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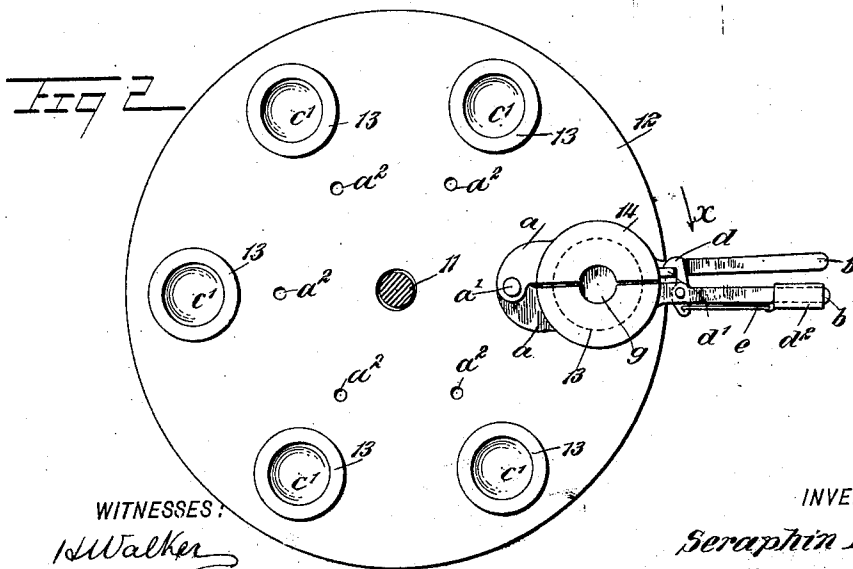
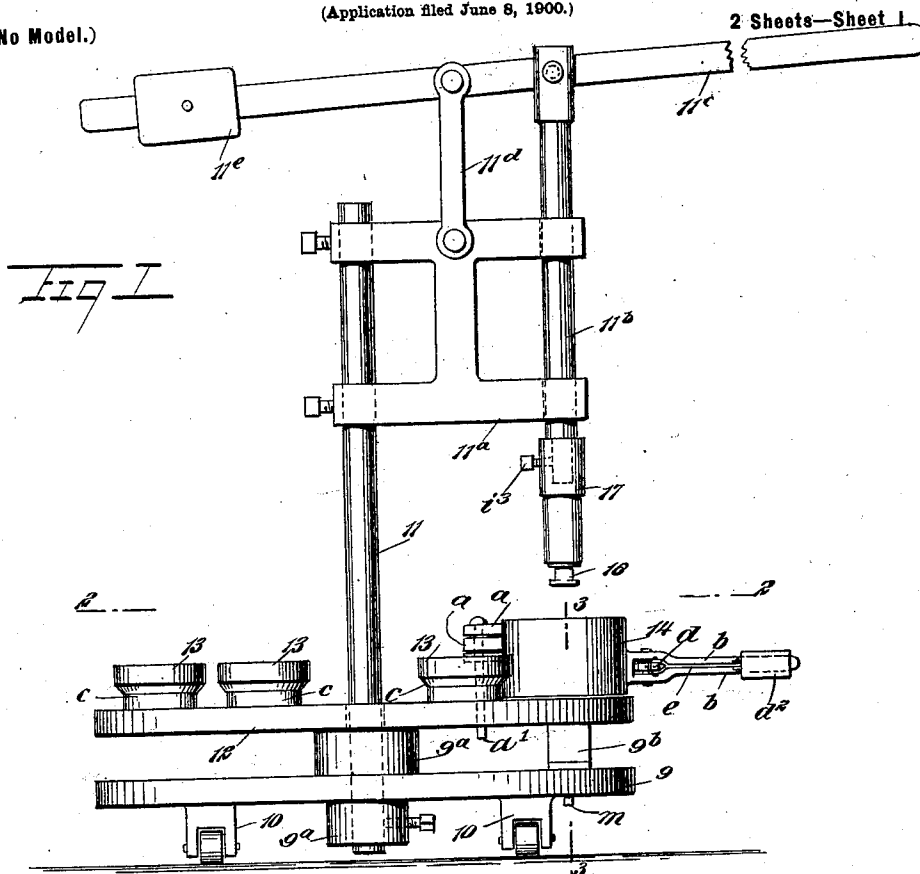
S. KRIBS.

