3 Sheets—Sheet 1.

# O. & N. PECK.

## Machinery for Working Tin.

No. 3,061. Patented Apr. 25, 1843.

Fig: 1.

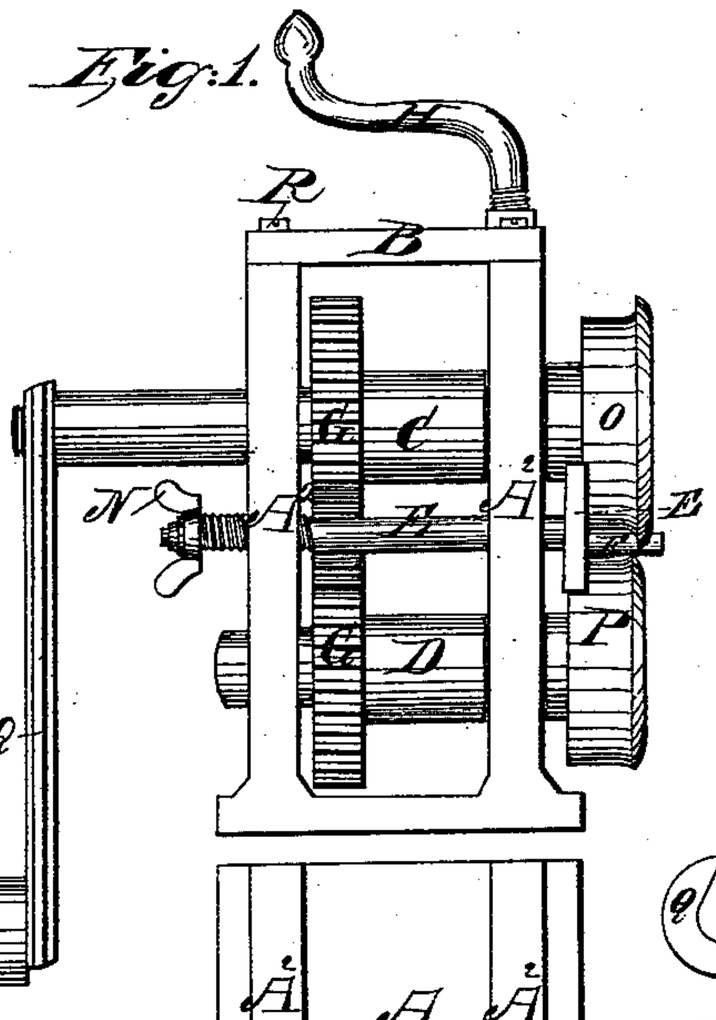
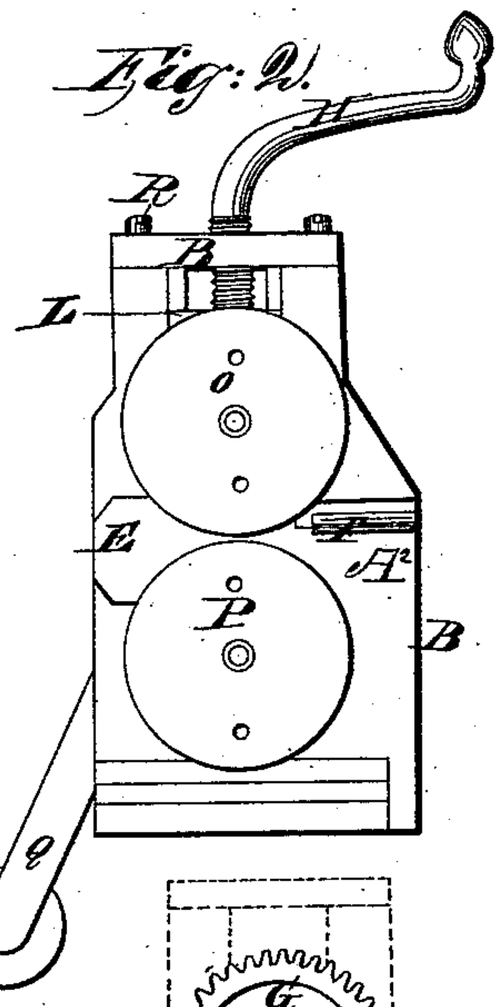



Fig: 2.

