M. H. MANN.

REGISTERING MACHINE.

APPLICATION FILED MAY 11, 1918.

1,288,095.

Patented Dec. 17, 1918.

3 SHEETS—SHEET 1.

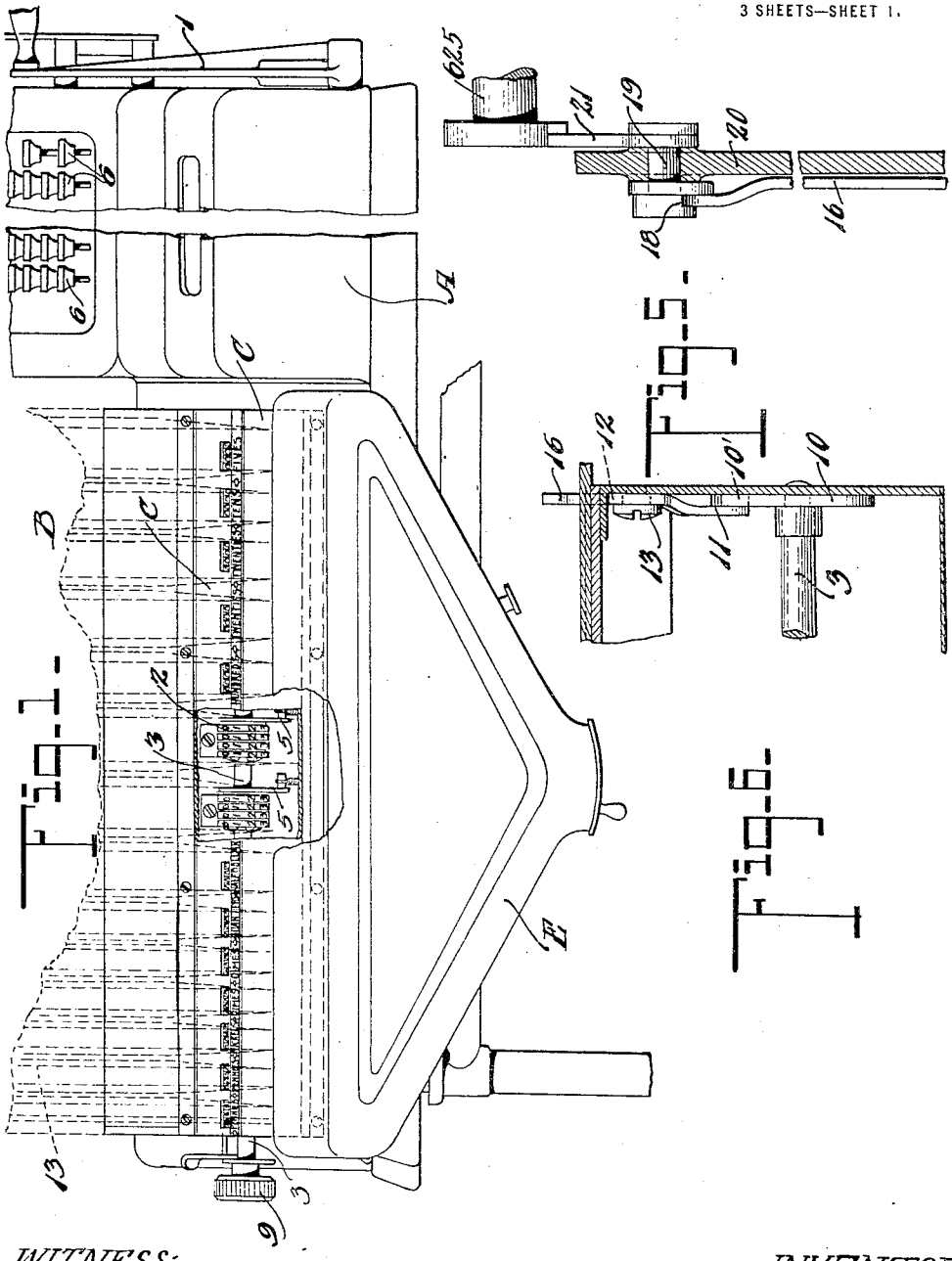



Fig. 1.

Fig. 5.

Fig. 6.

