

981,117.

FIG. 1. A perspective view of a mechanical device, likely a printing press component. The device features a frame with rollers and a handle mechanism. Labels include: *B* (top horizontal bar), *H* (middle horizontal bar), *E* (bottom horizontal bar), *D* (left vertical support), *N* (right vertical support), *L* (top handle), *L'* (middle handle), *L''* (bottom handle), *K* (top roller), *P* (middle roller), *Q* (bottom roller), *d*² (roller assembly), *A* (bottom roller), *C* (handle), *F'* (handle), *e*³ (handle), *h*³ (handle), *j*³ (handle), *f*³ (handle), *f'*³ (handle).

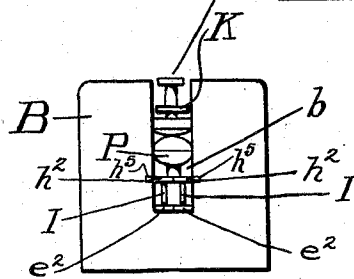
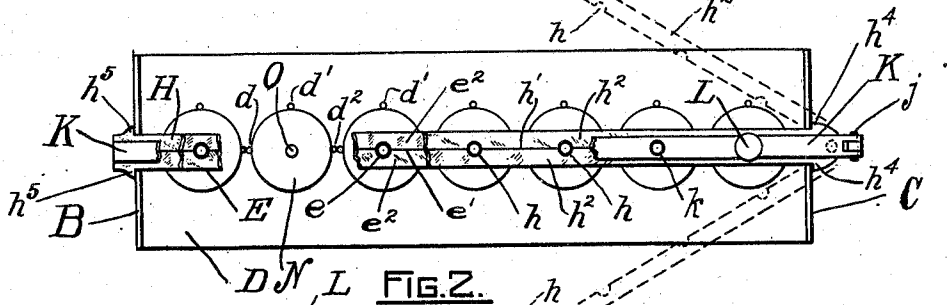


FIG.3.

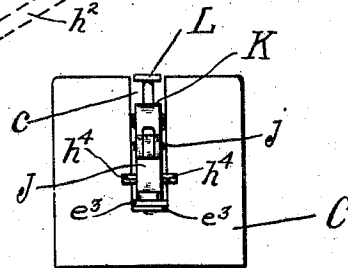


FIG. 4.

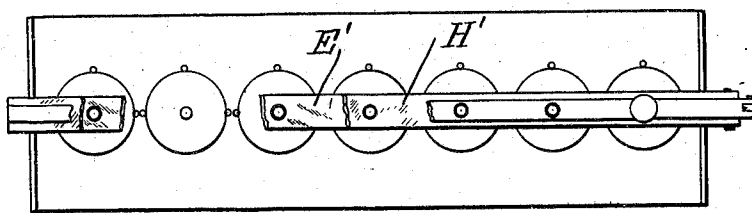


FIG.5.

WITNESSES.
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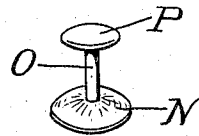


FIG. 7.

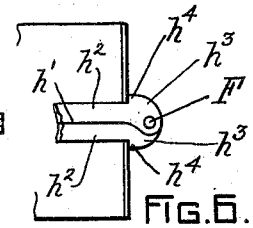


FIG. 6.

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HOLDING AND CENTERING APPARATUS.

981,117.

Specification of Letters Patent.

Patented Jan. 10, 1911.

Application filed April 1, 1910. Serial No. 552,786.

To all whom it may concern:

Be it known that I, RUPERT C. ROBINSON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Holding and Centering Apparatus, of which the following is a specification.

My invention relates to devices for supporting and centering one constituent member of a structure relatively to another.

The general objects of my invention are to centrally locate and support the post of a button or other article relatively to its base or shoe for soldering purposes; to effect this end in a structure adapted for use for either headed or non-headed posts; to provide a device having a capacity for simultaneously centering a plurality of members; and to attain the enumerated purposes in a simple, inexpensive, and easily operable device.