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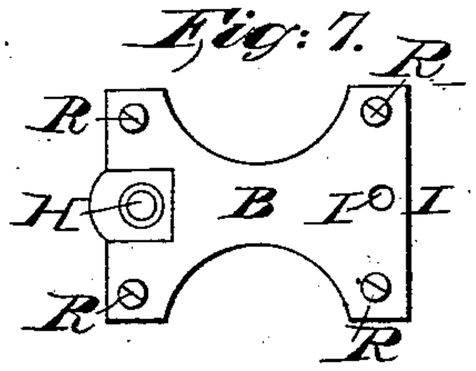


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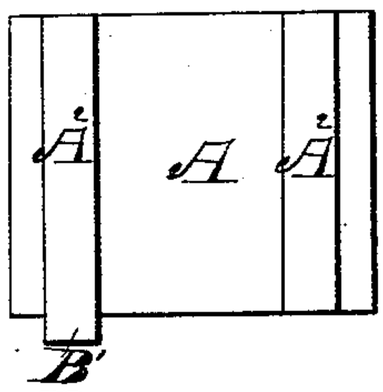


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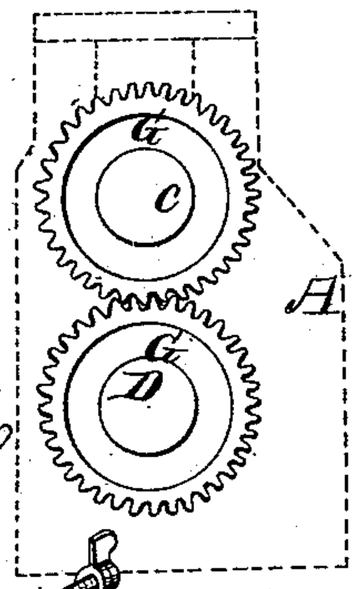
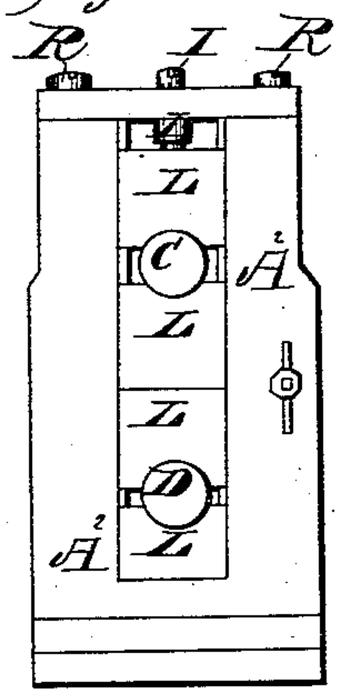



Fig: 3.



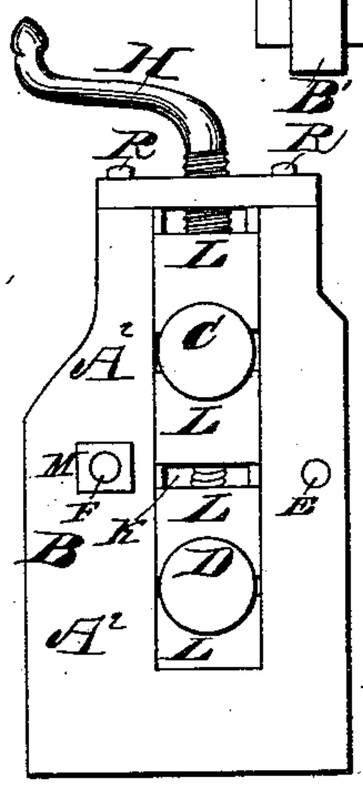
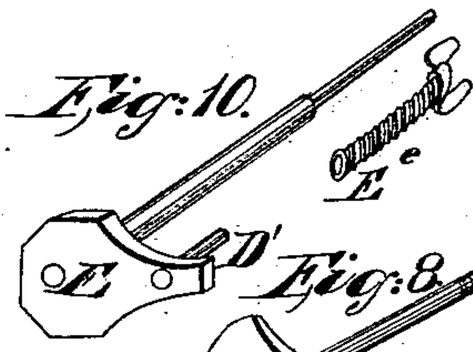




Fig: 4.

