F. J. SEYMOUR.

Machines for Spinning Sheet-Metal Ware.

No. 150,796. Patented May 12, 1874.

Fig 2.

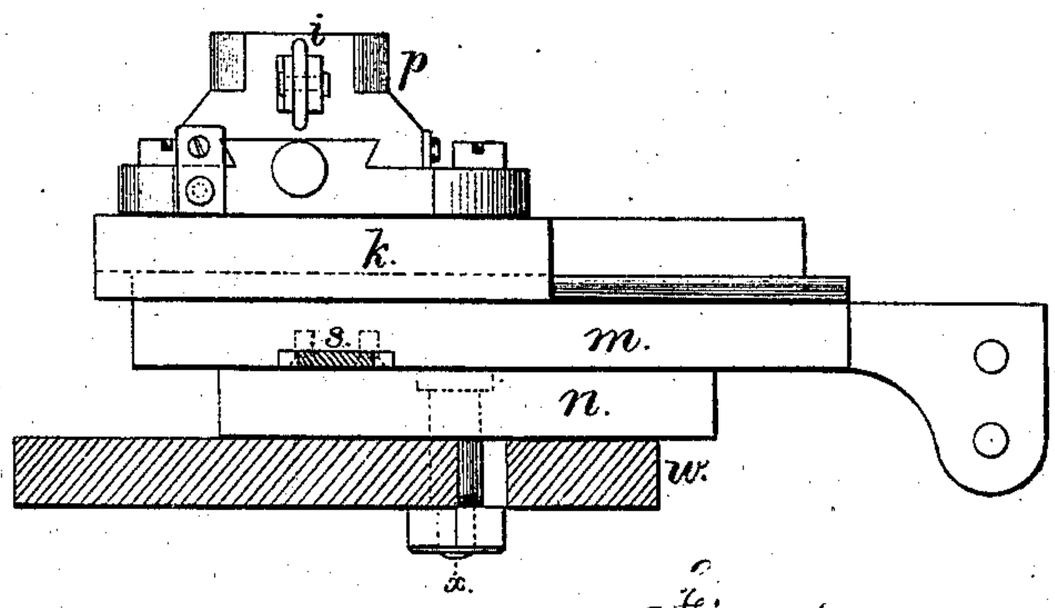


Fig. 3.

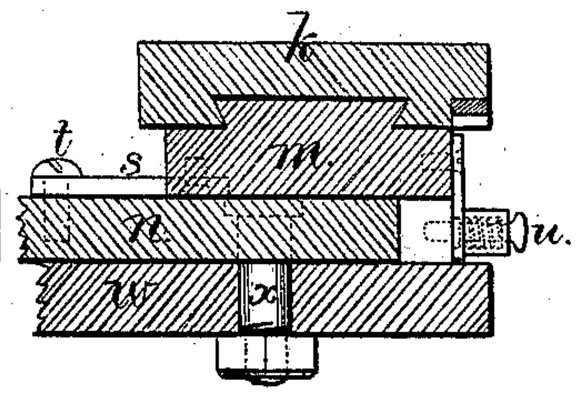
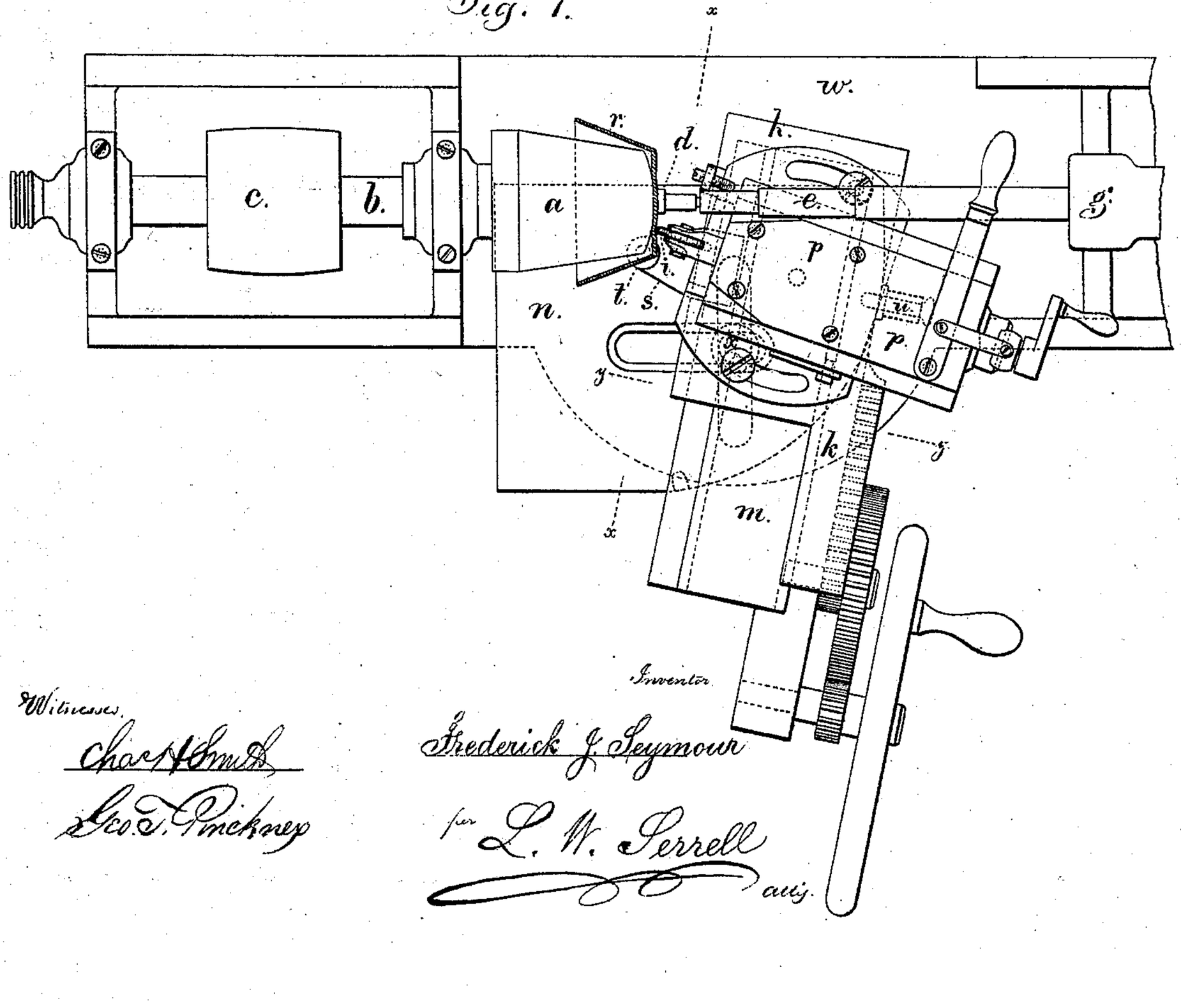


