

No. 773,724.

PATENTED NOV. 1, 1904.

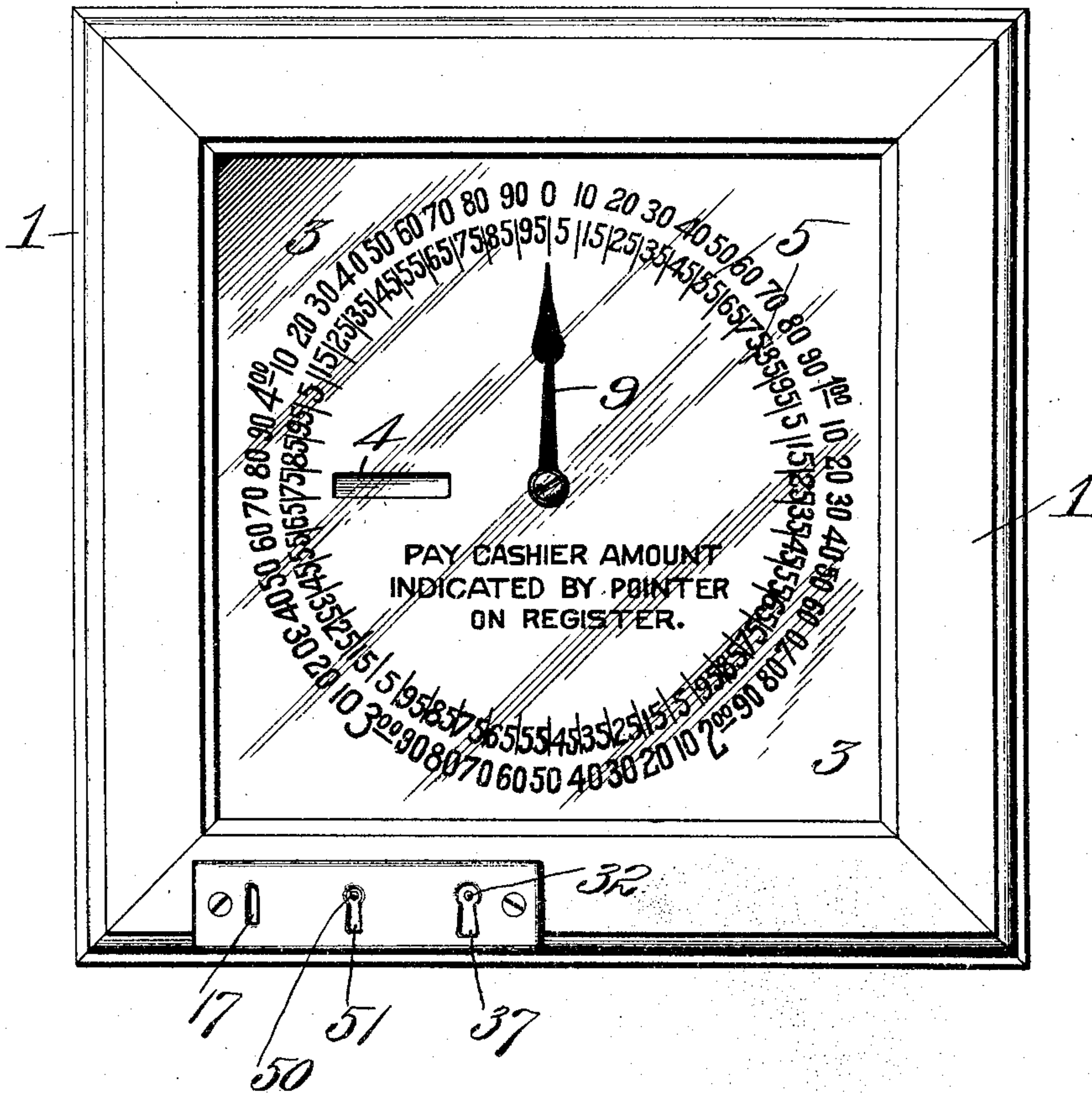
F. K. FASSETT.  
REGISTER.

APPLICATION FILED APR. 9, 1903.