Fig: 10.

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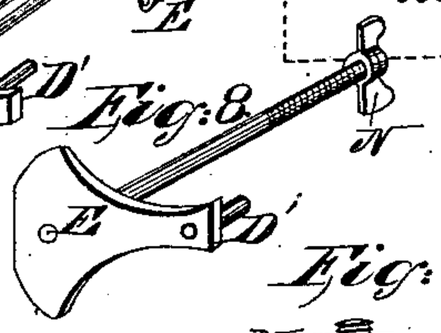



Fig: 11.


Fig: 9.

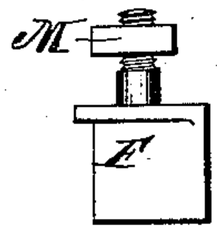
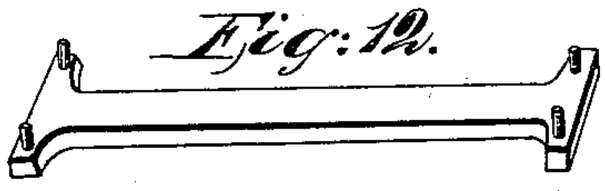



Fig: 12.



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## Machinery for Working Tin.

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Fig: 14.

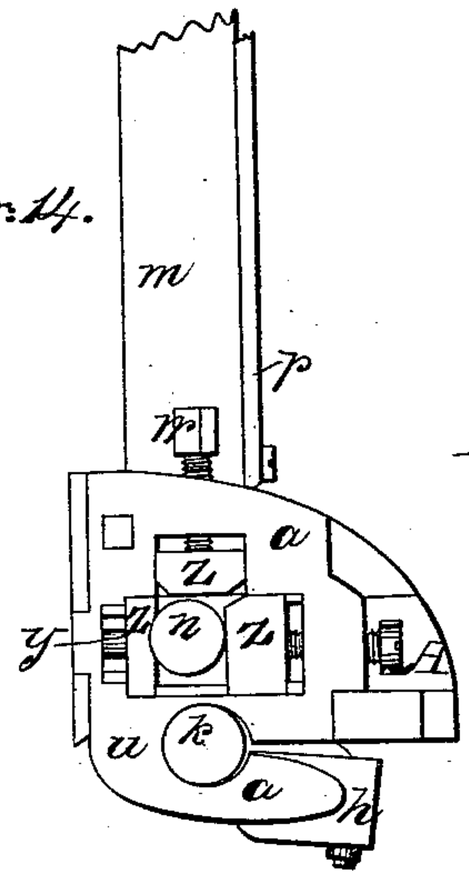



Fig: 14½.

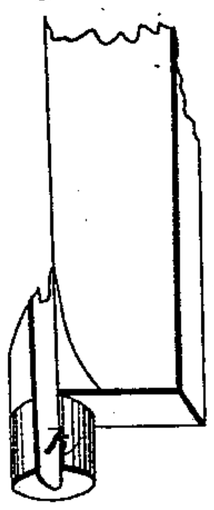



Fig: 13.

