No. 767,304. PATENTED AUG. 9, 1904.

C. A. MEADOWS.

METHOD OF DIVIDING METAL.

APPLICATION FILED JUNE 15, 1903.

NO MODEL.

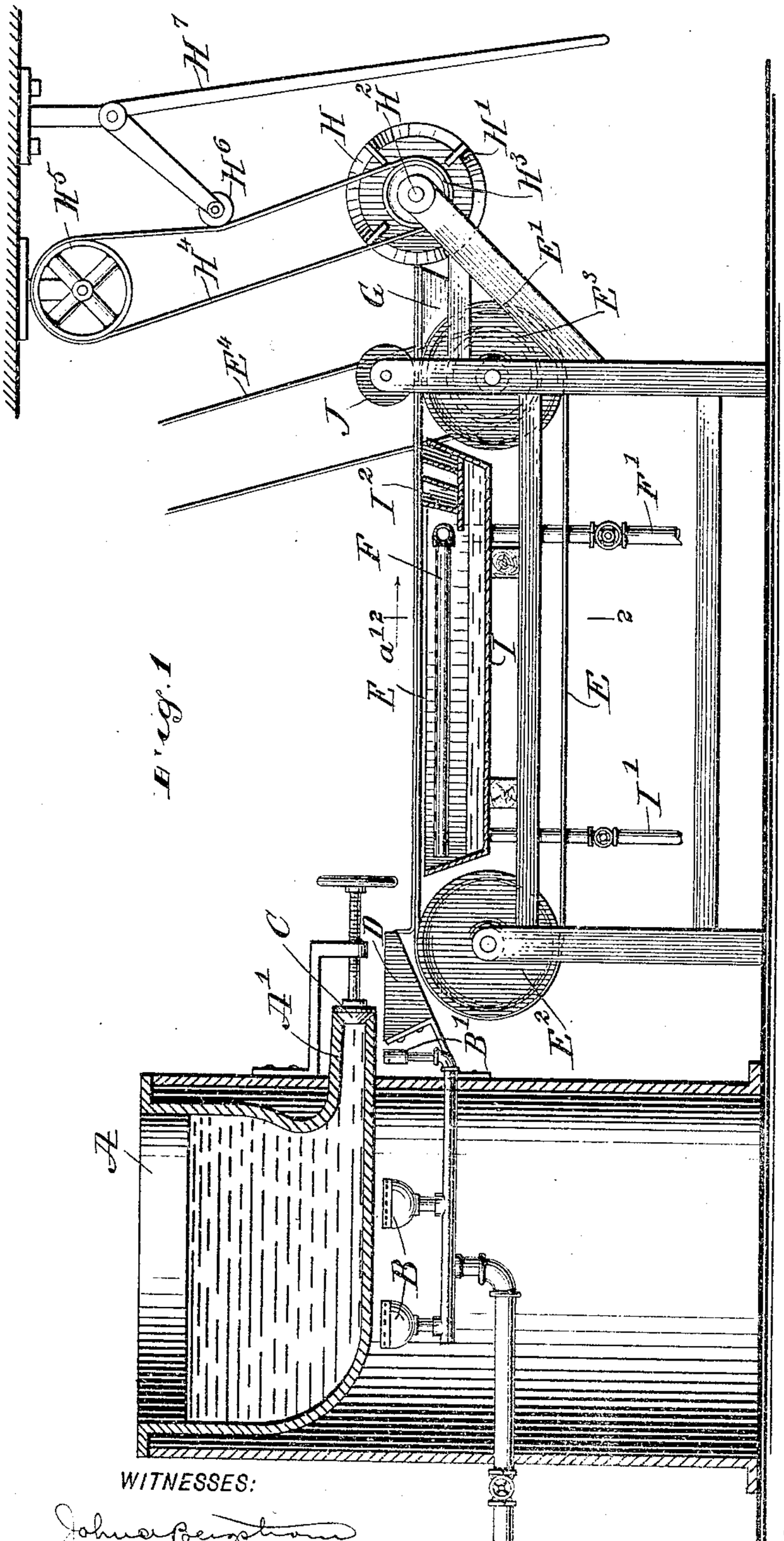

Fig. 1.

