

No. 831,543.

PATENTED SEPT. 25, 1906.

A. DE VILBISS, JR.
RECORDING LOCK.

APPLICATION FILED AUG. 29, 1903.

2 SHEETS—SHEET 1.

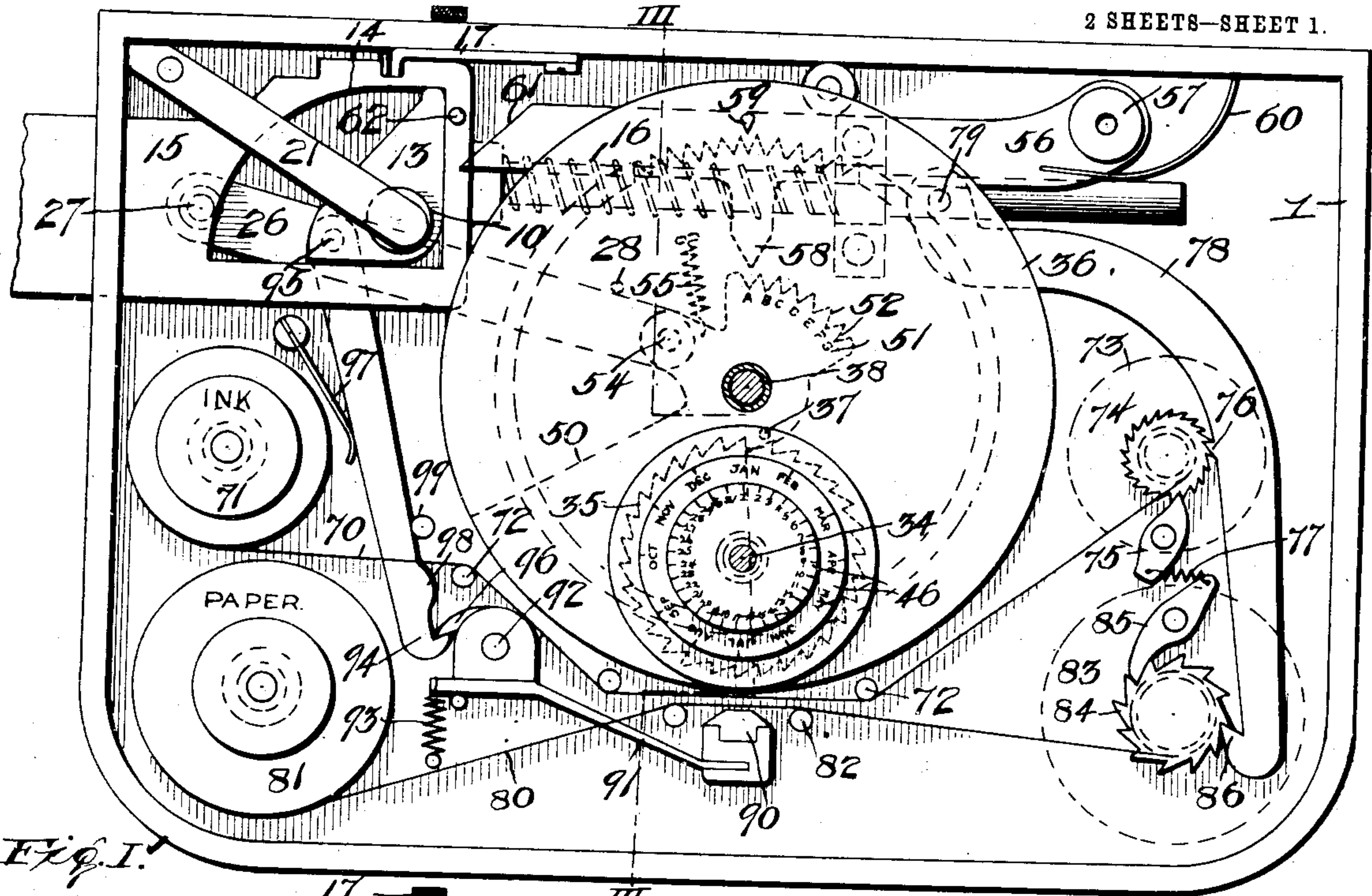


Fig. I.