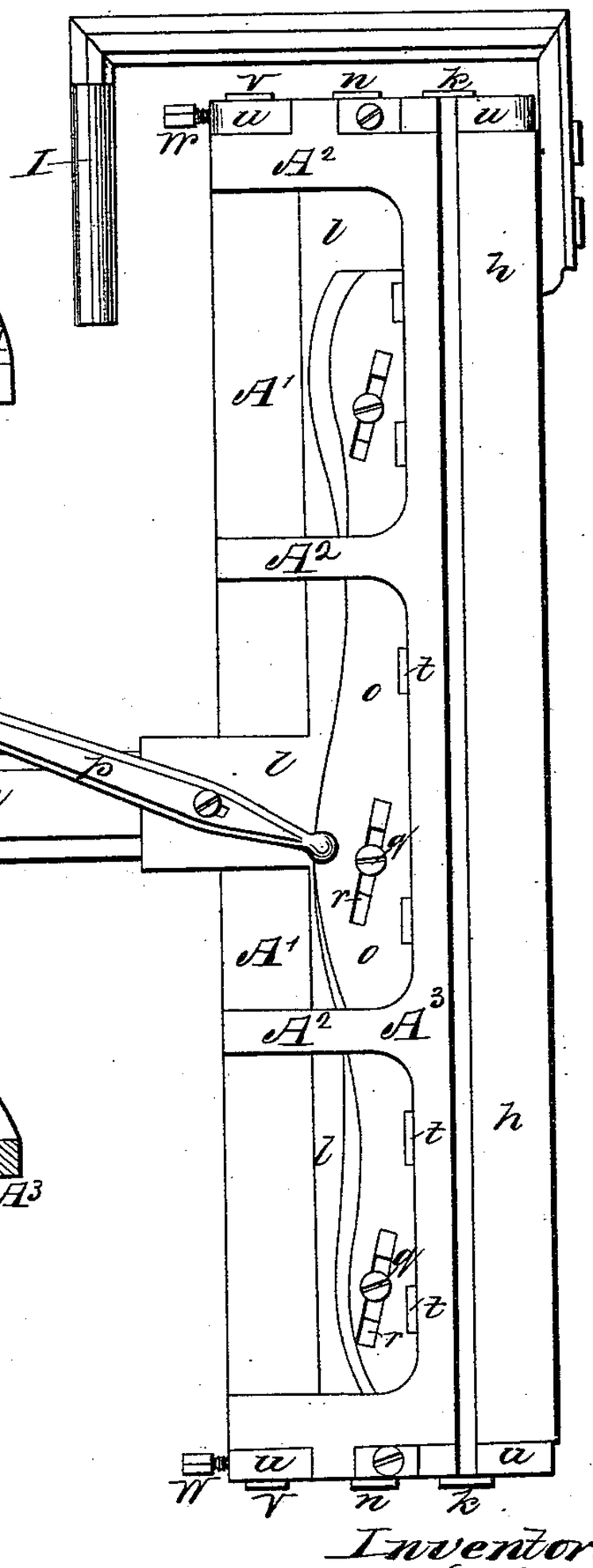
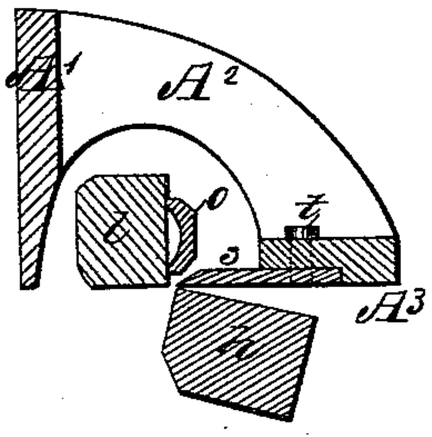



Fig: 15.

