Gomme & Beaugrand,

Sheet-Metal Die.

No. 15,513. Patented Aug. 12, 1856.

Fig. 2.

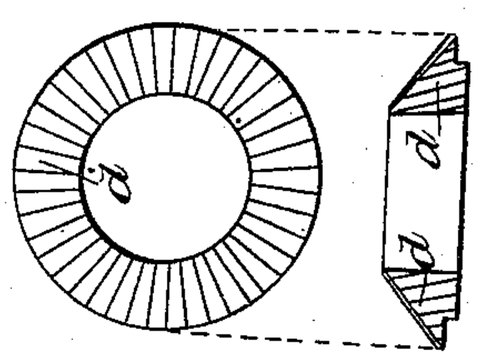


Fig. 3.

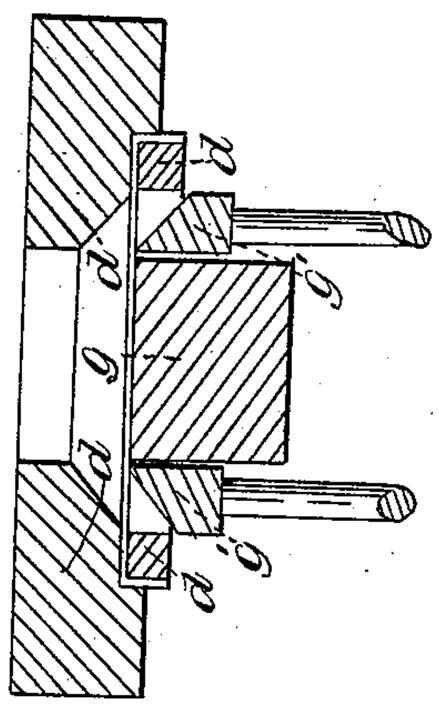
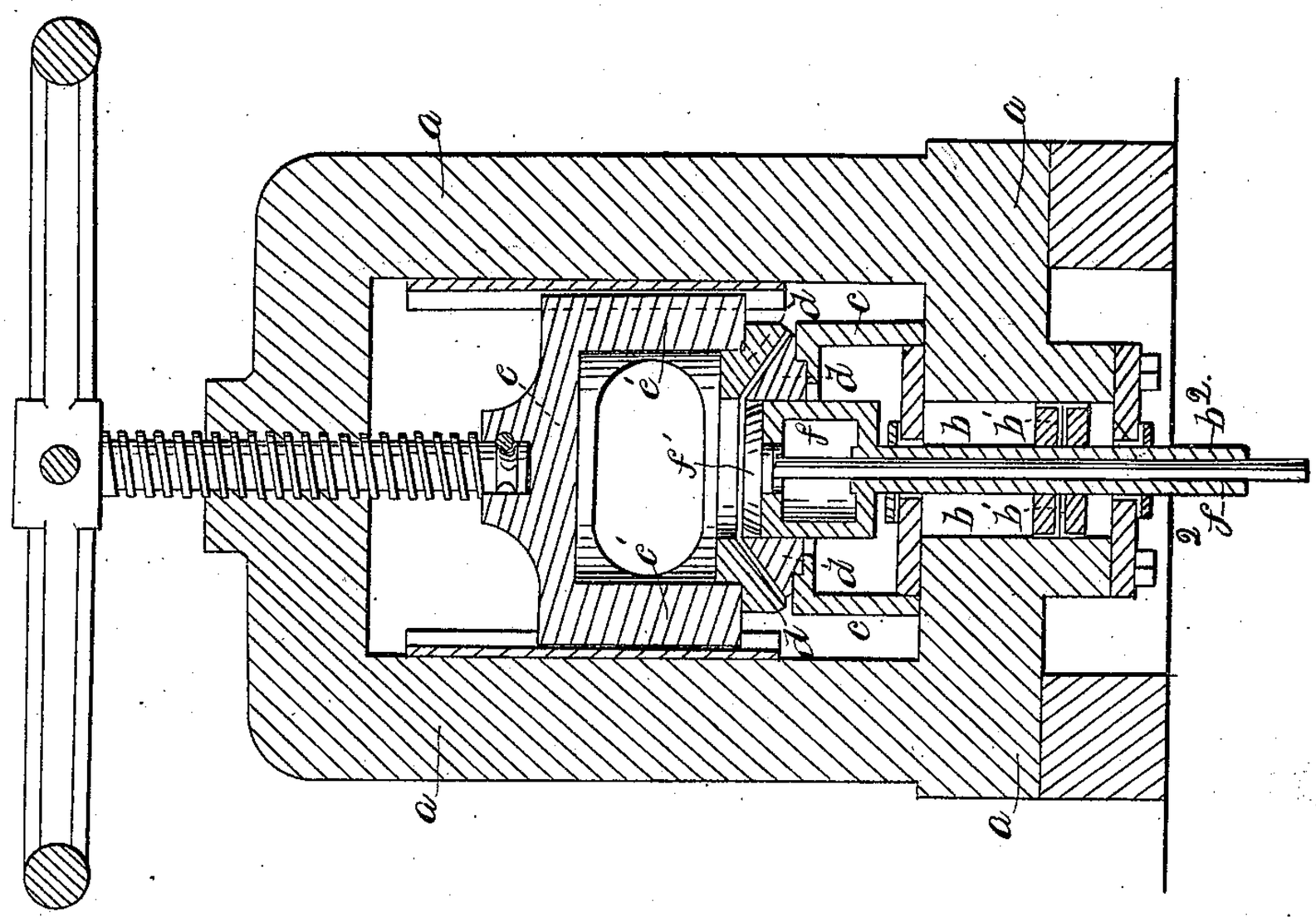


Fig. 1.



