

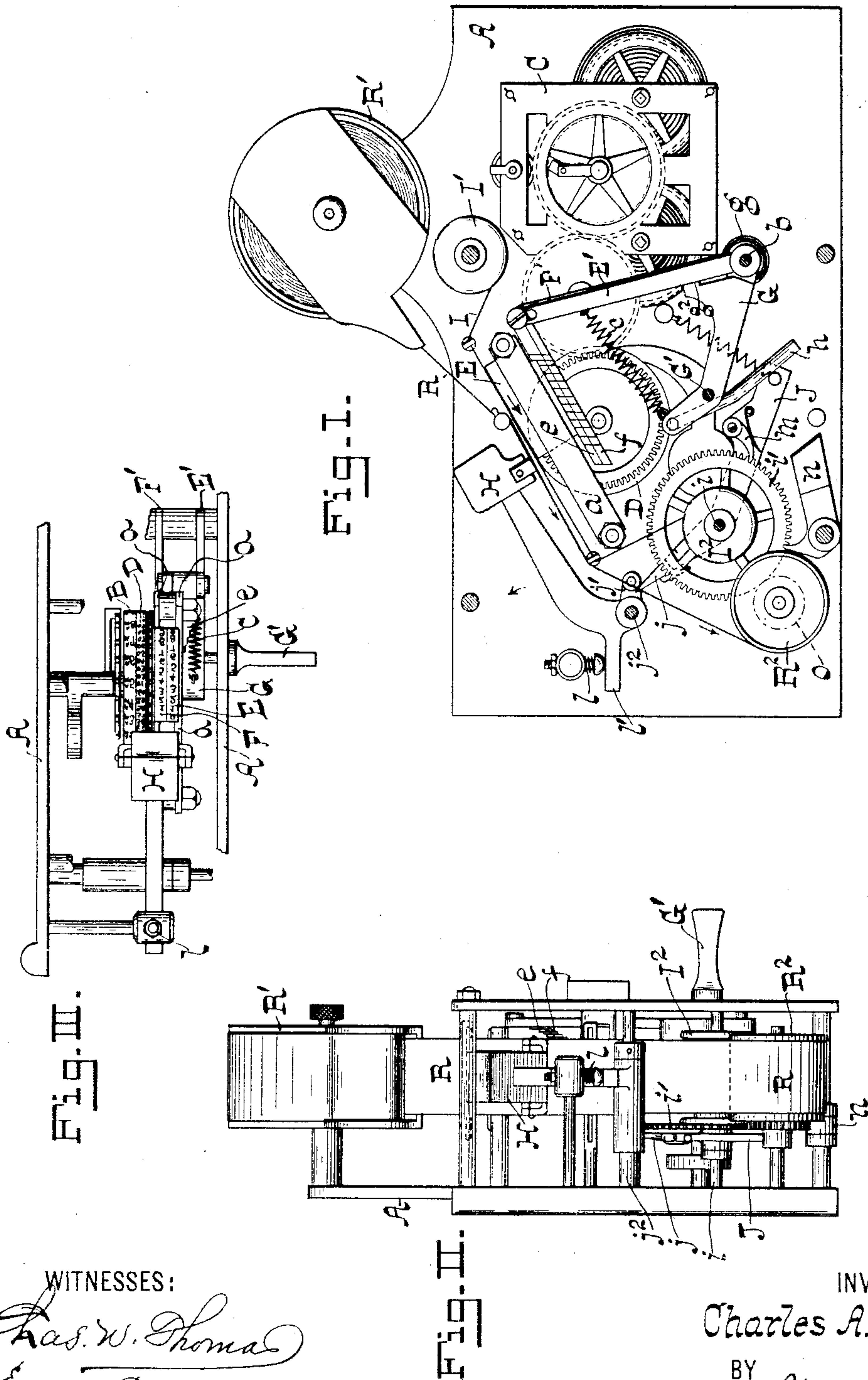
(No Model.)

3 Sheets—Sheet 1.

C. A. WIDMER.
WORKMAN'S TIME RECORDER.

No. 542,578.

Patented July 9, 1895.