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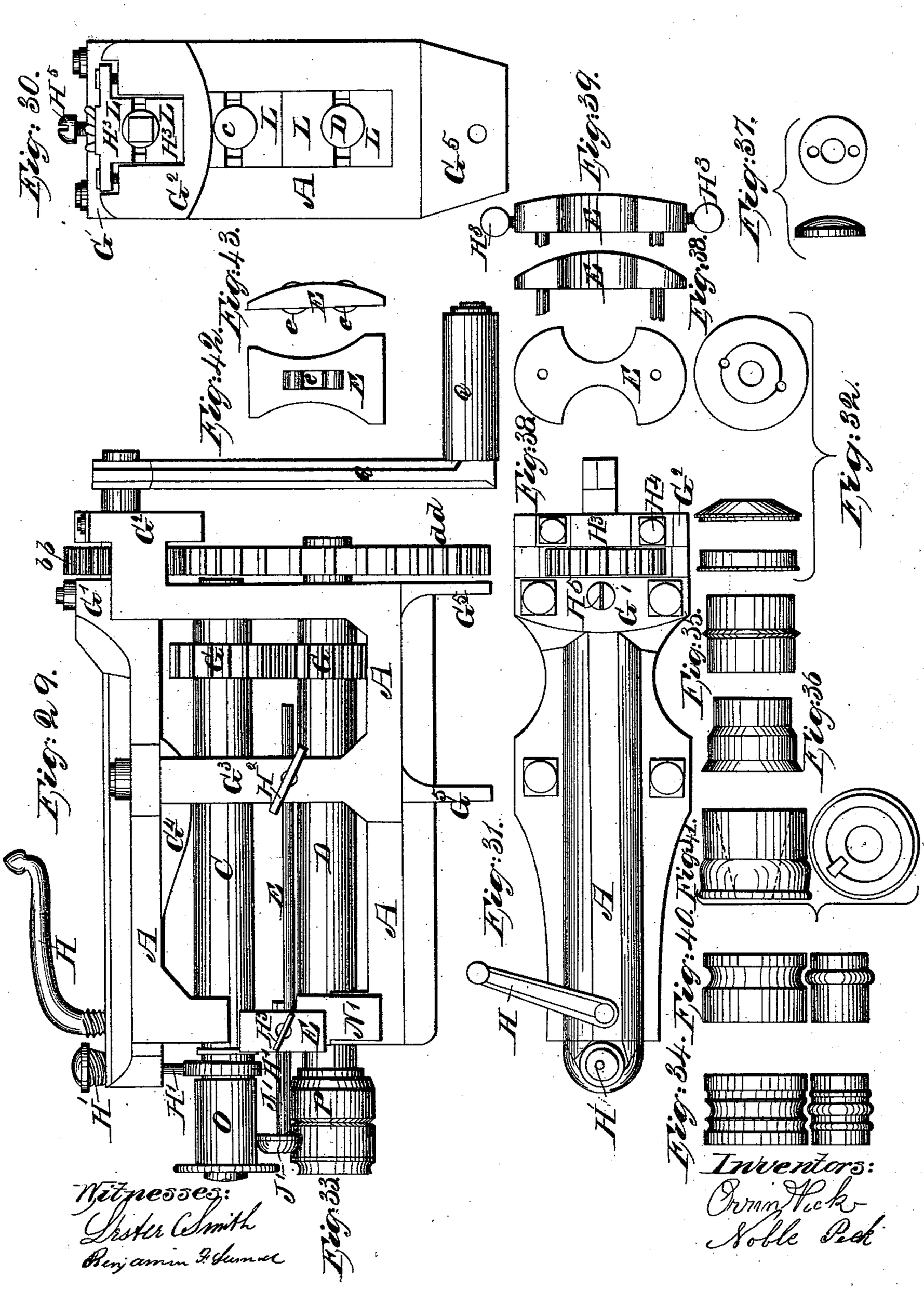
3 Sheets—Sheet 3.

# O. & N. PECK.

## Machinery for Working Tin.

No. 3,061. Patented Apr. 25, 1843.



# UNITED STATES PATENT OFFICE.

ORRIN PECK AND NOBLE PECK, OF SOUTHINGTON, CONNECTICUT.

## IMPROVEMENT IN MACHINERY FOR WORKING TIN, &c.

Specification forming part of Letters Patent No. **3,061**, dated April 25, 1843.

