

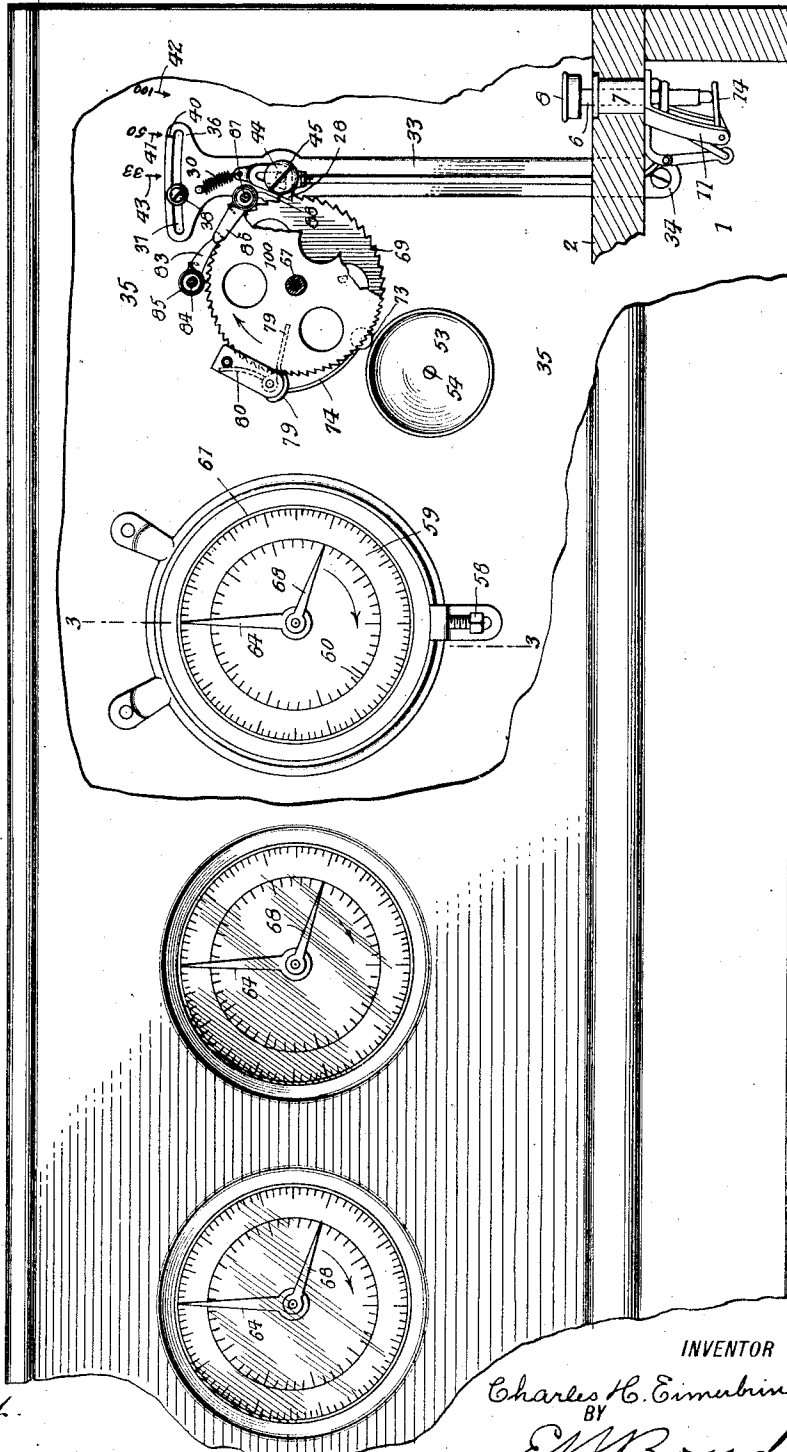
C. H. EIMERBRINK.
REGISTERING MECHANISM.
APPLICATION FILED OCT. 10, 1910.

1,009,959.

