S. A. NAGY.

MACHINE FOR MAKING SOFT METAL WIRE.

APPLICATION FILED AUG. 29, 1918.

1,291,603.

Patented Jan. 14, 1919.

2 SHEETS—SHEET 1.

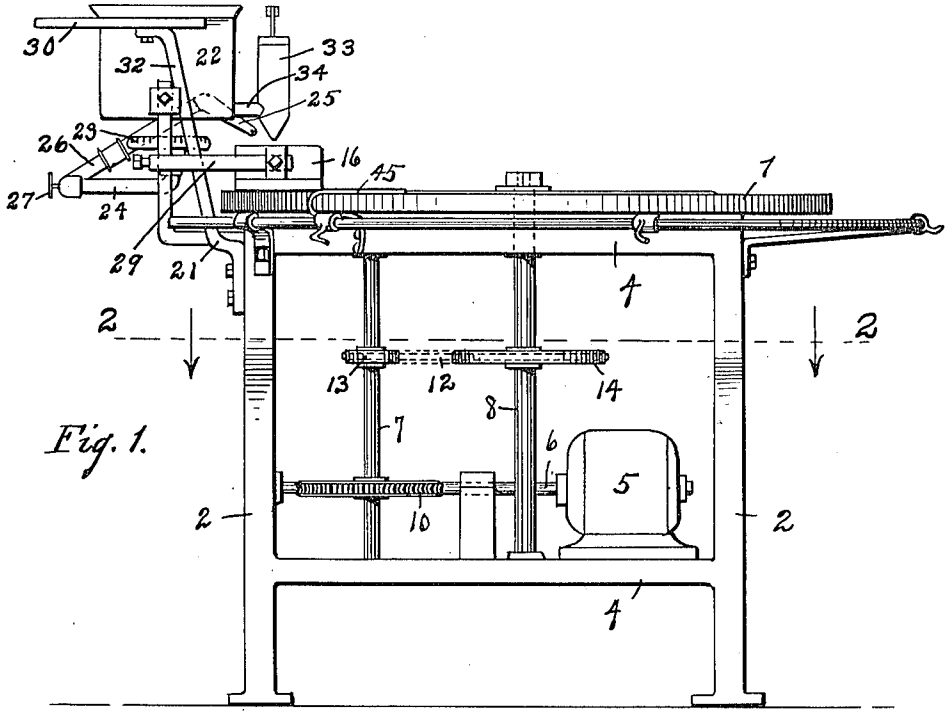


Fig. 1.

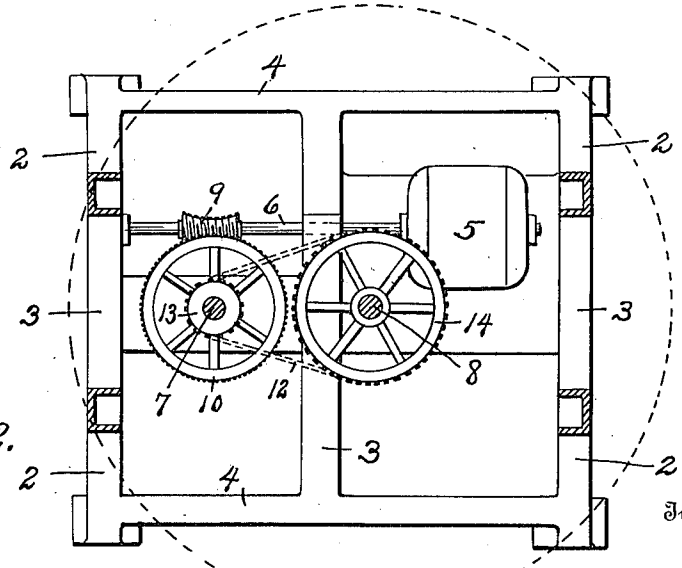


Fig. 2.

