

Feb. 5, 1924.

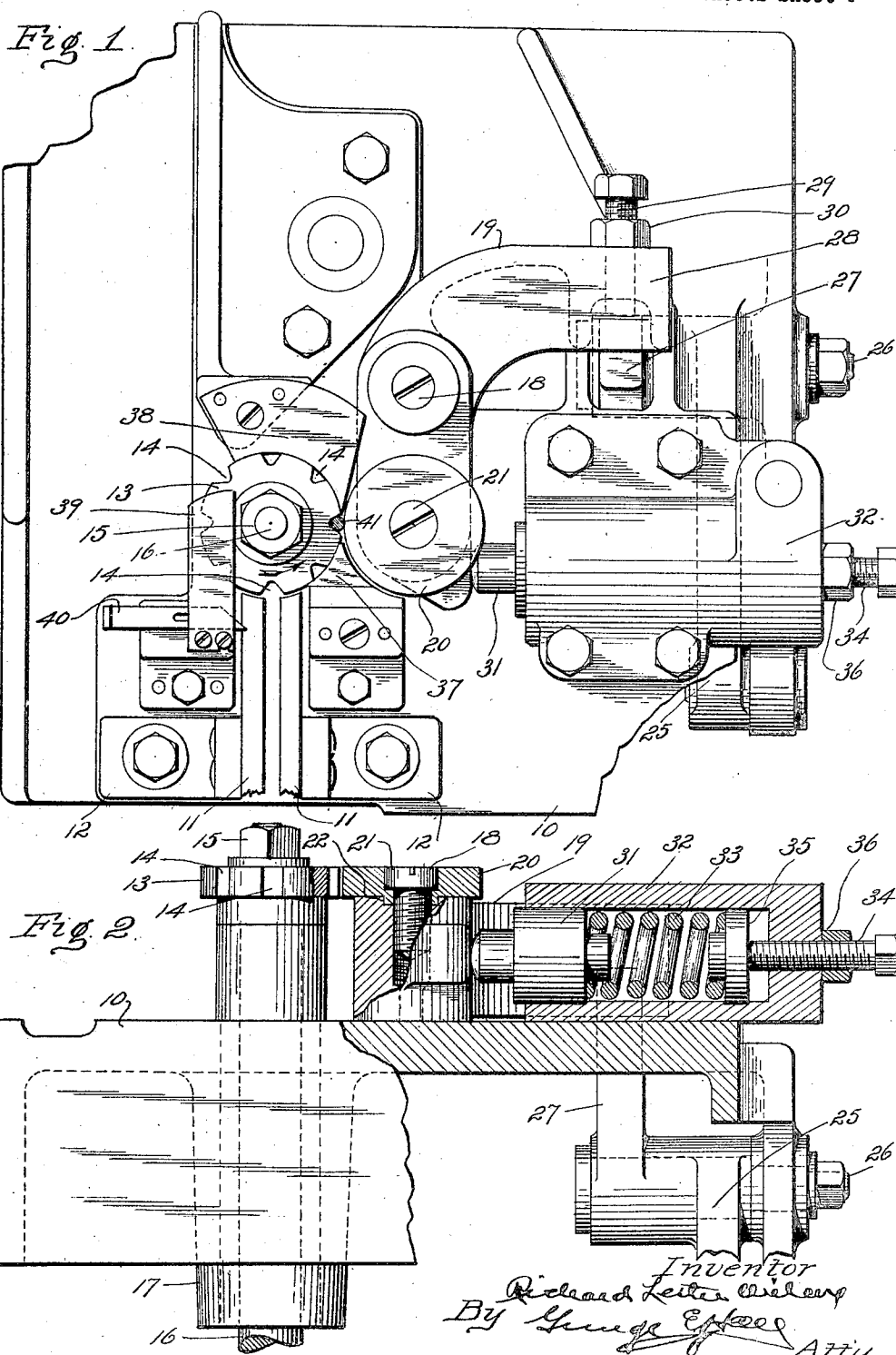
R. L. WILCOX

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DIAL MECHANISM

Filed Jan. 27, 1921

2 Sheets-Sheet 1



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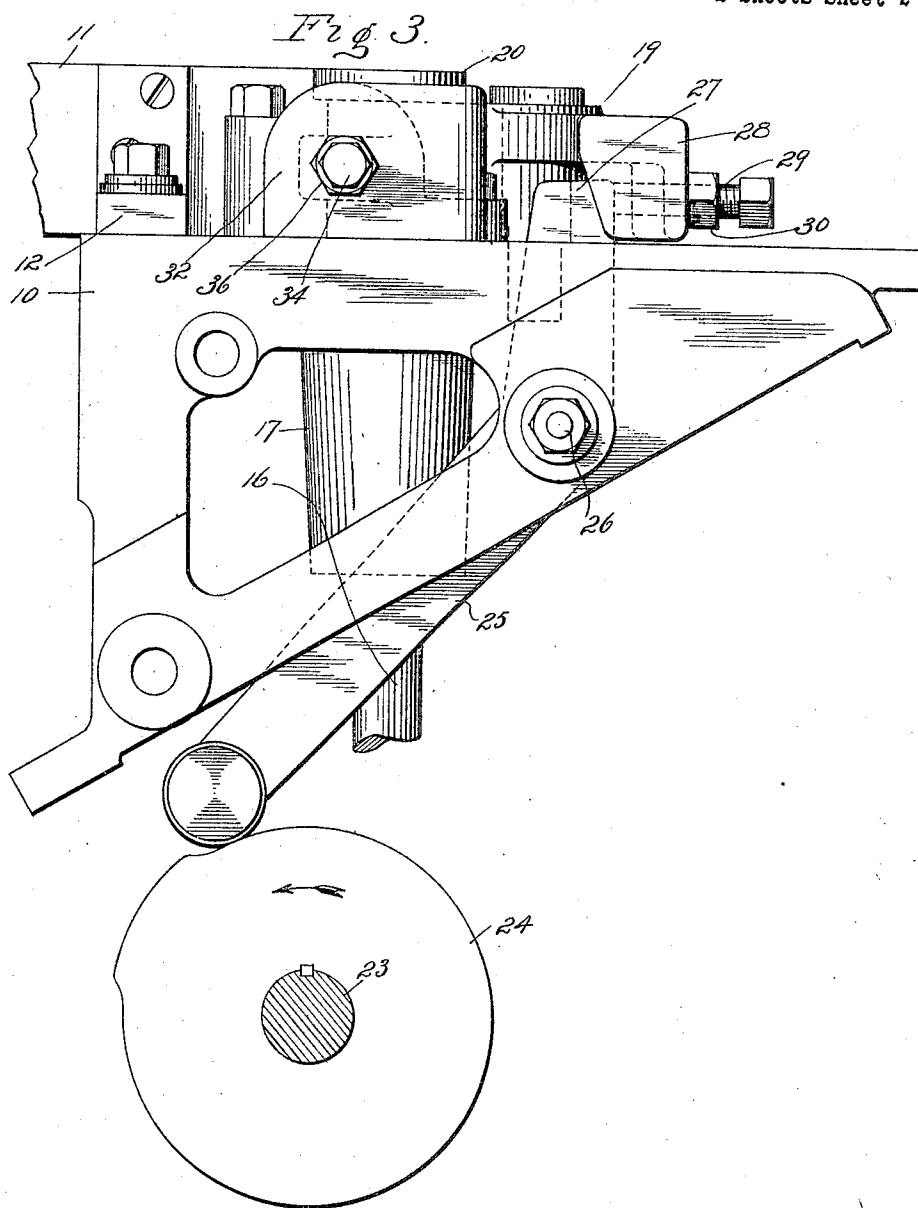
R. L. WILCOX

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DIAL MECHANISM

Filed Jan. 27, 1921

2 Sheets-Sheet 2



Inventor
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UNITED STATES PATENT OFFICE.

