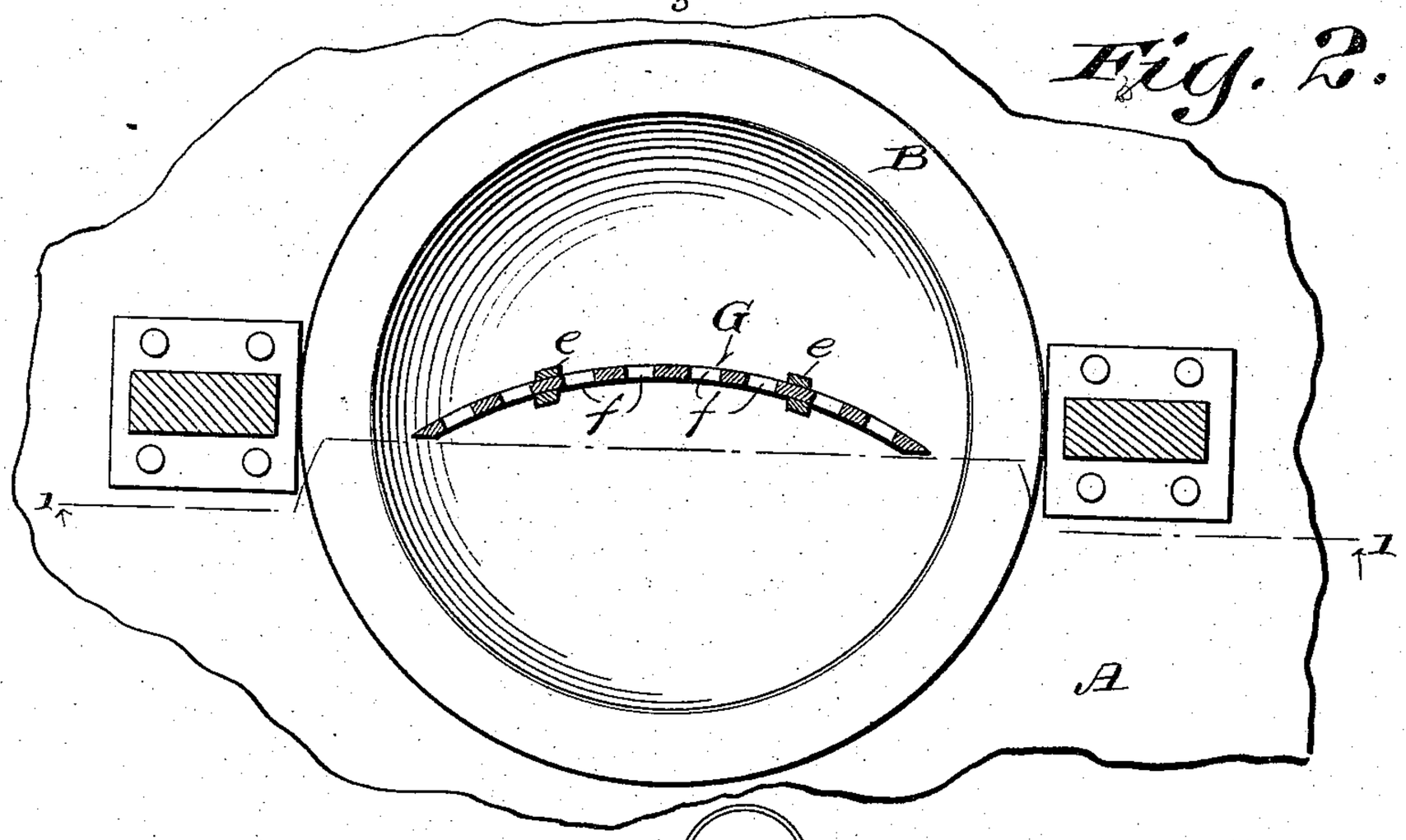


Fig. 1.

Fig. 2.



