L. M. NEW.

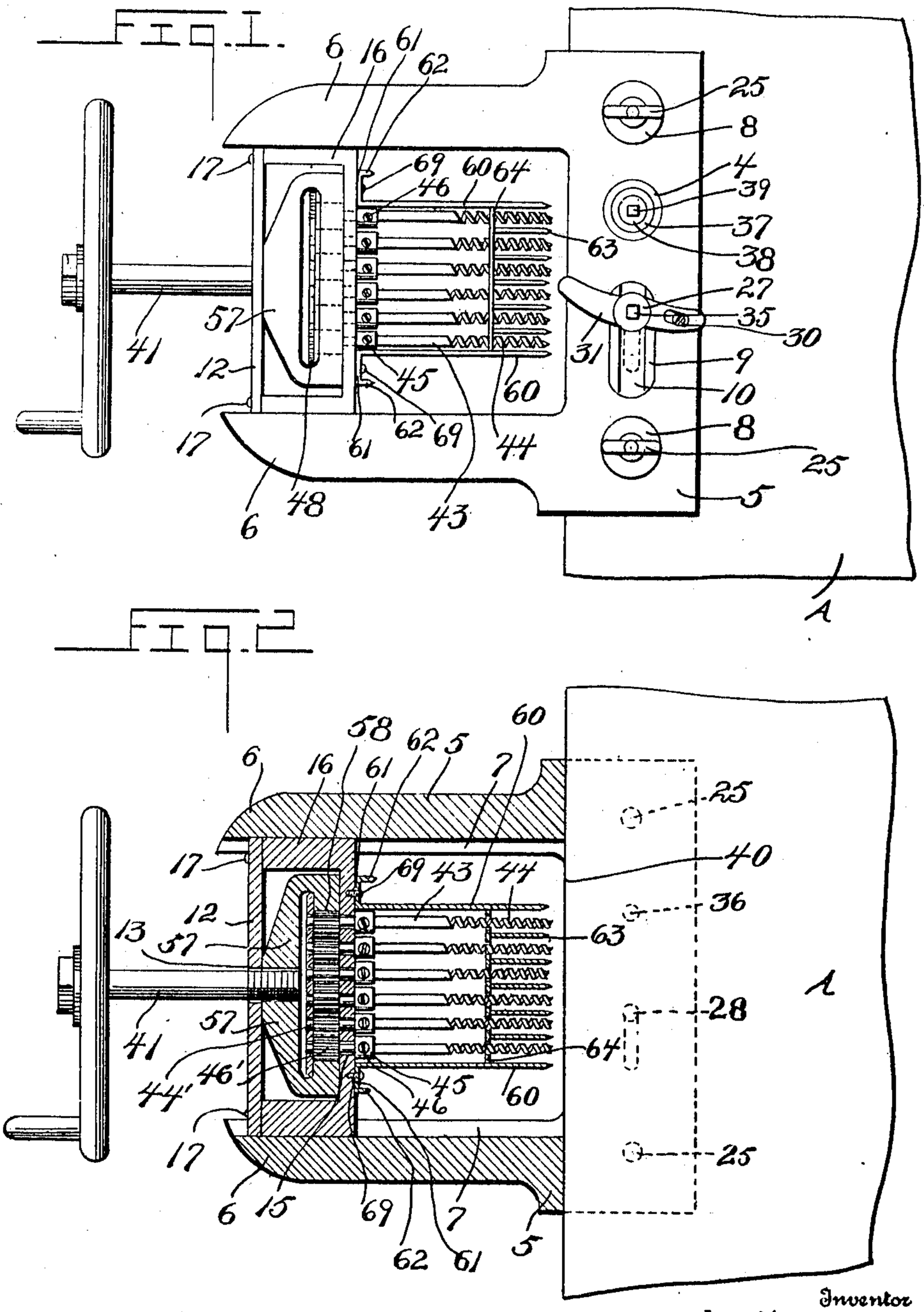
LOCK MORTISER.

APPLICATION FILED FEB. 23, 1909.

969,897.

Patented Sept. 13, 1910.

3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

Fig. 3.