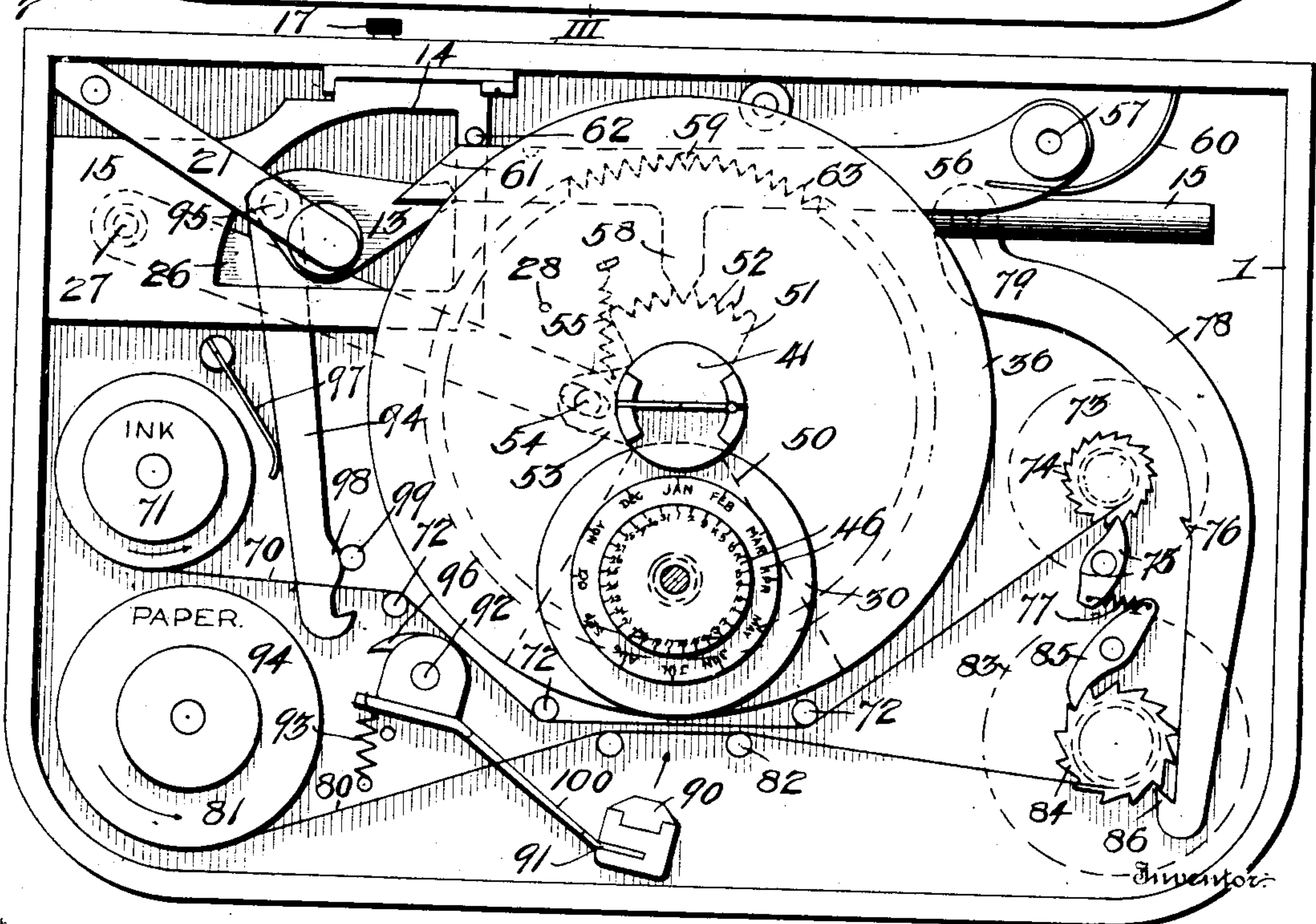


Fig. II.

Witnesses:
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UNITED STATES PATENT OFFICE.

ALLEN DE VILBISS, JR., OF TOLEDO, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-THIRD TO JOHN F. PIXLEY, ONE-THIRD TO ALICE S. WELLS, ONE-SIXTH TO MARTHA S. PARK, AND ONE-SIXTH TO CLARENCE H. PUMPHREY, OF COLUMBUS, OHIO.

RECORDING-LOCK.

No. 831,543.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed August 29, 1903. Serial No. 171,256.

To all whom it may concern:

Be it known that I, ALLEN DE VILBISS, Jr., a citizen of the United States, and a resident of Toledo, Lucas county, State of Ohio, have invented certain new and useful Improvements in Recording-Locks; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to recorders, more especially to that class known as "recording-locks," such as are actuated by any one of several individuals; and the object of the same is to produce a recording-lock which each time it is opened will furnish a correct record of the hour and minute when such opening occurred and a correct record of the individual means employed to perform it.