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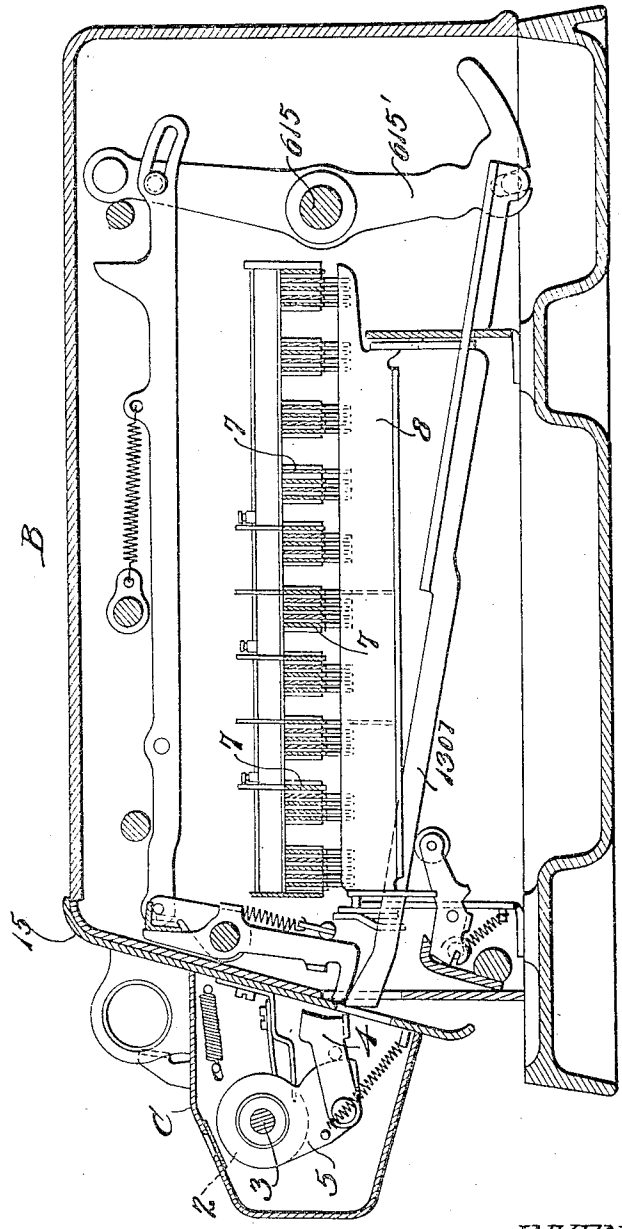
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3 SHEETS—SHEET 2.

Fig. 2.




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3 SHEETS—SHEET 3.

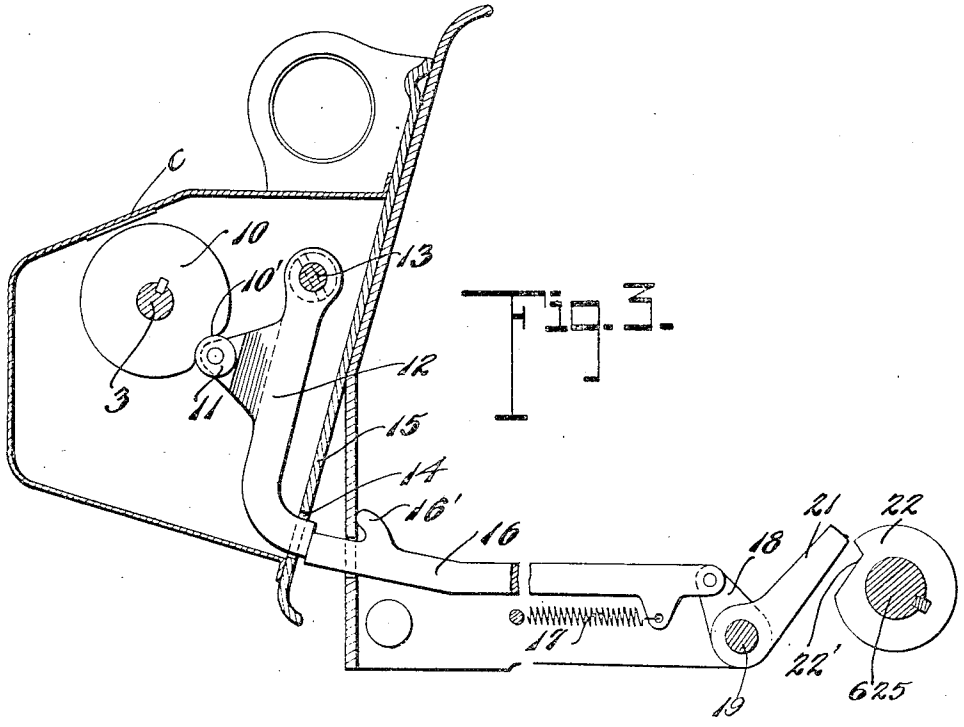



Fig. 3.