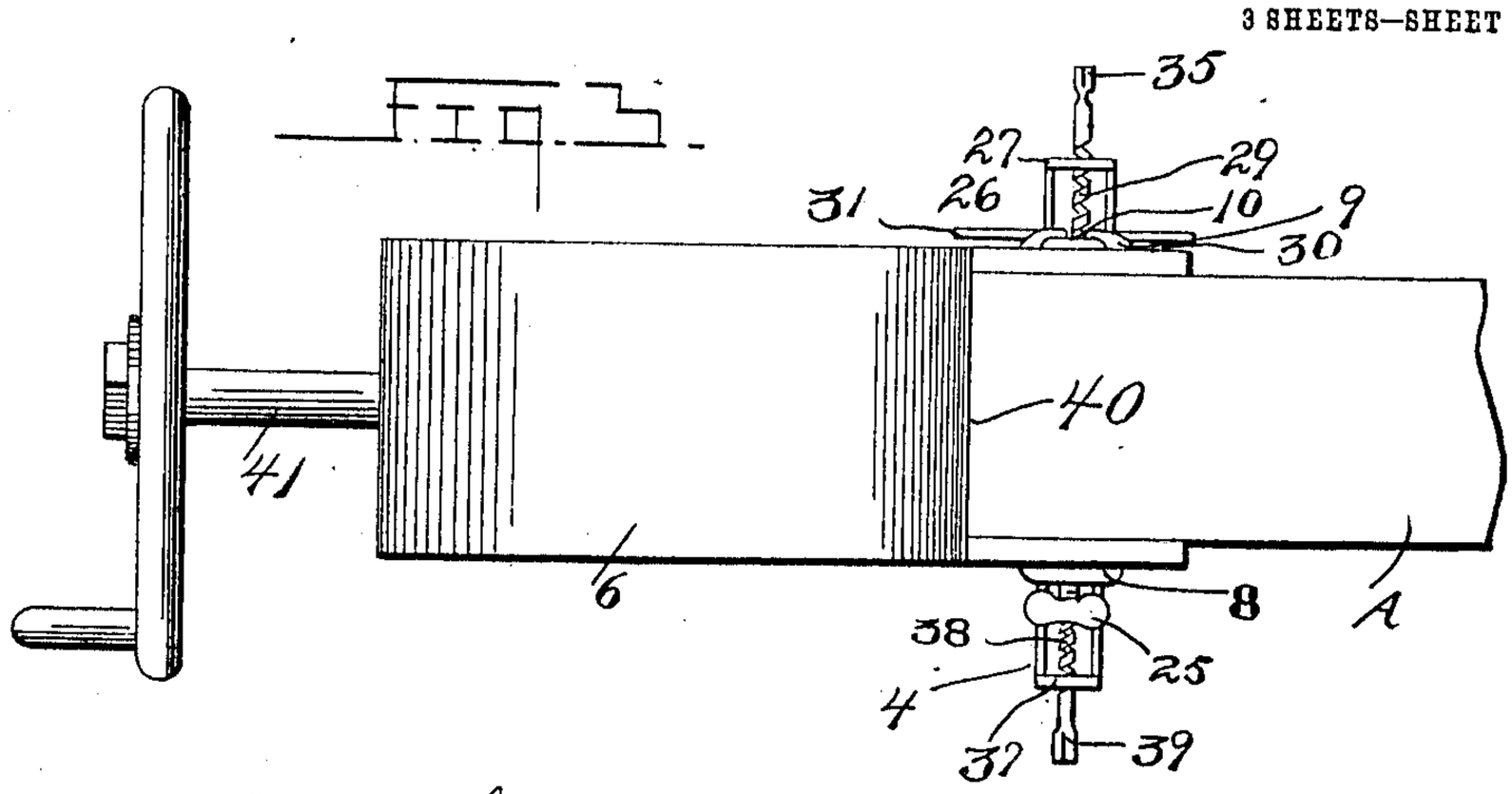


Fig. 4.

