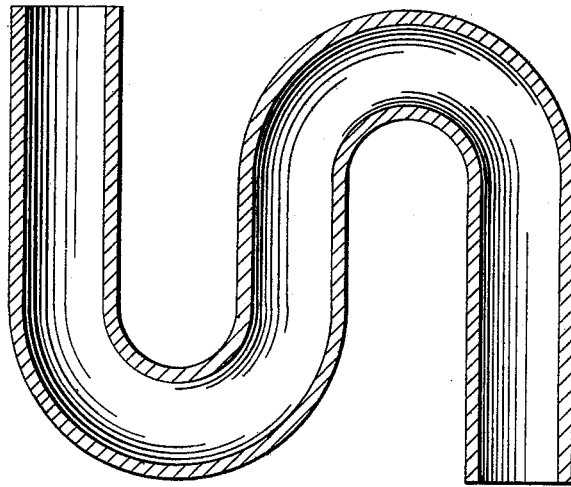


J. McCLOSKEY.  
Soft Metal Traps.

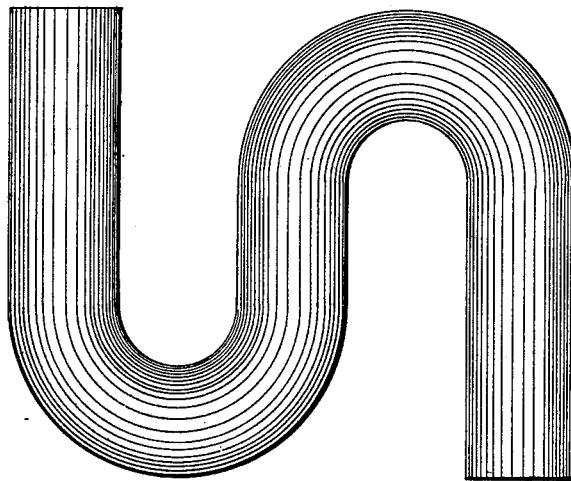
No. 220,767.

Patented Oct. 21, 1879.

*Fig. 1.*



*Fig. 2.*



Witnesses—

*Henry F. Parker.*  
*A. Wells Jr.*

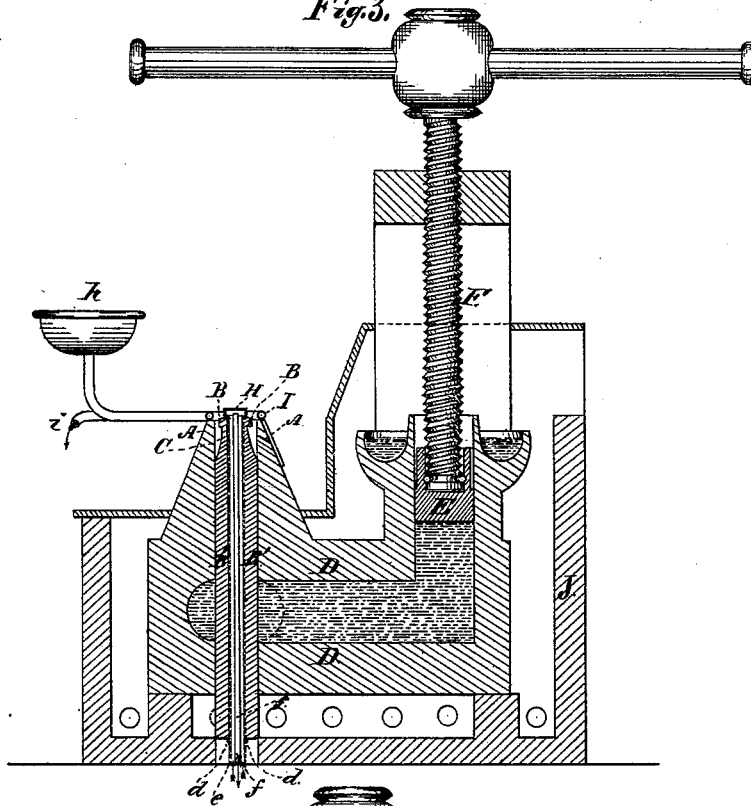
INVENTOR—

*John McCloskey*

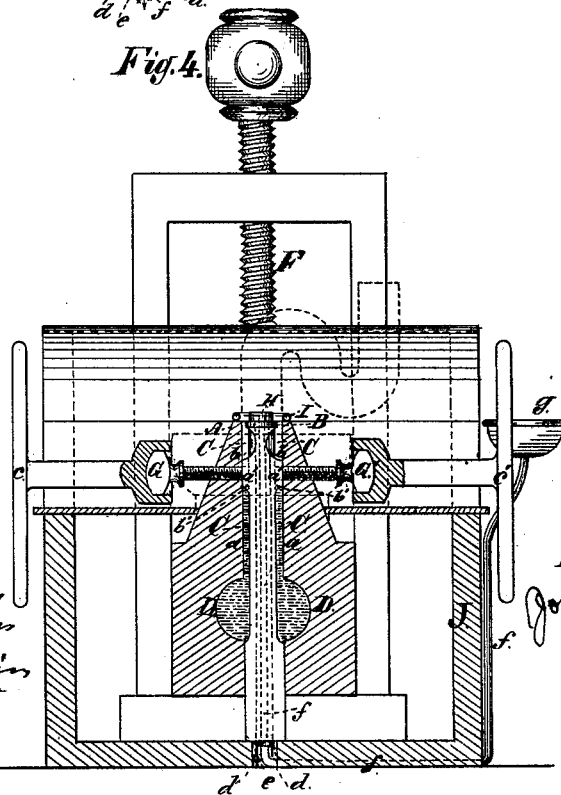
J. McCLOSKEY.  
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No. 220,767.

