E. C. Blakeslee, C. Platt, Jr. & E. Jordan.

Spinning Metal.

No. 15,961. Patented Oct. 28, 1856.

Fig. 1.

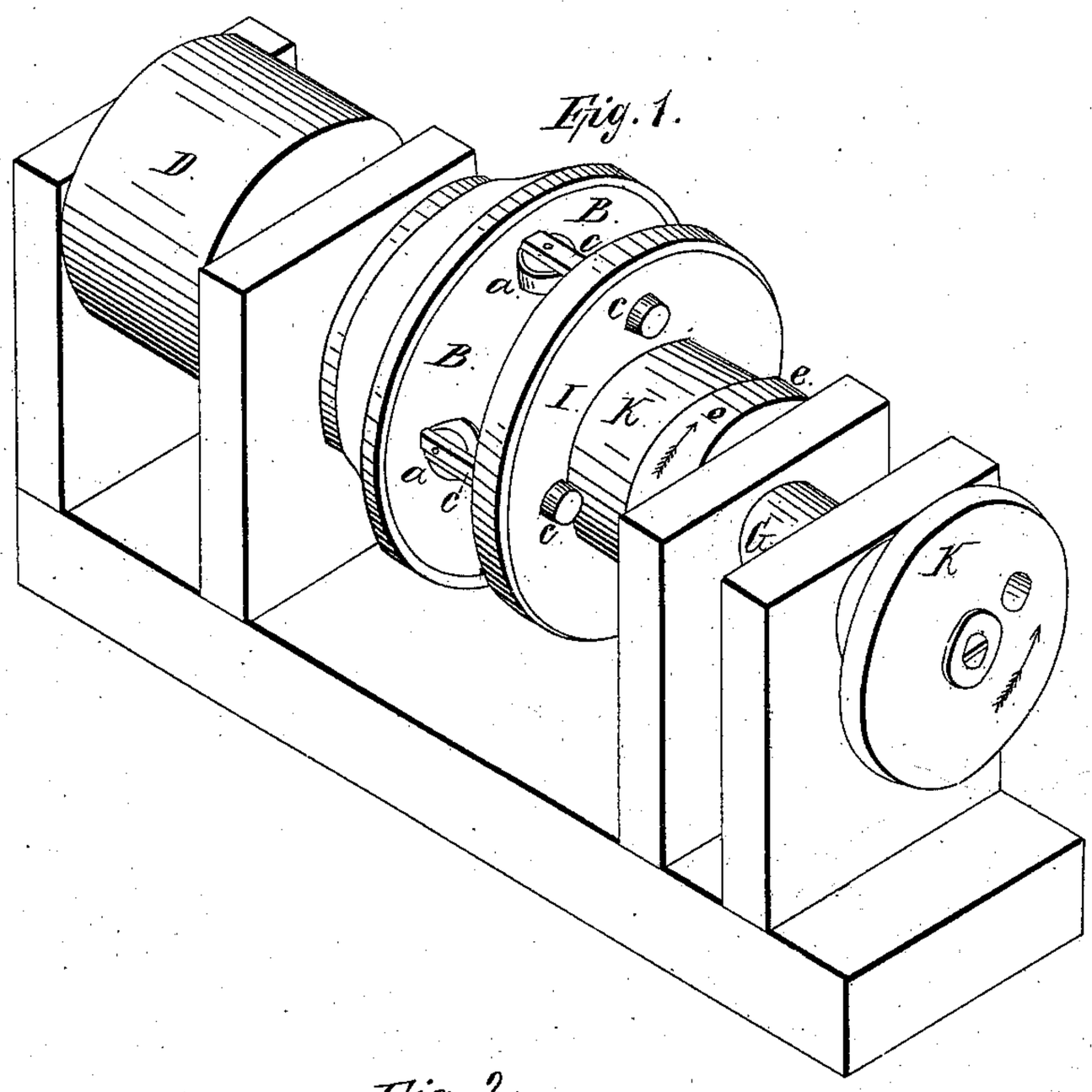
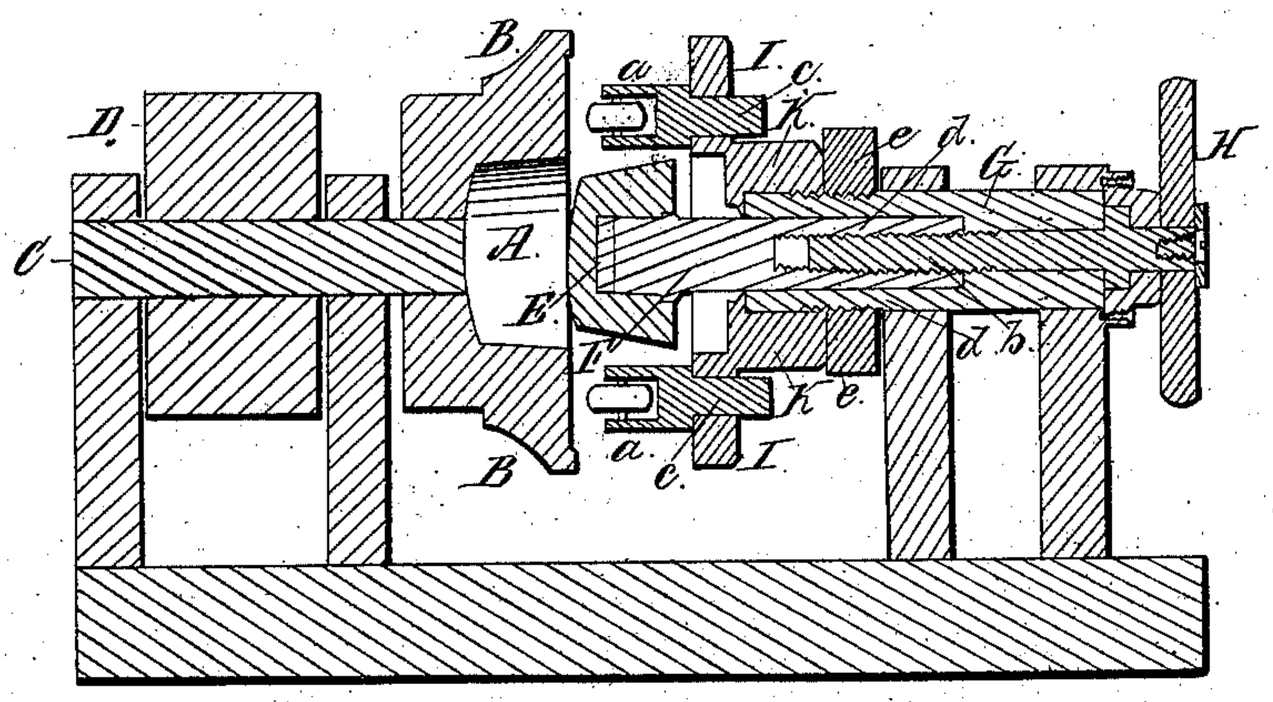