The present invention is an improvement over that described in my United States Patent numbered 735,034 and dated July 28, 1903. The essential points of improvement consist in the use of a differentiating member movable longitudinally or axially to set it for the proper operation of other mechanisms and then movable rotarily to shoot the bolt if turned in one direction or to retract the bolt and simultaneously produce a designation if turned in the other direction. In said patent the bolt was moved by keys having bits of different lengths. In the present case the differentiating member may be moved by any means so long as one movement of this member sets it for controlling other mechanisms and another movement of this same member effects an actuation of the bolt. While I have herein described said member as moved and turned by one of a set of keys of different length, it is to be understood that this description is given merely for the purpose of illustrating one means which may be employed, and I desire to be understood as intending to include any appropriate means which will accomplish the object in view.

In the accompanying drawings, Figure I is a section through the device on the line *i-i* of Fig. III with the bolt shot. Fig. II is an elevation with the inner face-plate and the clock mechanism removed and with the winding-spools for the ink-ribbon and the paper strip indicated in dotted lines with the

bolt retracted. Fig. III is a vertical section on the line *iii-iii* of Fig. I. Fig. IV is an enlarged section through the cam and its barrel, showing the tumbler-tube in elevation and the key in dotted lines. Fig. V is a perspective detail of the cam and its barrel. Fig. VI shows in perspective the slide, the bracket and stud on which it moves, and the plunger, all slightly separated. Fig. VII is a perspective detail of the alining-lever. Fig. VIII is an enlarged perspective detail of a portion of the flexible coupling.

The lock comprises a casing 1, secured to the inner side of the door or frame 2, which latter is bored to receive a tumbler-tube 3, as of the Yale pattern. The key 4 passes through this tube and operates the tumblers therein in the well-known manner, and the length of the inner projecting end of the key has an important bearing on the present invention. Attached to the inner end of said tube 3 is a bracket 5, having a projecting headed stud 6.

7 is a differentiating member, here shown as a slide having a slot 8 engaging the shank of said stud, and its outer end is bent at an angle or so formed as to stand in the path of the inner end of the key. Hence when the latter is pushed into place the slide is pushed inward to a degree corresponding to the length of the key, and I propose as one form of embodiment of my invention to employ keys of various lengths as the manual means to be recorded and for controlling the operation of certain parts of the apparatus, as will appear more fully hereinafter. The inner end of the slide has a varying dimension. In the present case it is tapered, as at 9, (preferably in steps,) and operates in conjunction with a cam-barrel 10, which rotates in a boss 11 in the casing. This barrel is slotted, as at 12, or otherwise shaped at its outer end, so as to be engaged and turned by the slide, while yet permitting the latter to have a longitudinal movement.

Fast upon the barrel is a cam 13, here shown as triangular in contour, and this cam operates within an opening 14 in the bolt 15, whereby the latter is shot or retracted by the movements of the cam. In the present instance the bolt is shot by a spring 16; but this is not essential in all locks of this type.

17 is the well-known "dead-latch" to hold

the bolt positively in a retracted position, as generally employed during the day-time.

Within the cam-barrel 10 moves a plunger consisting of a shank 20, projecting through the end of the barrel and pressed normally forward by a spring 21 in the present instance, and a head or disk 22, fitting loosely within the barrel and having lugs 23 at one side. These lugs are spaced and formed with a shallow notch 24 between them, within which engages the inner end of the slide. The barrel 10 is slotted, as at 25, and through this slot extends a lever 26, which is pivoted at one end to the casing at 27 and rests normally against a stop 28. The movement of the slide caused by the different lengths of the keys brings different portions of its inner end 9 opposite the slot 25, and then as the key turns the slide also turns and that step which is opposite slot 25 contacts with the edge of the lever 26 for a purpose described below. The slide in turning also turns the barrel 10 and the plunger; but the slot 25 is of sufficient length and the lugs 23 are sufficiently small to permit the necessary rotation, which in the present instance is only a quarter-turn.

In my former patent the designator consists of a time and a key record, the former indicating the time when the key was used on each occasion of its use and the latter indicating which key was employed. In the present instance the time-indicator includes wheels or dials which give the month, the date, and the hour and fractions thereof, while the key-indicator is a segment which prints letters or characters indicating exactly the key that was used. I desire it understood that while I have herein shown and described an inking mechanism I could indent a tape or card, and thus avoid the use of ink, or I could perforate the letters or employ any of the well-known means for producing a permanent record, or I could use any of the well-known designating or indicating mechanisms in place of that which is described herein merely for purposes of illustration.