Fig. 1.



Witnesses.

Chas. H. Smith

Geo. E. Pinckney

Inventor

Frederick J. Seymour

per L. W. Serrell

atty.

UNITED STATES PATENT OFFICE.

FREDERICK J. SEYMOUR, OF WOLCOTTVILLE, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR SPINNING SHEET-METAL WARE.

Specification forming part of Letters Patent No. **150,796**, dated May 12, 1874; application filed May 20, 1873.

CASE B.

To all whom it may concern:

Be it known that I, FREDERICK J. SEYMOUR, of Wolcottville, in the county of Litchfield and State of Connecticut, have invented an Improvement in the Manufacture of Kettles and other hollow articles, of which the following is a specification:

In manufacturing brass kettles by the battery or stamping process the metal requires to be annealed between each hammering operation, and as the bottom of each kettle is first shaped it becomes very soft and liable to bend and become dented when in use.

My present invention consists in the machinery employed for finishing the kettle or other hollow article, in which the bottom of the kettle and the sides are subjected to a rolling or spinning operation in the last finishing process, so that the metal is hardened and receives a consolidation or spring stiffness throughout after the last annealing operation. Thereby the kettle is rendered stronger and less liable to bend or bruise upon the bottom than heretofore. This is accomplished by mounting the spinning roller or tool upon a movable rest that can be changed in its position or direction of action and brought to operate upon the bottom of the kettle to shape the same and harden the metal, and then turned into position for reducing the sides in thickness and extending the metal to the complete size and shape of the completed kettle.

In the drawing, Figure 1 is a plan of the machine complete, with the partially-formed kettle in section, and undergoing the last and finishing operation. Fig. 2 is a section of the slides or rests at the line *x x*, and Fig. 3 is a section of the slides at the line *y y*.

The mechanism employed by me is an improvement upon the devices shown in my patent No. 134,938.

The mold *a* is upon a mandrel, *b*, and revolved by power applied to the pulley *c*, and the blank is held to the mold by the clamping-button *d*, bar *e*, and head *g*. The tool or roller *i* is mounted upon a slide-rest, *p*, above the bed *m*, and the tool *i*, with its rest, should be set in sliding bearings and pressed to its work by a spring, so as to yield to accommodate slight inaccuracies of adjustment.

The blank kettle or hollow article *r* is made with a flat bottom and conical sides by any known mechanism, preferably by spinning. My mechanism is adapted to operate upon such a kettle-blank. The blank kettle *r* is to be annealed and clamped to the form *a*, and the tool *i* employed to harden, consolidate, and stiffen the bottom of the kettle by shaping it from a flat to a convex form, as represented in Fig. 1, and then acting against the conical sides to bring them finally to the required shape and thickness. To effect these operations continuously in one machine it is necessary that the angle at which the slide *p* stands to the axis of the machine be changed, so as to be nearly at right angles to the bottom, and then moved around nearly at right angles to the side, the novelty in the present mechanism relating to the means for changing the positions of the slide *p* and the spinning-tool.

The bed *m* rests upon a secondary bed, *n*, and is attached thereto by the arm *s* and bolt *t*, and this bolt *t* is the center of an arc forming the front edge of the plate *n*, and there is a spring-bolt, *u*, upon *m*, entering one of the holes in *n* to hold such bed *m* in either position to which it may be swung, or any other suitable holding device may be employed. The secondary bed *n* rests upon the main bed *w* of the machine, and it is clamped in place by a bolt, *x*, that passes through slots in the bed *m* and secondary bed *n*, the parts being thus made adjustable, so that the center bolt *t* can be positioned directly below the angle of the mold *a*, where the sides and bottom come together, as illustrated in Fig. 1. This construction allows the bottom of the kettle to be shaped with the parts in the position shown in Fig. 1, and when the tool *i* arrives at the edge of the bottom the bolt *u* is to be drawn, and the bed *m* and parts carried by it are swung around so that the bed *m* is parallel, or nearly so, to the sides of the mold or form *a*, where the tool operates upon the metal.

The spinning operation being proceeded with, the metal is stretched, compressed, and hardened, and the kettle or hollow article finished out to the upper edge thereof, so as to be ready for receiving the wire, rim, ears, and bail, as usual.

I claim as my invention—

The bed *m*, connected to the secondary bed *n* by an attaching bolt or pin, so as to be swung thereon into a different position, in combination with the spinning-tool and form, substantially as set forth.

Signed by me this 10th day of May, 1873.

FREDERICK J. SEYMOUR.

Witnesses:

CHAS. F. BROOKER,

E. T. COE.