DEVICE FOR FIXING SHANKS OR SCREW STEMS IN HANDLE KNOBS OR PICTURE HANGING NAILS.

(Application filed June 8, 1900.)

(No Model.)

2 Sheets—Sheet 1



WITNESSES:

H. Walker

Wm. Patton

INVENTOR

Seraphin Kribs.

BY

Munn

ATTORNEYS

UNITED STATES PATENT OFFICE.

SERAPHIN KRIBS, OF NEW YORK, N. Y.

DEVICE FOR FIXING SHANKS OR SCREW-STEMS IN HANDLE-KNOBS OR PICTURE-HANGING NAILS.

SPECIFICATION forming part of Letters Patent No. 660,444, dated October 23, 1900.

Application filed June 8, 1900. Serial No. 19,525. (No model.)

To all whom it may concern:

Be it known that I, SERAPHIN KRIBS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Device for Fixing Shanks or Screw-Stems in Handle-Knobs or Picture-Hanging Nails, of which the following is a full, clear, and exact description.

This invention has for its object to provide novel and improved means for holding in proper position the shanks or screws of handle-knobs and picture-hanging nails while in process of manufacture, the handle-bodies being formed of molten glass, clay, or any suitable composition of clay or other matter which is plastic, but adapted for subsequent hardening by applied heat.

The invention consists in the construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the device. Fig. 2 is a partly-sectional plan view substantially on the line 2-2 in Fig. 1. Fig. 3 is an enlarged partly-sectional front elevation of the machine in part, substantially on the line 3-3 in Fig. 1. Fig. 4 is a side view of the usual form of a metal knob-shank that is adapted for fixture in the knob-body by the improved machine. Fig. 5 is a partly-sectional side elevation of a detachable chuck-block and a nail-body removably held therein, the section being substantially on the line 5-5 in Fig. 6. Fig. 6 is a side view of the chuck-block and nail shown in Fig. 5, taken at a right angle to the view shown in Fig. 5. Fig. 7 is a partly-sectional side view of the chuck-block, showing a screw-stem detachably held therein, a portion of the screw-body projecting from the chuck-block to be embedded within the plastic material of a knob-body; and Fig. 8 is a sectional side view of a knob-body having the screw-stem bedded therein and projecting vertically therefrom.

In the drawings that show the construction and application of the invention, 9 indicates the bed-plate of the machine, preferably

mounted upon casters 10 to adapt the complete machine for free movement over a level floor or like support. The bed-plate 9 may be circular, as indicated in Fig. 1, and from its center a hub 9^a projects upwardly to a suitable height and also may extend below the plate. A frame-post 11 is erected vertically upon the bed-plate 9 by a secured engagement of its lower end within a central vertical perforation in the hub 9^a, and a turn-table 12 is loosely mounted upon the frame-post 11 and seats upon the lever-top surface of the hub 9^a. The turn-table 12 may be circular, as shown in Fig. 2, and a plurality of spaced mold-bases 13 are detachably secured by any suitable means upon the true upper surface of the turn-table, said mold-bases being arranged concentric to the axis of the frame-post 11, as indicated in Fig. 2.

A body-mold for knobs or picture-nail heads is provided comprising the following details of construction: Two half-sections 14 14 are jointed together by the lapped and pivoted engagement of two limbs *a a*, which project from the sides of said mold-sections, and oppositely from said limbs handle-bars *b b* project outwardly from the mold-sections, as shown in Fig. 2. The mold-bases 13 are circular and are each undercut near the bottom on the outer surface, as shown at *c* in Figs. 1 and 3. In the upper surface of each mold-base 13 a depression *c'* is formed, that will represent the pattern or design to be given to the outer face of a knob-body. The two half-sections 14 14 of the mold are level on the edges that impinge upon each other when the mold is closed, and extending inward from said edges opposite depressions of a like form are produced, these depressions *c''* being the cheek-matrices which shape the side of the knob-body formed in the complete mold. The cavities in the mold-sections 14 14 are so shaped near the lower edges thereof as to embrace the side wall and undercut portion of each mold-base 13 when the half-sections 14 14 are placed upon it, as will be further explained. The half-sections 14 14 have their handles *b b* provided with a securing device, preferably formed as shown in Figs. 1 and 2. This consists of a hook *d*, pivoted upon one handle-bar *b* and projecting over the other handle-bar when the half-sections are closed.

