P. K. WILLIAMS.

BUTTONHOLE MARKING MACHINE.

APPLICATION FILED FEB. 9, 1911.

1,014,275.

Patented Jan. 9, 1912.

2 SHEETS—SHEET 1.

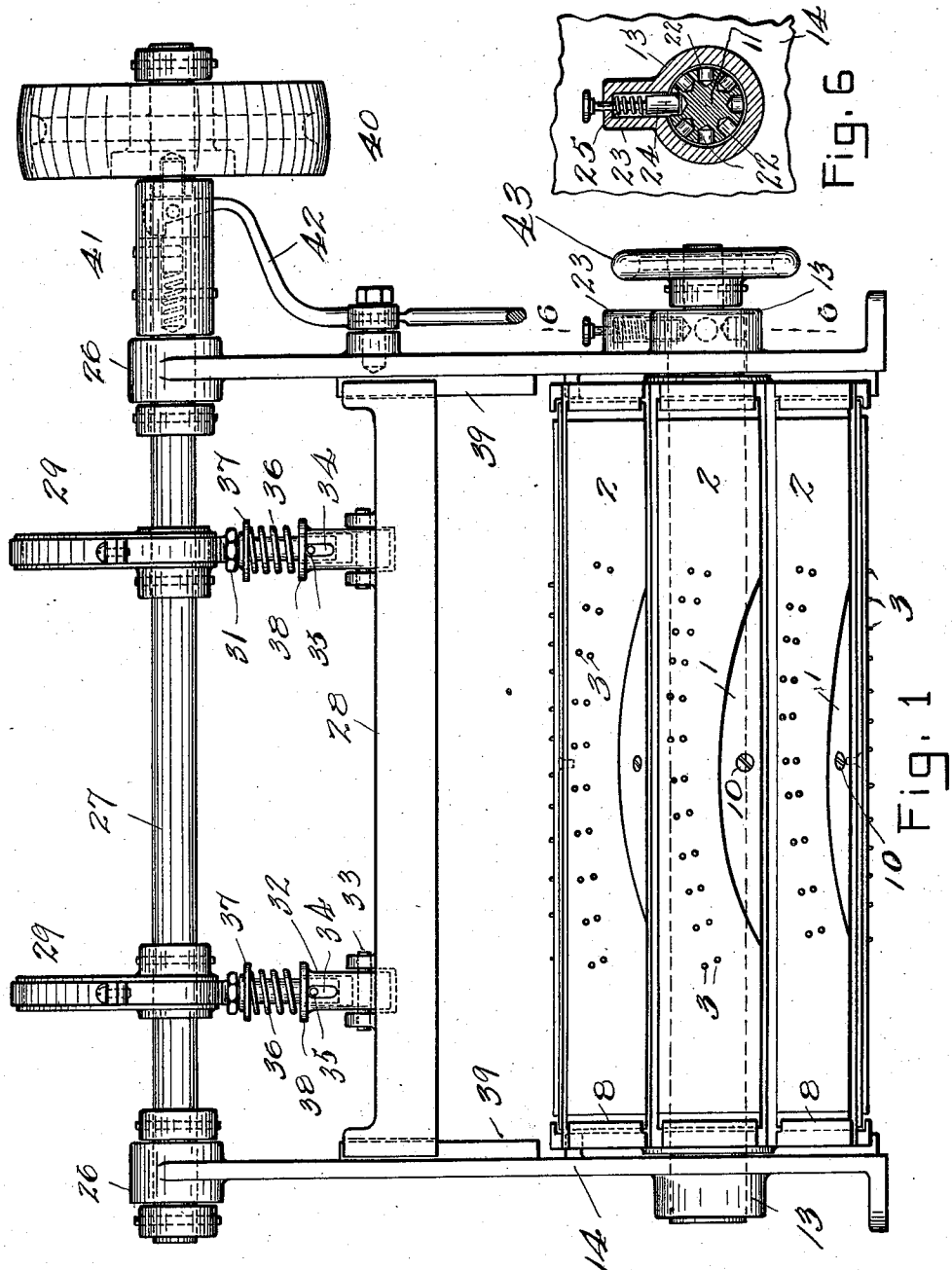

Fig. 1

Fig. 6

WITNESSES:

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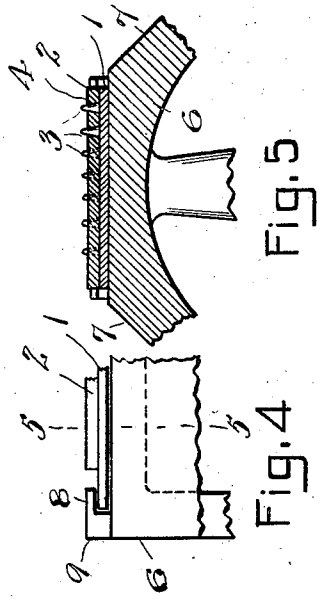

Fig. 5

Fig. 4

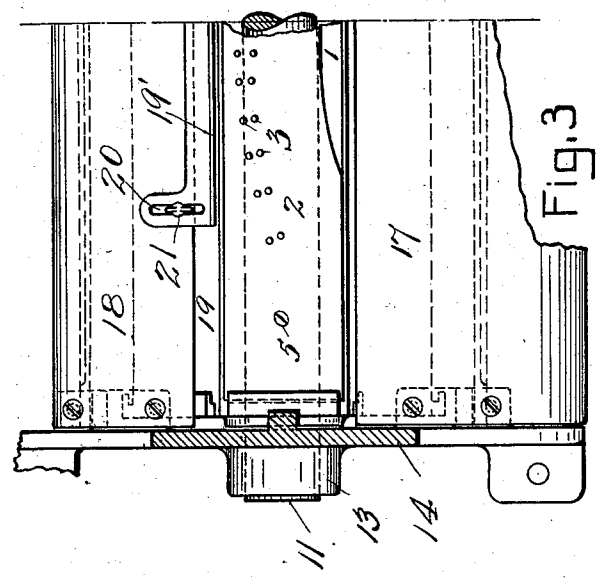

Fig. 3

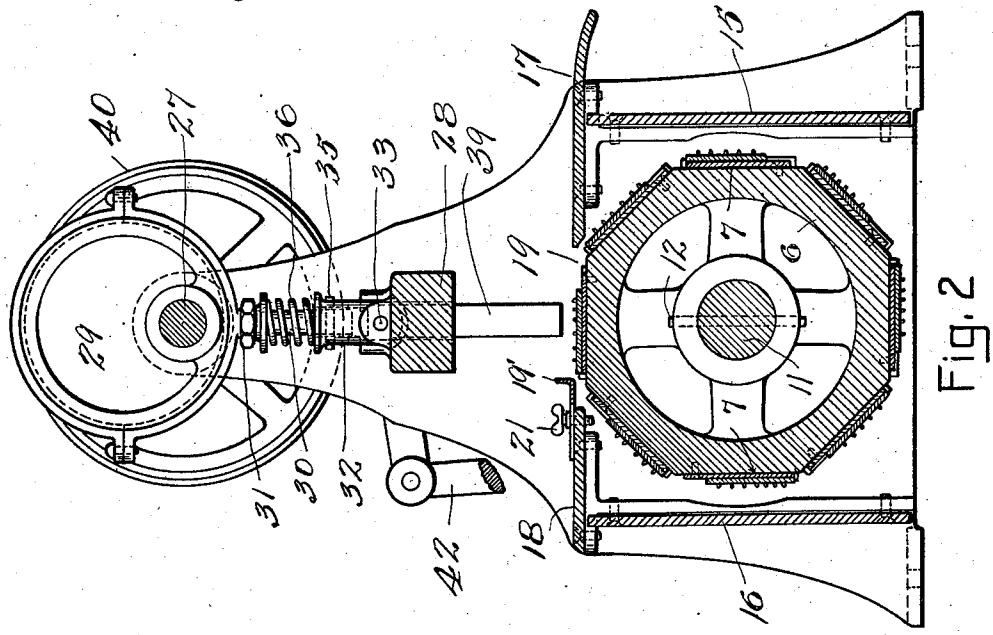

Fig. 2

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UNITED STATES PATENT OFFICE.