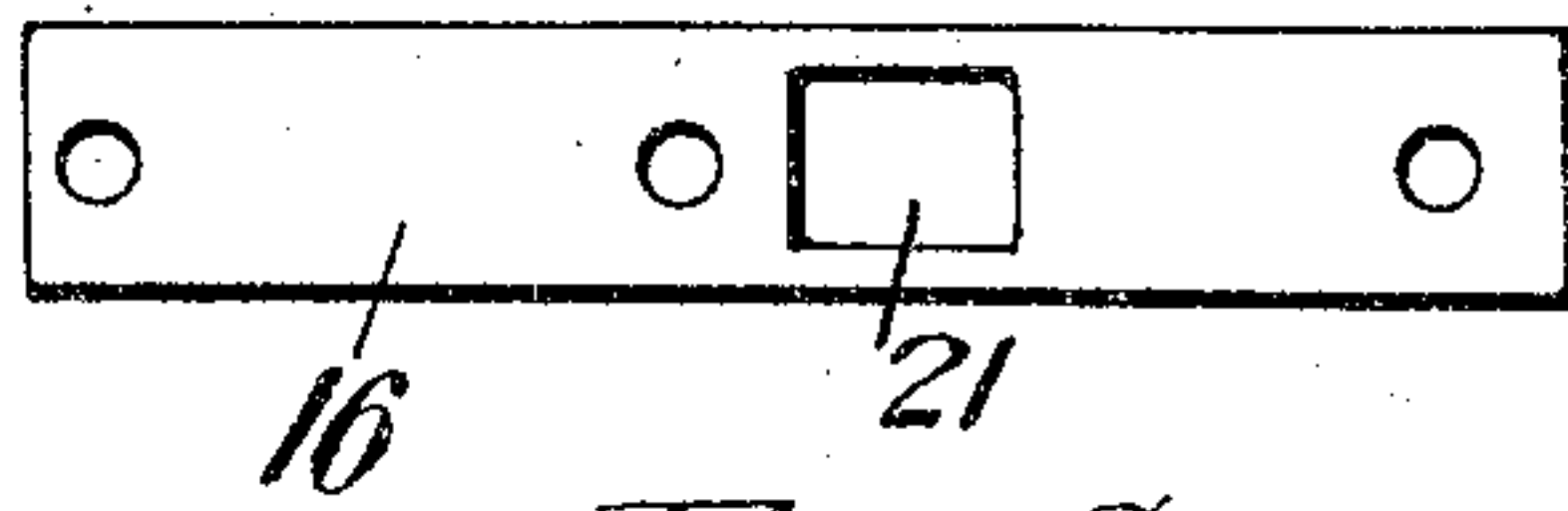
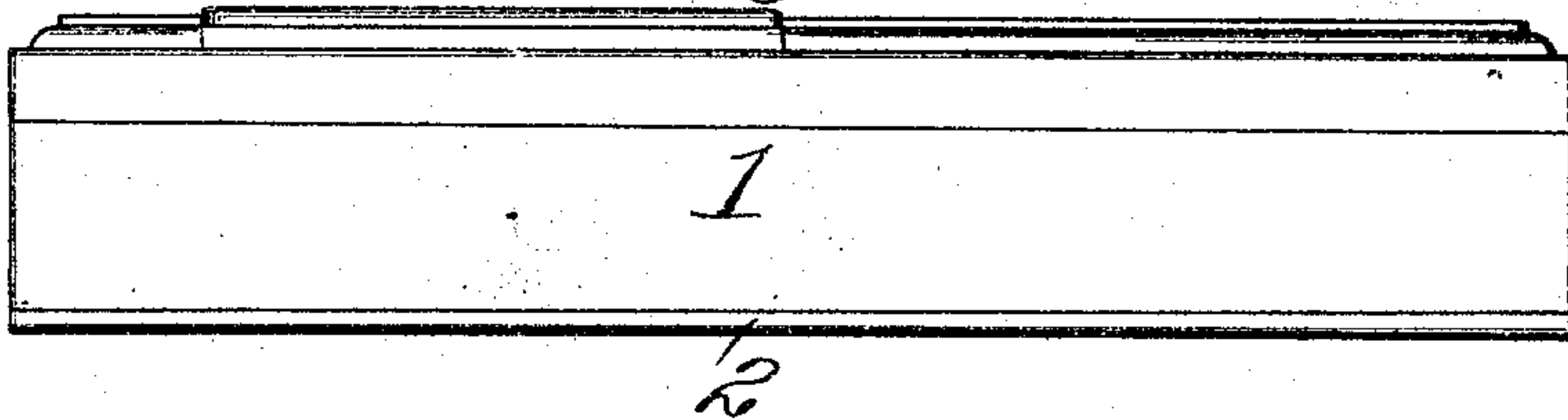
NO MODEL.

3 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 2.*



*Fig. 8.*

*Witnesses:*

*G. A. Pennington*  
*Wm. H. Scott*

*Inventor:*

*Francis K. Fassett,*  
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*Attys.*