RICHARD LESTER WILCOX, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE WATERBURY FARREL FOUNDRY AND MACHINE COMPANY, OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT.

DIAL MECHANISM.

Application filed January 27, 1921. Serial No. 440,538.

To all whom it may concern:

Be it known that I, RICHARD LESTER WILCOX, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Dial Mechanisms, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to new and useful improvements in dial mechanisms referring more particularly to means for transferring a blank from one station to another and holding it at this latter station for one or more operations to be performed thereon.

It is the object of this invention, among other things, to provide means whereby these desirable results may be accomplished with mechanism much more simple than has heretofore been used, more durable in its character, provided with means for adjusting the yielding devices whereby the mechanism may be unusually sensitive but still effective in its operation, and this yielding mechanism so constructed and controlled as to minimize the possibility of its becoming disarranged or broken and with these and many other ways to produce a superior device of the character described, with parts of simple construction, economical to construct, readily assembled and that will operate automatically with little or no personal attention.

To these and other ends my invention consists in the dial mechanism having certain details of construction and combinations of parts as will be hereinafter described and more particularly pointed out in the claims.

Referring to the drawings in which like numerals of reference designate like parts in the several figures:

Figure 1 is a plan view of my improved mechanism as applied to a screw slotting machine;

Figure 2 is an elevation thereof partly in section; and

Figure 3 is a side elevation of a portion thereof showing the means for actuating the gripping member.

My invention as shown herein is analogous to the type of dial mechanism shown in Patent No. 1,029,653, issued to me for improvements in slotting machines June 18, 1912, and is for substantially the same purpose. The machine shown in said patent is espe-

cially designed for slotting the heads of screw blanks, but my invention may be used in connection with any other type of machine, if desired. I have, therefore, only shown such portion of the associated mechanism as may be essential for a clear understanding of my improvements.

Referring particularly to the drawings, the reference numeral 10 designates the table of the machine with which my mechanism is particularly associated, and 11 the feed chute by which blanks are conveyed in a well known manner from a hopper or other source of supply to the dial mechanism, this chute being preferably supported at one end by the brackets 12. The numeral 13 designates a carrier dial that is provided with a plurality of peripheral notches 14 and secured by a nut 15 or other similar means upon the shaft 16 that is journaled in the boss or lug 17 connected with the table 10.

Mounted so as to swing upon a fixed stud 18 is a rock lever 19 having mounted at one end a gripping member 20. This gripping member is preferably cylindrical in form and is secured to the rock lever 19 by a screw 21 or similar means.

By manipulation of this screw, the gripping member 20 may be rotated thereon and held in any desired position by tightening the screw so as to prevent movement thereof. If desired, a boss 22 may be provided upon the underside of the gripping member that will project into a corresponding recess in the rock lever 19 so as to distribute the gripping strain between the lever and screw. This, however, is not entirely essential for other means may be used to accomplish the same result.

A movement is imparted to the rock lever 19 in timed relation with the operation of other parts from a shaft 23, a cam 24 mounted thereon, a rock lever 25 pivotally mounted upon a stud 26 connected with the table 10 or other fixed part having an arm 27 thereon that projects upwardly and terminates in front of a lug 28 upon the end of the rock lever 19. A set screw 29 is threaded through this lug, has a jamb nut 30 thereon, and its inner end contacts with the upper end of the arm 27, (see Figure 3).

Rotation of the cam 24 imparts a movement to the lever 19 through the rock lever

25 so that the gripping member 20 is caused to move toward and away from the carrier dial 13, the away movement being resisted by a yielding mechanism comprising a plunger 31 supported in a casing 32 with its outer end held in contact with the rock lever 19 by means of a spring 33, the tension of which is varied by the set screw 34 through the end of the casing and engaging the button 35 in contact with the spring, a jamb nut 36 upon the screw 34 locking the screw against accidental movement in any of its adjusted positions.

I have shown herein guide plates 37 and 38 commonly used with mechanism of this character, although forming no part of my invention, as well as a stripper plate 39 and a stop plate 40.

