(No Model.) 2 Sheets—Sheet 1.

J. R. MURRAY, W. MAGEE & A. WAGNIERE.

FARE REGISTER.

No. 583,539. Patented June 1, 1897.

Fig. 2.

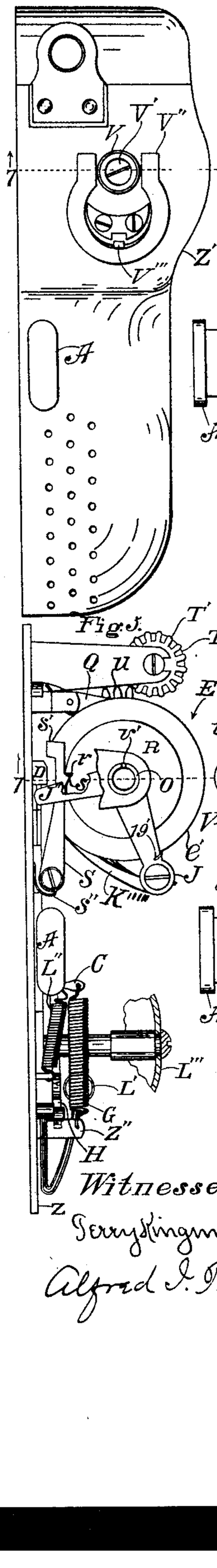

Fig. 1.

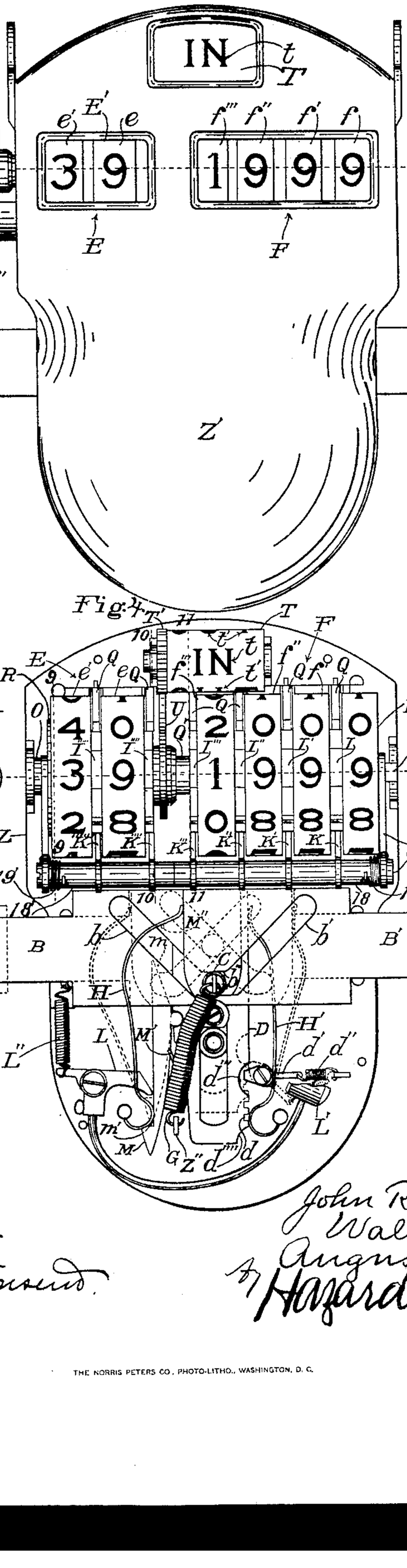

Fig. 3.

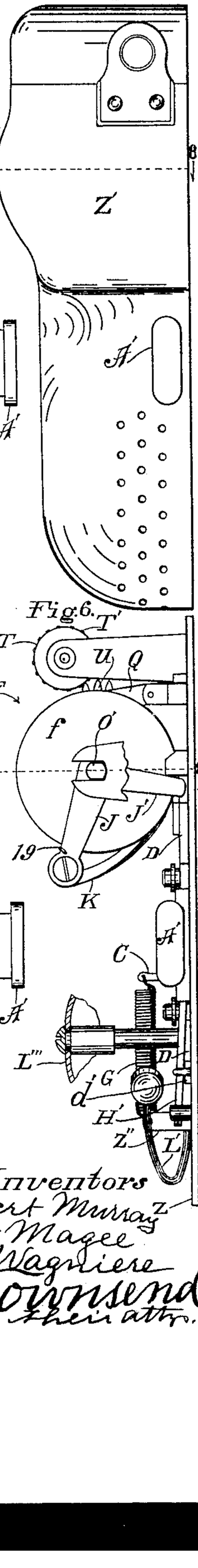

Fig. 5.

Fig. 4.

Fig. 6.

Witnesses

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(No Model.) 2 Sheets—Sheet 2.

J. R. MURRAY, W. MAGEE & A. WAGNIERE.

FARE REGISTER.

No. 583,539. Patented June 1, 1897.

Fig. 7.