My invention consists therefore in the means and mechanism for producing the results above specified substantially as hereinafter described and claimed.

In the accompanying drawings which constitute a part of this specification, Figure 1 is a side elevation of an embodiment of my invention in its approved form, Fig. 2, a plan of the same, with a part broken away, Figs. 3 and 4, outer and inner end views respectively of the same, Fig. 5, a plan view of a modified form of my apparatus with parts broken away, Fig. 6, a plan of the pivoted ends of the top arms, Fig. 7 a perspective view of a button.

Like reference characters indicate like parts throughout the views.

My apparatus in the form illustrated, consists essentially of a base A with upturned ends constituting outer and inner end supports B and C provided respectively with central vertical slots b and c . Fixed in any convenient manner to the base is a strip of asbestos D in whose upper face are fixed retaining pins d , d' , d^2 , disposed in semi-circular groups of three, arranged in alinement longitudinally of the base.

Mounted upon the supports B, C, is an auxiliary frame. In the present instance the frame rests in the slots b , c and consists of a flat oblong bar E provided with a series of central longitudinally alined holes

e . In the structure shown in Figs. 1 to 4 inclusive the bar E is centrally split lengthwise as at e' to form two arms or wings e^2 e^2 with offset overlapping end portions e^3 e^3 through which passes a vertical pivot pin F provided with upper and lower heads f and f' . Surrounding the pin F and resting upon the end portions e^3 e^3 is a spacing sleeve G. Immediately above the bar E is a similar bar H with central holes h in vertical alinement with the several holes e , and it is centrally split as at h' to form arms h^2 h^2 , whose overlapping offset ends h^3 h^3 are also loosely traversed by the pin F, and rest upon the top of sleeve G. The ends h^3 h^3 are provided with lateral shoulders h^4 h^4 adapted to abut against the outer face of the support C. The opposite ends are provided with shoulders h^5 abutting against the outer end of the support B. Upon the under faces of the outer portions of the arms are downwardly directed spacing pins I which contact with the arms e^2 e^2 . Each set of openings e and h is concentric with the center of a circle of which its corresponding group of centering pins d , d' , d^2 is a part; so that an article inserted in one of the groups of pins or other retaining means has its center located in alinement with an article located in the corresponding holes e h .

To impart a downward pressure upon the vertical members during the fusing of the solder the following device is employed. An upturned arm J upon the side of the sleeve G has in its free end a pintle j to which is pivoted the end of a flat bar K, which may be flexible, provided with a series of central longitudinally disposed holes k , each in vertical alinement with one of the holes e and h .

Mounted upon the bar K are a series of bearing members L, each comprising a shank l which slides in a hole k , a head l' upon its upper end, and a heavy preferably convex head l^2 upon its lower end. The bar K in normal position registers in the slots b and c .

In Fig. 5 is shown a modified form of auxiliary or removable frame which I prefer to employ when the vertical members to be soldered have no heads or enlarged upper portions. In this form the bars E' and H' are not longitudinally sectioned.

The operation of the apparatus is described in conjunction with the constituent

parts of a collar button, namely with the shoe N, post O, and head P. The shoes N are placed upon the asbestos face of the base within their several groups of centering pins d, d', d'' , with unfused solder upon the center of the upper or convex faces of the former. The posts O are next inserted in the holes e and h which operation centers the posts relatively to the shoes, and in contact with the solder upon the latter. The bar K which has meanwhile been elevated as shown in broken lines in Fig. 1, is then brought into horizontal position, allowing the heads l^2 of the bearing members to rest upon the tops of the posts O or of the heads P, according as the buttons are headless or headed. In Fig. 1 three headless posts are shown in conjunction with four headed posts. Heat is then applied to the button parts adjacent the solder which fuses the latter. During the fusing operation it is desirable that the parts being soldered should be pressed into contact with each other, and this end is attained through the weight of the bearing members L. When the bar K is flexible the members L may be fixed upon the bar, but with less satisfactory results. By making the bearing members vertically slidable it is possible to simultaneously press members of different heights, as shown in Fig. 1. The convex faces of the heads l^2 assist in securing certain contact with the article to be depressed.