The blanks, assumed for illustration to be headed blanks, which are to be slotted, pass downwardly through the chute 11 and the lowermost blanks enter one of the notches 14 in the carrier dial 13 which then receives intermittent rotation, the blank being held against displacement by the guide plates 37 until it is brought into the position designated by the blank 41 in cross section, at which time the rock lever 19 is moved so as to bring the gripping member 20 against one side of the blank and hold the same rigidly between the gripping dial and the gripping member, while a saw (not shown) is cutting a slot in the head thereof. Upon completion of the sawing operation, the cam again actuates the rock lever 19 and moves the gripping member 20 away from the carrier dial 13, against the resistance of the spring 33. The carrier dial 13 again receives an intermittent rotation and carrying with it the slotted blank that is held against displacement by the guide plate 38 and presenting a new blank at the sawing station, at which time the gripping member 20 is moved against the new blank and the sawing operations are repeated as before.

Heretofore it has been the practice to so associate the means for holding the blank that the one is positively driven from the other, that is, both having a positive intermittent movement. This necessitates considerable mechanism such as gears, shafts, etc., a rotary gripping member that is either provided with lugs or recesses upon its outer surface and for these and in many other ways have objections that have mitigated against the use of this type of machine for certain classes of work.

In the mechanism herein shown the gripping member and carrier dial are entirely separate and distinct and acquire independent movement, the former is not rotated in this operation and the gripping pressure is only applied to the blank at the time when actually required and is not maintained constantly as heretofore. The gripping mem-

ber may be used indefinitely and the possibility of injury thereto is reduced to the absolute minimum, there are no peripheral lugs or recesses to register with corresponding parts upon a carrier dial and liable to be broken or destroyed by reason of non-registering therewith.

In these and many other ways my device herein shown is much more desirable for certain classes of work, much more simple in its construction, more positive and certain in its operation and is much less complicated and requires less skill in its construction and assembling.

While I have shown a cylindrical gripping member, wherein by rotation, new faces may be presented to compensate for the wear, if any, upon that portion subject to pressure, it is obvious that a gripping member, flat in form and either rigidly or adjustably mounted upon the rock lever 19, may be substituted, if desired.

Minor changes and alterations may be made within my invention, aside from those herein suggested, and I would therefore have it understood that I do not limit myself to the exact construction herein shown and described, but claim all that falls fairly within the spirit and scope of the appended claims.

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

1. In combination, a movable carrier dial; a rock lever; a gripping member rigidly connected therewith; and means for actuating said rock lever whereby said gripping member will move toward said carrier dial in timed relation to the movements thereof and hold a blank between it and said carrier dial.

2. In combination, a movable carrier dial; a rock lever; means for actuating said rock lever in timed relation with said dial; a gripping member; and means for adjustably securing said gripping member upon said rock lever.

3. In combination, a carrier dial; a rock lever; a gripping member fixed thereon; cam means for actuating said rock lever and moving said gripping member toward and away from said dial and hold a blank between it and said carrier dial.

4. In combination, a carrier dial; a rock lever; a gripping member connected with said rock lever; a cam; a second rock lever between said cam and the first mentioned rock lever whereby the movement of said cam actuates said gripping member in one direction through said rock levers; and yielding means for moving said gripping member in the opposite direction.

5. In combination, an intermittently rotated carrier dial having recesses in the periphery thereof; a rock lever; a gripping member having a substantially smooth contact surface; means for mounting said grip-

ping member upon said rock lever; means for actuating said rock lever in one direction whereby pressure is applied by said gripping member to a blank in one of the notches of said carrier dial. 5

6. In combination, a notched carrier dial; a rock lever; a gripping member for applying pressure to a blank in one of said notches; means for adjustably securing said

gripping member upon said rock lever; and 10 means for actuating said rock lever whereby said gripping member is moved toward and away from said carrier dial in timed relation therewith.

In testimony whereof, I have hereunto 15 affixed my signature.

RICHARD LESTER WILCOX.