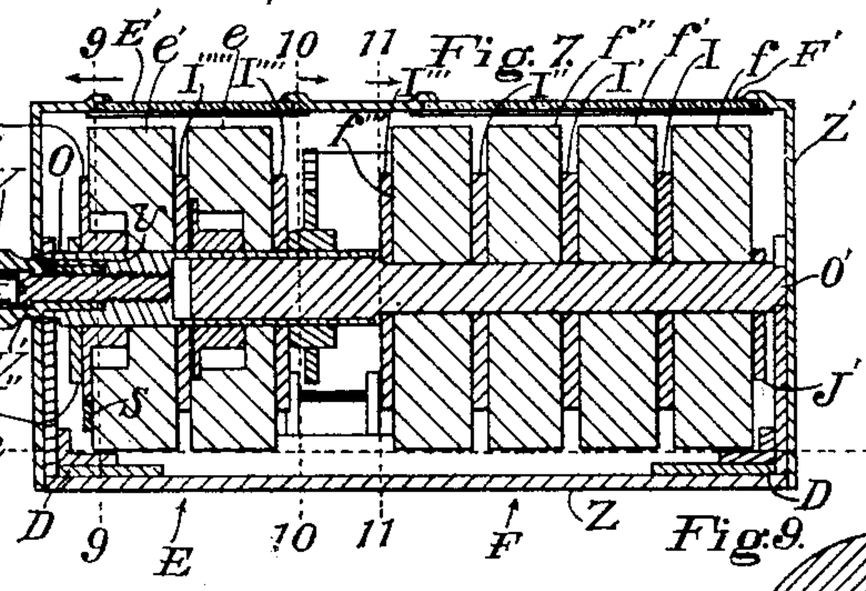


Fig. 8.

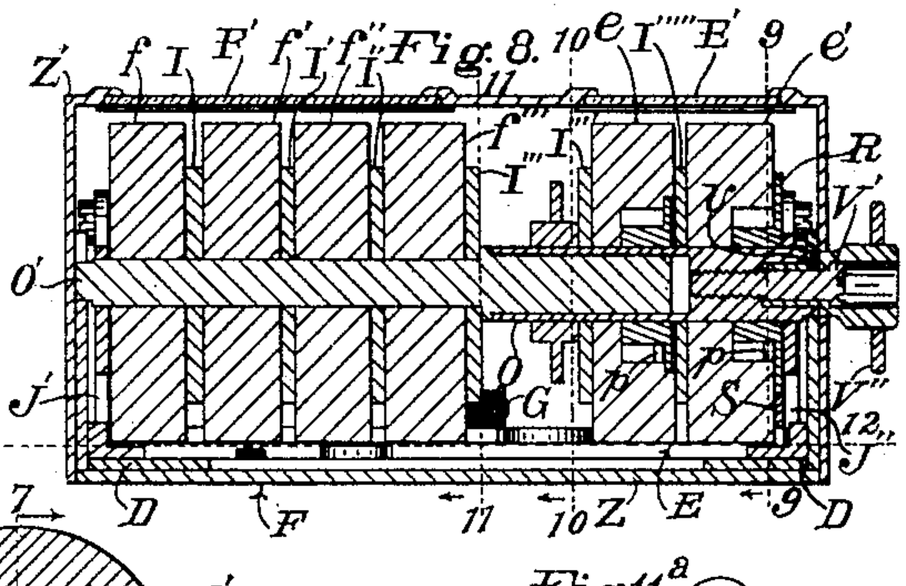


Fig. 9.

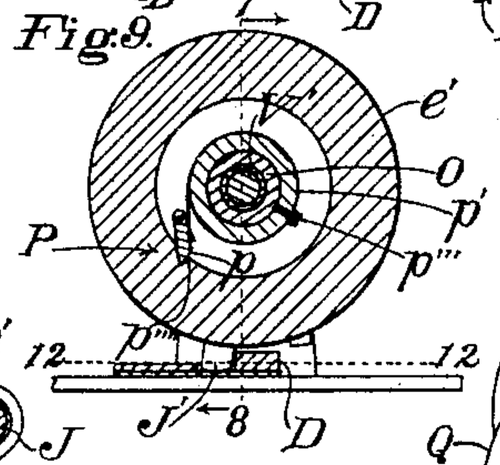


Fig. 10.

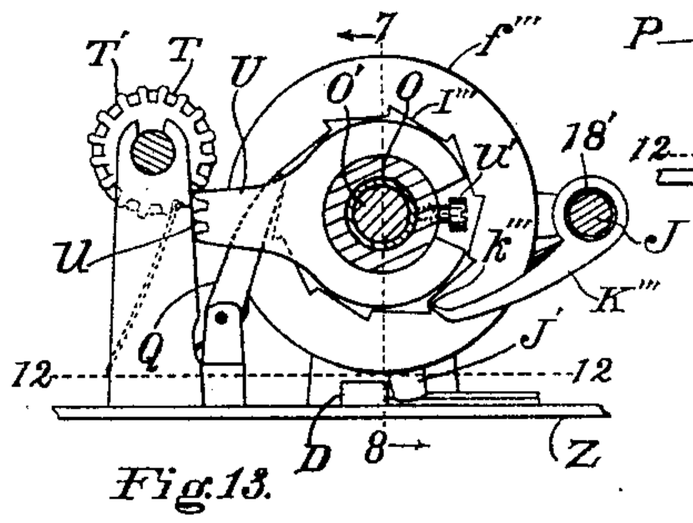


Fig. 11.