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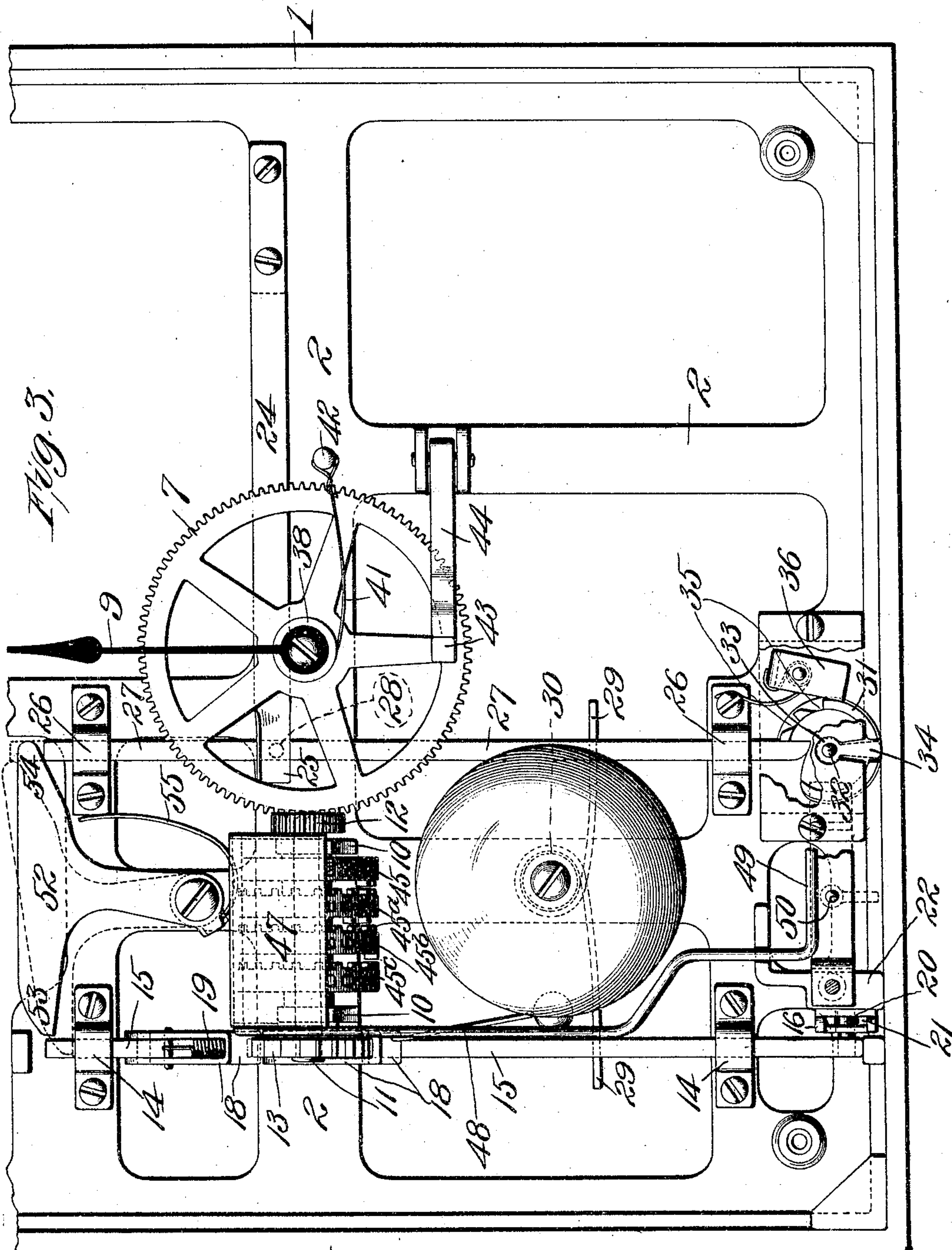
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NO MODEL.

3 SHEETS—SHEET 2.



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No. 773,724.