Patented Nov. 28, 1911.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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INVENTOR

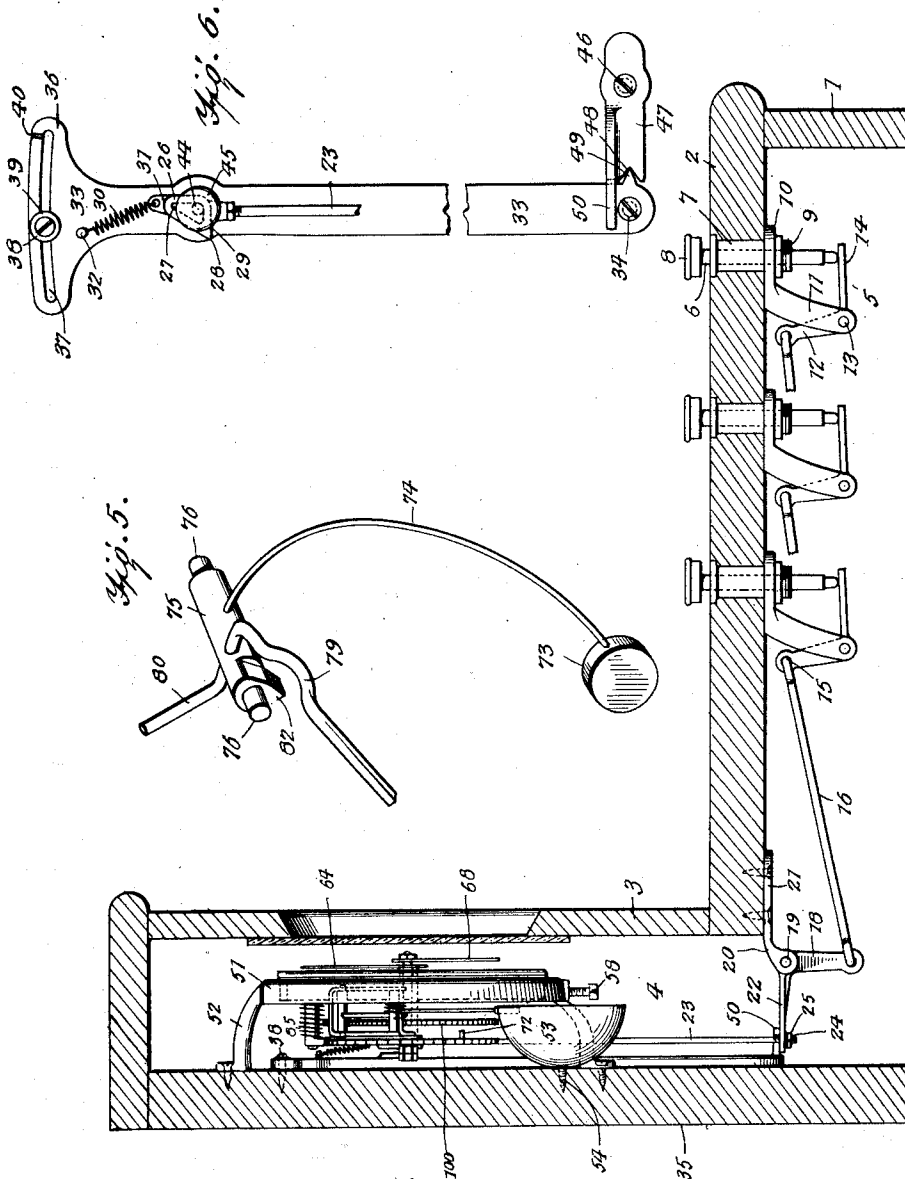
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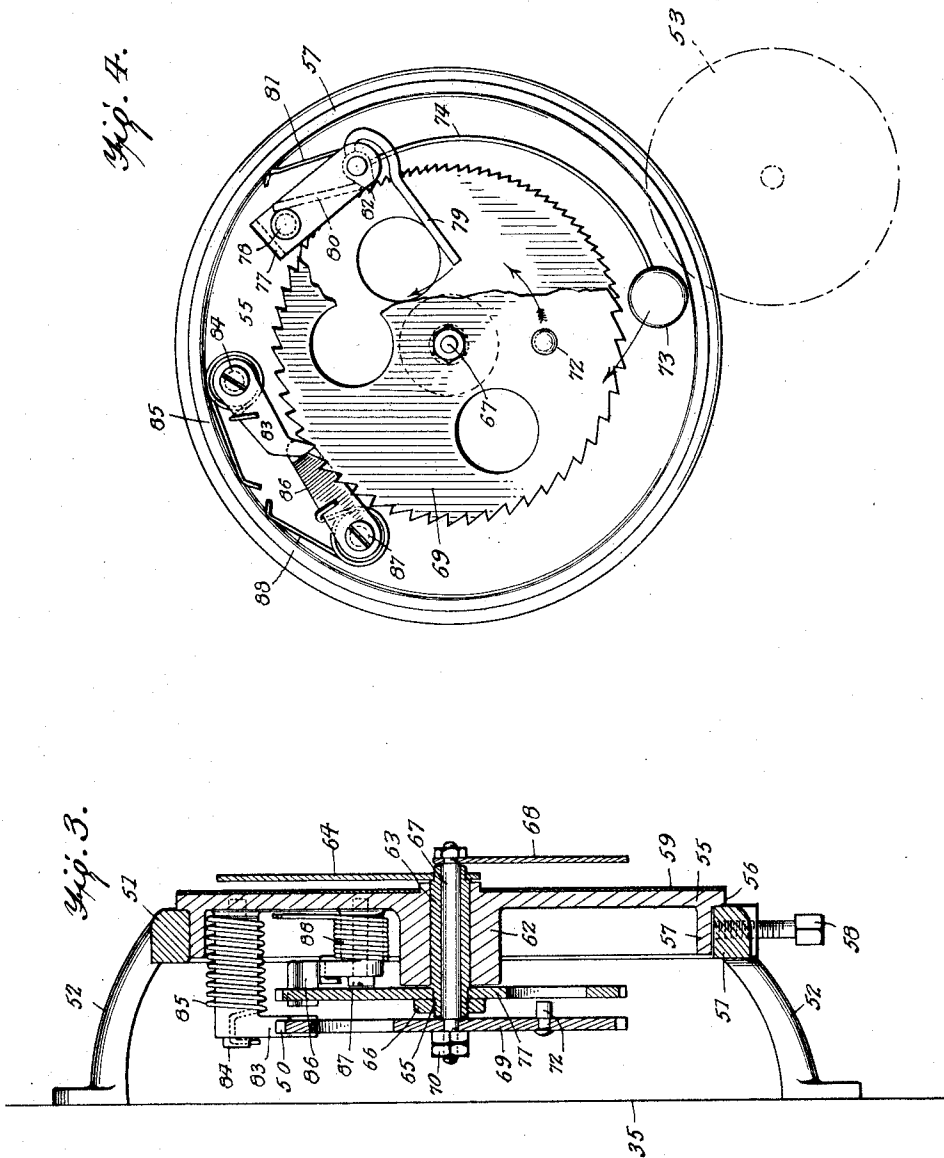