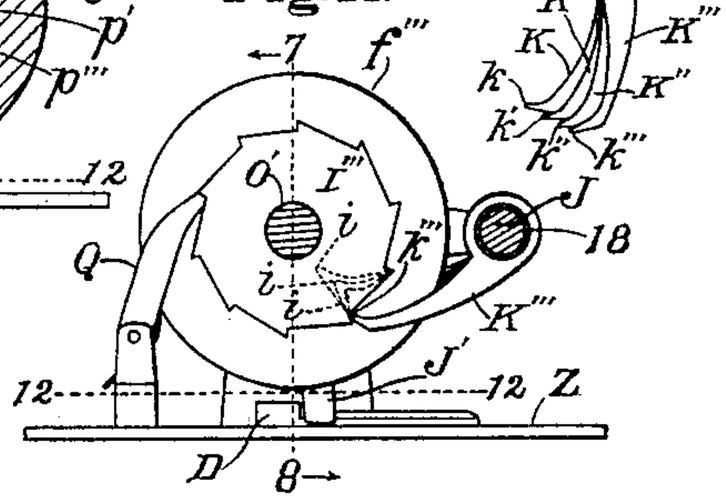


Fig. 11.a

Fig. 12.

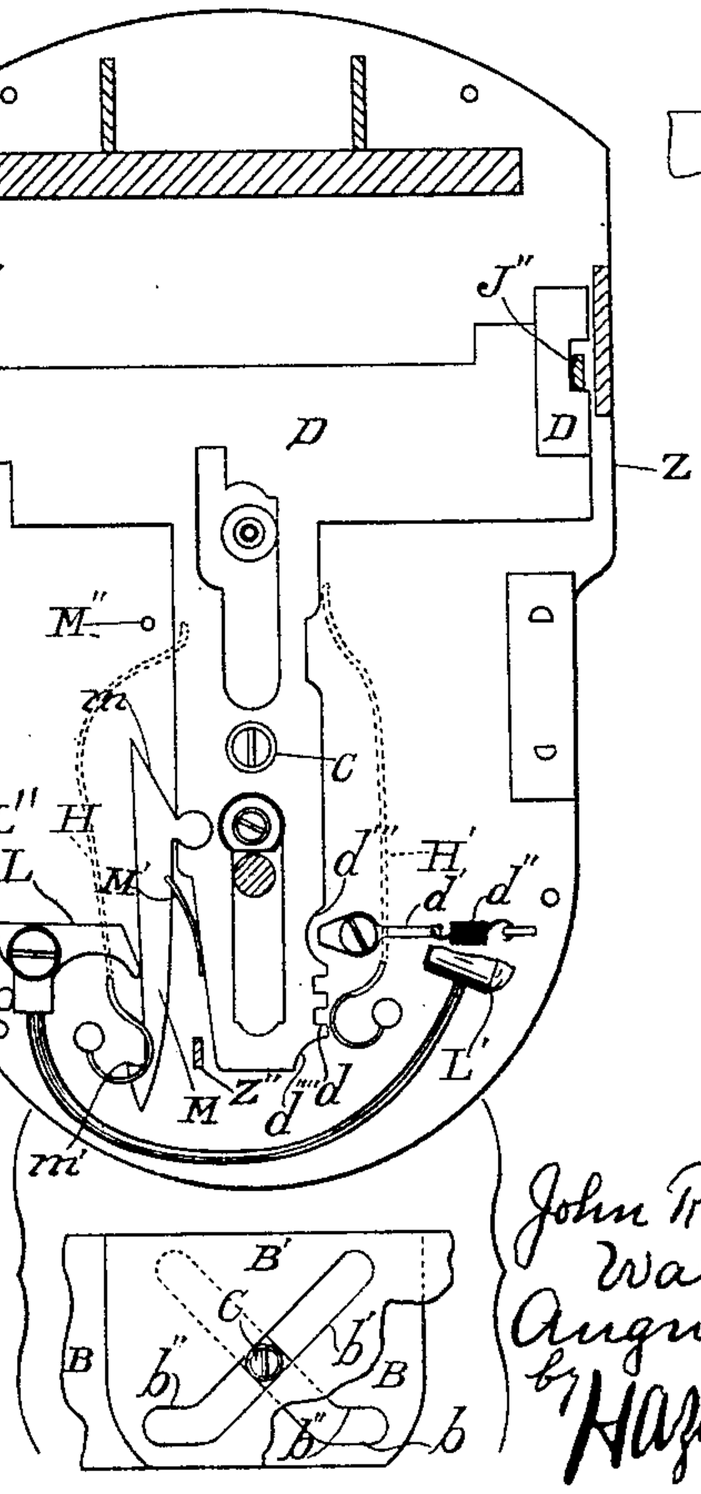


Fig. 13.