After the soldering operation the auxiliary frame is manually removed from the supporting frame, and the arms of the members E and H are then distended to the positions assumed by the arms $h^2 h^2$ indicated in broken lines in Fig. 2, whereupon the assembled soldered buttons are released. Obviously when headless posts are operated upon, they are released simply by gravity when the frame is removed.

What I claim is,—

1. In an apparatus of the described class, the combination with a base and supports, of a centering device upon the base for the articles to be soldered, and a laterally separable frame in the supports provided with a hole in vertical alinement with the centering device and means for bearing upon the articles to be soldered.

2. In an apparatus of the described class, the combination with a base and supports, of a centering device upon the base for the articles to be soldered, a laterally separable frame slidably mounted in the supports provided with a hole in vertical alinement with the centering device and means for bearing upon the articles to be soldered.

3. In an apparatus of the described class, the combination with a base, of supports upon the base provided with vertical slots, centering devices arranged upon the base between the supports, and an independent

frame in the slots provided with openings in vertical alinement with the centering devices.

4. In an apparatus of the described class, the combination with a base, and upright supports upon the base, of a centering device comprising a plurality of pins arranged in a semi-circle in the base, and a laterally separable frame in the supports provided with an opening above the pins.

5. In an apparatus of the described class, the combination with a base of end supports upon the base, a strip of asbestos upon the base between the supports, centering devices in the strip, and an independent frame removably mounted in the supports provided with holes in vertical alinement with the centering devices.

6. In an apparatus of the described class, the combination with a base, of supports upon the base, a series of centering devices also upon the base, and a frame in the supports above said devices, said frame comprising a plurality of superimposed plates, each provided with a series of holes in vertical alinement with each other and with the centering devices.

7. In an apparatus of the described class, the combination with a base, of supports upon the base, and a frame upon the supports comprising superimposed guide plates provided with holes in vertical alinement with each other, and a bearing plate above the guide plates and pivotally connected therewith.

8. In an apparatus of the described class, the combination with a base and supports thereon, of a frame upon the supports, said frame comprising a plurality of guide plates arranged one above the other and each plate provided with a series of holes in alinement with holes of the other plate, a bearing plate above the guide plates and pivotally connected therewith, and bearing members in the bearing plate in alinement with the holes in the guide plates.

9. In an apparatus of the described class, the combination with a base, of supports upon the base, centering devices upon the base intermediate the supports, and a frame mounted in the supports above the centering devices, said frame comprising guide plates, a bearing plate pivotally connected with the guide plates, and bearing members slidably mounted in the bearing plate.

10. In an apparatus of the described class, the combination with a base, of supports upon the base, means upon the base intermediate the supports for locating a plurality of shoes, means in the supports above the base for centering posts relatively to the shoes, and means for pressing the posts into contact with the shoes.

11. In an apparatus of the described class, the combination with a base, of supports

upon the base, laterally separable guide plates in the supports, a bearing plate in the supports above the guide plates, vertically disposed bearing members slidably mounted in the bearing plate, and heads upon the bearing members.

12. In an apparatus of the described class, the combination with a base and supports, of guide plates in the supports above the base, a bearing plate in the supports above the first mentioned plates provided with a series of holes, and bearing members, said bearing members comprising shanks slidable in the holes, heads upon their upper ends, and heads upon their lower ends provided with convex lower faces.

13. In an apparatus of the described class, the combination with a base, of supports

upon the base provided with vertical slots, a frame slidably mounted in the slots, said frame comprising interspaced guide plates provided with central longitudinally disposed openings in vertical alinement with each other, each guide plate comprising complementary arms pivotally mounted upon a pintle, a spacing sleeve upon the pintle, an arm upon the sleeve, and a bearing plate pivotally connected with the last mentioned arm.

In testimony whereof I have affixed my signature in presence of two witnesses.

RUPERT C. ROBINSON.

Witnesses:

WILLIAM C. STANTON,
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