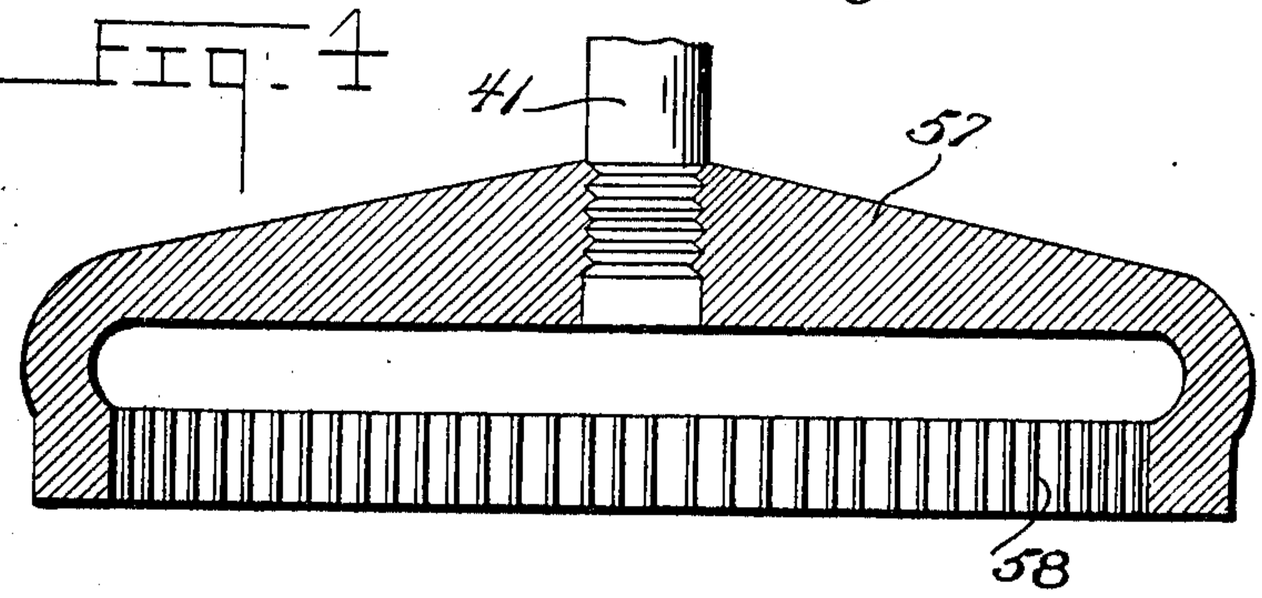
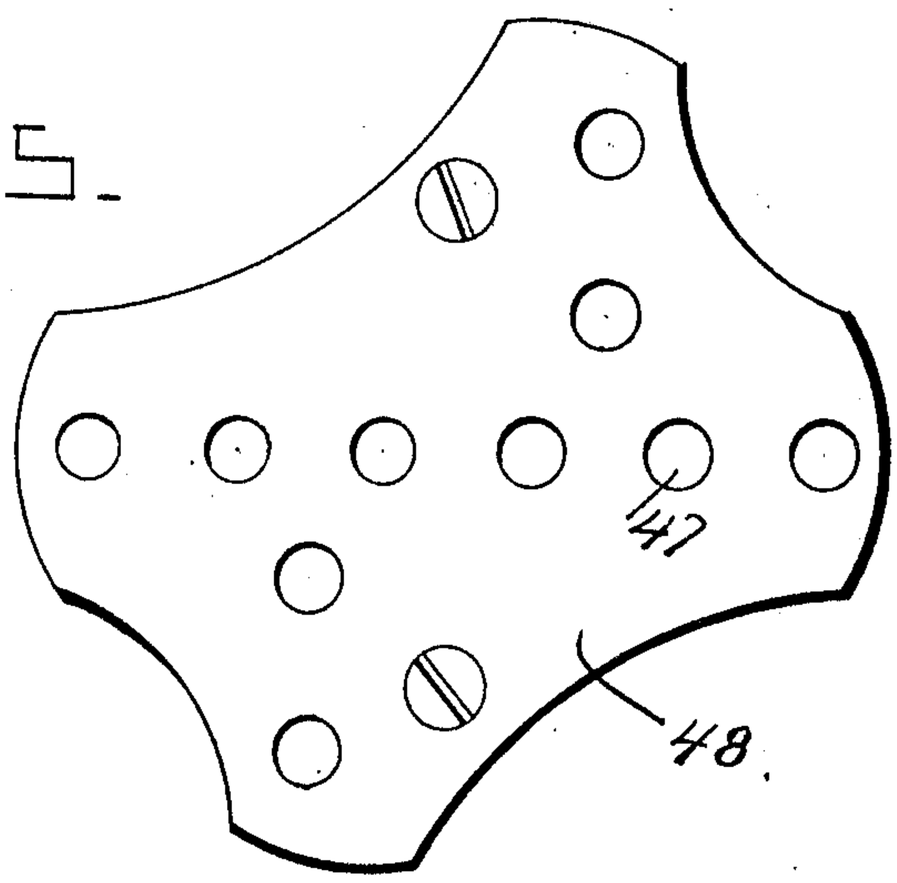