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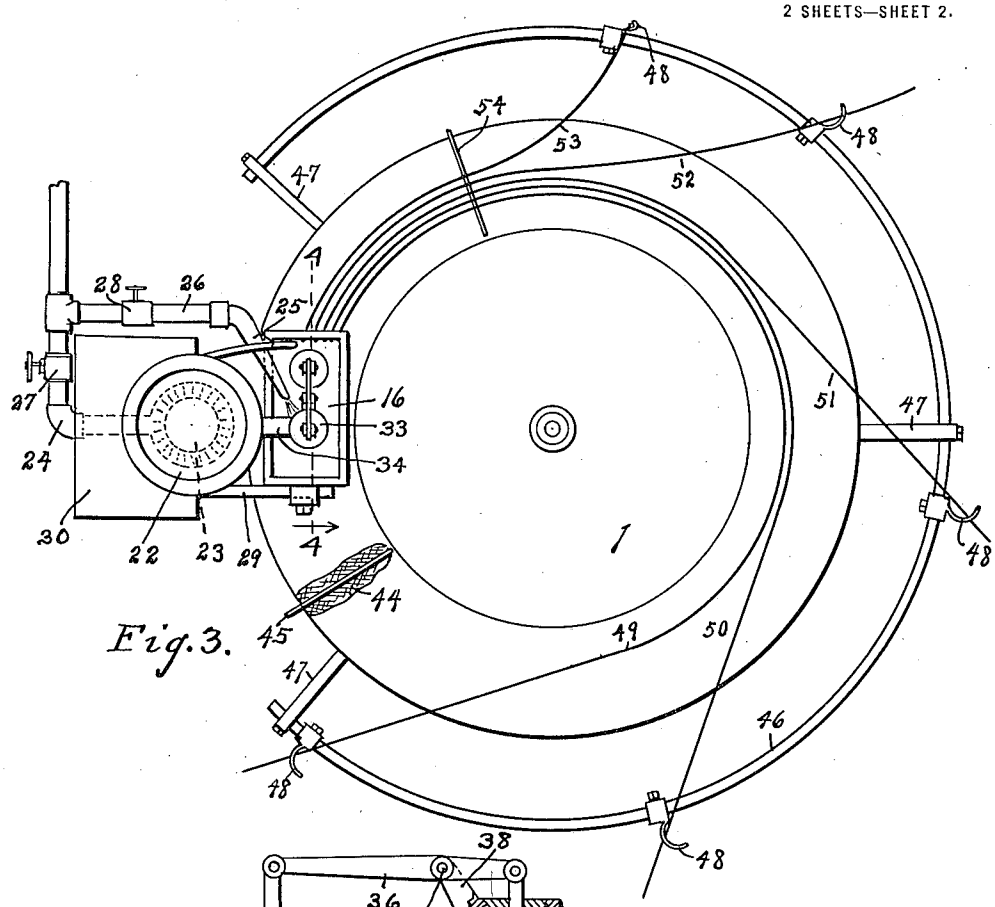


Fig. 3.

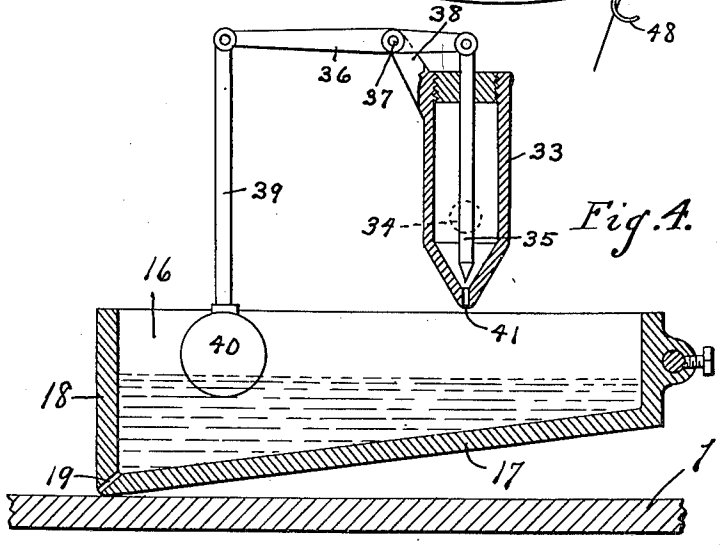


Fig. 4.

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UNITED STATES PATENT OFFICE.

STEPHEN A. NAGY, OF DETROIT, MICHIGAN.

MACHINE FOR MAKING SOFT-METAL WIRE.

1,291,603. Specification of Letters Patent. Patented Jan. 14, 1919.

Application filed August 29, 1918. Serial No. 251,912.

To all whom it may concern:

Be it known that I, STEPHEN A. NAGY, a subject of the Emperor of Germany, and residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Machine for Making Soft-Metal Wire, of which the following is a specification.

This invention relates to the manufacture of thin rods or wires of lead, tin, solder or other readily fusible metals or alloys, and its object is to provide a machine for this purpose which will require a minimum of attention, which can be constructed at low cost, and which will produce wires or rods of uniform size.

This invention consists in a circular table turning on a vertical axis and having a smooth upper surface, of a receptacle for the melted metal positioned over this surface and substantially contacting therewith, the receptacle being provided with small apertures to discharge the melted metal onto said table, and means to supply melted metal to said receptacle. It also consists in providing means for maintaining the liquid metal in said receptacle at a constant level. It further consists in means for keeping the metal in said receptacle and adjacent thereto at a high temperature.

In the accompanying drawings, Figure 1 is an elevation of this improved wire-forming machine. Fig. 2 is a plan of the driving mechanism looking down from the line 2—2 of Fig. 1. Fig. 3 is a plan of the machine. Fig. 4 is a section of the trailer and valve on the line 4—4 of Fig. 3 on a larger scale.

