(No Model.) 2 Sheets—Sheet 1.

J. VON SERKEY.

TUMBLING BOX.

No. 439,901. Patented Nov. 4, 1890.

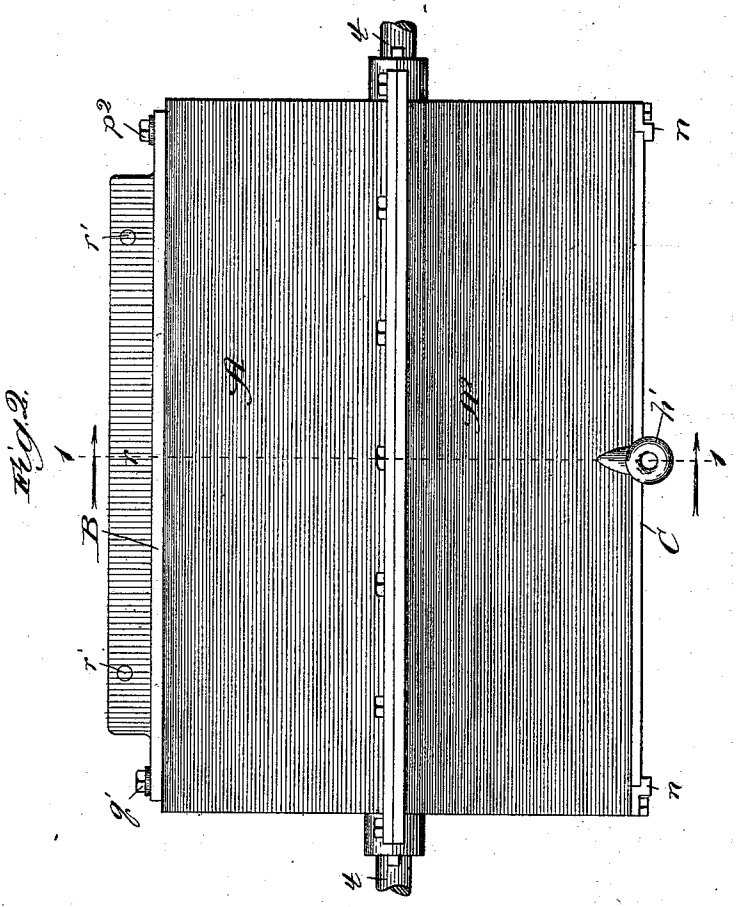


Fig. 2.

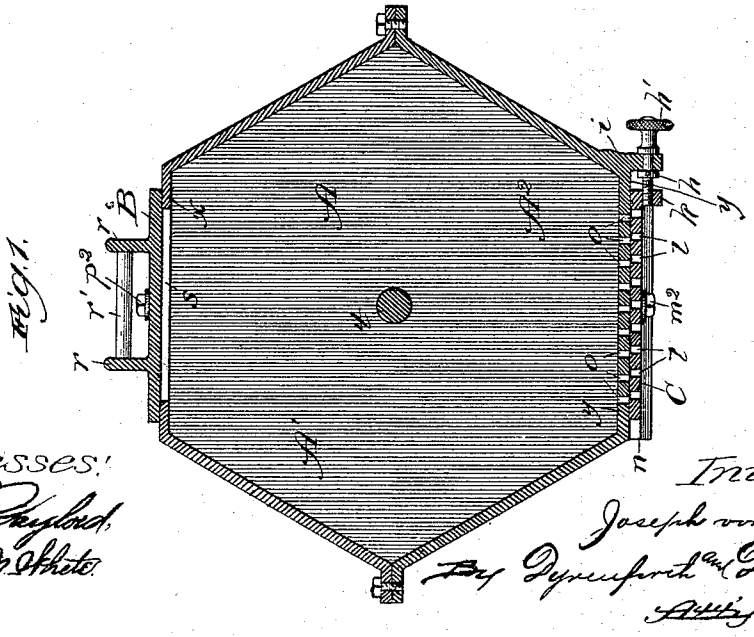


Fig. 1.

Witnesses:
Chas. E. Mayford.
Clifford P. Thiele.

Inventor:
Joseph von Serkey,
By Dyrenforth and Dyrenforth,
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

J. VON SERKEY.

TUMBLING BOX.

No. 439,901. Patented Nov. 4, 1890.