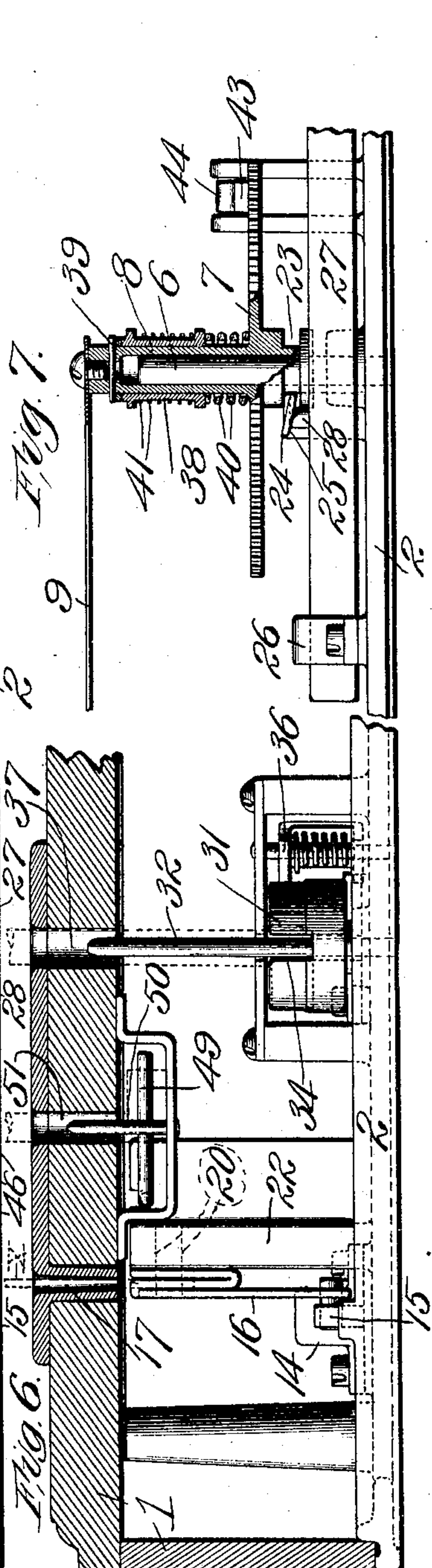
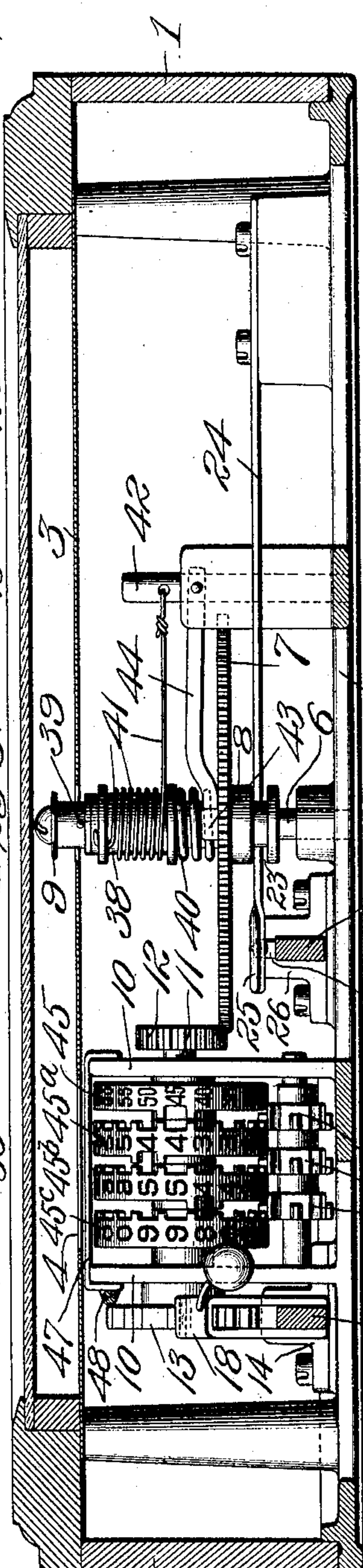
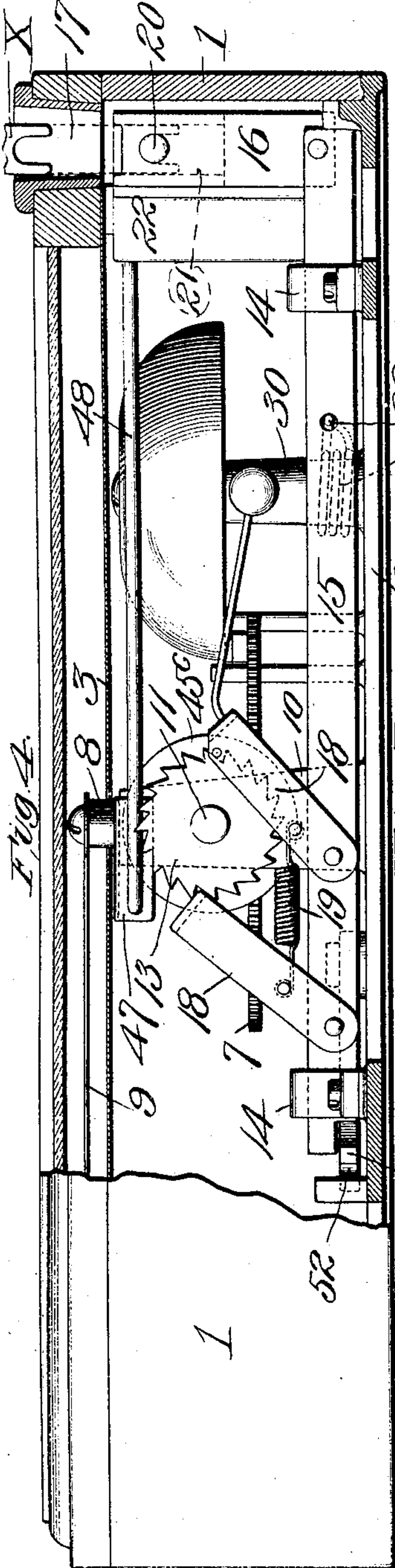
PATENTED NOV. 1, 1904.

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APPLICATION FILED APR. 9, 1903.

3 SHEETS—SHEET 3.

NO MODEL.



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# UNITED STATES PATENT OFFICE.