The time-indicator in the present case comprises a month-wheel 30, having a tubular shaft (this wheel is set by hand in the present case) 31, a date-wheel 32, whose shaft 33 is also tubular and is journaled within the shaft 31, a stud-shaft 34, on which these nested shafts are journaled, a ratchet 35 on the outer face of the date-wheel and having thirty-one teeth, and an hour-wheel 36, having a pin 37, which at each complete revolution turns the date-wheel one step.

By preference I make the hour-wheel 36 of considerable size and provide it with characters which will print not only the hour, but the quarters of an hour or even finer divisions, if desired, while the peripheries of the other wheels are provided with characters necessary to perform their proper functions.

The shaft 38 of the hour-wheel stands above and extends across the other wheels and is tubular and suitably supported. At its inner end it is provided with a coupling, (best seen in Fig. VIII,) which connects with the clock mechanism. (Indicated in Fig. III, but unnecessary to show in detail.) I might add that this clock mechanism is preferably located within an independent casing removably attached to the inner side of the casing 1. The driving-shaft 39 of the clock mechanism projects through the casing 1 and is notched at its inner end, as at 40. The shaft 38 of the hour-wheel has a disk 41 at its end, and this disk is provided on its inner face with two ears 42. Secured to one ear is a spring 43, which extends diametrically across the face of the disk and loosely through a notch 44 in the other ear, and when the clock mechanism is brought into place the notch 40 in the driving-shaft 39 straddles this spring, as seen. The purpose of this detail of construction will appear below; but it is obvious that as the clock mechanism rotates the hour-wheel the latter will set the date-wheel daily. For the purpose of setting the month-wheel (and the date-wheel when there are less than thirty-one days in the month) I provide means whereby said wheels may be rotatively actuated independently of the operation of the clock-actuated mechanism. In the particular form shown, to which, however, I do not desire to be limited or restricted, I provide a door 45 in the back of the casing to afford access to said wheels, and I provide the inner ends of the tubular shafts 31 and 33 with dials 46, which are inscribed with the twelve months and the thirty-one days, respectively, opposite their like printing characters.

The person-designator herein employed is a key-indicator which comprises a segment 50, pivotally mounted and having printing characters on its lower edge standing flush with those on the time-record wheels. This segment extends above the shaft 38, where its sector 51 is provided with notches 52 in its upper edge, and at one side of the shaft 38 is an ear 53, provided with a pin 54, which is engaged by the lever 26 and which is drawn normally upward against the stop 28 by a spring 55. 56 designates an alining-lever pivoted at 57 within the casing 1 and having a long point 58 and a short one 59. The body of this lever is normally raised by a spring 60, and its front end is beveled, as at 61, and is depressed by a pin 62 on the bolt 15 as the latter is retracted. Such depression brings the long point 58 into one of the notches 52 and alines the corresponding printing character on the segment 50 with the printing mechanism described below. Simultaneously the point 59 enters one of a radial series of notches 63, formed on the outer face of the hour-wheel 36. Thus it will be seen

as the bolt is retracted one of the steps 9, as determined by the length of the particular key employed, and hence the distance through which the differentiating member 7 has been projected, engages and rocks the lever 26 and swings the segment to bring the corresponding character over the printing mechanism, and as the pin 62 depresses the free end of the alining-lever 56 its two points enter the notches in the sector 51 and around the hour-wheel 36 and cause the exact printing of the key-indicating character and the time-indicating characters in true alinement across the tape. Should it occur that this action took place a little in advance or a little in rear of the exact quarter of the hour, it will be clear that the short point 59 will aline the hour-wheel to that quarter-mark which is nearest, and the function of the details shown in Fig. VIII is now apparent, because the shaft 38 will thus be turned a little forward or a little backward relatively to its connection with the clock driving-shaft 39, though it will resume its position immediately again on shooting the bolt.

The printing mechanism in the present case comprises an inking-ribbon, a paper strip, means for feeding them both, and the platen, with means for operating it. The ink-ribbon 70 leads from a spool 71 over suitable guides 72 to a spool 73, which has a ratchet 74 on its hub. The paper 80 leads from a spool 81 over suitable guides 82 to a spool 83, also having a ratchet 84 on its hub. 75 and 85 are retaining-pawls whose points engage said ratchets, while 77 is a single spring throwing both said pawls in operative position.