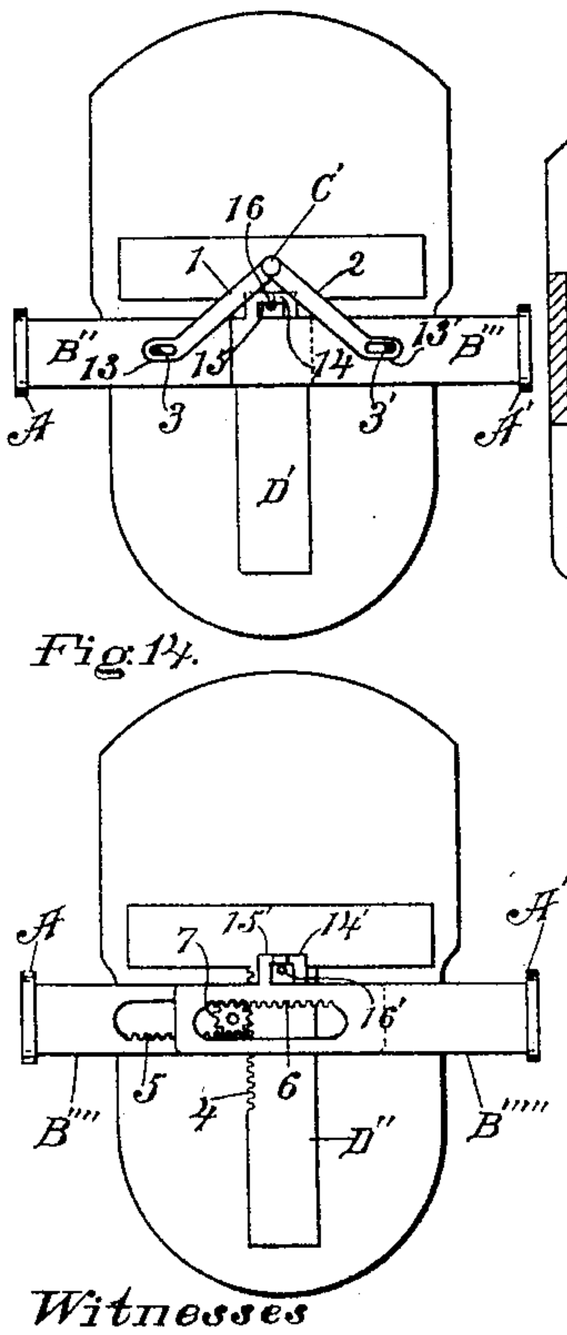


Fig. 14.

Fig. 16.

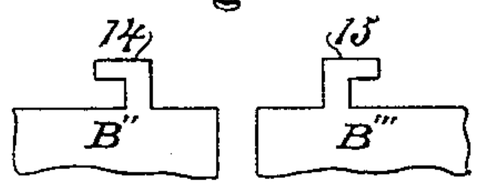
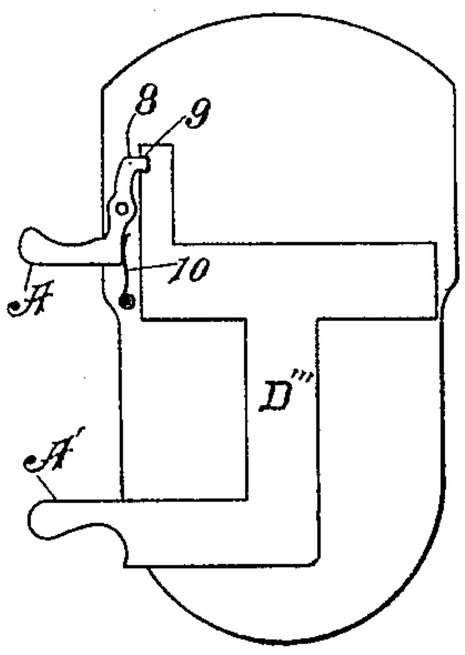


Fig. 15.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN ROBERT MURRAY, WALTER MAGEE, AND AUGUST WAGNIERE, OF LOS ANGELES, CALIFORNIA.

FARE-REGISTER.

SPECIFICATION forming part of Letters Patent No. 583,539, dated June 1, 1897.

Application filed November 20, 1895. Serial No. 569,597. (No model.)

To all whom it may concern:

Be it known that we, JOHN ROBERT MURRAY, a citizen of Canada, (who has declared his intention to become a citizen of the United States,) and WALTER MAGEE and AUGUST WAGNIERE, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Fare-Register, of which the following is a specification.

One object of our invention is to provide a fare-register which will compel the operator to open his hand fully in the act of registering a fare, so as to prevent him from carrying concealed in his hand while operating the register a false bell, which is ordinarily known as a "brother-in-law." We accomplish this by the use of two mechanism-operating handles to be operated by the thumb and one of the fingers of one hand. Our invention in this respect includes a fare-register having projecting from its mechanism-containing case two mechanism-operating handles arranged to be operated by the thumb and finger of one hand and set at a distance apart sufficiently great to require the hand of the operator to be opened fully in order to grasp said handles to operate them simultaneously.

Another object of our invention is to provide very simple, effective, and compact mechanism for actuating the counters of the register and sounding a signal. Care is taken to so construct such mechanism that the counters will be fully operated before the bell is sounded and also to prevent two or more fares from being registered with only one sounding of the bell, so that our register in common with former registers will afford protection to both the car company and the conductor.

Another object of our invention is to provide improved mechanism for counting the fares and locking the actuating mechanism when the trip-counter is being set for a new trip and to prevent any fares from being registered after the setback has been moved until the counters are fully set to begin with number "1" to register the fares of the trip.

The accompanying drawings illustrate our invention.

