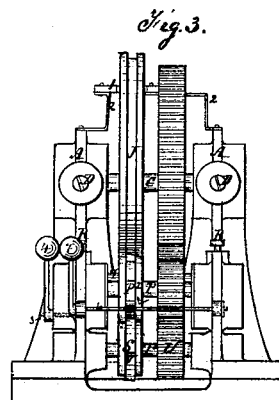
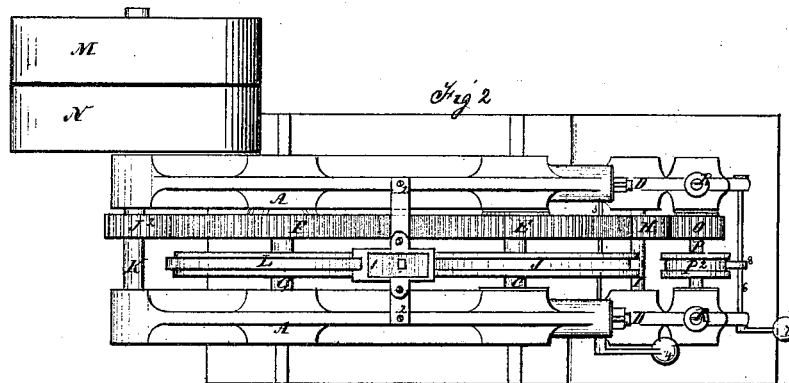
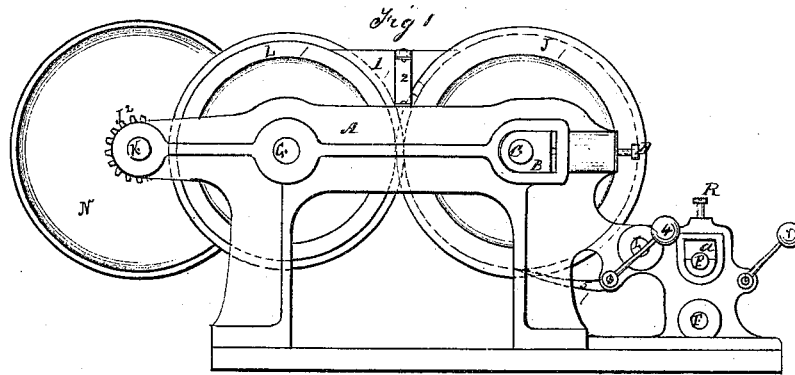


A. Schwenberg,
Castings Bar Solder.
No. 110,684. *Patented Jan. 3. 1891.*



H. W. Kenley,
J. F. Sheridan

Abraham Schwenberg by his attys
Whitely, Dumas

UNITED STATES PATENT OFFICE.

ABRAHAM SCHOENBERG, OF NEW YORK, N. Y.

IMPROVEMENT IN CASTING BAR-SOLDER.

Specification forming part of Letters Patent No. 110,684, dated January 3, 1871.

To all whom it may concern:

Be it known that I, ABRAHAM SCHOENBERG, of the city, county, and State of New York, have invented, made, and applied to use a new and useful Machine for Casting Bar-Lead, Bar-Solder, Wire-Metal, and Printers' Leads; and that the following is a full, clear, and correct description of the same, reference being had to the accompanying drawing, making part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a side elevation of my improved machine. Fig. 2 is a top view of the same. Fig. 3 is an end view of the same.

In the drawing like parts of the invention are pointed out by the same letters of reference.

The nature of the present invention consists in the construction, as more fully hereinafter set forth, of a new and improved machine for casting bar-lead, bar-solder, wire-metal, and printers' leads, the object of the invention being the production of a machine by which bar-lead, bar-solder, wire-metal, and printers' leads, of any desired length and thickness, can be made expeditiously and more economically than by the present mode.

To enable those skilled in the arts to make and use my invention, I will describe the same.

A shows the frame of the machine, which may be made of any suitable material, and serves to support the operative parts of the machine. The frame A is slotted to receive the adjustable boxes B, in which the shaft C is held, and which boxes may be adjusted by means of the regulating-screws D, inserted in the frame A, and having their bearings against the rear ends of the boxes B. Upon this shaft C is keyed a cog-wheel, E, gearing into the cog-wheel F, secured upon the shaft G, and also into the pinion H, secured upon the shaft I. J shows a grooved wheel secured upon the shaft C.