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Fig. 2.

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REGISTERING MECHANISM.

1,009,959.

Specification of Letters Patent.

Patented Nov. 28, 1911.

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To all whom it may concern:

Be it known that I, CHARLES H. EIMERBRINK, a citizen of the United States of America, and resident of Germantown, Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Registering Mechanism, of which the following is a specification.

15 This invention relates to certain new and useful improvements in registering mechanism.

It is well-known that in sorting tobacco from bulk, it is customary to lay the different sizes in separate piles and finally to count the pieces in each pile.

It is the primary object of my invention to provide an improved registering device adapted particularly for use in sorting tobacco, whereby, in separating tobacco from bulk, the number of pieces in each pile may be registered, so that counting of the pieces after the tobacco has been separated is obviated.

20 One form of device for this purpose is disclosed in the Patent No. 872,916, granted to me December 3, 1907.

The device shown and described in this present application is an improvement upon that shown in the patent above-mentioned in that it is rendered much simpler in its construction, the number of parts materially lessened and the device adapted for uses which that disclosed by the present foregoing is not capable of.

30 In the present construction I aim at simplicity, cheapness, and economy of space without detracting from the efficiency or reliability of the device. I provide for ready change from disks of one diameter to another without disturbing the remaining parts. I dispense with much of the complicated mechanism of the prior machine.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

45 The invention is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

50 Figure 1 is a fragmentary front elevation of a register embodying my present improvements, part of the casing being broken away and parts in section for the purpose

of better illustrating other parts. Fig. 2 is a vertical section from front to rear. Fig. 3 is an enlarged section on the line 3—3 of Fig. 1. Fig. 4 is an enlarged rear view of the parts seen in Fig. 3 with a portion broken away and the bell indicated by dotted lines. Fig. 5 is an enlarged perspective view of the bell hammer and the trip mechanism. Fig. 6 is an enlarged elevation of the vertical rocker arm and its adjustable support.

Like numerals of reference indicate like parts throughout the several views.

Referring to the drawings, 1 designates a suitable casing, of which 2 is the horizontal top plate and 3 the vertical front face of the compartment 4, 5 being the compartment beneath said horizontal top plate.

As the push button keys and their connections are the same throughout the device, a description of one set thereof will suffice for all.

6 is the key stem movable through a suitable opening in the horizontal top plate 2, the upper end thereof being guided through a suitable guide sleeve 7 secured in the said top plate and the upper end provided with a suitable key or finger piece 8 of known construction. The guide sleeve is retained in position by a suitable nut 9 which, in turn, serves to hold in position the horizontal portion 10 of the depending bracket 11 which is thus retained rigidly upon the under side of the horizontal top plate 2.

12 is a bell crank lever pivotally mounted, as at 13, upon the depending portion of the bracket 11, its horizontal member 14 extending beneath the lower end of the push pin 6 to be actuated by the depression thereof. The free end of the vertical arm of the bell crank lever 12 has pivotally connected therewith in any suitable manner, as at 15, one end of a link 16, the other end of which is pivotally connected, as at 17, with the vertical arm 18 of a bell crank lever which is pivotally mounted, as at 19, upon the depending portion 20 of a bracket 21 secured to the under side of the horizontal top 2 at the inner end thereof, as seen clearly in Fig. 2. The horizontal arm 22 of this bell crank lever has passed therethrough the lower end of the vertically disposed rod 23, the lower end of which is threaded, as at 24, and receives the nut 25 which bears against the under side of the horizontal arm 22 of said lever, as seen clearly in said Fig. 2. The

upper end of the rod 23 has connected thereto, in any suitable manner, as by threaded engagement, as seen in Fig. 6, the triangular member 26 which is formed with the triangular opening 27 and the lateral projection forming a detent 28 and a square shoulder 29.

30 is a spring, one end of which is connected with a lug or the like 31 at the upper end of the triangular member 26, the other end being connected in some suitable way, as by stud 32, to the plate 33, as seen best in Fig. 6. This plate is pivotally mounted, at its lower end, as seen at 34, to the back wall 35 of the casing and its upper end is provided with the laterally enlarged portion 36 which is provided with the elongated curved slot 37, through which passes a screw or the like 38 secured in the back wall 35 of the casing, a suitable washer 39 being provided, as seen in Fig. 6, bearing against the lateral enlargement 36 upon opposite sides of the slot. By this means, the plate 33 may be adjusted so as to bring the detent 28 into proper position for cooperation with a disk of different diameter, the lateral enlargement 36 being provided with an indicating mark, as seen at 40, to coincide with similar indicating marks on the rear wall 35 of the casing, as seen at 41, 42 and 43 in Fig. 1, these indicating marks 41, 42 and 43 being further designated, if desired, by numerals indicating the number of teeth on the disk employed, as for instance, 33, 50 and 100, as seen in said Fig. 1.