FRANCIS K. FASSETT, OF ST. LOUIS, MISSOURI, ASSIGNOR TO LEO EHRlich, OF ST. LOUIS, MISSOURI.

## REGISTER.

SPECIFICATION forming part of Letters Patent No. 773,724, dated November 1, 1904.

Application filed April 9, 1903. Serial No. 151,875. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS K. FASSETT, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Registers, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a face view. Fig. 2 is an edge elevation. Fig. 3 is a face view with the dial removed. Fig. 4 is a view, partly in section, looking from the left of Fig. 3. Fig. 5 is a view, partly in section, at right angles to the view shown in Fig. 4, neither the gong nor its supporting-post being shown. Fig. 6 is a fragmentary detail partly in section. Fig. 7 is a detail view partly in section, and Fig. 8 is a view of the blank from which the actuating-lever 16 is produced.

My invention relates to improvements in registers, and more particularly to pool-registers, although the register can be used for other purposes—such, for example, as a fare-register.

One object of my invention is to provide a register with a totalizer which indicates dollars and cents, as distinguished from a totalizer which merely indicates a number of units corresponding to the number of times the mechanism is operated.

A further object is to provide a simple mechanism for actuating the device, the mechanism being of such character that, notwithstanding its simplicity, it cannot be operated by an unauthorized person.

A further object is to provide an improved construction by means of which the indicator can be returned to its normal or zero position and to so mount the recovering-spring of such mechanism that such spring serves in no manner to limit the operation of the indicator.

To these ends and also to improve generally upon devices of the character indicated my invention consists in the various matters hereinafter described and claimed.

Referring now more particularly to the drawings, 1 indicates a casing having a back plate or supporting-plate 2 and a dial 3, the said dial being provided with a sight-opening 4 and the operative mechanism being included between the said supporting-plate and dial, as will be readily understood. The dial is provided with a suitable scale 5. Extending from the supporting-plate under substantially the center of the dial is a post or shaft 6, upon which is rotatably mounted a gear-wheel 7, said gear being provided with an elongated hub which produces the sleeve 8. The outer end of this sleeve projects through a suitable opening in the dial and has a pointer 9 secured thereto, said pointer cooperating with the before-mentioned dial-scale 5, so that upon proper actuation of said gear 7 the pointer is moved about the dial-scale.

Journaled in suitable standards 10, projecting forwardly from said back plate, is a shaft 11, which is provided upon one end with a pinion 12, whose teeth mesh with the teeth of the said gear 7, said shaft 11 extending at right angles to the before-mentioned post 6, and upon the other end of said shaft is a ratchet-disk 13. Slidable in suitable guides 14 upon the back or supporting plate is a longitudinally-reciprocatory bar 15, whose forward end is connected to a lever 16, accessible through a suitable opening 17 in the casing, and carried by this bar are pawls 18, whose operative ends engage opposite sides of the before-mentioned ratchet 13, said pawls being yieldingly held in engagement with said ratchet by means of a spring 19, connected to the pawls. It will now be apparent that the lever 16 being engaged by a suitable implement inserted through the casing-slot 17 said lever can be rocked upon its pivot 20 and can thus be made to reciprocate the bar 15, the shaft 12 being advanced step by step at each reciprocation of said bar and the pointer 9 consequently being advanced one step for each reciprocation of said bar. Each pawl 18 is merely a U-shaped plate whose arms embrace and are pivoted to the bar 15, the connecting portion (or a pin corresponding thereto) engaging the periphery of the ratchet. Thus a pawl can be quickly



and cheaply made by merely bending a strip of metal and is firmly held upon its supporting member. Furthermore, as the ratchet-disk can be received between the pawl-arms, the pawl can serve to steady the ratchet should the latter become loose on its shaft.

Of course many means can be provided for actuating the lever 16; but I prefer to employ the means herein illustrated. As here shown, said lever 16 comprises a plate of metal which has a slot 21 stamped or otherwise formed therein, and at about the point of one end of said slot said plate of metal is bent upon itself, so that the said slot is exposed at the point of the bend, as clearly shown in Fig. 3. Beyond the other end of the said slot the plate of metal is reversely bent upon itself, so that the portions of the metal plate form substantially a flattened S. A pivot-pin is passed through the lever 16 at the point at which the metal is bent upon itself, as just described, said pin passing through the before-mentioned slot 21 and entering any suitable supporting member 22, the parts being so portioned and arranged that when they are assembled the slot 21 in the lever is in alinement with the casing-slot 17. The pivot-pin 20 is so near the end of the lever 16 adjacent to the casing that an ordinary implement inserted through the slot 16 cannot enter far enough into the slot 21 to obtain sufficient purchase for operating the said lever 16 and its connected parts. A plate X, having a bifurcated end, can, however, be inserted through the slot 17 and into the slot 21 a sufficient distance to secure a firm purchase upon the said lever, the pivot-pin 20 entering between the forks of the end of the operating tool or key X, as shown by dotted lines in Fig. 4.