Similar reference characters refer to like parts throughout the several views.

The table 1 which constitutes a portion of this invention is mounted on a perpendicular shaft and turned by means of any desired mechanism. In the drawings, a frame consisting of legs 2 and cross bars 3 and 4 supports a base for the motor 5 and the bearings for the shafts 6, 7 and 8. A worm 9 on the motor shaft 6 meshes with the worm-wheel 10 on the shaft 7. A chain 12 connects the sprocket wheel 13 on the shaft 7 to the sprocket wheel 14 on the table shaft 8.

The upper surface of the table, or at least the outer portion of this surface is level and smooth. Above it is mounted the trailer 16, a receptacle having an inclined bottom 17 and a front side 18, the edge between the two being preferably rounded and formed with any desired number of discharge passages 19. The sizes of these passages will depend upon the diameters of the wires to be produced.

A bracket 21 extends up from the frame and supports a melting pot 22 which may be heated by a flame from the burner 23 supplied by a pipe 24. A jet of gas impinges on the metal in the trailer, being directed thereto by the nozzle 25 supplied by the pipe 26. Valves 27 and 28 may control these flames. An arm 29 extends from the bracket 21 to support the trailer. A dross pan 30 may be supported adjacent the melting pot 22 by means of a bracket 32.

The melted metal flows from the pot 22 to the controller 33 through a pipe 34. While any desired means may be employed to regulate the flow from this controller to the trailer, I prefer to use a valve 35 connected to one arm of a lever 36 pivoted on the pin 37 carried by a bracket 38. The other arm of the lever has connected to it a stem 39 on whose lower end is mounted a float 40 which is carried by the liquid metal in the trailer, which will cause the valve 35 to stop the flow of metal from the opening 41 when the desired height of metal in the trailer is reached. In other words, this valve and float will automatically keep constant the level of the metal in the trailer and thereby the pressure of the liquid metal at the openings or passages 19 will be kept constant and the flow of metal through these passages will be kept uniform. The flame from the nozzle 25 will also keep the discharge end of the controller very hot and thereby prevent hardening of the metal therein.

The table may be kept clean by a pad or wiper 44 held in position by a rod 45 secured to the frame and extending up around and over the table. A rod 46 supported by brackets 47 carries small hooks 48 over which the wires 49, 50, 51, 52 and 53 are passed so that their weight will slide them off the table to the places where they are coiled, the outside wire being removed first. A rod 54 extends up from the frames over the table and at the beginning of the manufacture of these wires, the several wires are lifted up above this rod which thereafter will serve to loosen the wires from the table so that they can be easily removed by the hooks 48.

I have found that wires of solder of No. 19 gage may be formed on a table about four feet in diameter running from thirteen to

sixteen revolutions per minute. While five wires are shown, this machine is capable of simultaneously producing many more, but each wire should have a separate hook 48 to conduct it to the place where it may be coiled.

The details and proportions of this machine may all be changed without departing from the spirit of my invention as set forth in the accompanying claims.

I claim:—

1. In a wire forming machine, the combination of a smooth circular table and means to turn it on a vertical axis, and a trailer mounted above the table and formed to discharge a plurality of fine streams of melted metal onto the horizontal top of the table.

2. In a wire forming machine, the combination of a circular table having a smooth horizontal top, means to turn the table on a vertical axis, means to deposit a plurality of fine streams of melted metal onto the top of the table to form wires, a rod extending across the table at its edge over which the metal wires will pass and means to slide the wires off the edge of the table.

3. In a wire forming machine, the combination of a smooth circular table and means to turn it on a vertical axis, and a trailer mounted above the table and formed to discharge fine streams of melted metal onto the smooth horizontal top of the table, and means to control the rate of flow of the liquid metal.

4. In a wire forming machine, the combination of a constantly moving receiver having a smooth horizontal surface, a receptacle for melted metal adjacent the receiver and having a discharge opening to direct a fine stream of melted metal onto this smooth moving horizontal surface, and means to control the rate of flow of the liquid metal from said discharge opening and means to remove the resulting wire from the table.

5. In a wire forming machine, the combination of a smooth circular table and means to turn it on a vertical axis, a trailer mounted above the table and formed to discharge a fine stream of melted metal onto the top of the table, and means to cause the resulting wire to slide radially from the table.

6. In a wire forming machine, the combination of a smooth circular table and means to turn it on a vertical axis, a trailer mounted above the table and formed to discharge a plurality of fine streams of melted metal onto the top of the table, and means for each resulting wire to cause it to slide radially from the table, the outer wire on the table being the first to be removed therefrom.

STEPHEN A. NAGY.