PETER K. WILLIAMS, OF COLUMBUS, OHIO.

BUTTONHOLE-MARKING MACHINE.

1,014,275. Specification of Letters Patent. Patented Jan. 9, 1912.

Application filed February 9, 1911. Serial No. 607,546.

To all whom it may concern:

Be it known that I, PETER K. WILLIAMS, a citizen of the United States, residing at 592 South Mohawk street, Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Buttonhole-Marking Machines, of which the following is a specification.

The invention relates to improvements in marking machines and is designed specially for use in marking the location of buttons, buttonholes, eyelets, hooks and the like, in shoe factories.

It is customary to mark the shoe fly manually, by means of a perforated pattern, which is laid upon the material, and a small awl used to prick a hole to indicate the location of the button, button hole, etc. This mode of marking is objectionable for many reasons and I have therefore devised the present machine for accomplishing the work.

The invention consists essentially of a tool carrying base which is adjustable for use of a plurality of tools or markers of different patterns, upon which the "work" is supported, and a hammer or plunger adapted to bear down upon or press the material upon the tool, for a purpose to be described.

The invention further consists in certain details of construction and combinations of parts as will be clearly set forth in the following specification and claims.

In the accompanying drawings I have illustrated one example of the physical embodiment of my invention constructed and operated according to the best mode I have so far devised for the practical application of the principles of the invention.

Figure 1 is a front elevation of a machine embodying the invention, with the front and back housing plates and the top plates removed, for convenience of illustration. Fig. 2 is a transverse vertical section of Fig. 1 looking to the right, the housing plates and top plates being shown in their proper location. Fig. 3 is a top plan view of the left half of the base portion of the machine, showing the top plates or table, a gage and a portion of a marking tool or plate. Fig. 4 is a detail view (enlarged) showing connection between tool carrying plate and the tool base or drum. Fig. 5 is a sectional view on line 5—5 of Fig. 4, and Fig. 6 is a section on line 6—6 Fig. 1.

As heretofore stated, the invention is capable of use for marking different articles as above noted, but for convenience I will proceed to describe the invention and machine as a button-hole marking machine.

The purpose of the invention is to mark upon the fly of a shoe, with exactness and accuracy, the location of the button holes, and to accomplish this end I utilize a tool plate 1 to which is secured a tool or pattern plate 2. The pattern plate 2 has embedded therein a series of pointed pins 3, preferably arranged in pairs, and located at predetermined points for certain designs. As clearly seen in Fig. 5 the pins have a tapered formation and are passed through complementary openings 4 in pattern plate 2. The pins are held in place by means of the tool plate 1 and the pattern plate and tool plate are held together by a rivet or screw 5. For the purpose of locating button-holes I have used a pair of pins to mark each hole space, and by this means I am enabled to mark the exact angle at which each button hole is to be made, thus aiding the operator who runs the button-hole marking machine.

As a support for the pattern or "marker" I use the rotary drum 6 which forms a movable and adjustable base for the marking tool. As illustrated, the drum 6 is fashioned with eight tool faces 7, each adapted to receive a pattern or marker.

The markers are held to the faces of the drum by means of the overhanging flange 8 of a bar 9 located at the opposite ends of the drum 6 upon each face 7, and in addition, a screw 10, is used to secure the tool plate to the drum. The manner of holding the parts is clearly seen in Fig. 4 wherein the end of the plate 1 is shown under the flange 8.

The rotary drum 6 is supported upon a shaft 11 and held rigid therewith by means of the pin 12. The shaft 11 is supported in journal bearings or hubs 13 integral with the upright frame bars 14 which form the end housings for the drum. Front and back plates 15 and 16, respectively, form the forward and rear housing for the drum, and these plates are suitably attached to the frame plates, forming a complete inclosure for the drum and patterns or markers.