UNITED STATES PATENT OFFICE.

THEO. GOMME AND CHS. E. A. BEAUGRAND, OF PARIS, FRANCE.

IMPROVEMENT IN MANUFACTURE OF SHEET-METAL WARE.

Specification forming part of Letters Patent No. **15,513,** dated August 12, 1856.

To all whom it may concern:

Be it known that we, THEODORE GOMME and CHARLES EUGÈNE AUGUSTE BEAUGRAND, of Paris, in the Empire of France, have invented certain Improvements in Machinery for Manufacturing Copper and other Metal Ware, (except castings;) and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed sheet of drawings, making a part of the same.

It is well known that up to this time culinary vessels and others manufactured by coppersmiths or tinkers for domestic purposes were made by the hand and the hammer—that is to say, the workman rolled, stamped, modeled by the hammer certain parts of the metal in order to give them various forms and shapes. This mode of working metals is very long and requires a great waste of force from mechanics. Besides, not only finished pieces but even common ones come to a comparatively elevated price. We have understood that it would be proper to reduce the net cost of those indispensable things, and have contrived, combined, and applied such economical means as will allow the sale of good fine perfectly-worked products at very moderate prices.

This invention relates to the stamping of the metal by a puncheon, while the surrounding parts or edges are held with more or less tightness between two rings with grooved or smooth surfaces, said stamping operation either completing the work by itself or being preparatory to a finishing operation performed in a lathe by means of rolls acting as burnishers and operated by the hand or by a slide.

It consists in a certain construction of the stamping-puncheon, by which one portion thereof is made to hold the stamped metal in its place during the stamping operation and to disengage the same from the main body of the stamping-puncheon when the latter is withdrawn.

The accompanying drawings illustrate the invention.

Figure 1 represents the vertical projection of a new arrangement of a stamping-machine, which consists of a case, *a*, shown in section, having at its lower part a cylinder, *b*, in which a piston, *b'*, may operate, which gives the impulse to the stamping-puncheon.

A ring, *e*, resting on the bed-plate of case *a*, bears the rings *d*, secured by the pressure acted upon the plate *e*, that transmits the same to the rings *d* by means of tie-pieces *e'*, provided with cushions gliding inside the upright posts of frame or case *a*. Said pressure may be acted by means of a screw with one or several threads, or by a piston moved by steam or any other motive power. The pressure, however, being given, the pieces under pressure may be supported by any suitable stop.

The rings *d*, shown by vertical section and horizontal projection, Fig. 2, have conic faces slightly grooved along the generating-line of the cone, in order to cause the metal placed between the two large rings *d* to be suitably stamped. Puncheon *f*, actuated by piston *b'*, itself moved by steam, or rather by water and by means of an injecting-pump with valve, &c., as for hydraulic presses, will effect the stamping.

We must observe that the rod *b²*, which connects the piston to the puncheon, is perforated through its whole length for the purpose of admitting another rod or stem, *f²*, bearing at its upper part a small plate, *f'*, which supports the stamped piece when puncheon *f* and piston *b'* are down.

These are the distinctive characters of the invention: First, the use of either grooved or smooth rings intended to lessen the effort that might break the metal by stamping it, but, on the contrary, allows a considerable modeling without injuring said metal; second, the applying of a rod crossing the stamping-puncheon and connected to a plate resting upon said said puncheon, in order to secure the stamped piece to its place when the puncheon goes down again. The advantage of this arrangement for withdrawing from the puncheon the stamped piece will be easily understood, for every one knows that it is greatly adherent to it.

For certain pieces made of thick metal the arrangement represented by vertical section, Fig. 3, may be advantageously used. Here rings *d* are not grooved. Besides the puncheon is composed of two parts, *g* and *g'*, that may be actuated simultaneously or separately, as required; and, of course, the center puncheon may be supplied at its upper part with a plate, *f'*, that may be worked like that of puncheon *f* of Fig. 1. It is besides conceived that by

means of such arrangements it is easy to stamp metal sheets and give them any suitable depth, according to the ductility of the metal used.

What we claim as our invention, and desire to secure by Letters Patent, is—

The use of the rod f^2, sliding within the stamping-puncheon f, for giving motion to plate f' on the upper part of said puncheon, so as to hold the work in place, and subsequently to disengage it, the whole operating for preserving the thickness of the metal uniform when acted upon by the puncheon between the grooved and beveled rings, as described.

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BEAUGRAND, AÎNE.

Witnesses:
ADOLPHE LE BLANC,
GEO. HUTTON.