The gear 7 is slidable longitudinally of the post 6 and has its hub upon the rear side of the body portion of the gear (and upon the side of said gear opposite that from which the before-mentioned sleeve 8 extends) provided with a peripheral groove 23. A plate-spring 24, having one end suitably supported, has one edge received in said peripheral groove, the free end of said plate-spring 24 beyond said hub being bent or twisted, so that it inclines to produce the cam 25. (Shown most clearly in Figs. 5 and 7.) Slidable in the guides 26 upon the supporting-plate is a second longitudinally-reciprocatory bar 27, said bar being substantially parallel with the before-mentioned bar 15, and this bar 27 is provided with a pin or raised portion 28, which when the bar is in its forward normal position lies under the cam end 25 of the before-mentioned spring 24, and thus holds said spring and the gear 7 in forward position, said gear when in this forward position meshing with the pinion 12. The tendency of this gear-controlling spring 24 is to move rearwardly, so that if the bar 27 be moved backwardly to carry its projection 28 from under

the spring end 25 said spring end moves rearwardly and carries the gear 7 with it, the movement being sufficient to break the connection between said gear and the pinion 12. It will thus be manifest that with the parts in normal positions, the bar 27 being in forward position, as shown in Fig. 3, the gear 7 and pinion 12 intermesh, and movement of the lever 16 causes the desired movement of the pointer 9, as has been previously explained. When, however, the gear 7 is moved bodily, as has been described, said gear can be freely rotated independently of the before-mentioned pinion, and the gear and pointer can thus be moved backwardly to normal or zero position without effecting movement of said pinion.

The bars 15 and 27 are yieldingly held under tension in their forward or normal positions and are returned to such positions when moved therefrom by means of a spring 29, said spring being conveniently coiled about the gong-post 30, (most clearly shown in Fig. 3,) which is located between the said bars and having its free ends extending oppositely from said post, so that the respective ends engage the said bars. Manifestly the bar 27 can be moved backwardly by many means. For this purpose I have, however, shown a cam block or disk 31, which is rotatably mounted upon a pin 32, said disk being provided upon its upper side with a recess 33, which surrounds said pin, and also with a radial recess 34, opening into said recess 33. The periphery of said block or disk is preferably provided with one or more ratchet-teeth 35, adapted to cooperate with a spring-pressed pawl 36, so that if the disk be partially rotated it cannot be restored to its initial position unless a complete revolution is made. The pin 32 is in alinement with a keyhole 37 in the casing, so that a key of proper character inserted through said keyhole can engage the said cam-disk and rotate the same. The action of this disk upon its cooperating bar 27 will be clearly apparent from an inspection of Fig. 3 of the drawings. By reason of making it necessary to carry the cam-disk through a complete revolution before the key can be withdrawn it insures the giving of sufficient time for the gear 7 and its carried pointer to return to initial position and settle there before said gear is again thrown into engagement with the pinion 12, and thus locked against independent movement.

Loosely mounted upon the extended hub 8 is a sleeve or drum 38, whose outer end is adapted to bear against a pin 39 or some other suitable part fixedly connected to said hub, while intermediate the lower or inner end of said sleeve or drum and said gear is a friction-spring 40, said drum 38 thus being connected to the gear by what is, in effect, a friction-clutch. A recovering-spring 41 is coiled about said drum and has one end connected



to the same, while its other end is connected to some suitable relatively fixed member, such as the stud 42. When the spring 41 is under very little tension, the frictional engagement of the spring 40 with the said sleeve and the said gear is sufficient to cause said drum to rotate with said gear until said recovering-spring has been sufficiently tightly wound upon the said drum to enable said recovering-spring to move said drum and disk a whole revolution should the recovering-spring be permitted to act. After the recovering-spring has been placed under its greatest tension, however, the gear 7 can continue to rotate by reason of the fact that there is only frictional connection between said gear and the spring-drum. When, however, the gear is released from the pinion 12 in the manner previously described, the recovering-spring asserts itself, and by reason of the frictional connection with the said gear said recovering-spring serves to return the said gear and its carried pointer to normal or zero position, the backward movement of the gear being limited by the lug 43 upon the gear and the pivoted stop-arm 44. The dial-scale 5, with which the pointer 9 coöperates, is provided for the purpose of indicating the amount due from a particular set of players. We will assume that the owner of the pool-tables charges five cents a cue and that three players enter the game. As they are about to start the first game the attendant inserts the tool X through its slot in the casing and actuates the same three times—once for each player. This causes the pointer to be moved through three steps and to thus indicate that fifteen cents is due from the players. At the commencement of each succeeding game between the same players the operation just described is repeated, and when the set of players above indicated have finished and are ready to leave the pointer indicates the amount of money due for all of the games which they have played. The bar 27 is then operated by a proper key, as has been previously described, and the pointer 21 is thus automatically reset to zero.