Figure 1 is a front elevation of our register. Fig. 2 is a side elevation looking at the left side of Fig. 1. This is the side that is toward the right hand of the conductor when the register is hung in place on the breast of the conductor ready for use. Fig. 3 is an elevation of the other side of the register. Fig. 4 is a front elevation of the register when the cover is removed. Dotted lines show the position of parts when the register is partly operated to register a fare. Fig. 5 is an elevation looking at the left side of Fig. 4, cover removed. Fig. 6 is an elevation of the other side of the register, cover removed. In Figs. 5 and 6 parts of the register are broken to expose other parts. Figs. 7 and 8 are cross-sections along the axis of the counter-carrying shafts and looking in opposite directions, as indicated by the arrows on lines 7 8, Figs. 1, 2, 3, 4, 5, 6, 9, 10, and 11. The case or cover is shown in place, as in Figs. 1, 2, and 3. Fig. 7 shows the upper portion, and Fig. 8 the lower portion, of the register as viewed from the line 7 8, Figs. 1, &c. Fig. 9 is a fragmental section on line 9 9, Figs. 4, 7, and 8. Fig. 10 is a section on line 10 10, Figs. 4, 7, and 8. Fig. 11 is a sectional elevation on line 11 11, Figs. 4, 7, and 8, showing in dotted lines the several deep teeth on the continuous counters. Fig. 11^a shows the continuous counter-actuating dogs removed. Fig. 12 is a sectional plan, the actuating-plates and counters being removed. Line 12 12, Figs. 7, 8, 9, 10, and 11, indicates the plane on which the counters are removed. Fragments of the actuating bars or plates are shown detached. Springs H H′ are broken away, and dotted lines indicate the portions which have been removed. Fig. 13 is a plan on a reduced scale showing a modification of the actuating device. Fig. 14 shows another modification of the actuating device. Fig. 15 shows another modification of the actuating device. In this form the handles are arranged at a suitable distance apart to require the hand of the operator to be open when the thumb and finger are used to operate the handles simultaneously; and the locking appliance which normally locks the counter-operating handle is a tooth which sets in a notch in such counter-operating handle. Fig. 16 illustrates the hooks on the bars or plates B″ B‴ B⁗ and B⁗′.

An important feature of our invention is the means for preventing the use by the conductor of any false bell carried in the hand which operates the register and operated to sound a signal as though a fare had been rung, when in fact the register has not been operated; and this feature of our invention comprises the combination, in a fare-register, of a counter-operating part connected with a handle and a locking device connected with another handle and arranged to normally lock the register and to release the same and allow it to be operated when both handles are simultaneously operated.

Our newly-invented fare-register, as illustrated in the drawings, is provided with two operating-handles A A′, arranged at a suitable distance apart to require the hand of the operator to be open when the thumb and finger are used to operate the handles simultaneously. Suitable counter-actuating means are operatively connected with one of the handles and arranged to actuate the counters of the register; and the locking appliance is operatively connected with the other handle and adapted and arranged to normally lock the counter-operating handle and to release the same when both handles are operated simultaneously.

In the drawings we have shown four forms of the appliance for carrying this invention into practice. In each of these views, A A′ indicate the two handles which the operator must simultaneously operate to actuate the register. It is to be understood that the form of these handles is immaterial, but that their position relative to each other is important—that is to say, our invention comprises a fare-register having projecting from opposite sides of its mechanism-containing case two outwardly spring-pressed mechanism-operating handles set at a distance apart approximating the span of the operator's hand and adapted and arranged to be simultaneously moved inward by the thumb and finger of one hand and connected with internal mechanism of the register, which is so arranged that the two handles must be simultaneously actuated in order for either of them to be actuated sufficiently to operate the counter.

In the invention, as illustrated in Figs. 1 and 4, the two handles A and A′ are connected, respectively, with two sliding bars B and B′, which are arranged in the frame Z to reciprocate thereacross, and the bars B and B′ are provided with slots *b b′*, respectively, which throughout the greater portion of their length extend diagonally across their respective bars, slanting from each other when the bars are at rest and extended, and which slots, at their inner ends, are parallel with the path of the bars. These bars are arranged to actuate a pin C, which is connected with the counter-operating slide D, which slides in a path transverse the path of the bars B and B′.

In practical use, to operate the register with one hand, the conductor must place his thumb upon one of the handles—A, for instance—and one or more of his fingers upon the other handle A′, and then by closing the thumb and fingers toward each other the two bars B and B′ will be simultaneously moved toward each other, and this will cause the oblique and lower walls of the two grooves *b* and *b′* to engage the pin C simultaneously and force the pin C toward the upper edge of the two bars until it lodges against the upper ends of the two slots. This movement of the pin forces the counter-actuating slide upward, and motion is thereby transmitted to suitable mechanism to actuate the trip-counter E and continuous counter F; but if only one of the handles, either A or A′, is pushed in while the other handle remains in its extended position (into which it is forced by a suitable spring, such as the spring G, which is connected with the pin C and arranged to draw it and the bar D into their retracted position, or the springs H and H′, which are arranged to press the bars B and B′ outward) then when it has been moved inward sufficiently to cause the oblique wall of the slot to engage the pin C the pin C cannot move in response to the pressure of the oblique wall of the slot because the upper wall of the lower part *b″* of the slot in the other bar will intercept it, and this is true of both of the bars indiscriminately when either is moved alone, and this would be the case regardless of the shape of the other bar beyond the portion *b″* of the slot—that is to say, one of the bars only may be used for actuating the pin C and the other bar may not be arranged to actuate the pin, but may simply be provided with a stop, such as the stop formed by the wall *b″*, so that the pin will be intercepted excepting when the two bars are moved simultaneously at the initial movement of the actuating-bar.