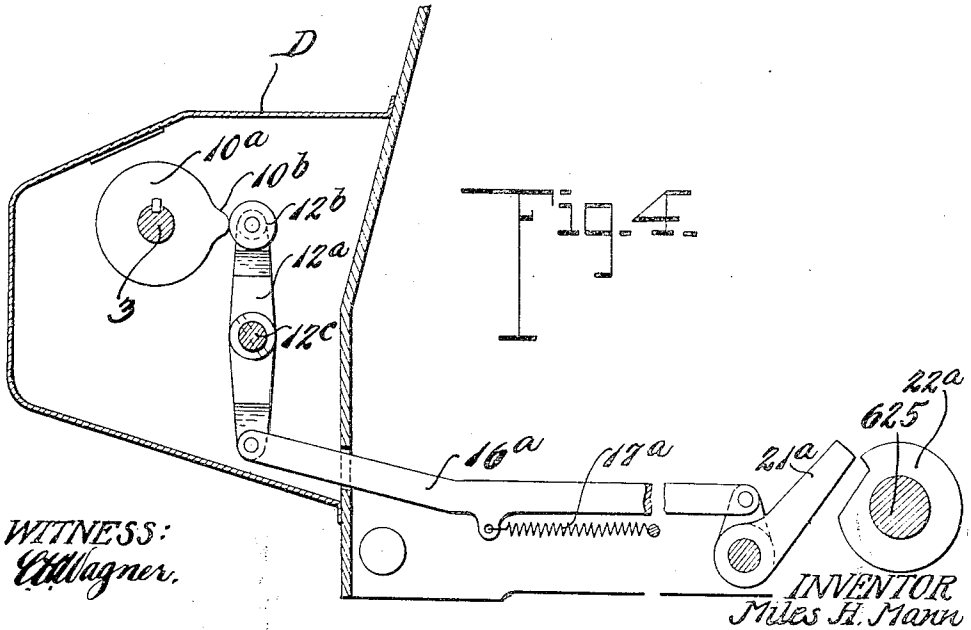



Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## REGISTERING-MACHINE.

1,288,095. Specification of Letters Patent. Patented Dec. 17, 1918.

Application filed May 11, 1918. Serial No. 233,916.

*To all whom it may concern:*

Be it known that I, MILES H. MANN, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Registering-Machines, of which the following is a specification.

The improvements hereof appertain to registering machines of such types as necessitate a zeroized or cleared adjustment of the registering instrumentalities previous to the use of the machine to perform a certain piece of work.

Simply expressed, the main object of the invention is to provide a locking contrivance for the main actuator of the machine for positively preventing movement of the registering devices in the event the zeroizing shaft or part, whatever it may be, is not in its normal position to which it must be adjusted if proper registering actions of the registering wheels are to be obtained.

In a more specific phase the improvements hereof are applied to a registering attachment for a machine adapted to pay out money, which attachment is capable of substitution for the money magazine of the paying machine, after a known manner. When so adapted provisions are made as a part of these improvements to permit of a ready break or separation in operative connections leading from the clearing or zeroizing device of the register to the locking device previously mentioned, the latter being associated with the main actuator of the machine.

Still another feature of the invention resides in provisions for insuring that the locking device above mentioned shall be inoperative when the registering attachment spoken of is removed from the paying machine and a substitutable attachment employed in its stead.