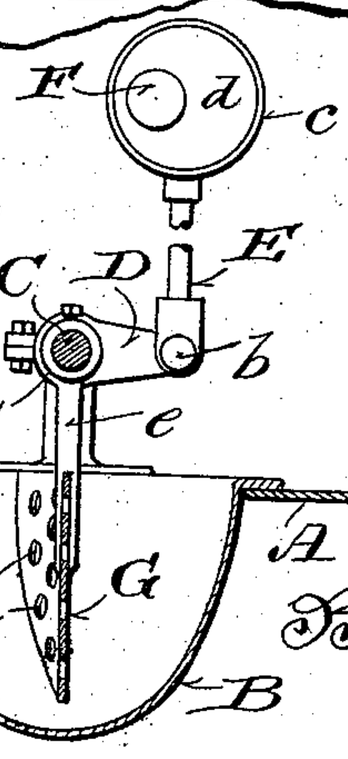


Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE N. SCEETS, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF TO JOHN G. THOMPSON, OF SAME PLACE.

DEVICE FOR MIXING MOLTEN METALS.

SPECIFICATION forming part of Letters Patent No. 534,378, dated February 19, 1895.

Application filed November 30, 1894. Serial No. 530,340. (No model.)

To all whom it may concern:

Be it known that I, GEORGE N. SCEETS, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Devices for Mixing Molten Metals; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to devices for the thorough commingling, in the melting pot of a furnace, of various metals of different specific gravity, whereby the lighter of said metals are kept from rising to the top, and all liability of their thereby being carried away with the dross is obviated, and to that end the said invention consists in certain peculiarities of construction in the stirring device, as will be fully set forth hereinafter, and subsequently claimed.

In the drawings: Figure 1 is a vertical sectional view of a device embodying my present invention, taken on the line 1—1 of Fig. 2. Fig. 2 is a horizontal sectional view of the same, taken on the line 2—2 of Fig. 1. Fig. 3 is a detail vertical sectional view, partly on the line 3—3 of Fig. 1, and drawn to a reduced scale.

Referring to the drawings A represents the upper part of a furnace, and B an open melting pot supported therein, it being understood that in practice there is a fire-bed beneath said pot, with suitable means for sustaining the combustion of the fuel, and for the disposal of the products of combustion, all of which may be of any ordinary or proper construction to attain these ends, and the specific construction of which has nothing to do with my present invention.

Upon the upper surface of the furnace A are suitable bearings, *a a*, within which is journaled a shaft C, said shaft being provided with a crank-arm D having a wrist-pin *b*, which latter is connected to the lower end of a pitman E, whose upper end is connected to a strap *c*.

F is a shaft connected to the source of power (not shown) and *d* the eccentric on said shaft F which is surrounded by the said strap *c*.

G is the stirring blade, suspended within the melting pot B by means of the hangers *e e*, which are secured to the described shaft C. The said blade G is a straight vertical structure, but horizontally curved on the arc of a greater circle than that of the melting pot B within which it is suspended, the outline or edge of the sides and bottom of said blade being everywhere at an equal distance from the adjacent walls and bottom of said melting pot, as best shown in Fig. 1, and said blade being provided with series of transverse perforations *f f* therethrough. In consequence of this peculiar form of the blade G it follows that as said blade is reciprocated within the melting pot by the action of the described crank and eccentric, it will have a spoon like action, and as the blade moves its concave face forward it will gather up the contents of the pot with it and move the bulk of the same forward with it, the perforations *f f* relieving the pressure, and preventing any overflowing, and as the said blade reaches the limit of its forward movement, the molten metal will have had time to escape back of it, and then, as said blade moves backward, its convex face will crowd back the bulk of the molten contents forcing the same to escape around the curved side edges of said blade, thereby causing a circulation on each side of and below the blade, the described perforations again performing their office of preventing overflow, as would happen with a solid blade, and also, to a certain degree with a horizontally straight blade, as with such there would be no spoon-like action, and no equal enforced regular circulation around the edges thereof.

The top of the blade G is flat or level and rises to practically the height of the melting pot, and it is essential that the shaft C should be on a plane wholly above the said pot, to give the necessary swing to the reciprocations, and also so that said shaft may be wholly free from any possibility of contact with the molten metal in the said pot B.

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

In a device for mixing molten metals, the combination with a melting pot of a recipro-

cating shaft supported wholly above and extending transversely entirely across the center of the same, hangers secured to said shaft, and a transversely perforated stirring blade secured to said hangers within said pot, said blade being vertically straight but horizontally curved on the arc of a greater circle than that of the said pot, and the side and bottom edges of said blade conforming in shape to that of said pot, and being everywhere equally distant from the adjacent walls and bottom thereof, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

GEORGE N. SCEETS.

Witnesses:

H. G. UNDERWOOD,

HENRY DANKERT.