78 is the operating-pawl, pivoted at 79 to the shank of the bolt 15, and this pawl is curved over and lies in the plane of the two ratchets, having a hook 76 to engage one of them and a hook 86 for the other. When the bolt is retracted, these hooks are thrown rearward and downward; but when the bolt is shot these hooks assume the position shown in Fig. I, the hook 86 feeding the paper some distance and the hook 76 (which only engages the ratchet 74 at the last moment) feeding the ribbon to a much less degree.

90 is the platen, mounted on the end of the hammer 91, which is pivoted at 92 and pressed by the spring 93 in a direction which will throw the platen against the paper 80, the paper against the ribbon 70, and both of them against the alined printing characters on the wheels and the segment. The hammer is drawn from its normal position by a hook 94, which is pivoted at 95 to the cam 13 and which is pressed normally into engagement with a nose 96 on the hammer by a spring 97. As the cam returns to retract the bolt this hook is drawn upward until (see Fig. II) a projection 98 on the edge of the

hook comes over a pin 99 in the casing and releases the nose 96, after which the platen 90 is thrown forcibly upward, as shown by the arrow, and the record is printed. In this construction the position of the hammer is such that I provide its body with a hole or opening 100, through which the paper strip passes, thus simplifying the mechanism and economizing the space.

Fig. VII shows a modification of the alining-lever which is useful if the dead-latch 17 is employed on the bolt. This consists of a clearance or depression which is then made in the lever at the proper point, so that after the pin 62 has passed over the beveled end 61 and caused proper alinement until printing has been accomplished the pin then enters the depression 66 and the lever 56 rises a trifle, thus clearing the point 59 from the notches 63 and permitting the clock to run. If this notch were not employed, the clock mechanism would be checked whenever the dead-latch was in use.

A recording-lock of the above construction is attached to the main door of an establishment, and keys are provided for the proprietor, the janitor, and a few employees, or, as above indicated, permutation devices are employed and the combination given to the different employees. After closing hours we will assume that one of the employees returns with foul intent. He opens the lock, and it is impossible for him to do so without making a record of the key which was used and the month, date, and exact quarter-hour of its use. Entering the building he remains, say, for an hour. On leaving the building he must again open the lock and a second record is made. In the morning when the building is opened by the janitor he makes a proper record. Later the proprietor on examining the paper strip finds a record of when the building was closed the evening before, who entered during the night and when, and how long he remained, and when the building was opened by the janitor in the morning. Thus it will be seen that this lock is valuable in establishments which open and close daily, and it will also be clear that it could be employed on a warehouse or other building which was normally closed and only entered occasionally.

I do not confine myself to the exact details of construction nor to the use of any particular detail in connection with any or all the others, as it is obvious that an equivalent construction might in many instances be substituted.

While I have described the invention as useful in the lock which closes the main door of an establishment, it is clear that the machine could be used as a workman's time-record to check his arrival in the morning and his departure in the evening.

