L. M. RUMSEY.

MACHINE FOR MAKING LEAD PIPE.

No. 185,406. Patented Dec. 19, 1876.

FIG. 1.

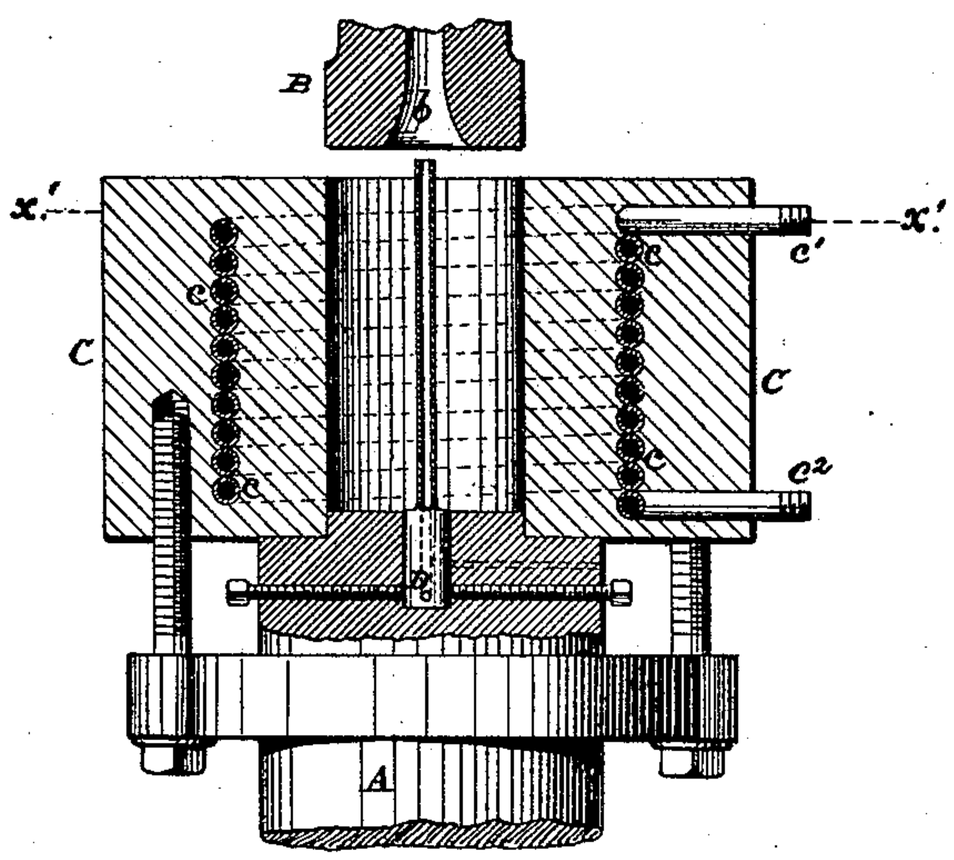
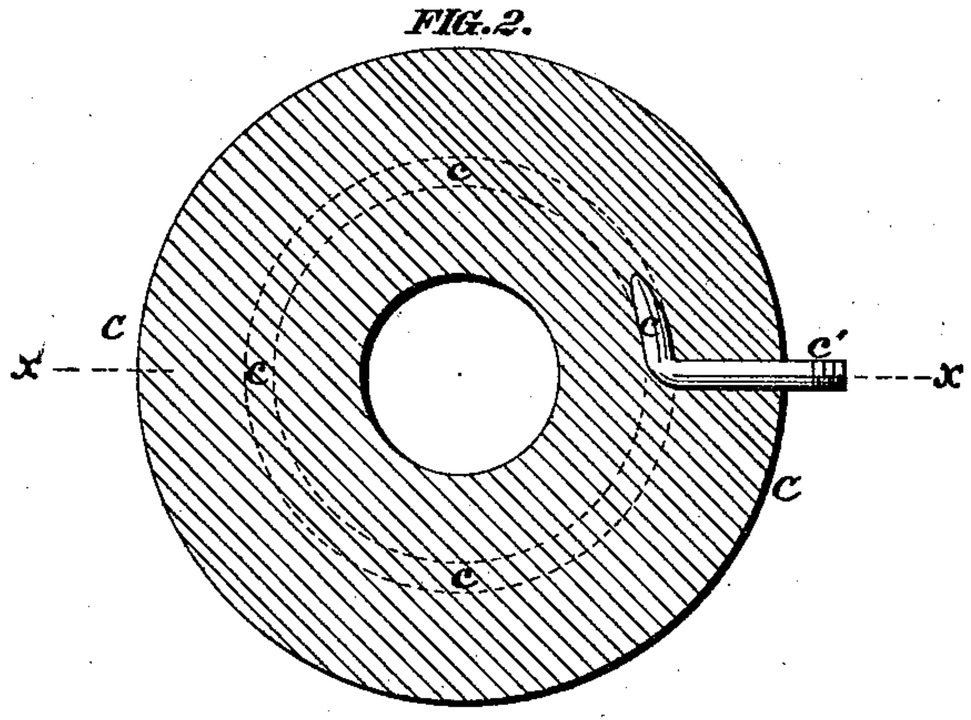


FIG. 2.