Fig. 5.



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3 SHEETS—SHEET 3.

FIG. 6.

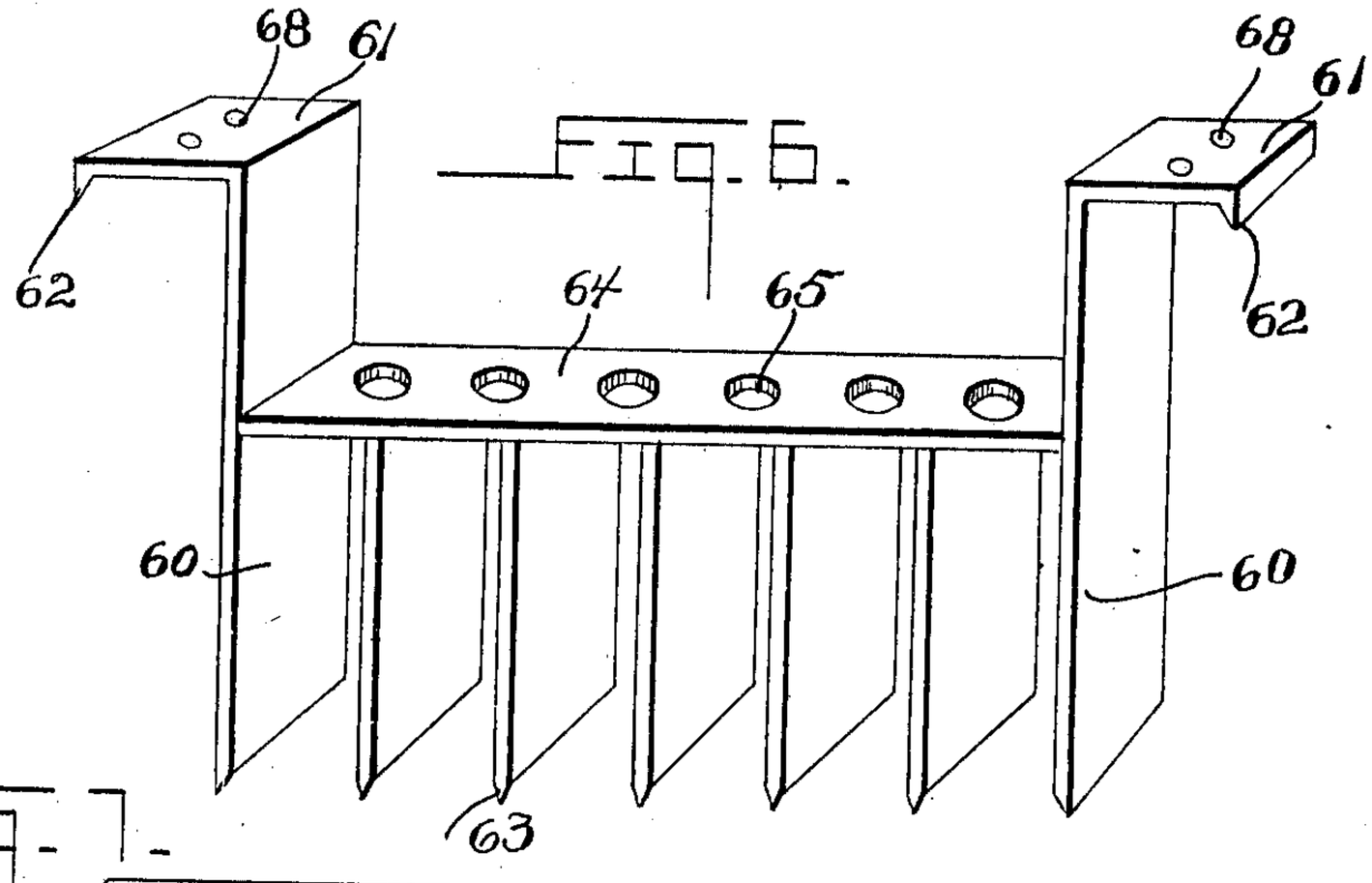


FIG. 7.

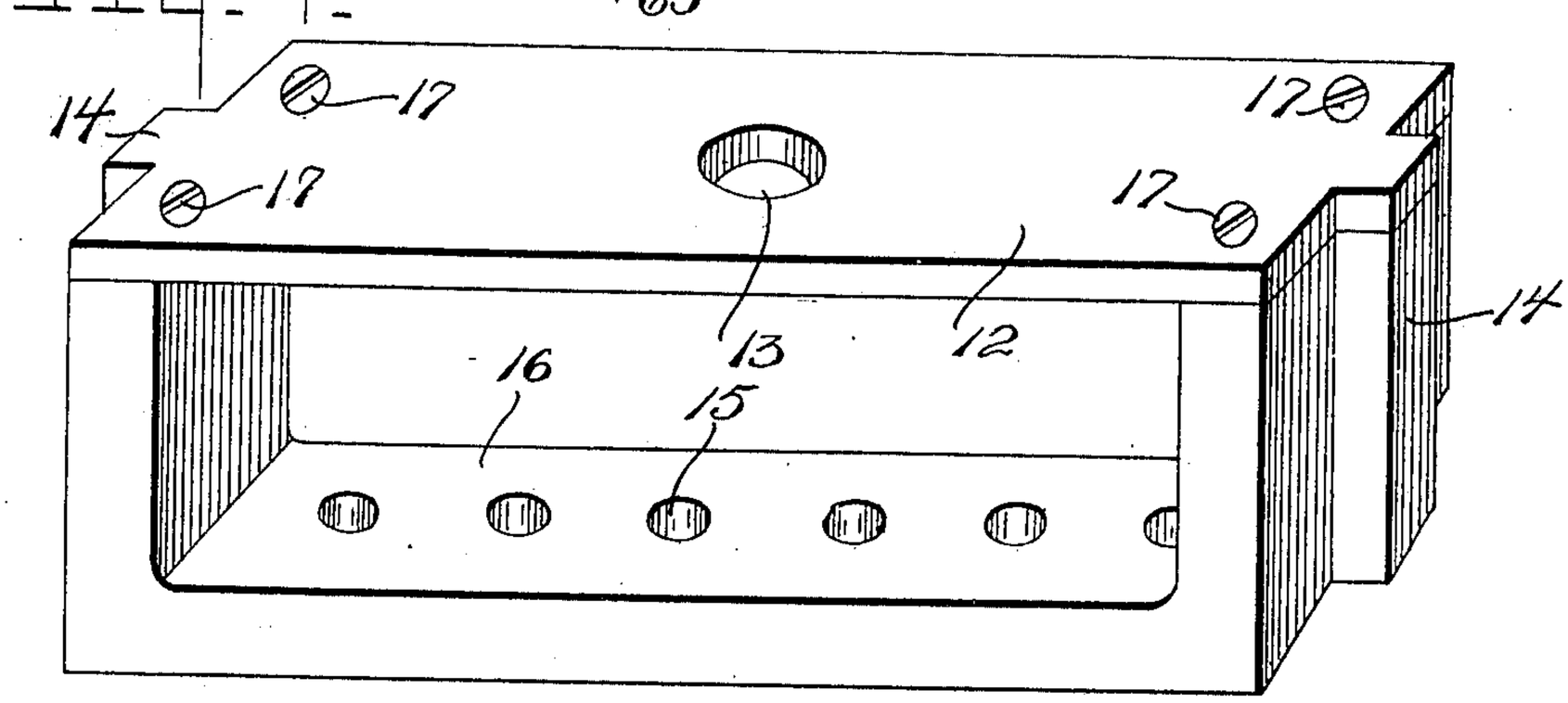


FIG. 8.