A supporting table for the work is provided by the front and rear top plates 17 and 18 respectively, which project toward the axial center of the drum 6 but leave an open space 19 above the uppermost horizontal face 7 of the drum. At the inner

edge of the rear plate 18 I attach a gage or guide bar 19′, which is adjustable by means of the slots 20 and set screws 21. The drum 6 is adjustable so that any one of the eight patterns secured thereon may be presented to project into space 19. This adjustment is accomplished by means of the devices shown in Fig. 6. The portion of the shaft 11 within the right hub 13 is bored with eight sockets 22, complementary to the eight faces 7 of the drum. An extension 23 of the hub 13 forms a housing for the spring pressed plunger 24 which is adapted to seat in any one of the sockets 22 and may be so held by the spring 25. At the upper end of the frame 14 and journaled in bearings 26 thereof is located the actuating shaft 27 for the cross-head or hammer 28. This shaft and hammer are connected by means of the eccentric drives 29 from each of which depends a vertical bar or rod 30 threaded for the reception of the clamp nut 31. The bars 30 are each connected to the hammer 28 through the medium of the coupling sleeve 32 which are pivoted at 33 in ears on the hammer. By means of the vertical slots 34 and pins 35, and the spring 36 which is located between a washer 37 and flange 38 on sleeve 32 a resilient connection is made between the eccentrics and the hammer. The hammer is adapted to reciprocate vertically between the frame plates 14 and is guided in this movement by the ribs 39 on the inner side of the frame plates as will be readily understood. The shaft 27 may be driven continuously or intermittently, by means of the loose pulley 40, clutch 41 and treadle 42.

The operation of the machine is as follows, it being understood that the markers are attached to the drum in right and left pairs, which may be of four different designs. The shaft 11 is turned by means of the hand wheel 43 until the desired pattern is presented at the top of the drum, and the drum is held rigidly in this position by means of the plunger 24 as described. The gage 19′ is adjusted to proper position, and the "work", which in this instance is the fly of a button shoe is laid upon the upper horizontal pattern plate and guided to its proper location by the gage 19′. The shaft 27 is now rotated and the eccentric drives 29 cause the plunger or hammer 28 to descend upon the shoe fly, and the descent of the hammer is sufficient to cause the pins of the pattern plate to enter the material of the shoe fly thus impressing therein a series of marks corresponding to the series of pins in the marker. The continued movement of the eccentrics causes the hammer to withdraw from the fly and ascend. The action of the hammer is cushioned in its movement by means of the springs and connections between the eccentrics and the hammer. The connection between the eccentrics and hammer is also adjustable for different thicknesses of leather, and by screwing down the nut 31 the blow of the hammer may be increased, it being understood that the hammer is lifted by means of the pins 35 in slots 34.

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

1. The combination with a base and a marker secured thereon and adapted to receive the "work," of a driving shaft and eccentrics thereon, a reciprocating hammer adapted to impress the marks of the marker upon the work, coupling members connected to the hammer, and bars yieldingly connected to said members and to the eccentrics.

2. The combination in a machine as described of a supporting base having a plurality of patterns attached thereto, selective mechanism for presenting a pattern to receive "work," a reciprocating hammer, coupling members connected to the hammer, a driving shaft with eccentrics thereon, and bars yieldingly connecting said eccentrics and coupling members.

3. The combination in a machine as described, of a shaft with bearing hubs, a rotatable base on the shaft provided with a plurality of tool faces, patterns of varying designs attached to said faces, and selective mechanism comprising a socket complementary to each tool face in one of said hubs and an adjustable plunger adapted to seat in said sockets.

4. The combination with a rotatable drum having a plurality of tool faces, a marker on each face comprising a base plate and a pattern plate, pins projecting through the pattern plate from the base plate, and retaining means for said base plates.

5. The combination with a rotatable drum having a plurality of tool faces, a series of patterns, and a cross bar with an overhanging flange at each end of each face for retaining a pattern in place.

6. The combination with a rotatable drum having a plurality of tool faces, a marker on each face comprising a base plate and a pattern plate, marking pins arranged in a plurality of parallel lines in the base plate and projecting through complementary openings in the pattern plate, and retaining means for said base plates.

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

PETER K. WILLIAMS.

Witnesses:
C. M. SHIGLEY,
NORMAN C. KUHNHEIM.