What is claimed as new is—

1. In a recording-lock, the combination with a slide adapted to be borne inward to various extents by the insertion of keys of different lengths; and means for pressing the slide in the opposite direction, a portion of the slide being tapered; of the lock mechanism operated by the turning of the key, record-setting mechanism engaging said tapered portion and operated by the turning of the slide, and a printing mechanism.
2. In a recording-lock, the combination with a bracket secured to the tumbler-tube, a stud on the bracket, and a slide having a slot engaging said stud, its outer end standing in the path of the key and its inner end being tapered; of the lock mechanism operated by the turning of the key, record-setting mechanism engaging said tapered portion and operated by the turning of the slide; and a printing mechanism.
3. In a recording-lock, the combination with a slide adapted to be borne inward to various extents by the insertion of keys of different lengths, and means for pressing the slide in the opposite direction, a portion of the slide being tapered; of the lock mechanism operated by the turning of the key and including a slotted barrel, the record mechanism, a lever connected therewith and extending through the slot in the barrel within which it is engaged by said tapered portion whereby the record mechanism is set by the turning of the slide, and a printing mechanism.
4. In a recording-lock, the combination with a slide adapted to be borne inward to various extents by the insertion of keys of different lengths, its inner end being tapered, a cam for operating the lock mechanism, a tubular barrel through the cam and turned by the slide, and a spring-pressed plunger within the barrel also turned by the slide and pressing the latter normally toward the keyhole, the barrel being slotted; of record-setting mechanism including a lever extending through said slot past the head of the plunger and across the slide and operated by the turning of the latter, and a printing mechanism.
5. In a recording-lock, the combination with a slide adapted to be borne inward to various extents by the insertion of keys of different lengths, its inner end being stepped, a cam for operating the lock mechanism, a tubular barrel through the cam and turned by the slide, a spring-pressed plunger within the barrel having a head, and lugs at one side of the head having an intervening notch engaging the slide by which the plunger is turned, the barrel being slotted; of record-setting mechanism including a lever extending through said slot, past the head of the plunger and its lugs, across the stepped portion of the slide and operated by the turning of the latter, and a printing mechanism.
6. In a recording-lock, the combination with a slide adapted to be borne inward to various extents by the insertion of keys of different lengths, its inner end being stepped, a cam for operating the lock mechanism, a tubular barrel through the cam and turned by the slide, and a spring-pressed plunger within the barrel and pressing the slide toward the keyhole; of a record-setting lever extending across the stepped portion of the slide and operated by the turning of the latter, and a printing mechanism.
7. In a recording-lock, the combination with a bracket secured to the tumbler-tube, a headed stud on the bracket, and a slide having a slot engaging the shank of said stud, its outer end standing in the path of the key and its inner end being stepped; of the lock mechanism operated by the turning of the key and including a slotted barrel, the record mechanism including a lever extending through said slot and adapted to be engaged by one of the steps, a printing mechanism, a plunger within the barrel and turned by the slide, its shank extending out the end of the barrel, and a spring bearing on said shank to press the slide normally toward the key.
8. In a recording-lock, the closure-locking bolt, the recording and actuating mechanisms, and the paper and ink feed; combined with a spring-operated printing-hammer having a nose, a hook carried by the actuating mechanism, a spring throwing it normally into engagement with said nose, and means for disengaging these parts.
9. In a recording-lock, the closure-locking bolt, the recording and the actuating mechanisms, and the paper and ink feed; combined with a spring-operated printing-hammer having a nose, a hook carried by the actuating mechanism, a spring throwing it normally into engagement with said nose, and means for disengaging these parts, said means comprising a projection on the hook and a pin over which the projection rides.
10. In a recording-machine, the recording, the actuating, the inking, and the paper-feed mechanisms; combined with a platen, a hammer supporting it and having an opening through which the paper strip passes, and connections between the hammer and the actuating mechanism.
11. In a recording-machine, the recording, the actuating, the inking, and the paper-feed mechanisms; combined with a platen, a hammer supporting it and having an opening through which the paper strip passes, connections between the hammer and the actuating mechanism for retracting the hammer, a spring opposed to the pull of said connections, and an automatic tripping device, all as and for the purpose set forth.

12. In a recording-machine, the combination with the printing mechanism; of the inking mechanism, the paper-feed, ratchets on both, retaining-pawls for the ratchets, a single spring throwing both pawls against their ratchets, and a single operating mechanism for both ratchets.

13. In a recording-lock, the combination with the closure-locking bolt, and the printing mechanism; of the inking mechanism, the paper-feed, ratchets on both, retaining-pawls for the ratchets, a single operating-pawl, and two hooks formed integrally thereon—one engaging the paper-feed ratchet to turn it some distance and the other timed to engage the inking-ratchet later and turn it a less distance.

14. In a recording-lock, the key and time recorders, having radial notches, and the printing and feed mechanisms; combined with a lever pivoted in the casing, points on the lever adapted to enter said notches, a spring holding it normally raised, and a pin on the bolt which engages and depresses the lever when the bolt is retracted.

15. In a recording-lock, the closure-locking bolt, the actuating and the printing mechanisms, the recording mechanism having notches, and the alining mechanism having points forced into said notches just prior to the printing movement; combined with a clock mechanism having a notch in its driving-shaft, a disk on the driven shaft of the recording mechanism, lugs on said disk, and a spring connecting the lugs and extending through said notch, as and for the purpose set forth.

16. In a recording-lock, the locking mechanism, the key-indicator, the time-indicator, the printing mechanism, notches in both indicators, and the alining mechanism having points adapted to engage both notches just prior to the printing movement; combined with a clock mechanism having a notch in its driving-shaft, a disk on the driven shaft of the time-indicator, lugs on said disk, and a spring connecting the lugs and extending through said notch, as and for the purpose set forth.

17. In a recording-lock, the closure-locking bolt, the actuating and the printing mechanisms, the recording mechanism having notches, and the alining mechanism having points forced into said notches just prior to the printing movement; combined with a clock mechanism, and a yielding coupling between its driving-shaft and the main shaft of the recording mechanism, as and for the purpose set forth.