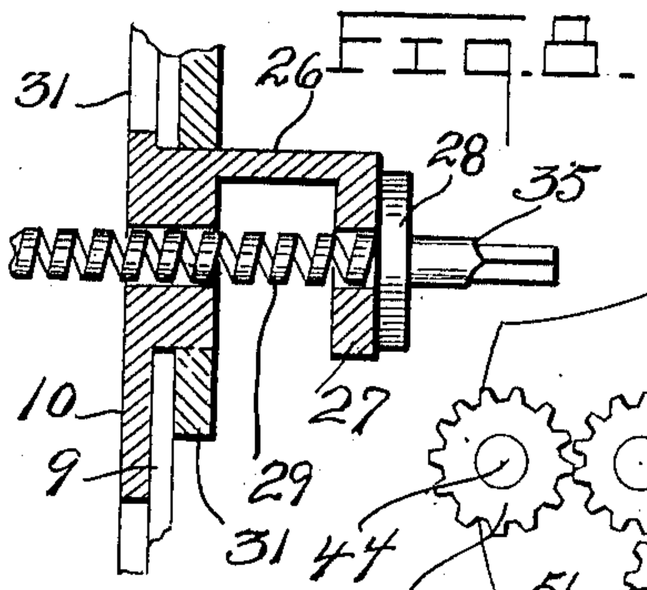


FIG. 10.

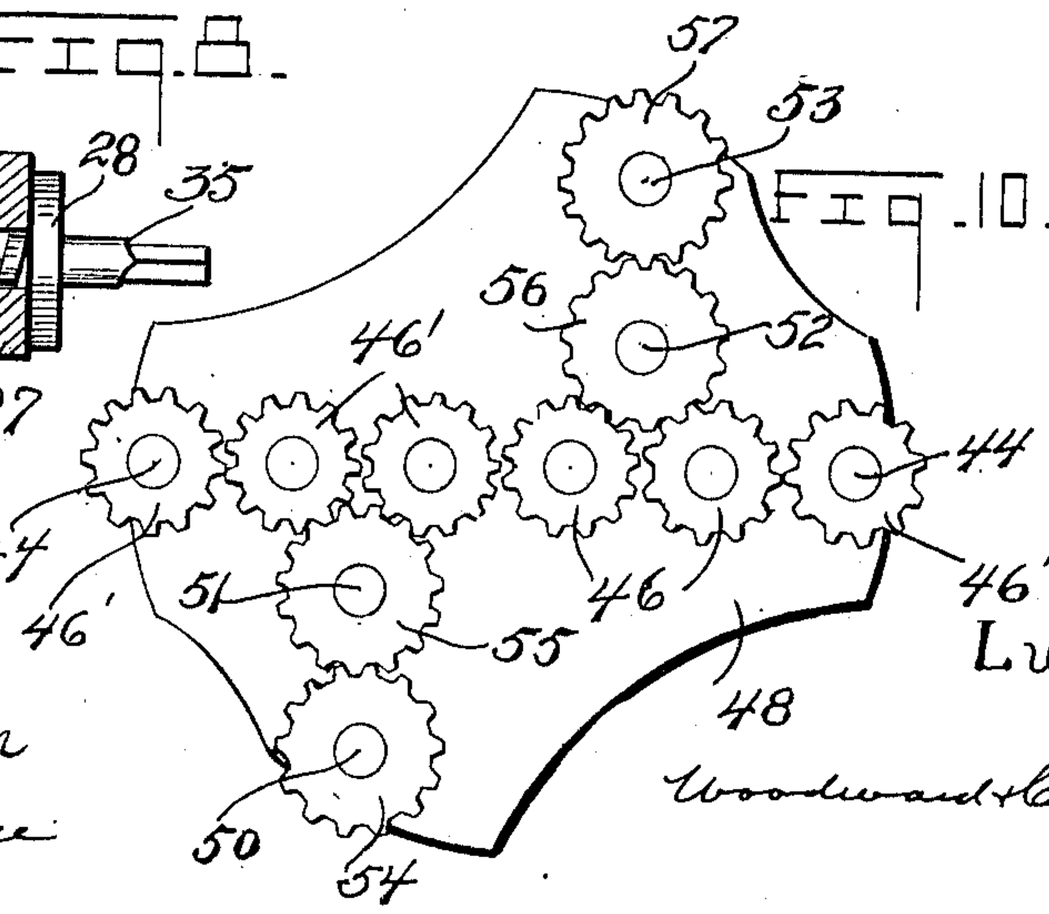
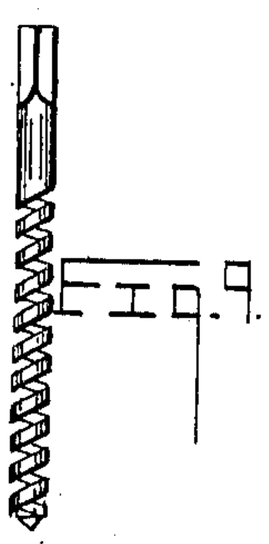