The present register also includes a totalizer which indicates the total of the several amounts indicated by the pointer 9, and the present totalizer is of such character that the total is indicated in dollars and cents. The numbering-disks of this totalizer are mounted upon the before-mentioned shaft 12 and are marked 45, 45<sup>a</sup>, 45<sup>b</sup>, and 45<sup>c</sup>, carrying pinions 46, coöperating with these numbering-disks in a general manner, which is well understood, and therefore requires no specific explanation in this specification. The numbering-disk 45 is a combined units and tens disk, for it is desired to count in multiples of five up to one dollar. The disk 45<sup>a</sup> is the hundreds-disk, the disk 45<sup>b</sup> the thousands-disk, and the disk 45<sup>c</sup> the ten-thousands disk.

The combined units and tens disk 45 is fast upon the shaft 12 to rotate therewith, while the remaining numbering-disks are loose upon said shaft. It will readily be apparent that as said shaft 12 is rotated step by step the combined units and tens disk is correspondingly actuated. It will be noticed that in the present mechanism it becomes necessary to cause the disks 45<sup>a</sup>, 45<sup>b</sup>, and 45<sup>c</sup> to indicate multiples of ten, although their coöperating disk 45 must be moved through twenty steps. Such coöperation between the disks can be effected in many ways; but I prefer the construction herein shown. In this construction the numbers upon the disks 45<sup>a</sup>, 45<sup>b</sup>, and 45<sup>c</sup> are duplicated and are arranged in pairs. Therefore each of these disks can in two of its positions exhibit the same number through the sight-opening 4. Thus for one revolution of the disk 45 each of the other disks can be moved twice before exhibiting its next higher number. We will assume that all the numbering-disks are at zero. Upon the operation of the machine the combined units and tens disk 45 is moved step by step in a manner which will be apparent, the other disks remaining at rest until "90" is exhibited by said combined disk. Upon the next movement of the combined units and tens disk the proper carrying-wheel 46 moves the hundreds-disk through one step, thus bringing the second zero of the hundreds-disk into view through the sight-opening, "95" showing upon the combined units and tens disk. Upon the next operation of the machine the combined disk and the hundreds-disk are both moved through another step, whereby "1" appears on the hundreds-disk and "00" appears on the combined disk. Therefore although in the operation of this totalizer it becomes necessary in order to display a next higher number upon the hundreds, thousands, or ten-thousands disks to move such disk through twice the space through which the combined units and tens disk must be moved in order to display its next higher amount, this is properly accomplished by merely providing all of the disks except the combined disk with two sets of numbers arranged in pairs and moving the hundreds-disk through two steps for each complete revolution of the combined disk, the thousands and ten-thousands disks being correspondingly actuated.

A shutter-plate 47 has its ends downturned, so that said plate can reciprocate and be guided upon the supports 10, said plate being adapted to lie between the sight-opening 4 and the numbering-disks, for a purpose which is well understood. Extending from said plate is a rod 48, having its outer end bent to produce a key-engaging portion 49, said portion 49 lying in proximity to a pin 50, which alines with a keyhole 51 in the casing. A proper key being inserted through said keyhole and turned the shutter-plate will be raised to ex-



pose the numbering-disks through the sight-opening in a manner which will be apparent. As the present register is designed to be secured to a wall or other vertical support, gravity alone suffices to return the shutter-plate to obstructing position upon the removal of the key.

Although not essential, I can provide means for locking the bar 15 against movement when the bar 27 is in retracted position, thus making it impossible for the mechanism to be actuated when the pointer 9 is not in proper operative connection. For this purpose I have shown a locking-dog 52, pivoted between the said bars 15 and 27 and having oppositely-extending arms 53 and 54, adapted to respectively coöperate with said respective bars, said locking-dog being normally held in what may be termed "inoperative" or "unlocking" position by means of a spring 55. When in this position, the arm 54 (which has a cam-surface) lies in the path of movement of and near the rear end of the bar 27, while the arm 53 is out of the path of movement of the bar 15. When the bar 27 is moved backwardly, however, it engages the arm 54 of said locking-dog and throws the dog until the arm 53 moves into a position across the path of movement of said latter-mentioned bar, the spring 55 serving to return the locking-dog to unlocking position as soon as the bar 27 moves into forward position.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. In a mechanism of the character indicated, the combination with a traveling indicator, of a resetting member therefor, means whereby movement of said indicator serves to place said resetting member under tension, and means whereby said indicator can continue its movement while said resetting member remains under maximum tension; substantially as described.

2. In a mechanism of the character indicated, the combination with a traveling indicator having forward and backward movement, of means for driving said indicator forwardly, a resetting member for reversely driving said indicator, means whereby forward movement of said indicator serves to place said resetting member under tension, and means whereby, while said resetting member remains under maximum tension, said indicator can continue to be driven forwardly; substantially as described.