These and such other objects as may hereinafter appear are attained by the novel construction, combination and arrangement of parts to be hereinafter specifically described and claimed. Reference will now be had to the accompanying drawings forming a part of this specification, wherein:

Figure 1 is a front view of a registering machine of the type to which the invention is especially adapted;

Fig. 2 is a transverse sectional view showing more clearly the registering devices themselves and the actuators therefor;

Fig. 3 is a fragmentary sectional view showing the connections intermediate the clearing shaft and the main actuator shaft, said connections including the locking device, and the parts being such as would be employed where the registering mechanism is a detachable unit;

Fig. 4 is a view like Fig. 3 except with the controlling connections between the registering and main actuator shafts of a permanent type as used when the registering mechanism forms a permanent part of the machine;

Fig. 5 is a horizontal sectional view showing the locking dog and certain connected and supporting parts;

Fig. 6 is a sectional view of a portion of the register casing looking downward on the clearing shaft and disk and coacting lever.

The registering machine illustrated in Fig. 1 is comprised of an adding machine section A and an auxiliary section B, said auxiliary section comprising preferably a paying out mechanism with the coin magazine or money holding device omitted. The machine substantially as comprised of the sections A and B is of a known type disclosed in the Runquist Patent No. 1,195,860 issued August 22, 1916. It suffices, therefore, to very briefly outline the working parts of the machine which are concerned in the adoption of the improvements hereof. The adding machine section A is equipped with the customary handle 1 mounted upon the main shaft 625. Suitable known connections are provided between the shaft 625 of the section A and the auxiliary shaft 615 of the section B, these connections being ascertainable on reference to the White Patent No. 1,249,869 issued December 11, 1917.

Certain actuators 1307 whose function when this machine is used for money paying purposes is to act as ejectors, form actuators for the registers 2 which are mounted on the shaft 3, said parts being housed by the casing C of the registering mechanism. With the above in view the actuators 1307 are engageable with loosely mounted fingers 4 supported by levers 5 loose on the shaft 3. The levers 5 have suitable means whereby their movement may be transmitted to the unit registering wheel of the associated reg-

ister 2. These features of the invention being conventional are not set forth in detail because immaterial to the invention.

One or more of the various registers 2 are adapted to be pre-selected for operation by depression of the main accounting keys 6 of the adding machine section A, these keys acting through suitable selectors 7 seen in Fig. 2, and bails 8, whereby to shift selected actuators 1307 into operative connection with the arms 615′ on the shaft 615 after the known manner. The actual shifting of the actuators 1307 is effected by the pull on the handle 1 for operating the adding machine section A and effecting synchronous operation of the registers 2 selected.

The registers 2 are adapted to be cleared or zeroized by manipulation of the shaft 3 by the handle or knob 9 on one end of the latter. The mode of operation of the shaft 3 requires that said shaft be moved approximately nine-tenths of a revolution from a normal position, and then returned by the same amount of movement to restore the shaft. The clearing of the registers 2 takes place incident to the operation of the shaft 3 in the above manner. Now if it happens, as is frequent in the use of the machine, that the operator after turning the shaft 3 its preliminary movement of say nine-tenths of a revolution, which is really the clearing movement, forgets to return the shaft, the registers 2 will not operate properly to register up the transactions required to be handled by the machine. The real purpose of the present improvements is to avoid liability of the operator forgetting to normalize or restore the shaft 3 as above suggested by causing the main actuator 1 to be locked at all times when the shaft 3 is in any position other than its normal position.

The locking means for the purpose stated will now be set forth. Said means consists, according to the preferred embodiment of the invention, where the registering attachment is strictly an attachment displaceable from the section B so that a coin magazine may take its place, of these several devices. First a disk 10 is fixed to the shaft 3 and formed with a notch 10′. When the shaft 3 is in its normal position, say after a clearing operation, a roller 11 is received by the notch 10′, said roller being carried by a lever 12. These parts are preferably within the casing C. The lever 12 is pivoted at its upper end at 13 and its lower end curves rearward and passes through a slot 14 in the back plate 15 of the registering attachment. A shifting bar 16 has its front end passing through an opening in the front plate of the casing of the section B so as to abut with the lower end of the lever 12. A stop 16′ limits the outward movement of the bar 16, which movement is compelled normally by the spring 17. At its innermost end the shifting bar 16 is pivotally connected to an arm 18 on a short shaft 19 which may be journaled in the lower part of the inner side frame 20 of the section A of the machine, or supported by a bracket on the base of the machine, such being immaterial. The first arrangement is illustrated as seen in Fig. 5. One end of the shaft 19 carries the arm 18 aforesaid and the other end carries the locking dog 21 arranged to engage in the notched portion 22′ of a collar 22 fixed to the main shaft 625.