Upon the other handle-bar a locking flange or lip d' is formed or secured, whereon the hook d will lock when said hook is rocked toward the lip or flange. A sleeve d^2 is loosely mounted upon the handle-bar whereon the hook d is pivoted, and to the hook and the inner end of the sleeve d^2 a link e is loosely secured.

It will be seen that when the handle-bars b b are rocked toward each other, so as to close the half-sections 14, the outward-sliding movement of the sleeve d^2 will cause the nose of the hook d to lock upon the lip d' , and thus hold the handles of the cheek-sections from spreading apart until the sleeve is moved toward the inner end of the handle-bar upon which it is mounted.

The recesses formed in the half-sections 14, that are above the top surface of the base 13 when the half-sections are clamped thereon, are intersected by a rounded opening g , which is formed one-half in the inner edge of each cheek-section, this opening being central with regard to the recesses in the mold-sections and affords access to the matrix of the cheek-mold from the upper side of the mold-sections when the latter are clamped together upon one of the mold-bases 13.

A bracket-frame 11^a is held upon the post 11, so as to project laterally therefrom, and on the outer portion of said frame a presser-bar 11^b is held to slide vertically. A lever 11^c is pivoted intermediately of its ends upon the top of the slidable presser-bar 11^b and is also pivoted upon the upper end of a link-bar 11^d, which is pivoted at its lower end upon the upper portion of the bracket-frame 11^a between the post 11 and presser-bar 11^b. Upon the portion of the lever 11^c which extends over the post 11 a weight-block 11^e is movably secured, the gravity of which is adapted to counterbalance the weight of the presser-bar 11^b and a chuck-block that is removably secured upon the lower end of the presser-bar.

The chuck-block mentioned may be somewhat changed in minor details to adapt it for holding a knob-shank, a screw-stem, or a picture-nail body, these slightly-changed forms being shown in Figs. 3, 5, 6, and 7.

The mold (shown sectionally in Fig. 3) is shaped in its matrix to give the usual form to a knob which is molded either from molten glass, plastic clay, or a composition having clay as an element.

When door-knobs are to be molded, a metal shank 16 (shown in Fig. 4) is furnished for each knob, said shank having the usual form and being flanged, as at h , near the center of length, said peripheral flange determining the depth of insertion of the shank into the plastic material of the knob as the knob is being formed.

The chuck-block 17 (shown in Figs. 1 and 3 as connected with the lower end of the presser-bar 11^b) is especially designed for holding a knob-shank 16 when the latter is to be introduced within a filled mold. The body

of the chuck-block 17 may with advantage be cylindrical and have a central socket formed in its upper end, wherein is inserted and secured the diametrically-reduced lower end of the presser-bar 11^b. An axial perforation i is formed in the body of the chuck-block 17 to receive a spindle 18, held in place by a cross-pin i' , that passes through aligned perforations in the chuck-block and upper portion of the spindle, as shown in Fig. 3. A detent-spring 19 is secured near its upper end upon the side of the spindle 18, and its free lower end is adapted to engage within the axial perforation in the knob-shank 16 when the latter is introduced within the counter-bored lower portion i^2 of the axial perforation i . The chuck-block is held in place on the presser-bar 11^b by a set-screw i^3 . When the knob-shank 16 is placed within the lower end of the chuck-block 17, the flange h on the knob-shank will be seated in a shallow recess formed to receive it in the lower end of the chuck-block, as shown in Fig. 3, the resilient body of the detent-spring 19 then passing into the knob-shank, so as to temporarily hold it in place, projecting the portion of the knob-shank below the flange h beyond the lower end of the chuck-block.

In Figs. 5 and 6 the chuck-block 17^a is held in place on the reduced lower end of the presser-bar 11^b by a set-screw i^3 , and in the lower end of the chuck-block an axial perforation is formed which will receive the body of a wire nail 20, which is to have a glass or vitrified clay head 20^a fixed thereon by a mold on the machine, hereinbefore described. It will be seen that in the chuck-block 17^a a lateral opening k is formed, and the axial perforation therein intersects said lateral opening, so that the detent-spring 19, which has its upper end secured upon the bottom wall of the lateral opening in the chuck-block, may press its resilient lower portion upon the body of the nail 20, that has been inserted within the lower end of the chuck-block.

In Fig. 7 the chuck-block 17^b is formed essentially the same as the chuck-block 17^a, the relative proportion of the interior details being somewhat changed to enable the chuck to hold the screw-stem 21 projected sufficiently below the chuck-block to permit it to properly enter the three-part mold.