In Fig. 13 the two bars (lettered B″ and B‴, respectively,) are connected with the pin C′ by two connecting-rods 1 and 2, which are pivoted to their respective bars by pivots 3 3′, passed through slots 13 13′, which are parallel with the path of the bars B″ B‴. 14 and 15 indicate locking-hooks fastened to the bars B″ and B‴, respectively. 16 indicates a pin fixed to the slide D′. When either of the bars B″ and B‴ is in normal position, its hook incloses the pin 16 and prevents it and the slide D′ from moving up, but when both bars are pushed in the slots 13 13′ allow the bars to move sufficiently to withdraw the hooks from the path of the pin and allow the slide D′ to move up. With this arrangement, when both handles are pressed inward, the two connecting-rods 1 2 will operate in conjunction to force the pin C′ upward, but if only one of the handles is pressed in and the other one left stationary the hook of the stationary bar will hold the pin 16 to lock the register.

In Fig. 14 the actuating-bar D″ is provided at one side with a rack 4, and each of the reciprocating bars B⁗ and B⁗′ is provided

with a rack 5 6, respectively, and a cog-wheel 7 is arranged meshing with all three racks, so that if both bars B'''' B''''' are operated simultaneously they will turn the cog-wheel to actuate the slide D''. The bars B'''' and B''''' are respectively provided with the hooks 14' and 15', and the slide D'' is provided with the pin 16', which hooks and pin are the same in structure and purpose as those shown in Fig. 13.

In the form shown in Fig. 15 one of the handles A' is fastened directly to the actuating-slide D''' and is arranged at the bottom of one side of the register, while the other handle A is connected with a dog 8, which enters a notch 9 in the actuating-slide D''' and is normally held there by a spring 10, so that in order to actuate the slide D''' the operator must actuate both of the handles A and A' at the same time, thus to withdraw the dog and allow the slide to move upward.

It is not deemed necessary to make further illustrations of ways in which this fraud-preventing improvement can be applied to registers, but we wish it to be understood that we desire to claim, broadly, a fare-register having a locking device and a counter-actuating device and two handles for operating the same arranged at such a distance apart that the operator must fully open the hand in order to actuate the two handles simultaneously.

In Figs. 13, 14, and 15 the counter-actuating members D', D'', and D''' are not shown in detail, and no means are shown whereby they will be connected with the counter-wheels, but it is to be understood that any suitable means may be employed. We will now describe the means shown in the previous figures for connecting the counter-operating slide or member with the counter-wheels. The counter-wheels *f*, *f'*, *f''*, *f'''*, *e*, and *e'* are each provided with a ratchet-wheel I, I', I'', I''', I'''', and I''''', respectively. The ratchet-wheels I I' I'' I''' are respectively fastened to the counter-wheels *f*, *f'*, *f''*, and *f'''* and differ from one another in that one of the notches of each ratchet-wheel is deeper than the corresponding notch of its succeeding wheel. This is indicated in Fig. 11, in which the deep notch in the units-wheel I is marked *i* and is deepest of all the notches, and the deep notches *i* and *i* in the tens and hundreds wheels are shallower successively, while all of the notches in the thousands-wheel I''' are of uniform depth.

J indicates a dog-carrying frame journaled coaxial with the counter-wheels and ratchet-wheels and provided with a series of dogs K, K', K'', and K''', which are fastened to a sleeve 18, which is journaled on the frame J and pressed by a spring 19 to throw the dogs toward the ratchets. The detents *k k'*, &c., of the dogs are arranged to simultaneously seat in the deep notches of their respective ratchet-wheels when said deep notches are simultaneously brought to receive the several detents.

J' J'' are arms connected with the dog-carrying frame and arranged to contact with the counter-actuating slide or member D, to be operated thereby when such member is reciprocated.

L is the bell-hammer-carrying dog, upon which the bell-hammer L' is mounted.

L'' indicates a spring arranged to actuate the bell-hammer-carrying dog.

M indicates a dog-actuating hook pivoted to the counter-actuating slide D and arranged to engage and actuate the hammer-carrying dog when the slide D is reciprocated in one direction and provided with a face *m* oblique to the path of the hook.

M' indicates a spring arranged to normally hold the hook in position to engage the dog when the slide is reciprocated. M'' indicates a stop fastened to the frame Z and arranged to engage the oblique face *m* of the hook member M when the hook is reciprocated by the slide D, to which it is pivoted to operate the dog L, whereby the hook is released from the dog when the slide has been moved to operate the counter. The slide D, the mechanism which operatively connects it with the ratchet-wheels, the stop M'', the oblique face *m* and the hook portion *m'* of the hook member, and the hammer-carrying dog L are arranged in such relation with one another that the oblique face *m* will not engage the stop M'' sufficiently to throw the hook M and release the dog L until the counter-wheel has been fully operated, but will engage such stop and thus actuate the hook to release the hammer-carrying dog after the counter has been fully operated.

K'''' and K''''' indicate the dogs for the ratchets of the trip-counters *e* and *e'*. They are mounted on a sleeve 18', which is controlled by a spring 19' to press the dogs toward their ratchets I'''' and I'''''. The trip-counter wheels *e* and *e'* are journaled on the axle O, which at its inner portion forms a sleeve which fits upon the inner end of the axle O', upon which the continuous counters are mounted. Suitable means, such as the ratchet P, Fig. 9, are provided to allow the axle to turn the trip-counter wheels to set them to "0" and to allow the wheels to rotate forward freely on the axle. Each of the wheels *e* and *e'* is provided with a ratchet, such as shown at P in Fig. 9. Suitable means, such as the pawl Q, are arranged to prevent the counter-wheels from turning backward and to allow them to turn forward. A disk R is fastened to the axle O to rotate therewith and is provided with a notch *r*. (See Fig. 5.) S is a lever provided on one side with a tooth *s*, arranged to engage the rim of the disk and to enter the notch therein, and the lever is provided on the other side with a stop *s'*, adapted to stand in the path of the counter-actuating slide D when the disk is in position to engage the tooth with

its rim and arranged to be out of the path of the slide when the tooth *s* is in the notch *r*.

s'' is a spring arranged to press the lever toward the disk.