It is obvious from the foregoing that if the operator after manipulating the supporting and clearing shaft 3 for the registers 2 fails to return said shaft to normal, the roller 11 of the lever 12 will have passed from the notch 10′ and be engaged with the periphery of the disk 10. The lever 12 will therefore be adjusted so that it is tilted slightly rearward, with the shifting bar 16 forced in a corresponding direction and the dog 21 engaged with the collar 22. Under these conditions the operator cannot operate the adding machine section A, and therefore the registering mechanism is inoperable because the main shaft 625 is locked positively against movement.

When the registering attachment is removed and replaced by a coin magazine such as shown in the Runquist patent previously identified, and seen in dotted lines in Fig. 1, the spring 17 will pull outward upon the bar 16 so as to effectively hold the dog 21 in an inactive relation respecting the collar 22. The parts 16 and 21 thus perform no active function except when the registering attachment is in use upon the section B of the machine.

Respecting the arrangement illustrated in Fig. 4, it is notable that here the registering mechanism generally indicated as within the casing D is a permanent part of the construction embodying the sections A and B, under which conditions there are no provisions for the section B supporting a coin magazine and even the delivery chute E is dispensed with. In this instance the connections between the shaft 3 of the registering means and the main shaft 625 may be permanent connections comprising the lever $12^a$, its roller $12^b$, its pivotal support $12^c$, the shifting bar $16^a$, the dog $21^a$ and the collar $22^a$. The spring $17^a$ in this adaptation tends to pull inwardly upon the bar $16^a$ and the disk $10^a$ fixed to the shaft 3 has a protuberant lug $10^b$ on its periphery coacting with the lever $12^a$ in an obvious manner. The parts $10^b$ and $12^b$ are engaged when the shaft 3 is at its normal or restored position, the locking dog $21^a$ being thus maintained inactive at such time.

Having thus described my invention, what I claim as new is:

1. In a machine of the class described the

combination with the controlling instrumentalities including a main actuating shaft, of a registering mechanism including a casing, a clearing shaft journaled in said casing, a lever pivoted in the case interengaging means between said lever and said clearing shaft whereby the lever is shifted when the clearing shaft is moved out of normal position, a longitudinally movable bar having one end coacting with said lever to be moved thereby when the lever is shifted, a locking dog connected with said bar, interengaging means between the first mentioned shaft and the dog for locking such shaft against actuation when the bar is moved in a predetermined direction, and a spring connected with the bar to hold the same and the associated lever and dog parts in predetermined positions.

2. In a machine of the class described, the combination with controlling instrumentalities including a main actuator, a registering mechanism comprising a clearing device movable from a normal or at rest position to effect zeroizing of registers, means intermediate said clearing device and said main actuator whereby to prevent actuation of the latter in the event the clearing device is adjusted at any but its normal position, said last named means including a lever movable as an incident to movement of the clearing device from its normal position, a shifting bar operable by said lever when moved, a locking dog directly coacting with the main actuator to lockingly engage the latter on movement of said lever and shifting bar, the lever and shifting bar being detachably engaged to permit of detachment of the registering mechanism, and means for rendering the locking dog inactive in relation to the main actuator when the registering mechanism is removed.

3. In a machine of the class described, the combination with controlling instrumentalities including a main actuator, a removable registering mechanism comprising a clearing device movable from a normal or at rest position to effect zeroizing of registers, means intermediate said clearing device and said main actuator whereby to prevent actuation of the latter in the event the clearing device is adjusted at any but its normal position, and means whereby to render said preventing means inactive when the registering mechanism has been removed.

4. In a machine of the class described, the combination of controlling and operating instrumentalities including a main actuator, a registering mechanism embodying a clearing shaft operable from and to normal position in effecting its clearing function, a disk on said clearing shaft, a locking dog coöperable with the main actuator, a lever having a roller engageable with said disk, a shifting bar coöperable with the lever and connected with the locking dog, the said disk being so formed as to control movement of the lever and bar to shift the locking dog so as to prevent or cause locking coöperation of the same with the main actuator, and spring means coacting with the shifting bar to hold the lever and locking dog parts in predetermined positions.

In testimony whereof I affix my signature.

MILES H. MANN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."