G is a shaft secured in the frame A, having keyed upon it the cog-wheel F, gearing into the cog-wheel E, and also into the pinion J², held upon a shaft, K. L shows a ribbed wheel secured upon the shaft G, the rib upon which wheel is made to fit the groove in the wheel J.

Upon the shaft K, held in the frame A, are the fast and loose pulleys M and N, by which

the machine may be connected with any suitable motor.

I shows a shaft secured in the frame A, having secured upon it the pinion H, gearing into the cog-wheel E, and also into the pinion O, keyed upon a shaft, P, which shaft also supports a second grooved wheel, P². This shaft P is held in adjustable boxes *a*, inserted in the slotted portions of the frame A, the position of which boxes may be regulated by the regulating-screws R, having their bearing upon the upper sides of the boxes *a*.

The grooved wheel P² is made considerably smaller than the grooved wheel J, and directly below the same is a ribbed wheel, S, made to correspond in size with the grooved wheel P², the rib on the wheel S fitting the groove upon the wheel P². This ribbed wheel S is supported upon a shaft, T, held in the frame A, and having keyed upon its opposite end the pinion U, gearing into the pinion O upon the shaft P.

The ribbed wheel S has secured upon its face a knife, V, and the grooved wheel P² is slotted upon its face to receive the knife V.

I shows a hopper, made V-shaped, and supported by the supports 2, which hopper, when in position, is placed directly between the ribbed and grooved wheels, and is provided with an aperture upon the grooved-wheel side to allow the molten metal to pass from the hopper into the groove in the wheel.

The hopper may be supplied with molten metal from a kettle or heater connected with the hopper, in any convenient way.

3 shows a rod held in the frame A, and having upon one end the weighted lever 4, and also a scraper, 5, which scraper is so positioned that it shall fall in line with the groove in the grooved wheel. 6 shows a rod hung in the frame A, directly in front of the grooved wheel P², and having upon it the weighted lever 7 and scraper 8, which scraper is so positioned upon the rod as to have a bearing in the groove upon the wheel P².

Such being the construction, the operation may be thus set forth: The wheels J, L, P², and S are first adjusted to each other so as to give the thickness desired for the bar or lead by means of the regulating-screws D and K, and connection is established between the hopper

and a metal kettle, so that the hopper will be supplied with molten metal. The scrapers 5 and 8 are elevated by throwing back the weighted levers 4 and 7 so that they have a bearing upon the grooved wheels J and P², the weighted levers counterbalancing the scrapers, and being sufficiently heavy to hold them well up to their work. Power may now be applied to the machine, and, through the pulleys and gearing already described, causes the grooved and ribbed wheels to revolve. The molten metal to be formed into bars or leads issues from the hopper through the aperture in the same, and into the groove upon the wheel J, where it is pressed into strips by the rib fitting into this groove. As the wheels continue to revolve the pressed metal is brought into contact with the forward end of the scraper 5, which, entering between the groove and the rib, flattens out, so to speak, the pressed metal, and relieves it from the grooved wheel, whence it is fed along to the finishing-wheels P² and S, where it is finished by passing through the same, and where, also, the operation of cutting is accomplished by the knife V, which passes through the metal and enters the slot upon

the face of the wheel P². From these finishing-wheels the metal is relieved by means of the scraper 8, operating as already described in the case of the scraper 5.

When wire-metal is to be made upon the machine, the groove and rib upon the wheels are made half-round, and the wire-metal will be formed by the machine, as already described in the case of bar-lead, bar-solder, or printers' leads.

Having thus described my invention, what I claim as new is—

1. In combination with a hopper, 1, constructed substantially as described, the grooved and ribbed wheels J and L and scraper 5, when the same shall be constructed and operate substantially as and for the purpose set forth.

2. In combination with the finishing-wheels P² and S, knife V, and scraper 8, the hopper 1, grooved and ribbed wheels J and L, and scraper 5, when the same shall be constructed substantially as and for the purposes set forth.

ABRAHAM SCHOENBERG.

Witnesses:

A. SIDNEY DOANE,
R. THEO. BASKERCH.