The screw-stem 21 is preferably employed for the attachment of knob-handles, such as 22, (shown sectionally in Fig. 8,) upon drawers or the like.

At the front of the molding-machine a metal bracket-stand 9^b is positioned upon the bed-plate 9 and is so proportioned in height as to afford support to the portion of the table 12 which is directly below a mold-base 13. A latch-bolt m is held to slide upwardly through aligned perforations in the bed-plate 9 and the upper portion of the bracket-stand 9^b, and a spring 9^c, that encircles the latch-bolt, is adapted to press said bolt upwardly, the lower portion of the latter extending below the bed-

plate to permit of manipulation for a depression of the bolt.

Directly opposite each mold-base 13 a latching-recess *n* is formed in the bottom of the turn-table 12, these recesses each having a sloped side corresponding with the sloped side on the head of the latch-bolt *m*, the opposite side of the recess forming a shoulder against which the straight side of the latch-bolt head will impinge and prevent a rotation of the turn-table except in the direction of the arrow *x* in Figs. 2 and 3.

In operation one of the mold-bases 13 is located at the front of the machine by turning the table 12, which will dispose the presser-bar 11^b directly over the center of said mold-base. The mold-sections 14, which complete the body-mold for a knob or the head of a picture-nail, are now adjusted so as to clearly embrace the mold-base which is at the front of the machine over the bracket-stand 9^b, and the pivot *a'*, which passes through the ears *a*, is extended down through one of a series of perforations *a'*, formed in the turn-table 12 to receive said pivot. Assuming that the device is to be used for the formation of door-knobs and that the chuck-block 17 is secured to the presser-bar 11^b, the knob-shank 16 is now inserted within the chuck-block, so that the part thereof below the circumferential flange *h* will project below the chuck-block. The knob-shank has an opening *o*, formed laterally in the depending end of the same, so that material forming the knob-body may pass through said opening, and thus lock the shank in the knob-body. The operator now introduces a proper quantity of either molten glass or plastic clay into the mold through the opening in its upper face, and the lever 11^c, which has previously been elevated at the front end to raise the presser-bar 11^b, is now depressed, which will forcibly introduce the knob-shank 16 within the mold until the flange *h* is seated upon the material of the knob. The operator now lifts the front end of the lever 11^c, and this elevates the presser-bar 11^b, detaching its lower end from the knob-shank in an obvious manner. The turn-table 12 is now moved in the direction of the arrow *x*, so as to locate another mold-base 13 over the bracket-stand 9^b, and the operation may be repeated, the cooled knob being removed by the operator or an attendant helper.

It will be evident that porcelain clay or other clay in plastic form suitable for the manufacture of knobs may be used and read-

ily introduced into the mold, the depression of the presser-bar, with a knob-shank held on its lower end, serving to force said shank into the plastic material of the knob-body, and thus combine the shank with the knob-body, wherein the shank is subsequently fixed by heat sufficient to bake the clay.

By substituting the chuck-blocks 17^a or 17^b and changing the mold-bases and cheek-mold sections the heads of picture-hanging nails or the screw-stems of drawer-knobs, such as shown in Fig. 8 or any other design, may be rapidly made in the manner hereinbefore described.

It will be seen that the employment of the improved machine facilitates the manufacture of door or drawer knobs and insures the perfect attachment of shanks or screw-stems thereto, said attached parts projecting axially from the knob-bodies, which is very essential and is not the case when ordinary means for attaching the shanks or screw-stems to knobs is employed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a device of the character described, the chuck for holding a screw-stem or knob-shank depending from the chuck, comprising a cylindrical block attachable at the upper end to a reciprocating presser-bar, and having a longitudinal socket therein, a spindle held in said socket concentric therewith, and a detent-spring of plate metal held by one end depending from the spindle and adapted to engage with a knob-shank or stem which is to be held depending from and detachably connected with the chuck.

2. In a device of the character described, the device for holding two hinged mold-sections folded together and clamped upon a mold-base, comprising two handle-bars on the mold-sections, a rockable hook pivoted on one handle-bar and adapted to hook on a projection on the other handle-bar when said bars are folded toward each other, a sleeve slidable on one handle-bar, and a limb pivoted by one end to the sleeve and by the opposite end upon an outer end of the hook.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SERAPHIN KRIBS.

Witnesses:

WILLIAM P. PATTON,
JNO. M. RITTER.