*To all whom it may concern:*

Be it known that we, ORRIN PECK and NOBLE PECK, of Southington, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Machinery for the Manufacture of Tin, Sheet-Iron, Brass, and other Plates; and we hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a side view of the wiring-machine; Fig. 2, a front view; Figs. 3 and 4, the sides separate, showing the arrangement of the journal-boxes; Fig. 5, a plan; Fig. 6, two spur-wheels connecting the upper and lower arbors; Fig. 7, the cap-piece; Fig. 8, the gage with its additional arm; Fig. 9, the forming-gage; Fig. 10, the same as Fig. 8, having the tube E *e* taken off; Fig. 11, an edge view of Fig. 10; Fig. 12, the wrench for changing the faces; Fig. 13, a top view of the folding-machine; Fig. 14, an end view of the same; Fig. 14½, an end view of the front bar, *h*, showing the center of the pivot to correspond with the corner or edge of the bar; Fig. 15, a cross-section of the machine; Fig. 29, Plate V, side view of the beading-machine; Fig. 30, crank end; Fig. 31, cap-piece; Fig. 32, lower faces for double-seaming; Fig. 33, faces for elbow-turning; Fig. 34, faces for beading; Fig. 35, faces for cutting; Fig. 36, faces for shrinking faces; Fig. 37, the nut to confine the rollers upon the arbor; Fig. 38, the collar-gage; Fig. 39, a common gage; Fig. 40, a roller for single beading; Fig. 41, an upper roller for double-seaming; Figs. 42 and 43, roller-gage.

*The folding-machine.*—(See Plate II, Figs. 13, 14, 14½, and 15.) This is constructed chiefly of casti-ron. The body consists of the base-plate A′, the arched ribs $A^2$, and the face-plate $A^3$, all of said parts being in one solid casting. The T-bar *l* is of cast-iron, with a pivot or iron gudgeon, *n*, at each end. The front bar, *h*, is also made of cast-iron, the outer side swelling out in the middle to give it greater strength. In a cross-section it is nearly square. There is a pivot at each end whose centers correspond with the lower corners of the bar. (See Fig. 14½.) On this bar is the handle *i*, by which it is worked. The brass plate *o*, lying on the top surface of the T-bar, is termed the "gage." It is hollowed out longitudinally on the under side next the bar to reduce the friction and to cause its edges to lie close to the top surface of the T-bar to prevent the plate of metal from passing between it and the bar. It is perforated with three or more oblique oblong slots, to admit screws passing through said slots inserted into the bar *l*, and over the shanks of which screws said gage moves in setting it in or out by means of the lever or handle *p*, attached to the gage, and turning on a pin as its fulcrum inserted into the T-bar. The several parts composing said folding-machine are held together by means of end plates, *u*, perforated with suitable openings to admit the axles of the front bar, *h*, and axles of the T-bar and bar *l* and the sliding regulating-boxes of the latter. These boxes are composed of sliding blocks of metal grooved on the upper and lower ends in order to move over corresponding ribs or ways in the aforesaid perforated end plates. The faces of said sliding blocks of metal *z* in contact with the peripheries of the axles are straight surfaces or planes. The opposite sides against which the screws press are also planes. None of the metallic blocks composing the boxes of the axles of the bars are hollowed or made concave on the sides in contact with the round surfaces of the axles, but are all made with straight surfaces, as above mentioned. The face-plate $A^3$ of the body is faced with a countersunk steel plate, S. This plate is about an inch and three-quarters in width, and chamfered off on one side to form the edge over which the tin is turned or folded. It is countersunk in the face-plate and dropped at one end in order to form what is termed the "shear," one end being nearer to the T-bar than the other. This steel plate is secured to the face A by six or more screws, which are set low on the face-plate, as seen at *o*, Fig. 15, which renders the fastening more solid. By the addition of the aforesaid boxes Z and the improvement in the steel plate S the shear is made more perfect, the fold of the tin is laid closer and better than has ever been done in any machine heretofore used, and without straining or breaking the machine. The front bar, *h*, is made stouter than heretofore and all the pivots are enlarged, by which the machines are prevented from breaking and the front bar from springing, both of which objections are experienced in the old machines. The T-bar *l* has under it on the base-plate or on its under side a knob,

to prevent it falling down too far. The acting edge of this bar is made of chilled iron or plated with steel, and all the acting surfaces of the machine are cut true in an engine. One end of the T-bar is raised and the other dropped in relation to the steel plate *s*, which form the shear for bending thick sheets of metal by commencing at the upper end and bending the metal gradually toward the lower end, thus avoiding the necessity of bending the whole length at the same time, as is experienced in those machines in which the edges of the bar and shear are placed parallel and on the same plane. The angle of inclination of the bar *l* can be adjusted in the most exact manner by means of the upper and lower sliding boxes and screws by raising or lowering the axles at either end to the degree required. The frame of the machine is made to project over and under the end pieces, which gives them firmness.