T is a trip-signal cylinder having upon its face markings or signals *t t'* to indicate the "in" and "out" trips and provided with the cog-wheel T', having a number of teeth equal to a multiple of the number of such signals on the face of the cylinder—that is to say, the cylinder shown has four signals and its cog-wheel has sixteen teeth.

U indicates an arm fastened to the axle O and provided with a series of teeth *u* equal in number to one less than the number of the signals on the face of the cylinder. As shown, there are three teeth on the end of the arm.

V indicates a handle for rotating the axle. The set-back handle V is detachable and arranged to fit upon the outside of the case Z' and pass through a hole in the case and fit the end of the axle O. Suitable means, such as a tooth *v* on the handle and the socket *v'* in the axle, are provided to prevent the handle from turning on the axle.

V' indicates a screw inserted through the handle and screwed into the axle O to hold the handle in place.

V'' indicates a drop forming part of the handle for use in turning the handle.

V''' indicates a spring-catch for holding the drop against the side of the case when the handle is not in use for setting back the trip-counters.

The counter-actuating slide is provided with a series of teeth *d*, and a dog *d'* is arranged to engage with the teeth during the intermediate movement of the slide D. The spring *d''* holds the dog in position for engaging the teeth *d* when the slide is reciprocated. The slide is cut away, as shown at *d''' d''''* in Figs. 4 and 12, so as not to engage the dog when the slide is thrown to the limit of its movement in either direction. The counter-actuating slide provided with these teeth, the counters, the means connected with the slide for actuating such counters, the bell-actuating hook carried by the slide, the hammer-operating means arranged to be engaged by such hook, the hook-releasing means arranged to withdraw the hook from the hammer when the slide has moved sufficiently to fully actuate the counter, and the dog arranged to engage with the teeth during the intermediate movement of the slide are all arranged in relation with one another, as shown, so that the initial movement of the slide in either direction will bring the teeth into engagement with the dog *d'*, so that the slide cannot move back until it has been fully operated, and the hook-releasing means are arranged so as not to free the hammer until the counter has been fully actuated. The dog *d'* operates in both directions to prevent the return of the slide after it has started to move, so that both the conductor and the street-car company are protected against errors; but we do not claim, broadly, means for preventing the return movement of the actuating-slide of a fare-register until it has been fully actuated.

In practical operation the conductor at the beginning of a trip will release the drop V'' from its retaining-spring V''' and will turn the setback-handle V thus to rotate the shaft O and carry the arm U around, thus moving the trip-signal indicator T to indicate the trip reverse to that which was previously indicated. The tooth *s* on the lever S is ratchet-shaped to allow the disk R to turn freely in one direction, and the tooth *s* and notch *r* are formed to prevent the disk from turning in the other direction, but the same office is performed by the pawl Q. When the axle is rotated, it turns the disk, and the rim of the disk throws the tooth *s* out of the notch *r*, and this throws the lever S away from the disk and brings the stop *s'* into the path of the slide D, so that the slide D cannot be operated except when the disk R is in position to allow the tooth *s* to seat in the notch *r*. When the axle O has been fully rotated, and hence the wheels *e e'* reset to zero, the spring *s''* throws the lever to seat the tooth in the notch, and thus brings the stop *s'* out of the path of the slide D, so that the slide can be operated. When this movement is completed, the register is again ready for operation.

The click *p* of the ratchet P is fastened to the axle O through intermediate means, such as the collar *p'*, which fits upon the axle O, and is preferably fastened to the axle by a screw *p'''*. There is but one notch *p''''* in the counter-wheel into which the click *p* seats, and it is arranged to allow the wheel to rotate forward freely an unlimited number of times and to allow the axle to rotate in the same direction without moving the wheel until the click enters the notch, after which the forward rotation of the axle will move the wheel forward. The click *p*, notch *p''''*, the numerals on the face of the wheel, the sight-opening E' in the case, the lever S, with its tooth and stop, the notch *r* in the disk R, and the toothed arm U are all arranged with such relation to one another that when the axle O is rotated forward by the handle V and is then brought to rest with the tooth *s* in the notch *r* the trip-counters will be brought into position with "0 0" showing through the hole E' in the case, so that the first movement of the slide D thereafter will cause the counter to register "1," and the toothed arm U will just be brought into engagement with the cog-wheel T' of the trip-signal cylinder T, so that any further movement of the axle will again operate the trip-counter at the same time that the tooth *s* is withdrawn from the notch *r*. By reason of this arrangement the register is locked against being operated after the axle O has been turned and until it has been turned suffi-

ciently to properly set the register to begin a new trip. When it has been brought into this position, the conductor will grasp the two handles A A′ between his thumb and finger and press them toward each other, thus actuating the slide, which operates both the trip and continuous counters and registers the fare. Immediately after the fare has been registered the further movement of the slide releases the hammer and allows it to strike the bell. Then the conductor releases the handles A A′, and the several springs carry the actuating parts back to their normal position, and the register is again ready for operation.