Fig. 2.



UNITED STATES PATENT OFFICE.

E. C. BLAKESLEE, E. PLATT, JR., AND E. JORDAN, OF WATERBURY, CONN.

IMPROVED MACHINE FOR MAKING BRASS KETTLES.

Specification forming part of Letters Patent No. **15,961**, dated October 28, 1856.

To all whom it may concern:

Be it known that we, EDWARD C. BLAKESLEE, ENOCH PLATT, Jr., and EDMUND JORDAN, all of the city of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Machinery for Making Brass Kettles from Sheet-Brass; and we do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make a part of this specification, in which—

Figure 1 is a perspective view of the machine. Fig. 2 is a longitudinal section cut vertically through the center.

Our improvement consists in so constructing the machine that while the male die or punch is forcing the central part of the sheet metal into the female part a set of rollers impinging on that part of the sheet metal or blank which is outside of the female part, and rolling or pressing it against a revolving disk or rim, will continually roll the metal thinner as it approaches the top of the kettle, so that by taking sheet metal rolled to the proper thickness for the bottom of the kettle and placing it in the machine in the proper position for the dies and rollers to act upon it by the rotary motion of the female die and the proper feed motion of the male die and reducing-rollers the kettle will be formed thick at the bottom and gradually decreasing in thickness to the top, the proper shape for the metal to form the most durable kettle which can be made of that size and that weight of metal similar to those made by hand.

We make the frame-work, of cast-iron or any other suitable material, substantially in the form shown in the drawings.

We make the female die, of cast iron or any other suitable material, of the proper form for the kettle, as seen at A, Fig. 2, and with a substantial circular disk or rim, as shown at B B, Figs. 1 and 2, against the face of which the reducing-rollers *a a*, Figs. 1 and 2, (with others not seen,) press the sheet metal, to reduce the thickness toward the top. We attach this female die to a shaft, C, and to this shaft C is also attached a pulley, D, Figs. 1 and 2, to which we apply the power (by a band) to revolve the female die; (or a gear-wheel may be used when thought best.)

We make the male die or punch E, Fig. 2, of cast-iron or any other suitable material, of the form of the inside of the kettle, as shown in Fig. 2, and slip it onto the end of the shaft F, Fig. 2, so that it may revolve, to prevent friction or straining the brass when the female die is revolved. This shaft F slides freely in the hollow shaft G, Figs. 1 and 2, and, by means of a screw, *b*, revolved by the wheel H, the male die C is forced into the female die A, to raise or form the kettle or to draw it back after the kettle is formed.

We make the reducing-rollers *a a* (of any desired number) of cast-steel or any other suitable material, and finish their peripheries crowning, so that they may impinge only on a very limited surface, to make the reducing easy. We fit them into the proper holders, *c c*, and pass the shanks of these holders through holes, (to work freely,) in a disk or rim, I, Figs. 1 and 2. We attach this disk I firmly to the hollow shaft or collar K and pass it onto the hollow shaft G, which shaft G has a male thread or screw, *d*, in which the female thread of the circular nut *e* works, to force up the reducing-rollers or to let them back.

Having made and arranged the parts as before described, we place the central part of the blank or piece of sheet-brass of which the kettle is to be made or formed over the female die A, Fig. 2, and turn the wheel H in the direction indicated by the dart in Fig. 1, which will revolve the male screw *b*, Fig. 2, to force the male die E, and with it the sheet metal, into the female die A, and by turning the circular nut or female screw *e* in the direction indicated by the dart in Fig. 1, it will force the hollow shaft or collar K and disk I toward the female die, and consequently the reducing-rollers *a a* against that part of the blank which rests against the rim B B. We then apply the power to the drum or pulley D, and so revolve the female die A, with its disk or rim B B, which will cause the reducing-rollers *a a* to roll over the sheet metal or blank and reduce it gradually to the decreasing thickness desired; and if the male die be continually pressed into the female die with the proper velocity by revolving the wheel H, (either by hand or other power,) and the reducing-rollers be pressed against the blank with the proper force, by turning the circular nut or female screw *e* until the male die has forced the central part of

the blank to the bottom of the female die the kettle will be perfectly formed; and by turning the wheel H and nut *e* in the opposite direction to that indicated by the darts the kettle may be taken out and another blank substituted, and so on.

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

The combination of the revolving female die A and its disk or rim B B with the male die E when these are combined with the adjustable reducing-rollers *a a*, and the whole is constructed, arranged, and made to produce the result substantially in the manner and by the means herein set forth.

E. C. BLAKESLEE.
ENOCH PLATT, JR.
EDMUND JORDAN.

Witnesses:
H. HIGGINS,
R. FITZGERALD.