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LEWIS M. RUMSEY, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF HIS RIGHT TO MOSES RUMSEY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR MAKING LEAD PIPES.

Specification forming part of Letters Patent No. **185,406**, dated December 19, 1876; application filed May 13, 1876.

To all whom it may concern:

Be it known that I, LEWIS M. RUMSEY, of the city and county of St. Louis, and State of Missouri, have invented a certain new and useful Improvement in Presses used in the Manufacture of Lead Pipe; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

This invention relates to lead-pipe presses in which the lead is cast before it is pressed out in the form of pipe.

The invention consists in forming the lead-cylinder (cylinder containing the lead) with a chamber or passage in the solid metal of the sides of the cylinder from top to bottom nearly, having preferably an outlet near the top, and an outlet near the bottom, in combination with the other devices set forth and claimed.

The coil passage or chamber is for the purpose of heating the cylinder by steam when commencing to make pipe. Such heating has heretofore been done by putting the cylinder in an oven, or by other slow and difficult ways. The running of the hot lead into the cylinder increases the heat until it becomes so hot that much time is lost in waiting for the lead to cool to the proper temperature for working. This loss of time is obviated by running water through the coiled passage to cool the cylinder. By the use of this coil in the sides of the cylinder for heating it by steam and cooling it by water, two coils of lead pipe can be made in the time required to make one coil by the old process, and the time saved and trouble avoided of removal, heating, and replacing the cylinder.

Figure 1 is an axial section of the lead-cylinder at *x x*, Fig. 2. Fig. 2 is a section of the cylinder at *x' x'*, Fig. 1.

A is the head of the hydrostatic ram, upon which the lead-cylinder is supported, and by which it is raised. It is not necessary to give any particular description either of the ram A or of the hollow piston B, through which the lead pipe is forced through a triblet, *b*, as these parts are well known, and no novelty is claimed in them. The cylinder C is firmly secured upon the ram A in an axial position, and is raised and lowered with the ram, in the usual manner.

In my preferred manner of constructing the cylinder C, I place the coiled pipe *c* in the mold, and cast the cylinder upon it, the pipe or coil forming a spiral passage through the body of metal forming the sides of the cylinder. The ends c^1 c^2 of the coil *c* are shown as projecting from the cylinder near the bottom and top, and these ends are to be connected by flexible couplings to steam and water pipes, so that either steam or water may be passed through the coil *c*, as desired, to either heat or cool the cylinder.

The cylinder is first heated to receive the molten lead, and then cooled to reduce the lead to the proper temperature for the production of the pipe.

I have described a coil, *c*, running spirally through the sides of the cylinder; but it is evident that an annular chamber in the same position as the coil *c* would answer substantially the same purpose, although, perhaps, in a less satisfactory manner, and would be a mere modification of my invention.

Any convenient heating and cooling fluid may be used in place of the steam and water described.

I also have a tubular core, D, Fig. 1, the perforation connecting with an opening or perforation in or under the core box, which allows water to pass down through the core, and out through or under the core-box.

When the hot lead is run into the cylinder, water is immediately turned into the hollow portion in the core, which chills and hardens the lead in contact with the core, making it possible to start the press much quicker than it could otherwise be started, whereby much valuable time is saved.

It is evident that any opening through or below the core-box, in connection with the opening in the core, would answer the same purpose, so long as it allowed the escape of the water.

In running water or forcing air through the hollow core and core-box, a piece of ordinary hose or tubing is used, said hose or tubing having at its end a conical piece of hollow metal to suit any sized pipe, and to prevent

the hot lead pipe from burning the hose or tube which conveys the air or water.

In the process of manufacture, the lead pipe is forced out, by the usual means, over the hollow core, and the end is cut off at the top of the machine. As soon as it is cut off the conical cup or tube attached to the hose is placed on the end of the lead pipe, and water is turned on or air forced in, which runs through the end of the lead pipe, down through the hollow core, and out through the core-box. The operation is continued as long as the molten lead remains at the proper temperature, and as soon as the lead in the cylinder is chilled the conical cup is detached from the lead pipe, the latter is cut off and removed, and the process repeated.

I claim—

A lead-cylinder having a coil or chamber formed in the metal composing said cylinder, said coil or chamber being adapted for the passage of hot and cold water, air, or other fluids or gases, in combination with a suitable core, core-box, and press, substantially as and for the purpose specified.

LEWIS M. RUMSEY.

Witnesses:

SAML. KNIGHT.

MOSES RUMSEY.