FIG. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

LUKE MOSELY NEW, OF WACO, TEXAS.

LOCK-MORTISER.

969,897. Specification of Letters Patent. **Patented Sept. 13, 1910.**

Application filed February 23, 1909. Serial No. 479,415.

To all whom it may concern:

Be it known that I, LUKE M. NEW, a citizen of the United States, residing at Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Lock-Mortisers, of which the following is a specification.

This invention relates to a lock mortising machine.

The object of my invention is to provide a light, portable machine arranged to be clamped to the work piece, so that the lock mortise as well as the key hole and the bolt opening may be conveniently cut with one adjustment of the machine, its operation being effected by manual power.

With these and other objects in view the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the claim, it being understood that changes in the specific structure shown and described may be made within the scope of the claim without departing from the spirit of the invention.

In the drawings forming a part of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 shows a fragmentary view of a door to which my mortising machine has been clamped, Fig. 2 is a central sectional view through my mortising machine, Fig. 3 is an end view, Fig. 4 is an enlarged central sectional view of the gear plate, Fig. 5 is a detached top view of the guide plate, Fig. 6 is a detached detail of the bit casement, Fig. 7 discloses the bit carrying housing as detached, Fig. 8 is a central sectional view through one of the guide collars, Fig. 9 is a detached detail of one of the mortising bits, Fig. 10 is a top view disclosing the gear arrangement.

In the accompanying drawings, 5 represents the slotted head of a tool carrier provided with the two projecting slotted guide arms 6, 6. These guide arms are provided with the guide ways 7. The slotted head is provided with the two threaded bosses 8, 8 situated upon one side and upon the same side the slotted head is provided with the guide bead 4 surrounding a suitable opening. Upon both sides of the head and in alinement with the bosses 8 are the two elongated flanges 9 each of which receives a bit guide 10 as disclosed.

Held within each threaded boss 8 is a clamping screw 25 there being two such screws and by means of these screws the carrier is detachably secured to the door which is to be provided with the lock mortise. Extending from the plate 10 is an arm 26 which above is provided with a guide collar 27 revolubly holding the stem of an auger 29. Two such augers 29 are used as disclosed in Fig. 3. These augers are used to cut the key hole mortise. Positioned near the plate 10 is the pivot screw 30 pivotally holding an operating lever 31. As shown in Fig. 8 the member 10 freely slides below the flanges 9. In attaching a brace to the squared end 35 of the bit 29 and rotating the same an opening may be bored into the door. Then in operating the lever 31 the bit is carried to one side in order to provide the key slot. The bit 29 has a stop collar 28.

Extending from the guide boss 4 is an arm provided at its end with a collar 37 revolubly guiding the bit or auger 38 which is used to provide the bolt opening in the door. On securing a brace to the squared end 39 of the bit 38 the same may be carried entirely through the door to provide the bolt opening. But one such bit 38 is used.