All of the counter-wheels are journaled coaxially upon the two shafts O and O′, and the shaft O is journaled in the frame and on the end of the shaft O′, so as to rotate; but the shaft O′ is held from rotating by any suitable means. In the drawings the end of the shaft is angular where it rests in the support that connects it with the frame, so that the shaft O′ will not rotate. This is necessary in order to prevent moving the continuous counters when the trip-counters are set back.

L‴ indicates a fragment of the bell.

w′ indicates a screw to clamp the arm U to the shaft O.

Z″ indicates the post by which the spring G is secured to the frame Z.

Now, having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A fare-register having two mechanism-operating handles each projecting from the mechanism-containing case, one of the handles projecting from one side of the case, and the other handle projecting from the opposite side of the case; said handles being outwardly spring-pressed and adapted and arranged to be simultaneously moved inward toward the case by the thumb and finger of one hand to actuate the registering mechanism; whereby when the handles are grasped by the thumb and finger to actuate the registering mechanism, the case will be in the palm of the hand.

2. A fare-register having a locking device and a counter-actuating device and two handles for operating the same projecting from the mechanism-containing case of the register and arranged to be operated by the thumb and finger of one hand and set at a distance apart sufficiently great to require the hand of the operator to be opened fully in order to grasp said handles and operate them simultaneously.

3. A fare-register provided with two operating-handles arranged at a suitable distance apart to require the hand of the operator to be open when the thumb and finger are used to operate the handles simultaneously; means operatively connected with one of the handles and arranged to actuate the counters of the register; and a locking appliance operatively connected with the other handle and adapted and arranged to normally lock the counter-operating handle, and to release the same when both handles are operated simultaneously, substantially as set forth.

4. The combination in a fare-register, of a mechanism-containing case, a counter-operating member connected with a handle, which projects outward from the case and is arranged to be operated by a thumb or finger of the operator; a locking device connected with another handle which projects from the case and is arranged to be operated by a thumb or finger of the operator; such locking device being arranged to normally lock the register, and to release the same when both handles are simultaneously operated, substantially as set forth.

5. In a fare-register, the combination of a reciprocating counter-actuating member; a register-operating member arranged to reciprocate in a path transverse to the path of the counter-actuating member; means connecting the register-operating member with the counter-actuating member to reciprocate the same; and a locking member arranged to move in a path substantially parallel to the register-operating member and adapted and arranged to normally lock the register-operating member, and to release the same when thrown out of its normal position, substantially as set forth.

6. In a fare-register, the combination of the slides arranged to move in parallel paths and each provided with a slot, which, throughout its greater length is oblique to the paths of the slides, but has at one end a portion parallel with such paths; a slide arranged to move in a path transverse to the path of the slotted slides and provided with a pin arranged in the slots of the slotted slides, substantially as set forth.

7. In a fare-register, the combination of a slide provided with a slot, a portion of which is parallel with the path of the slide and another portion oblique to such path; a counter-actuating slide arranged to move in a path transverse to the path of the slotted slide and provided with a pin extending into the slot of the slotted slide; and the locking-slide provided with a stop arranged to normally intercept the pin and adapted to release the pin when the locking-slide is moved from its normal position; and springs to hold the several slides in normal position.

8. In a fare-register, the combination of a trip-counter wheel journaled on an axle; means connected with the axle to turn the trip-counter wheel to set it to "0" and arranged to allow such wheels to rotate forward freely on the axle; means arranged to prevent the counter-wheel from turning backward and allow it to turn forward; a disk fastened to the axle to rotate therewith and provided with a notch; a counter-actuating slide; counter-actuating mechanism operatively connecting such slide with the counter-wheel to rotate the same in one direction; a lever provided on one side with a tooth arranged to

engage the rim of the disk and to enter the notch therein, and provided on the other side with a stop adapted and arranged to stand in the path of the slide when the disk is in position to engage the tooth with its rim, and arranged to be out of the path of the slide when the tooth is in the notch; means for operating the slide; and a spring arranged to hold the lever toward the disk.

9. In a fare-register, the combination of a trip-counter wheel journaled on an axle; means connected with the axle to turn the trip-counter wheel forward to set it to "0" and arranged to allow such wheels to rotate forward on the axle; means arranged to prevent the counter-wheel from turning backward and allow it to turn in the other direction; a trip-signal cylinder having upon its face signals to indicate the "in" and "out" trips and provided with a cog-wheel having a number of teeth equal to a multiple of the number of such signals; an arm fastened to the axle and provided with a series of teeth equal in number to one less than the number of such signals; and a handle for rotating the axle.

10. In a fare-register, the combination of a trip-counter wheel journaled on an axle; means connected with the axle to turn the trip-counter wheel forward to set it to "0;" and arranged to allow such counter-wheel to rotate forward on the axle; means arranged to prevent the counter-wheel from turning backward and allow it to turn in the other direction; a trip-signal cylinder having upon its face signals to indicate the "in" and "out" trips, and provided with a cog-wheel having a suitable number of teeth; an arm fastened to the axle and provided with teeth arranged to mesh with the teeth of the trip-signal cylinder; the counter-actuating slide; mechanism operatively connecting such slide with the counter-wheel to turn the same; a disk fastened to the counter-wheel to rotate therewith and provided with a notch to seat a tooth; a lever provided on one side with a tooth arranged to engage the rim of the disk and to seat in the notch, and provided on the other side with a catch arranged to project into the path of the slide when the tooth engages the rim of the disk and to withdraw from the path of the slide when the tooth seats in the notch; and a spring arranged to press the lever toward the disk.

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Witnesses:
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