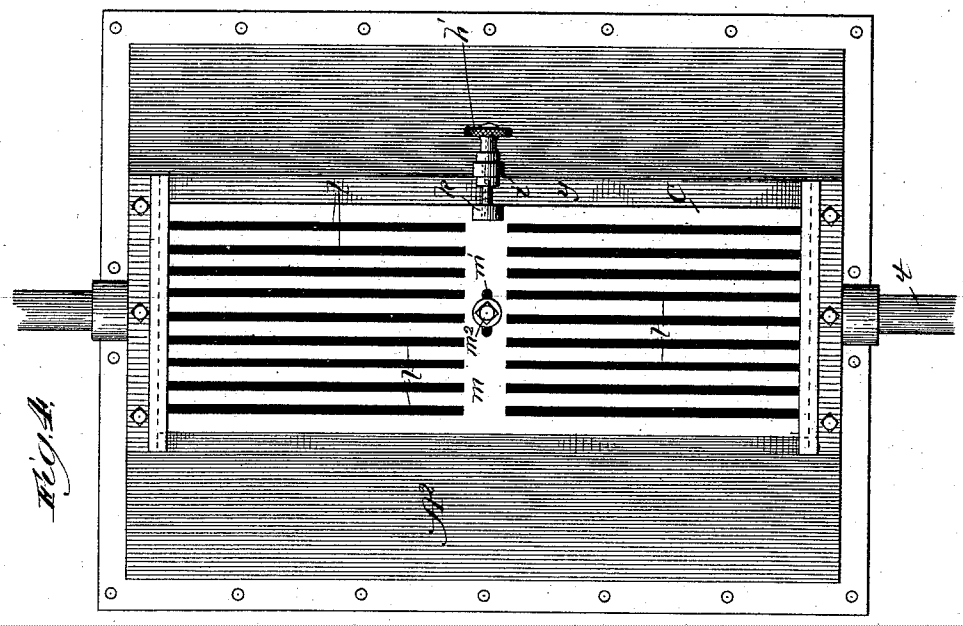


Fig. 2.

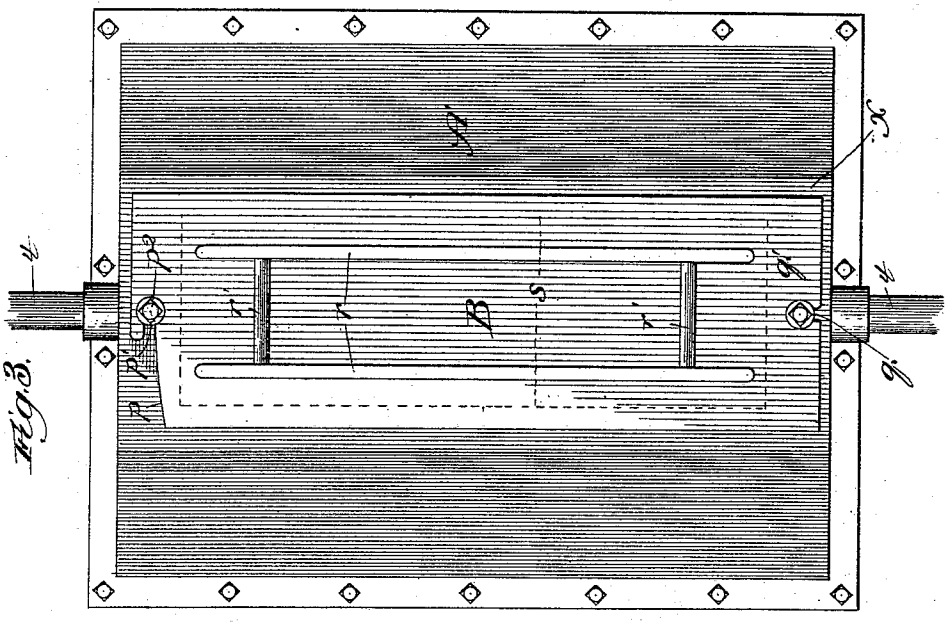


Fig. 3.

Witnesses:
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH VON SERKEY, OF CHICAGO, ILLINOIS, ASSIGNOR OF THREE-FOURTHS TO ROCKWELL KING, OF SAME PLACE.

TUMBLING-BOX.

SPECIFICATION forming part of Letters Patent No. 439,901, dated November 4, 1890.

Application filed June 13, 1890. Serial No. 355,377. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH VON SERKEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Tumbling-Boxes, of which the following is a specification.

My invention relates to improvements in tumbling-boxes for cleaning small articles by attrition, and my object is to provide a tumbling-box of an improved construction which will adapt it particularly to the finishing of wire nails, and in the use of which the operations of freeing the nails from scraps, discharging the scraps, and polishing material, and polishing the nails will be performed more quickly and effectively than by the use of tumbling-boxes as hitherto constructed.

In the drawings, Figure 1 is a section taken on the line 1 1 of Fig. 2, and viewed in the direction of the arrows; and Figs. 2, 3, and 4 are views showing different sides of the device.

The tumbling-box comprises the ordinary receptacle A, which, though it may involve a cylindrical or other form, is preferably polygonal in transverse section, as shown. The receptacle is formed in two sections A′ A^2, flanged correspondingly along their edges, at which they are firmly bolted together. The receptacle is mounted rigidly and centrally upon a rotary shaft t, which may extend longitudinally through the device.

