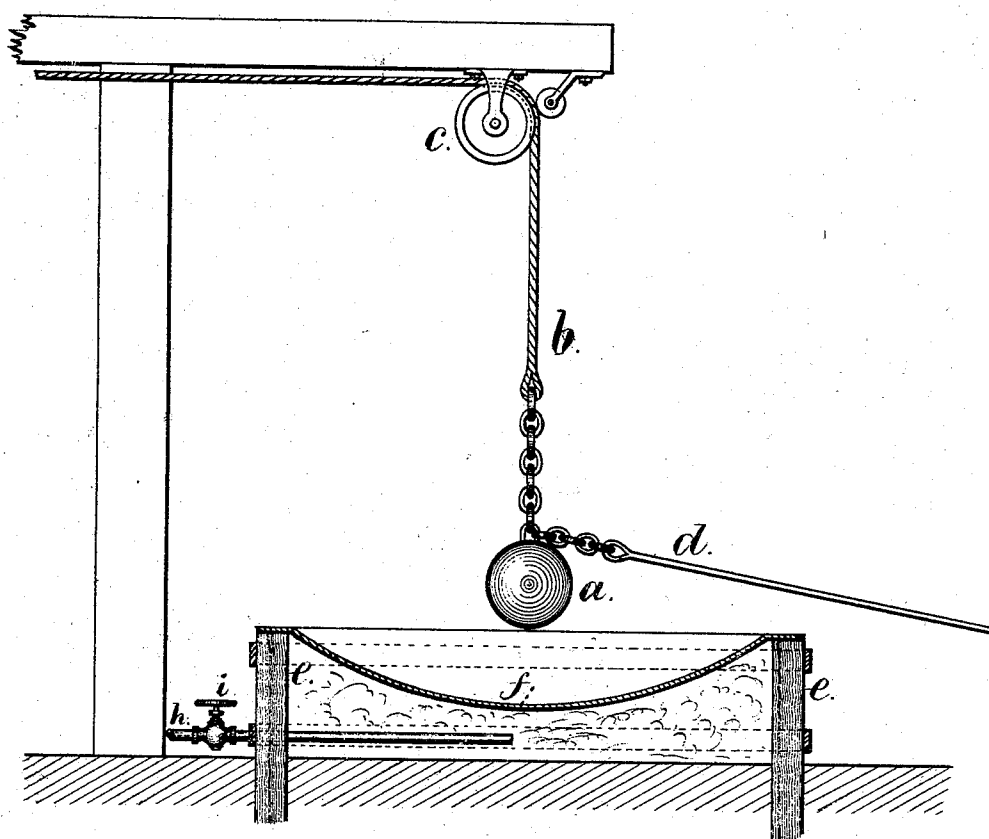


J. TRAGESER
MAKING SHEET METAL WARE.

No. 171,198.

Patented Dec. 14, 1875.



Witnesses,

Chas H. Smith,
Harold Perrell

Inventor

John Trageser.
per Lemuel W. Perrell

Atty.

UNITED STATES PATENT OFFICE.

JOHN TRAGESER, OF NEW YORK, N. Y.

IMPROVEMENT IN MAKING SHEET-METAL WARE.

Specification forming part of Letters Patent No. **171,198**, dated December 14, 1875; application filed November 8, 1875.

To all whom it may concern:

Be it known that I, JOHN TRAGESER, of the city and State of New York, have invented an Improvement in the Manufacture of Sheet-Metal Kettle Bottoms, Domes, or similar articles, of which the following is a specification:

In making concave bottoms for stills, kettles, &c., it has been usual heretofore to place the sheet upon a circular curb, above the center of which there is a pulley with a rope or chain suspending a ball, and there is a clamp or clutch mechanism, by which the rope is drawn upon to lift the weight, and there is a guide-rope to such weight, by means of which the workman guides the weight as it is allowed to fall, so that it strikes the metal in the proper place, and bends the same downwardly. This operation is well known, and is termed "bumping."

In this operation the metal requires annealing before the work is commenced, and frequently several times during its progress. This is costly, especially with large sheets, and a wood fire usually has to be employed at the risk of fire to the manufactory.

In cold weather it is almost impossible to properly bump these kettle bottoms, even after the metal has been annealed.

I have discovered that, when superheated steam or hot air is introduced within the supporting-curb and beneath the sheet of copper, the same is so softened that the bumping operation can be performed from first to last without annealing, and in a much more per-

fect and expeditious manner than heretofore, thus effecting a saving in cost of materials, labor, and time, and preserving greater uniformity in the metal than in the mode heretofore pursued.

In the drawing, I have shown a side view of the apparatus and section of the curb and sheet of metal.

The ball *a* is suspended by the rope *b* over the pulley *c*, and raised and dropped, as usual, and the rod or rope *d* held by the workman serves to guide the ball *a* to the proper place as it falls. The curb *e* supports the edges of the sheet of metal *f* that is to form the kettle bottom or other similar article, and steam either under pressure or superheated, or hot air, is admitted within the curb *e*. A pipe, *h*, and cock *i* are shown for this purpose.

The effect of the heat is to sufficiently soften the metal to render it easily worked, as aforesaid.

I claim as my invention—

The method herein described of making kettle bottoms and similar articles by the application of heat to the sheet metal while supported by the curb, and during the operation of bumping, substantially as set forth.

Signed by me this 4th day of November, 1875.

JOHN TRAGESER.

Witnesses:

CHAS. H. SMITH,
GEO. T. PINCKNEY.