3. In a mechanism of the character indicated, the combination with a traveling indi-

cator having forward and backward movement, of a resetting mechanism for moving said indicator backwardly, said resetting mechanism including a forwardly and backwardly movable resetting element capable of movement independently of said indicator and having frictional connection therewith, and means whereby forward movement of said independently-movable resetting element serves to place the same under tension; substantially as described.

4. In a mechanism of the character indicated, the combination with a traveling indicator having forward and backward movement, of a resetting mechanism for moving said indicator backwardly, said resetting mechanism including a forwardly and backwardly movable resetting element capable of movement independently of said indicator and in frictional connection therewith, and a tension member connected to said independently-movable resetting element and exerting its force to move said element backwardly; substantially as described.

5. In a mechanism of the character indicated, the combination with a movable indicator, of an independently-movable element, means whereby movement of said element in one direction serves to place the same under tension, and a friction-spring intermediate said indicator and said independently-movable element; substantially as described.

6. In a mechanism of the character indicated, the combination with a rotatable hub, of a sleeve mounted upon said hub, a friction-spring about said hub and bearing upon said sleeve and upon a part fixed to said hub, and a tension member connected to said sleeve; substantially as described.

7. In a mechanism of the character indicated, a gear, a coöperating gear movable into and out of engagement with said first-mentioned gear, an elongated hub upon said gear provided with a peripheral groove, a plate-spring entering said groove, a movable support for the free end of said spring, a sleeve upon said hub, a tension member connected to said sleeve, and a friction-spring about said hub intermediate said gear and said sleeve; substantially as described.

8. In a mechanism of the character indicated, coöperating gears, one of which is movable into and out of engagement with the other thereof, a plate-spring connected to said movable gear and having a portion of its body twisted to present a cam-surface, and a movable support coöperating with said cam portion; substantially as described.

9. In a mechanism of the character indicated, a casing provided with a keyhole, an indicator, a resetting mechanism including a rotatable operating part accessible to a key inserted through said keyhole, means whereby when said key engages said rotatable part said key can rotate only in conjunction with said



part, and means for preventing backward rotation of said part; substantially as described.

10. In a register, a casing provided with a keyhole, an indicator, a resetting mechanism 5 including a rotatable disk having a slot in alinement with said keyhole and adapted to receive a key inserted through said keyhole, a relatively fixed element, and pawl-and-ratchet connection between said disk and said 10 relatively fixed element for preventing backward rotation of said disk; substantially as described.

11. In a mechanism of the character indicated, supports, indicating-disks supported 15 upon said supports, and a shutter comprising a plate slidable upon said supports and having bent ends between which said supports are included, said bent ends cooperating with said supports to guide said shutter; substan- 20 tially as described.

12. In a mechanism of the character indicated, the combination with an indicator, of a shaft in driving connection therewith, a ratchet upon said shaft, a reciprocatory mem- 25 ber, U-shaped pawls whose legs straddle said ratchet and are pivoted to said reciprocatory member, the connecting portions between the legs of said pawls engaging opposite sides of said ratchet, and a spring connected to both 30 said pawls for holding them in engagement with said ratchet; substantially as described.

13. In a register or the like, registering mechanism, a movable bar for actuating the same, resetting mechanism, a second movable 35 bar for actuating said resetting mechanism, a gong, a gong-post intermediate said bars, and a spring coiled about said gong-post and having its opposite ends bearing against the respective said bars to move the latter; substan- 40 tially as described.

14. In a mechanism of the character indicated, the combination with a casing having

a slot therethrough, of an indicator, an operating-lever within said casing and comprising 45 a slotted blank bent upon itself into substantially S shape, the slot being substantially in the central portion of the S, opening upon one of its bends, and being in substantially longitudinal alinement with said slot, opera- 50 tive connection between said lever and said indicator, and means for partially obstructing the socket produced by said slot in said operating-lever; substantially as described.

15. In a mechanism of the character indicated, an operating-lever provided with a lon- 55 gitudinal socket adapted to receive an operating-tool, and means for partially obstructing said socket; substantially as described.

16. In a mechanism of the character indicated, an operating-lever provided with a lon- 60 gitudinal socket, and a pivot-pin extending through and partially obstructing said socket; substantially as described.

17. In a mechanism of the character indicated, a casing having a slot therethrough, 65 an operating-lever provided with a longitudinal socket alining with said slot, and means for partially obstructing said socket; substantially as described.

18. A socket member comprising a slotted 70 blank bent upon itself to present the slot at said bend; substantially as described.

19. A socket member comprising a slotted blank substantially S-shaped, the slot being 75 chiefly in the central portion and opening upon one of the bends; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 12th day of March, 1903.

FRANCIS K. FASSETT.

Witnesses:

GALES P. MOORE,  
GEORGE BAKEWELL.