Patented Oct. 21, 1879.  
*Fig. 3.*



*Fig. 4.*



Witnesses:  
*S. H. Miller*  
*T. D. Hopkins*

Inventor:  
*John McCloskey*

# UNITED STATES PATENT OFFICE.

JOHN McCLOSKEY, OF NEW YORK, N. Y.

## IMPROVEMENT IN SOFT-METAL TRAPS.

Specification forming part of Letters Patent No. **220,767**, dated October 21, 1879; application filed December 12, 1877.

*To all whom it may concern:*

Be it known that I, JOHN McCLOSKEY, of the city, county, and State of New York, have invented an Improvement in Soft-Metal Traps, of which the following is a specification.

The object of this invention is to provide what are commonly termed "plumbers' traps" (which are ordinarily made of lead) of a quality superior to those made before the date of my invention, and at a much less expense.

The said invention comprises, as a new article of manufacture, a die-drawn seamless soft-metal trap, the same being the trap resulting from the practice of the means and methods herein specified as embraced in my invention—the practice of the process of causing soft metal to issue with variable velocities or in variable quantities at opposite sides of an annular die.

Figure 1 is a longitudinal sectional view, and Fig. 2 is a side view, of my said invention. Figs. 3 and 4, on a smaller scale, are vertical sectional views, in planes at right angles to each other, of an apparatus that may be used for the production of the article comprised in my said invention.

My said invention may be manufactured by any suitable process, means, or apparatus whereby soft metal may be caused to pass in variable quantities or at variable velocities through or from an annular die; but as one means of producing the article constituting my said invention I show the apparatus represented in Figs. 3 and 4, premising that for the purposes of this specification I do not claim the herein-described process or apparatus for making my said article or invention, inasmuch as said process and apparatus are set forth and claimed in my separate application for Letters Patent, Division B, now pending.

In the manufacture of my herein-claimed invention, by means of the aforesaid apparatus, the lead or soft metal in a molten state is placed in a receiver, D, with which is connected a plunger, E, that may be actuated by a screw, F. The opposite end of said receiver communicates by a chamber, C, with an annular die, A B, which is composed of the outer end of the core B (which core is fixed centrally in the chamber C) and a surrounding outer wall, A. The chamber C, between the receiver D and

the annular die A B, is divided into two parts or passages by means of lateral partitions B', which extend in opposite directions from the core to the surrounding walls of the chamber C, but which are diminished at their upper parts to permit the soft metal to pass entirely around the core before quite reaching the die, in order that said metal may unite around the core and occupy the whole area of the die in passing through the same. The lower parts, *a*, of the chamber C are separated from the upper parts, *b*, of the same by short oppositely-arranged partitions *a'*, which are part of the partitions B'; and in each of these short partitions *a'* is a port, *b'*, said ports being adapted to be closed to a greater or less degree by valves G, which may be actuated by levers *c c'*, separately or in unison, or said valves may be operated by other appropriate means.

The core is made hollow, and is calculated to be kept at a temperature below the melting-point of the lead or soft metal by cold water circulated through it by means of the inflow and outflow pipes *e f*. In like manner the outer wall, A, of the die is kept cool by a hollow cap, H, placed on said wall, water being caused to flow through said cap by means of suitable inlet and outlet pipes. The object of thus cooling the die is to insure the solidification of the hot lead at or just previous to its issue in tubular form from the die.

In the operation of the apparatus to make the trap the pressure of the plunger E forces the heated metal through the receiver D toward the annular die A B, the heated metal passing through the parts *a a* of the chamber C, and then through the passages *b' b'* in greater or less volume, through one passage or the other, according as one or the other of the valves G is operated to regulate the relative flow of the metal to and through said passages, and consequently upon one side or the other of the partition B', and, as a still further consequence, in greater volume or with greater velocity at one or the other of the opposite sides of the annular die A B, the pipe being, of course, turned or curved in a direction away from that side of the die A B from which the greatest portion of the metal issues—or, in other words, that side at which the metal issues with the greatest rapidity or greatest volume—so

that by manipulating the valves G G' to admit a greater quantity of the metal first upon one side of the partition B' and then upon the other or opposite side of the said partition, the soft metal issuing in tubular form through the annular die A B is caused to assume the shape of an S-trap, the two streams uniting in the upper part, *b*, of the chamber C below the mouth of the die. The walls of the trap or curved tube thus formed will be of uniform thickness at the inner and outer sides of the bends or curves.

The degree of curvature is, of course, proportioned to the relative rapidity of the two streams passing from the receiver D to the two opposite parts of the chamber C above the passages *b' b'*, and thence to the annular die A B, where it issues in the form of a pipe of greater or less curvature and with solid or seamless walls, the outer surfaces of which are

more less marked with longitudinal striations from end to end of the trap, which latter is thus distinguished from other traps by its peculiar appearance.

Heat is applied by any suitable means to the soft-metal receiver D, to maintain the same at the temperature most advantageous in the practice of the invention.

J represents the furnace, of brick or other suitable material, built around the machine, to hold the burning fuel, if such be used, for heating the receiver and adjacent parts.

What I claim as my invention is—

A die-drawn seamless trap of soft metal, as a new article of manufacture, substantially as herein described.

JOHN McCLOSKEY.

Witnesses:

W. L. BROWNELL,

E. H. BROWNELL.