A pin 44 held in the plate 33 and provided with an enlarged head 45, as seen in Figs. 1 and 6 works in the triangular opening 27 of the member 26 for a purpose which will soon be made clear.

Secured to the back wall 35 by any suitable means, as the screw 46, is a plate 47, the vertical portion of which is formed with a substantially V-shaped notch 48, as seen in Fig. 6 into which is engaged a substantially V-shaped point or projection 49 on the lower end of the plate 33. This plate has a horizontal member 50, as seen in Figs. 2 and 6, against which the upper end of the arm 22 of the rear bell crank lever engages when the rod 23 is forced upward by the spring 30.

51 is a ring having the legs 52 secured in any suitable manner to the rear wall 35 of the casing 1, the legs being of sufficient length to project the ring the requisite distance from the said rear wall, so as to provide the necessary space for the reception and operation of the parts now to be described.

53 is a bell secured in any well-known manner, as by the screw 54, to the rear wall 35, the same being disposed partially behind the ring 51, as seen in Fig. 2, and in proper position to be struck by the bell hammer.

55 is a circular plate or disk having a lateral flange 56 adapted to bear against the upper face of the ring 51 and having the annular inwardly extending flange 57 received within said ring. It may be there held in any suitable manner, as by set screw 58 held in the ring and engaging the flange 57 of the disk, as seen in Fig. 3. Upon the outer face of this disk is affixed the dial 59 suitably graduated, in this instance being shown as provided with two sets of graduations, an inner one 60, of which there are fifty, and an outer set 61, of which there are one hundred. This disk has the hub portion 62 within which is received the sleeve 63 having fast upon its outer end the pointer 64, its inner end being screw-threaded, as seen at 65, and provided with a nut 66 engaging said screw threads.

67 is a shaft or arbor within the sleeve 63 having fast upon its outer end a pointer 68 and its inner end extending through the notched disk 69 to which it is secured by nuts or the like 70. This disk 69 is provided with teeth corresponding in number to the graduations of the inner ring 60 of the dial, in this instance fifty in number, while 71 is the toothed disk fast on the sleeve 63 and having teeth corresponding in number to the graduations on the outer ring 61, in this instance being one hundred. It is to be understood that the sleeve 63 and arbor 67 have movement independent of each other, for a purpose which will be evident.

The disk 69 has upon its outer face a stud or pin 72 revoluble with the disk and designed to actuate the bell hammer 73, which is carried by the hammer arm 74, which, in turn, is carried by the stud 75 having trunnions 76 at its ends, which are mounted in a substantially U-shaped frame 77, which frame, in turn, is pivotally mounted upon a stud or the like 78 secured in the disk 55 and projecting from the inner face thereof, as seen best in Fig. 3.

79 is a curved arm projecting from the member 75, which arm extends between the disks 69 and 71, as seen clearly in Figs. 1, 2 and 4, and into the path traversed by the pin 72, as clearly illustrated in Fig. 4.

80 is an arm which may or may not be a continuation of the arm 70, and which projects from the opposite side of the member 75, as seen clearly in Fig. 5. This arm 80 is designed for contact with the stud 78, as seen in Fig. 4, to limit the movement of the hammer arm in one direction.

81 is a spring coiled around the member 75, as seen clearly in Figs. 2 and 3 with one end fast to or bearing against the inwardly extending flange 57 of the disk 55 and its other end engaging the stud or member 75, the function of which spring is to normally retain the hammer arm and hammer in the position in which the same are