In one side x of the section A is provided a longitudinal opening s, which is closed by a removable cover-plate B.

The cover B is provided on its outer face with two parallel and longitudinally-extending ribs r, and toward opposite extremities of the ribs are cross-bars r', secured at opposite ends to the ribs and affording handles whereby the cover may be lifted. At one end the cover is provided with a recess q to receive the shank of a nut-bolt q', and at its opposite end the cover is provided with a cam-edge p, extending from one side to the center, where it terminates in a recess p', as shown, to receive the shank of a nut-bolt p^2. The cover may be held secure by tightening the nut-bolts q' p^2, and to remove the cover those bolts are loosened and the cover swung outward on the pivot afforded by the bolt q' until its lateral edge clears the bolt p^2, when it may be moved longitudinally to disengage it at the slot q from the bolt q'.

The part A^2 of the receptacle is formed with a series of longitudinal openings o, which are preferably provided in the part of the receptacle opposite that having the cover B, and which give to that side the appearance of a grate, and on its outer surface the perforated portion is provided with a sliding plate C, fitting at its ends into guides n, provided at opposite ends of the grated side. This sliding plate C is formed with a plane narrow transversely-extending surface m at the center of its length, from which nearly to the opposite ends of the plate extend openings l, which should correspond with the openings o. In the part m of the plate C and extending longitudinally of the former is a slot m', through which extends a nut-bolt m^2, projecting from the receptacle A^2. Projecting outward from one end of the part m at right angles to the latter is an ear k, having a screw-threaded opening through it, and adjacent to the ear k upon the part A^2 is an ear i, in which is mounted and held against longitudinal movement a rotary pin h, screw-threaded at its inner end, where it fits into the threaded opening in the ear k, and provided on its outer end with a hand-wheel h'.

In operation the cover B is first removed to permit the nails to be finished to be introduced into the tumbling-box, and the sliding plate C is adjusted by means of the hand-wheel h' to close the openings o. The sliding plate should be secured in its adjusted position by tightening the bolt m^2 against it. Sawdust saturated with oil or some other desired cleaning agent is introduced into the tumbling-box with the articles to be finished and the cover B adjusted and fastened down by means of the bolts q' p^2. The device is then rotated in the usual manner until the cleaning has been accomplished to the desired extent. The sliding plate C is then adjusted to cause the openings l to coincide with the openings o to the desired extent, which will permit the sawdust and scraps to escape through the outlets thus afforded, but not the nails themselves. Continued rotation of the

device with the sliding plate adjusted as described causes a portion of the sawdust and scraps to be discharged through the perforated side with each revolution until in a comparatively short time only the nails are left in the receptacle in the desired finished state.

It is not necessary, though preferred, that the openings *o l* shall be in the form shown and described, nor that the former shall all be provided in one side of the device. If provided in various sides or throughout the receptacles, as they may be, suitable means—such as a plate C or any equivalent therefor—should of course also be provided.

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

1. In a tumbling-box, the combination of a rotary receptacle A, provided in its perimeter with a series of narrow elongate outlet-openings *o*, and an adjustable sliding plate C, supported on the receptacle over the openings *o*, having a series of openings *l*, corresponding with the openings *o*, substantially as described.

2. In a tumbling-box, the combination of a rotary polygonal receptacle A, provided in one side of its perimeter with a series of narrow elongate outlet-openings *o*, and an adjustable sliding plate C, supported on the receptacle over the openings *o*, having a series of openings *l*, corresponding with the openings *o*, substantially as described.

3. In a tumbling-box, the combination, with a rotary receptacle A, having outlet-openings in its perimeter, of an adjustable and removable cover B, having a slot *q* in one end to engage a bolt *q'* in the said receptacle, and a cam-recess *p'* in its opposite edge to engage with a bolt p^2 on the receptacle, substantially as described.

4. In a tumbling-box, the combination of a rotary receptacle A, formed of two flanged sections A' A^2, secured together, an inlet-opening *s* in one section, a removable cover B, outlet-openings *o* in another side, and an adjustable sliding plate C, having openings *l* and supported over the openings *o*, substantially as and for the purpose set forth.

5. In a tumbling-box, the combination of a rotary receptacle A, provided with an inlet-opening *s* and with narrow outlet-openings *o*, bolts *q' p²*, respectively, at opposite ends of the inlet-opening, a cover for the opening *s*, provided at one end with a recess to engage the bolt *q'* and at its opposite edge with a cam-edge *p* and a recess *p'*, to receive the bolt p^2, and an adjustable sliding plate C, having openings *l* and supported over the openings *o*, substantially as and for the purpose set forth.

JOSEPH VON SERKEY.

In presence of—
W. H. DYRENFORTH,
H. J. FROST.