As disclosed, the head 5 is slotted between the arms 6 so as to provide an access opening 40 as shown. This opening extends the full distance between the arms.

Slidably held between the arms 6 is the housing 16 having the guide flanges 14 which are adapted to slide within the slots 7 of the arms 6. This housing 16 is provided with the top plate 12 having the central aperture 13 within which is held the main driving stem 41, to which an operating wheel or brace is secured. As disclosed, this housing 16 is provided with six alined openings 15 and each of these openings 15 revolubly holds the stem 43 of a bit 44. Each bit 44 is provided with a stop collar 45 carrying the set screw 46 so that the auger or bit is properly held to the housing below. Each bit stem 43 within the housing is provided with a pinion 46′ the upper ends 44′ of these bits being revolubly held within suitable openings of the guide plate 48 disclosed in top view in Fig. 5. These pinions 46′ do not intermesh.

The guide plate 48 carries four arbors or stub shafts marked 50, 51, 52 and 53 respectively carrying the drive pinions 54 and

57 and the intermediate pinions 55 and 56. The pinions 54 and 55 mesh as do the pinions 56 and 57. As shown in Fig. 10 the pinion 55 meshes with two of the bit pinions 46 while the pinion 56 meshes with the two bit pinions 46.

Carried upon the operating stem 41, is the internal master gear 57 provided with the gear teeth 58. The arrangement of the end pinions 46′ and 54 and 57 is such that they are in mesh with this gear 58 as clearly indicated in Fig. 10. On rotating the master gear a rotary movement in like direction is imparted to each of the bit pinions 46. As shown the top plate 12 securely holds the gear plate 57 in position, this plate 12 being secured by means of the screws 17.

Secured to the under face of the housing 16 by means of the screws 69 is a bit casement comprising the end cutting blade 60 having the ears 61 which end in the downwardly extending cutting edges 62. These ears 61 are perforated as shown at 68 so as to receive the securing screws 69. The end cutting members 60 are connected by means of the perforated plate 64 within the perforations or openings 65 of which are revolubly held the stems 43 of the bits. Between each inner set of openings 65 is positioned a cutting blade 63 as clearly disclosed in Fig. 6. As disclosed adjacent to each of the bits 44 two cutting blades are held. These blades 63 are forced through the web formed between the bits as the mortise is made. The upper cutting edges 62 determine the end of the seat for the base plate of the lock.

The housing 16 freely slides between the guide arms 6. In operation, the carrier is clamped to the door or other work piece by means of the screws 25, the lower ends of the bits 44 in this position resting upon the edge of the door. On rotating the stem 41, and manually forcing the same toward the work piece the master gear 58 is rotated which will result in the bit pinions 46′ being revolved and these as has been explained all revolve in a like direction, the bits are forced downward until the housing 16 is stopped by means of the terminal knife edges 62. This operation will have resulted in the boring of six openings by means of the bits 44 while the blades 63 and 60 will have cut seven narrow channels into the work piece. The housing 16 is then pulled back to clear the bit 38 which is then revolved to bore the bolt opening and when this has been accomplished the bits 29 are operated to cut the key ways.

When it is desired to cut a mortise of a length greater than the length of the tool the holder is given a new adjustment.

The device is light and simple of construction and easily operated.

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

The combination with a slotted tool head having two oppositely positioned slotted arms with guide ways, of clamping screws carried by said head, a housing having guide flanges working in said guide ways, the top portion of said housing having a central aperture while the lower portion has six openings in a row, a bit within each of said openings, a stop collar secured to each of said bits to limit the movement in one direction, a pinion secured to each bit to limit the movement in an opposite direction, a guide plate secured within said housing, having a bearing opening for each bit stem, said plate held upon said pinion, four arbors carried by said plate disposed in sets of two upon opposite sides of said pinion, meshing gears carried upon said arbors, one gear of each set meshing with two intermediate pinions, an operating stem held within said central aperture, an internal master gear upon said stem in mesh with the outermost pinions and gears, and a bit casement secured to the underface of said housing having extending cutting blades, each of said bits being positioned between two blades, as and for the purpose set forth.

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

LUKE MOSELY NEW.

Witnesses:
H. M. Richey,
E. C. Street.