*The wiring-machine.*—(See Plate I, Figs. 1 to 10, inclusive.) This machine is used for closing the tin over the wire. It consists of a cast-iron base, A, Fig. 5, with two studs or cheeks, $A^2$, in which are placed the journal-boxes, said studs or cheeks $A^2$ being connected at top by a cap, B. Two horizontal parallel arbors, C D, are arranged in the cheeks connected by two cog-wheels, G G, on which arbors are put the face-plates O P, the upper arbor, C, being turned by a crank, Q.

A gage, E, for adjusting the position of the sheet of metal to be acted on, is placed in the cheeks near the face-plates. It is fixed on the ends of a horizontal stem passed through the cheeks, of reduced diameter near one end, which reduced end is inserted into a tubular screw for moving the gage toward or from the face-plates. This tubular screw turns in a female screw in one of the cheeks, and is turned by a thumb-nut attached to its outer end outside the frame. A shorter stem, D, is added to this gage for the purpose of rendering it more steady and effective, which short stem enters an aperture in the cheek. The screw-tube is fastened on the small part of the stem by a small nut screwed onto the outer extremity of the stem. The cylinder or tubular screw is inserted into the frame in the first place. The stem is then run in and fastened by the nut. The whole is then turned by the thumb-screw to set it for the work.

When other kinds of gages are to be substituted, the stem is drawn out, leaving the cylinder-screw in the frame, and the others inserted. Rollers are sometimes inserted in the gages, as represented in Figs. 42 and 43, to render the operation more easy. The gages E are also made with two faces—one rounded and the other flat—as seen in Figs. 38, 39, either face being used at pleasure, the straight work requiring the flat side, and the flaring work the rounded side, placed on rods of different lengths, and held in place by thumb-screws, as at $H^2$ $H^3$, Fig. 29. The gage with rollers, Figs. 42 and 43, is used generally for heavy work. It is also used in other work.

J in Fig. 29 represents a combined extension-gage. This gage is composed of a plain straight-faced gage, E, placed on the ends of two horizontal parallel stems fixed at any point required by means of thumb-screw $H^2$. Extending from this gage there is another gage, J, fixed on the outer extremities of two parallel stems, which are inserted into apertures in the aforesaid gage E, and therein secured by thumb-screws $H^3$. This gage is called the "extended" gage, and is combined with the straight gage in the manner described, by which combination the gage J can be extended out to any length required.

Fig. 32, Plate V, represents the lower faces for double seaming, and is attached to the rolling swedge or burring machine. The lower one is represented in the form of a truncated cone, and is intended for flaring work, and upon its peculiar shape the vessel acted upon rests upon its surface, and the work is done more effectually than by any any other mode known. The projecting or burr edge on these faces serves to keep the work in place and acts as a regulator. The upper face, that operates with these faces, is represented at Fig. 41, Plate V.

The lower roller is represented at Fig. 32. With the addition of one face answers for three purposes, and of course saves that number of rollers—viz., for turning elbows for cylinder-pipe and for shrinking the ends of the same.

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

1. Placing the steel plate S of the bending-machine, Fig. 13, Plate 2, with one end of the edge nearer the T-bar *l* than the other, so that in bending the operation shall be gradual from end to end of the plate, as described.

2. The method of sustaining and regulating the T-bar *l*, Fig. 13, by having its bearings between upper and lower boxes, *z*, Fig. 14, not hollowed, in combination with the back boxes, for the-purpose and in the manner described.

3. The addition to the gage E of the shorter stem D, Fig. 8, Plate I, in combination with the rollers *e*, Fig. 42, Plate V, by which the gage is prevented from making friction on the faces or rollers, as described.

4. The construction of the two-faced gage, Figs. 38 and 39, in the manner and for the purpose set forth.

5. The extension-gage J, Fig. 29, in combination with the straight gage, by which combination it can be extended out, for the purpose and in the manner described.

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