seen in Fig. 4, the said spring being put under tension as the arm 79 is engaged and moved by the pin 72 or the disk 69, as the latter is revolved and as soon as the pin rides over the outer end of the arm, the spring will rock the member 75 in its bearings and return the parts to their normal position, the arm 80, then coming in contact with the stud 78 and preventing further rotation of the member 75. The member 75 is provided with the dog, pawl, or detent 82, as seen clearly in Fig. 5, which is designed for engagement with the teeth of the disk 71, as seen clearly in Figs. 1 and 4. As the disk 69 is turned, the pin 72 comes in contact with the arm 79 and as the latter is moved by said pin, the member 75 is locked, so that the dog or tooth 82 is moved out of engagement with its tooth of the disk 71 just at the moment that the stud or pin 72 leaves the said arm and immediately upon the release of said arm by the disengagement of the stud or pin, the spring 81, returning the parts to their normal position, throws the tooth or detent 82 into engagement with the next tooth of the disk 71, so that as the disk 69 completes an entire revolution, the tooth or detent 82 causes the disk 71 to move one notch or tooth.

83 is a pawl pivotally mounted, as at 84, on a stud projecting from the inner face of the disk 55 and normally held in engagement with a tooth of the disk 69 by means of a spring, 85 so as to prevent retrograde movement of the disk.

86 is a pawl pivotally mounted, as at 87, upon a stud or projection on the disk 55, said pawl extending in a direction opposite to that of the pawl 83 and normally held in contact with a tooth of the disk 71, by means of a spring 88 arranged and acting in the well-known manner. This pawl or detent serves to prevent retrograde movement of the disk 71.

The register may be provided with any required number of dials and registering mechanism, all of which will be of substantially the character and construction hereinbefore described in connection with the one set of mechanism. These dials may, as hereinbefore described, be of a character and construction fitting the machine for registering the different characters or qualities or other characteristics of the goods being counted, it being understood that while the construction as hereinbefore set forth has been described as designed particularly for use in connection with the sorting of tobacco, it is equally well adapted for other purposes and for that reason, the present application is in no wise restricted to use for the particular purpose named.

The operation will be clearly understood from the foregoing description when taken in connection with the annexed drawings

and a further detail description thereof is not deemed necessary further than to add that as the push rod 6 is depressed and the rod 23 pulled down by reason of the downward movement of the arm 14, the member 12 is rocked forward, pulling on the link 16, thus rocking the bell crank on its pivot 19, forcing the rod 23 downward, the pin 44 riding in the triangular opening 27 allows the triangular member 26 to rock, throwing the tooth 28 inward and downward against the adjacent tooth of the disk 69, and the pull on the rod is substantially in a direct vertical line. As soon, however, as the disk 69 has been moved one tooth, the spring 30 serves to pull the rod 23 upward, thus restoring the push rod and other parts to their normal position. As the rod 23 begins to move upward, the pin 44 changes its position with relation to the inclined wall of the opening 27 and the spring 30 pulls the rod and the member 26 upward until the lower wall of the opening engages the pin. Each time a key stem is depressed, the disk 39 is moved one notch or tooth and its pointer 68 is moved one graduation on its dial. As the stud 72 leaves the arm 79, the hammer arm throws the bell hammer against the bell, sounding an alarm. When the disk 69 has made a complete revolution, the pivoted yoke 77 is moved on its pivot, and the tooth 82 moves from the one tooth of the disk 71 to the next, the rest of the parts returning to their normal position. The wall 3 of the casing is provided opposite each dial with an opening, which may be covered by a transparent plate, as seen in Fig. 2. The button on the top end of each key-stem may be labeled with the name of a particular grade of tobacco leaf, each button bearing the name or number of a different grade, and, as the tobacco leaves are sorted from the bulk and laid in different piles, the proper key-stem is depressed for each leaf, and thus the number of leaves in each pile is registered.

From the above, it will be seen that I have devised a simplified and efficient form of registering mechanism well adapted for the purpose set forth, and, while the structural embodiment of the invention as hereinbefore disclosed is what I, at the present time, consider preferable, it is evident that the same is subject to changes, variations and modifications in detail, proportion of parts, etc., without departing from the spirit of the invention or sacrificing any of its advantages. I, therefore, do not intend to restrict myself to the particular construction hereinbefore set forth, but reserve the right to make such changes, variations and modifications as come properly within the scope of the protection prayed.

