C. J. HAUCK.

Machine for Raising and Planishing Tobacco-Boxes.

No. 162,817. Patented May 4, 1875.

Fig. 1.

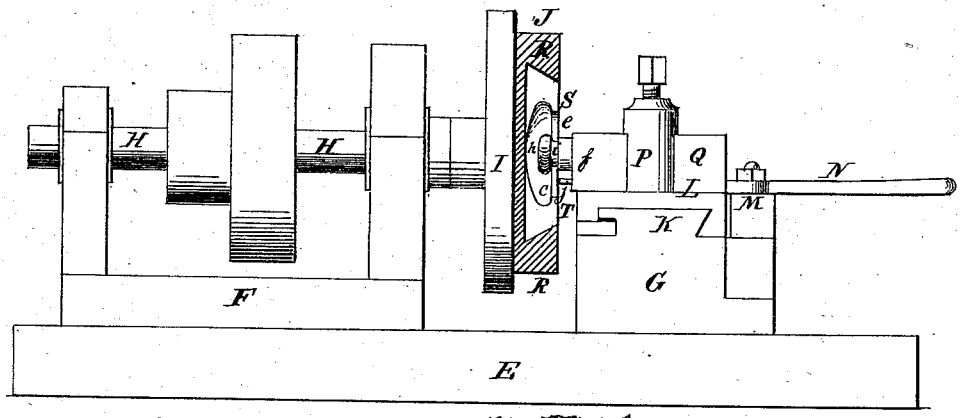


Fig. 4.

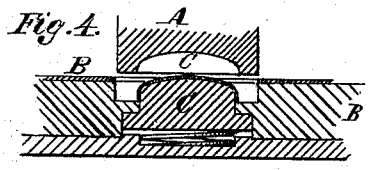


Fig. 5.

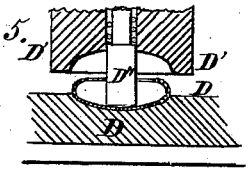


Fig. 6.

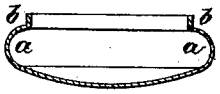


Fig. 2.

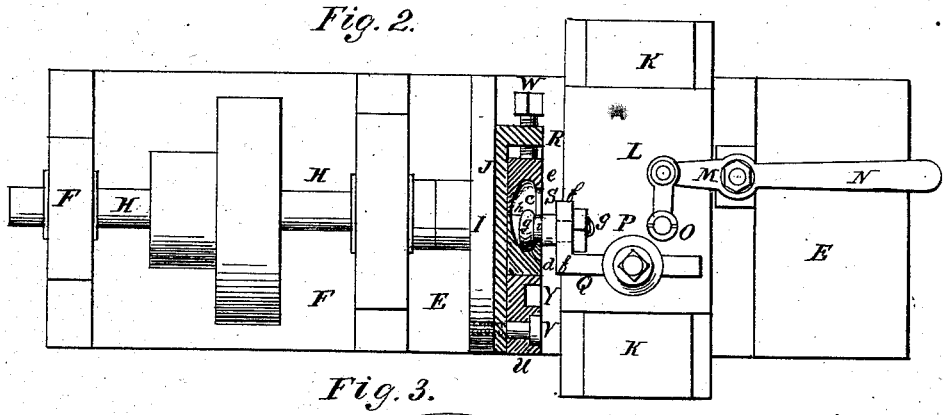
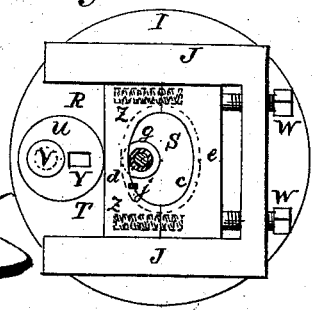


Fig. 3.



Witnesses.

Edward Hauck

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Inventor.

C. J. Hauck

UNITED STATES PATENT OFFICE.

CHARLES J. HAUCK, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR RAISING AND PLANISHING TOBACCO-BOXES.

Specification forming part of Letters Patent No. **162,817**, dated May 4, 1875; application filed September 5, 1874.

To all whom it may concern:

Be it known that I, CHARLES J. HAUCK, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new Improvements in the Manufacture of Raised Planished Tobacco-Boxes, of which the following is a specification:

The boxes herein referred to more particularly are such as are raised of sheet metal, and have an outwardly-drawn bead on their side or edge or contracted aperture, similar to those for which Letters Patent were granted to me April 23, 1867, and February 17, 1874; and the invention relates to the combination of peculiarly-constructed dies and molds operated successively, and thereby forming and smoothly finishing the lids and bodies of the kind of boxes referred to above in a rapid manner, and by said means inexperienced persons can be readily employed to perform the work properly and economically.

In the accompanying drawings, forming part of this specification, Figure 1 represents a side elevation of the machine for spinning the bead and rim of the boxes according to my invention, the chuck for holding the work being shown in section to exhibit its interior. Fig. 2 represents a top view of the same, the chuck being shown in section. Fig. 3 is a detached face view of the chuck. Fig. 4 is a detached vertical section of the operating portion of the dies, between which the metal blanks for the box are cut out and raised. Fig. 5 is a similar view of the dies, between which the top part of the body or edge of the cover or raised blank is drawn inward to form the bead or contracted opening. Fig. 6 is a vertical section of a completely-formed body of a box of the kind referred to above.