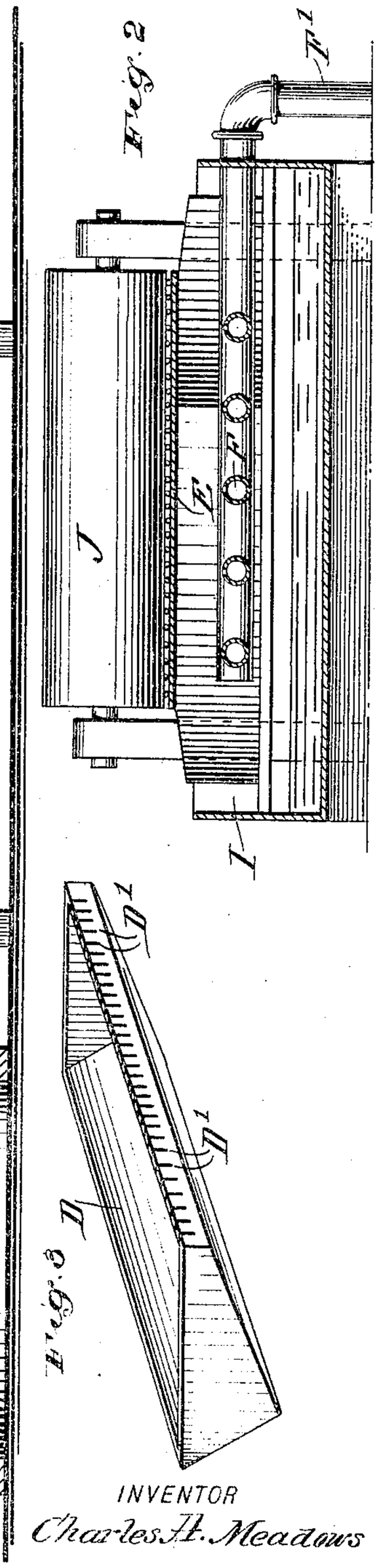

Fig. 2.

Fig. 3.

WITNESSES:

John A. Brumbaugh

Fred J. Hoosier

INVENTOR

Charles A. Meadows

BY

Munn & Co

ATTORNEYS

No. 767,304. Patented August 9, 1904.

UNITED STATES PATENT OFFICE.

CHARLES A. MEADOWS, OF YONKERS, NEW YORK, ASSIGNOR TO UNITED STATES ALLOY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

METHOD OF DIVIDING METAL.

SPECIFICATION forming part of Letters Patent No. 767,304, dated August 9, 1904.

Application filed June 15, 1903. Serial No. 161,542. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES A. MEADOWS, a citizen of the United States, and a resident of Yonkers, in the county of Westchester and State of New York, have invented a new and Improved Method of Dividing Metal, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved method for dividing metal, more particularly lead and other metals of low melting-point, to permit of conveniently using the metal in the melting-pots of linotype-machines and the like, as well as in the manufacture of white lead and similar preparations.

The method consists, essentially, in melting the metal, then dividing it into separate streams and bodily carrying the streams along and cooling the same while in transit, and then cutting or subdividing the bars or strips into small particles.

In order to carry this method into effect, an apparatus is employed—such, for instance, as shown in the accompanying drawings, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal sectional side elevation of the apparatus. Fig. 2 is an enlarged transverse section of the same on the line 2 2 of Fig. 1, and Fig. 3 is an enlarged perspective view of the dividing-trough for the molten metal.

The metal in the pot A and its spout A′ is kept in a molten state by the heat from burners B B′, arranged under the pot and its spout, and the molten metal is allowed to flow from the spout A′ by way of a regulating-valve C into a divider D, in the form of a trough, provided in its front wall with a row of spaced slits or overflow-openings D′ for the molten metal to flow in separated continuous streams onto an endless belt or apron E, preferably made of sheet-brass, which carries the streams bodily forward at a speed corresponding approximately to that of the flow of the metal from the divider. The metal while in transit on the belt or apron E is quickly cooled and chilled by the external air and cold water or like cooling medium directed in jets from perforated pipes F against the under side of the run of the apron E, supporting the metal, so that the individual streams form solid bars of metal, which bars are finally passed from the apron onto a table G, the end of which acts as a fixed knife for the knives of a revolving cutter H to operate with in unison for cutting the bar into minute particles. The belt or apron E passes over pulleys E′ and E^2, of which the pulley E′ is driven and provided for this purpose with a pulley E^3, connected by a belt E^4 with other machinery for imparting a rotary motion to the pulley E′ to cause the belt to travel in the direction of the arrow *a*′.

A plurality of longitudinally-extending pipes F are provided, connected with a water-supply pipe F′, so that water in small jets passes out of each pipe F against the under side of the upper run of the apron E, so as to insure a rapid cooling of the metal bars carried along by the said run of the apron. The water squirted against the apron E drops back into a suitable tank I, from which the water is conducted by a pipe I′ to a suitable place of discharge, and the said tank I supports one or a plurality of scrapers I^2 in contact with the under side of the upper run of the apron to scrape any adhering particles of moisture from the apron or belt.

The knives H′ of the cutter H are preferably set spirally, and by rotating the cutter at a higher or lower rate of speed the knives cut the bars into smaller or larger granules. Now for driving the cutter H at a higher or lower speed the cutter-shaft H^2 is provided with a pulley H^3, connected by a belt H^4 with an overhead driven pulley H^5, and the said belt H^4 is engaged by a friction-roller H^6 on the arm of a bell-crank lever H^7 under the control of the operator and forming a tightening device for the belt H^4 to transmit the speed of the pulley H^5 at the same or at a lower rate of speed to the pulley H^3 and cutter H by the operator manipulating the lever H^7 of the belt-tightening device correspondingly.

It is understood that the operator can open

or close the valve C more or less to keep the divider D constantly in an overflowing condition to insure the continuous formation of spaced separated bars of metal on the upper run of the apron or belt E.

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

The herein-described method of dividing metal into small particles, consisting in first melting the metal, causing it to flow in separated continuous streams onto an endless moving surface, bodily carrying the streams along in straight lines, subjecting the under face of the moving endless surface to the action of jets of water to cool the metal while in transit, and finally cutting or subdividing the metal, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES A. MEADOWS.

Witnesses:
THEO. G. HOSTER,
EVERARD BOLTON MARSHALL.