What is claimed as new is:—

1. In a registering mechanism, a depressi-

ble key stem, a vertically movable rod operatively connected therewith, a support for said rod adjustable to adapt the device for use with different sized disks, a rotatable member and a pawl carried by said rod to actuate said rotatable member.

2. In a registering mechanism, a depressible push key, a depressible rod actuated thereby, a member carried by said rod and having a triangular opening and a disk-engaging tooth, and a relatively fixed stud disposed within said opening.

3. In a registering mechanism, a depressible push key, a depressible rod actuated thereby, a member carried by said rod and having a triangular opening and a disk-engaging tooth, a relatively fixed stud disposed within said opening, and a spring acting on said member to normally raise the same.

4. In a registering mechanism, a depressible push key, a depressible rod actuated thereby, a member carried by said rod and having a triangular opening and a disk-engaging tooth, a relatively fixed stud disposed within said opening, a spring acting on said member to normally raise the same, and an adjustable member on which said stud is carried.

5. In a registering mechanism, a depressible push key, a depressible rod actuated thereby, a member carried by said rod and having a triangular opening and a disk-engaging tooth, a relatively fixed stud disposed within said opening, a spring acting on said member to normally raise the same, and an adjustable member on which said stud is carried, said stud having a head to prevent displacement of said member.

6. In a registering mechanism, a depressible key stem, a depressible rod actuated thereby and having a member with triangular opening, a stud engaged in said opening, and an adjustable member carrying said stud.

7. In a registering mechanism, a depressible key stem, a depressible rod actuated thereby and having a member with triangular opening, a stud engaged in said opening, an adjustable member carrying said stud, and a spring connecting the upper end of the rod with said member.

8. In a registering mechanism, a depressible key stem, a depressible rod actuated thereby and having a member with triangular opening, a stud engaged in said opening, an adjustable member carrying said stud, and a spring connecting the upper end of the rod with said member, said adjustable member having a curved slot, and relatively fixed means passing through said slot.

9. In a registering mechanism, a casing

having a vertical wall, a ring supported therefrom, and a disk supported in said ring and carrying a dial and notched disks interposed between said wall and the ring.

10. In a registering mechanism, a casing, a ring affixed to one wall thereof, a disk removably held within said ring and provided with a dial, and notched disks and actuating mechanism carried by said removable disk interposed between said wall and the ring.

11. In a registering mechanism, a supporting ring and a removable disk, with toothed disks, a dial, a transfer mechanism, and pawls for cooperation with said disks all mounted upon and removable with the first-named disk and interposed between said ring and its support.

12. In a registering mechanism, a supporting ring provided with means for holding it at a distance from its support and a removable disk, with toothed disks, a dial, a transfer mechanism and pawls for cooperation with said disks all mounted upon and removable with the first-named disk and interposed between said ring and its support, combined with a vertically movable rod carrying a tooth for engagement with one of said toothed disks.

13. In a registering mechanism, a supporting ring and a removable disk, with toothed disks, a dial, a transfer mechanism and pawls for cooperation with said disks all mounted upon and removable with the first-named disk, combined with a vertically movable rod carrying a tooth for engagement with one of said toothed disks, and an adjustable member relatively fixed during operation and upon which said toothed member is carried.

14. In a registering mechanism, a key stem, a disk actuating rod connected therewith and mounted for vertical reciprocation, a vertical member pivotally mounted at its lower end and adjustably held at its upper end and with which the upper end of said rod has loose connection.

15. In a registering mechanism, a key stem, a disk actuating rod connected therewith and mounted for vertical reciprocation, a vertical member pivotally mounted at its lower end and adjustably held at its upper end and with which the upper end of said rod has loose connection, the lower end of said member having a V-shaped projection, and a fixed bracket having a V-shaped notch for receiving the same.

Signed by me at Philadelphia this 3rd day of October 1910.

CHARLES H. EIMERBRINK.

Witnesses:

JOHN J. CROUT,

JAMES H. CLEMENS.