18. In a recording-lock, the closure-locking bolt, the actuating, the printing, and the time-recording mechanisms, and a casing containing them; combined with a clock mechanism, a casing therefor removably attached to the other casing, and a separable

coupling between the driving-shaft of the clock mechanism and the main shaft of the time mechanism.

19. In a recording-lock, the closure-locking bolt, the actuating, the printing, and the time-recording mechanisms, and a casing containing them; combined with a clock mechanism, a casing therefor removably attached to the other casing, and a separable coupling between the driving-shaft of the clock mechanism and the main shaft of the time mechanism, said coupling comprising a transverse notch in the end of one shaft and a transverse spring carried by the end of the other shaft, as and for the purpose set forth.

20. In a recording-lock, the closure-locking bolt, the actuating, the printing, and the recording mechanisms, the latter including several time-wheels certain of them adapted to be set by hand, and a dial secured to the shaft of each manually-set wheel and inscribed with indicating characters arranged relatively to its printing characters; combined with an inclosing casing, and a door in the latter, all as and for the purpose set forth.

21. In a recording-lock, the closure-locking bolt, the actuating, the printing, and the recording mechanisms, the latter including several time-wheels certain of them adapted to be set by hand, while others are advanced automatically, a clock mechanism for driving said automatic wheels, tubular nested shafts on the others, and a dial secured to the shaft of each manually-set wheel and inscribed with indicating characters arranged relatively to its printing characters; combined with an inclosing casing, and a door in the latter, all as and for the purpose set forth.

22. In a recording-lock, a key-operated slide, and a lever swung by the turning of the slide; combined with a pivoted segment having printing characters, an ear thereon, a pin in the ear engaged by the lever, a stop for the latter, a spring engaging the ear to draw the lever normally against said stop, and a printing mechanism.

23. In a recording-lock, the bolt, a key, a key-operated cam for moving the bolt, and a printing mechanism operated by the cam; combined with recording mechanism set by the turning of the key.

24. In a recording-lock, the bolt, a key, a key-operated cam for moving the bolt, and a printing mechanism operated by the cam; combined with recording mechanism set by the turning of the key, and feed mechanism operated by the bolt.

25. In a recording-lock, the bolt, a key, a key-operated cam for moving the bolt, and a printing mechanism operated by the cam; combined with recording mechanism set by the turning of the key, and means operated by the bolt for alining the printing characters with the platen.

26. In a recording-lock, the bolt, a key, a

key-operated cam for moving the bolt, and a printing mechanism operated by the cam; combined with recording mechanism set by the turning of the key, feed mechanism operated by the bolt, and means operated by the bolt for alining the printing characters with the platen.

27. In a recording-lock, the bolt, a key, a key-operated cam for moving the bolt, a printing mechanism operated by the cam, a time-record, and a clock for driving it; combined with a key-record set by the turning of the key.

28. In a recording-lock, the bolt, a key, a key-operated cam for moving the bolt, a printing mechanism operated by the cam, a time-record, and a clock for driving it; combined with a key-record set by the turning of the key, and feed mechanism operated by the bolt.

29. In a recording-lock, the bolt, a key, a key-operated cam for moving the bolt, a printing mechanism, a time-record, and a clock for driving it; combined with a key-record set by the turning of the key, and means operated by the bolt for alining the printing characters on both records with the platen.

30. In a recording-lock, the bolt, a key, a key-operated cam for moving the bolt, a printing mechanism operated by the cam, a time-record, and a clock for driving it; combined with a key-record set by the turning of the key, feed mechanism operated by the bolt, and means operated by the bolt for alining the printing characters on both records with the platen.

31. In a recording-lock, the combination with the time-record including month, date, and hour and fraction wheels, and the key-record including a segment having printing characters alined with those on said wheels; of a key, the bolt, and printing mechanism operated by the movement of the bolt.

32. In a recording-lock, the combination with the time-record including month, date, and hour and fraction wheels, and the key-record including a segment having printing characters alined with those on said wheels; of a key, the bolt, and printing mechanism operated by the movement of the bolt in one direction, and feed mechanism operated by its movement in the other direction.

33. In a recording-lock, the time-recorder having radial notches, the printing and feed mechanisms, and the bolt having a pin; combined with a pivoted lever having a bevel adapted to be engaged by the pin and a notch which the pin enters as the bolt is completely retracted, and a point on the lever adapted to engage said notches when the lever is depressed.

