# C. F. Spaulding,

## Making Sheet-Metal Articles.

No. 54,621. Patented May 8, 1866.

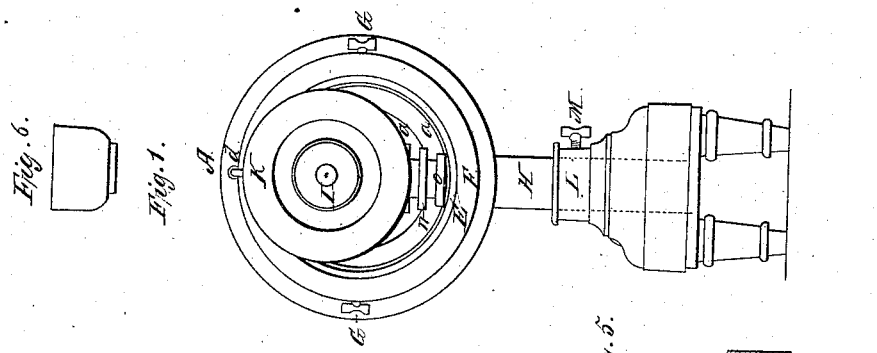

Fig. 6.

Fig. 1.

Fig. 5.

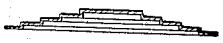

Fig. 4.

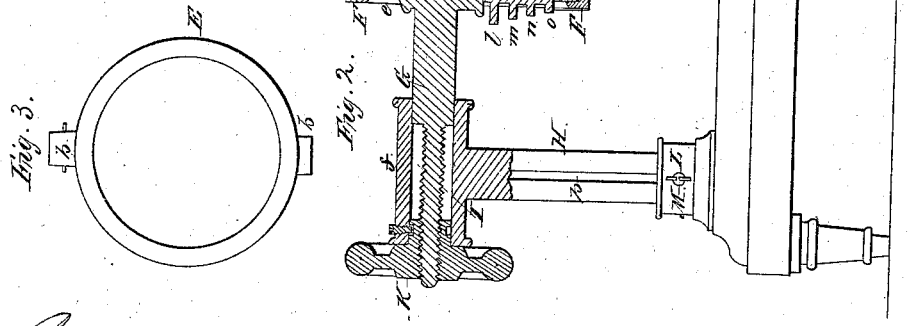

Fig. 3.

Fig. 2.

Witnesses:
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# UNITED STATES PATENT OFFICE.

CHARLES F. SPAULDING, OF ST. JOHNSBURY, VERMONT.

## IMPROVED MACHINE FOR SPINNING METAL.

Specification forming part of Letters Patent No. **54,621**, dated May 8, 1866.

*To all whom it may concern:*

Be it known that I, CHARLES F. SPAULDING, of St. Johnsbury, in the county of Caledonia and State of Vermont, have invented a new and useful Cover-Spinning Machine; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, and Fig. 2 a longitudinal section, of the said machine. Fig. 3 is a view of the holding-ring, to be hereinafter described.

The purpose of the said machine is to reduce a plane disk or circle of tin or sheet metal to a concavo-convex form, or to impart to it a series of concentric corrugations, whereby it shall be converted into the shape having a cross-section, as exhibited in Fig. 4, or as shown in Fig. 5, or any other analogous thereto and in accordance with the concave shape that may be given to the pattern-face of the rotary die-wheel of the machine, the same being to convert the plate into a cover suitable for a pot or vessel, or to make it into the form of a common plate or dish.

In the drawings, A denotes the rotary die-wheel of the machine, such wheel being mounted on one end of a horizontal arbor, B, duly supported by and so as to be capable of revolving in the head of a puppet or post, C. A crank D is fixed on the opposite end of the shaft; or, if preferable, a pulley may be substituted for the crank, such pulley being to receive a belt for revolving it, and thereby producing a rotary motion of the die-wheel. The inner face of the die-wheel is concave and formed with offsets, as shown at *a a a a*, or to the pattern which it may be desirable to impart to the disk of metal.

A holding-ring, E, provided with two fastening arms or projections, *b b*, extending from it in opposite directions, is arranged alongside of the inner face of the die-wheel. One of the arms *b b* goes through a staple, *c*, inserted in the die-plate. The other arm goes under a turn-hook, *d*, also projected from the die-wheel. The purpose of the holding-plate, with its arms, staple, and turn-hook, is to fasten the die-wheel, the plate of tin or sheet metal to be spun or bent into the desired shape, such plate being placed between the die-wheel and the ring. Another ring, F, also encompasses the ring E, and is held to it by set-screws, one of which is shown at G. The said ring F is provided with a circular lip or flange, *e*, to overlap the side of the ring E, in manner as shown in the drawings. By means of the said flanged ring F a disk, to be made simply concave, may be fastened to the ring E.

In front of the die-wheel A is a mandrel, G, which is supported in the head *f* of a post, H, and provided with a screw, I, and a wheel-nut, K, by which it may be moved longitudinally in either direction. On the inner end of the mandrel is a head, *g*, through which a spindle, *h*, extends vertically, the said spindle being fastened on the head by a set-screw. This spindle is to carry either a single spinning-wheel, formed as shown in Fig. 6, or it is to have arranged upon it a series of such wheels, *l m n o*, of different diameters, they being so made and arranged with respect to the boundaries of the depressions of the concave face of the die-wheel as to co-operate therewith in reducing a disk to the shape intended while the wheel may be in revolution, and the series of wheels may be pressed against the disk so as to force it into the die-wheel.

The post H slides vertically in a carrier or socket-piece, L, to which a clamp-screw, M, is applied for holding the post at any desirable elevation, the post being provided with a groove, *p*, to receive the inner end of the screw, and thereby prevent the post from revolving in its socket-piece.

In using the said machine the disk to be reduced is first to be affixed to either the face of the die-wheel or to the face of the holding-ring, after which the die-wheel should be put in revolution and the mandrel be moved so as to crowd its wheel or wheels against the disk and force it into the requisite shape.

Screws *q q* are arranged in the die-wheel, and so as to screw into the arms of the holding-ring and secure it firmly to the die-wheel when such ring is not employed for fastening a disk directly to the die-wheel.

I claim—

1. The combination of the rotary die-wheel A, and the plate-fastening ring E, and devices for holding it to the wheel, with the slide-mandrel G, its spinning wheel or wheels, and mechanism for supporting and moving such

mandrel longitudinally or toward and away from the die-wheel, as specified.

2. In combination therewith, a mechanism for effecting the vertical adjustment of the mandrel, as specified.

3. The holding-ring E, as made with the fastening-arms extending from it, as and for the purpose set forth.

4. The combination of the clamp-ring F with the holding-ring E, the die-wheel A, and the mandrel G and its spinning-wheel.

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Witnesses:
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