A, Fig. 4, represents a pie-punch, and B a cutting-die, which correspond with each other, and properly shaped to cut from the sheet of metal the blank for the body or cover of the box desired. The bottom of the punch A is concave, and top of the die B convex, by means of which the cut blank is raised to the desired shape of the body or cover of the box, with the exception of the part of the side which is to be bent inward. Either the top or bottom of said stamp is movable to raise or lower it from its seat by means of a spring, so as to clamp the blank and prevent it from slipping during the operation of raising, and for ready delivery after the said operation.

By means of the punch and dies A and B the blank is cut and raised at one operation. The raised blank is, thereafter, placed between two secondary stamps, D and D′, (shown in Fig. 5,) of which the bottom stamp D has a concave shape, corresponding to that of the bottom and lower edge of said blank, to have it rest solidly thereupon, but having its sides to project above, as shown. The upper stamp D′ has also a concave shape, which corresponds with the sides and edge of the blank sufficiently to receive them, but so as to contract them inward, in coming down upon the blank, sufficiently bending the sides inward to make the contracted opening. By means of a spring-plunger or spring, D″, employed in said upper die or stamp D′, the blank is properly pressed upon the lower stamp D, to prevent its dislocation during the stamping. By these means the blank is formed with its bead in rough; and to finish said bead and the edge I employ a spinning-machine, (shown in Figs. 1, 2, and 3,) which consists of a bed-plate or frame, E, upon which is mounted and secured a lathe-head, F, and also a slide-rest, G; and said lathe-head is provided with a strong spindle, H, working in proper bearings made in said head, and said spindle is provided with a proper pulley for rotating the same. Upon the forward end of the spindle is secured a face-plate, I, upon which the chuck J is secured, in which the work or raised blanks are clamped. The slide-rest G is located at right angles with said spindle H, and in front of the chuck J, and has a horizontal way, or V-shaped or undercut parallel projection, K, upon which the slide or tool-carriage L is properly fitted to slide easily; and the rest G has a stud, M, which serves as a fulcrum for a hand-lever, N, with which the rest is furnished for moving the slide L. The short arm of said lever is connected with a stud, O, secured upon the slide L, and the long arm of the same serves the operator to take hold of and move the slide with ease. Upon the slide L is secured a tool-post, P, in which the spinning-tool Q is held.

The chuck J consists of a dovetail grooved

plate, R, secured upon the face of the plate I, and of a centrally-parted die or mold, S, which is fitted in the dovetail groove T of the plate R, and of an eccentric or cam, U, capable of turning on a stud, V, secured in the open end of the groove T in the plate R. The one end of the groove T terminates before the end of the plate R, leaving a short portion of said plate solid, and in said portion are employed the set-screws W W, by means of which the mold S is readily adjusted to the center of the spindle H. The mold shown is one used for making oval boxes, and for making the body part of the box, such as shown in my Letters Patent dated February 17, 1874, and similar to that shown in Fig. 6, with a bead at *a*, and a rim, *b*, on its edge; and said mold is therefore properly shaped to receive and clamp the raised blank for said body. The mold being centrally parted or made of two halves, *d* and *e*, as shown, permits the operator to insert the blank therein, for which purpose the one part, *d*, is made to slide easily in the groove T, while the other part, *e*, is made to fit tightly in said groove, and remains stationary when in use. The object of the eccentric or cam U is for the purpose of locking the part *d* of the mold to its part *e* after the blank is inserted. Said eccentric is provided with a slot, Y, in which to insert a wrench or lever. Between said parts *d* and *e* of the mold are employed the springs Z, to open said parts. The spinning-tool Q consists of a right-angular flat piece of metal, *f*. In the portion bent parallel with the face of the mold is secured the burnishing-tool *g*, which is located nearly on a line with the axis of the spindle H. It may consist of a solid steel stud, with a round polished head, *h*, and straight part or neck *i*, to correspond with the shape of the bead and rim *c* of the mold, and to secure it, it has a shank, nut, and screw, as shown; but instead of making said tool of a solid stud, its head *h* and neck *i* may be a separate portion, and may be a roller working upon the stud, as shown in Fig. 3. In either case the exterior shape of the head and neck corresponds with the mold, and are made of tempered steel highly polished. By these means each blank raised by the stamp A and B and contracted by the stamps D and D′ is passed into the mold S while open. The operator quickly closes said mold, and locks the same with the eccentric, and sets in motion the spindle H. With the hand-lever N the burnishing-tool is powerfully forced against the interior of the bead and rim of the blank, causing it soon to submit and stretch smoothly against the shape of the mold. The spindle is thereafter caused to revolve and make a few turns in opposite direction, whereby the blank is completely stretched and smoothed to fit the mold.

In order to also trim the edge of the blank with the finishing of its bead and rim, I employ below the burnishing-tool *g* a small cutter, *j*, secured and projecting from the same portion of the tool Q in which the burnishing-tool is secured, so that said cutter *j* scrapes and trims the edge in passing over it, and at the same time of spinning and finishing the bead and rim.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the chuck J and the divided mold S, adapted to open and close, the chuck being provided with the eccentric or cam U to lock or unlock said mold, substantially as and for the purpose herein shown and described.

2. The combination of the slide L, the tool *g*, and cutter *j*, and mold S, substantially as and for the purpose shown and mentioned.

In witness whereof I hereunto set my hand this 13th day of April, 1874.

C. J. HAUCK.

In presence of—
MATHIAS J. PETRY,
EDWARD HAUCK.