34. In a lock, the combination with a differentiating member, and means for setting it to different positions according to the per-

son operating the lock; of a bolt, a designator, and means for operating both the bolt and the designator by the movement of said member.

35. In a lock, the combination with a differentiating member, and means for setting it to different positions according to the person operating the lock; of a bolt, a designator, and means whereby the rotation of said member moves the bolt a predetermined distance and moves the designator a variable distance according to the position of said member.

36. In a lock, the combination with a differentiating member, and means for setting it to different positions according to the person operating the lock; of a bolt, a designator comprising a person-indicator and a time-indicator, and means for operating both the bolt and the designator by the movement of said member.

37. In a lock, the combination with a differentiating member, and means for setting it to different positions according to the person operating the lock; of a bolt, a designator comprising a person-indicator and a time-indicator, and mechanism whereby the rotation of said member moves the bolt a predetermined distance and moves the person-indicator a variable distance according to the position of said member.

38. In a lock, the combination with a differentiating member having a varying dimension, and means for setting it to different positions according to the person operating the lock; of a bolt, a designator, and means for operating both the bolt and the designator by the movement of said member.

39. In a lock, the combination with a differentiating member having a varying dimension, and means for setting it to different positions according to the person operating the lock; of a bolt, a designator, and means whereby the rotation of said member moves the bolt a predetermined distance and moves the designator a variable distance according to the dimension of said member which its setting has brought into position.

40. In a lock, the combination with a differentiating member having a varying dimension, and means for setting it to different positions according to the person operating the lock; of a bolt, a designator, and means whereby the movement of said member will control the bolt and will also move the designator a variable distance according to the dimension of said member which its setting has brought into position.

41. In a lock, the combination with a differentiating member having a varying dimension, and means for setting it to different positions according to the person operating the lock; of a bolt, a designator comprising a person-indicator and a time-indicator, and mechanism whereby the rotation of said

member moves the bolt a predetermined distance and moves the person-indicator a variable distance according to the position of said member.

42. In a lock, the combination with a member having a varying dimension and adapted to be moved to different positions according to the person responsible for the operation of the lock, and a designating device carrying characters representing the persons who are authorized to operate the lock, said device being controlled by said member.

43. In a lock, the combination with a differentiating member, and differentiated means for setting it to different positions; of a bolt, a recorder, and means for operating both the bolt and the recorder by the movement of said member.

44. As an organized device, a recording-lock for doors or other closures comprising a recording device, means for taking a record therefrom, and mechanism for setting said recording device to different positions, said mechanism also engaging and directly operating said record-taking means.

45. As an organized device, a recording-lock for doors or other closures including a recording device, means for taking a record therefrom, a differentiating member for setting said recording device to different positions, said member also operating said record-taking means, and means for operating said differentiating member.

46. As an organized device, a recording-lock for doors or other closures including a recording device, means for taking a record therefrom, a differentiating member for setting said recording device to different positions, said member also operating said record-taking means, and differentiated means for operating said member.

47. As an organized device, a lock for doors or other closures, including a locking-bolt, a recording device, means for taking a record therefrom, and mechanism for setting said recording device to different positions, said mechanism also operating the bolt, and

the record-taking means, the operation of the latter being independent of the movement of the bolt.

48. As an organized device, a lock for doors or other closures including a type-carrier, means for taking a record therefrom, and mechanism for setting said type-carrier to different positions, said mechanism also engaging and directly operating said record-taking means.

49. As an organized device, a lock for doors or other closures including a locking-bolt, a type-carrier, means for taking a record therefrom, and mechanism for setting said type-carrier to different positions, said mechanism also operating said record-taking means and said bolt, the operation of the record-taking means being independent of the movement of the bolt.

50. As an organized device, a lock for a door or other closure including a locking-bolt, means for controlling it, and mechanical means for making a record of the operation of such controlling means, said controlling means actuating said mechanical means independently of the movement of the bolt.

51. In a key-operated door-lock, the combination of a series of differentiated initial-keys, a printing-segment carrying initials corresponding to the various keys, means for operating said segment, and means under the control of each key for locking the segment in printing position corresponding to the initial of the particular key employed.

52. In a recording-lock, the combination with a key-operated locking-bolt, of recording mechanism, and means for actuating it by the movement of the key independently of the bolt, said mechanism including a time and initial key recorder.

In testimony whereof I have hereunto subscribed my signature this the 27th day of August, A. D. 1903.

ALLEN DE VILBISS, JR.

Witnesses:

MARIE C. PFAFF,
G. E. BOHM.