WITNESSES:

Chas. W. Thomas
Eugenie Persides

INVENTOR:

Charles A. Widmer.

BY

Walter duRoi
ATTORNEY

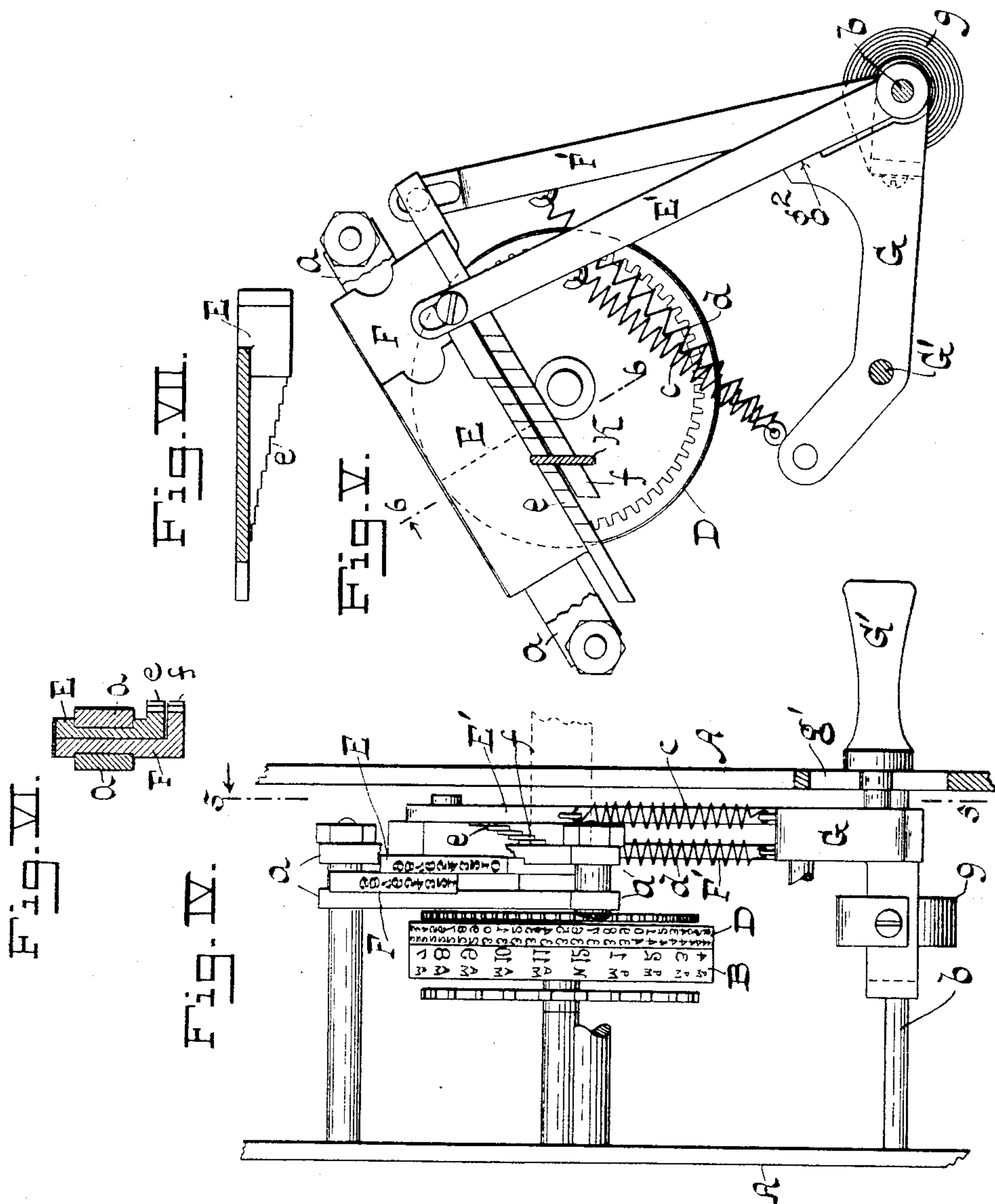
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C. A. WIDMER.
WORKMAN'S TIME RECORDER.

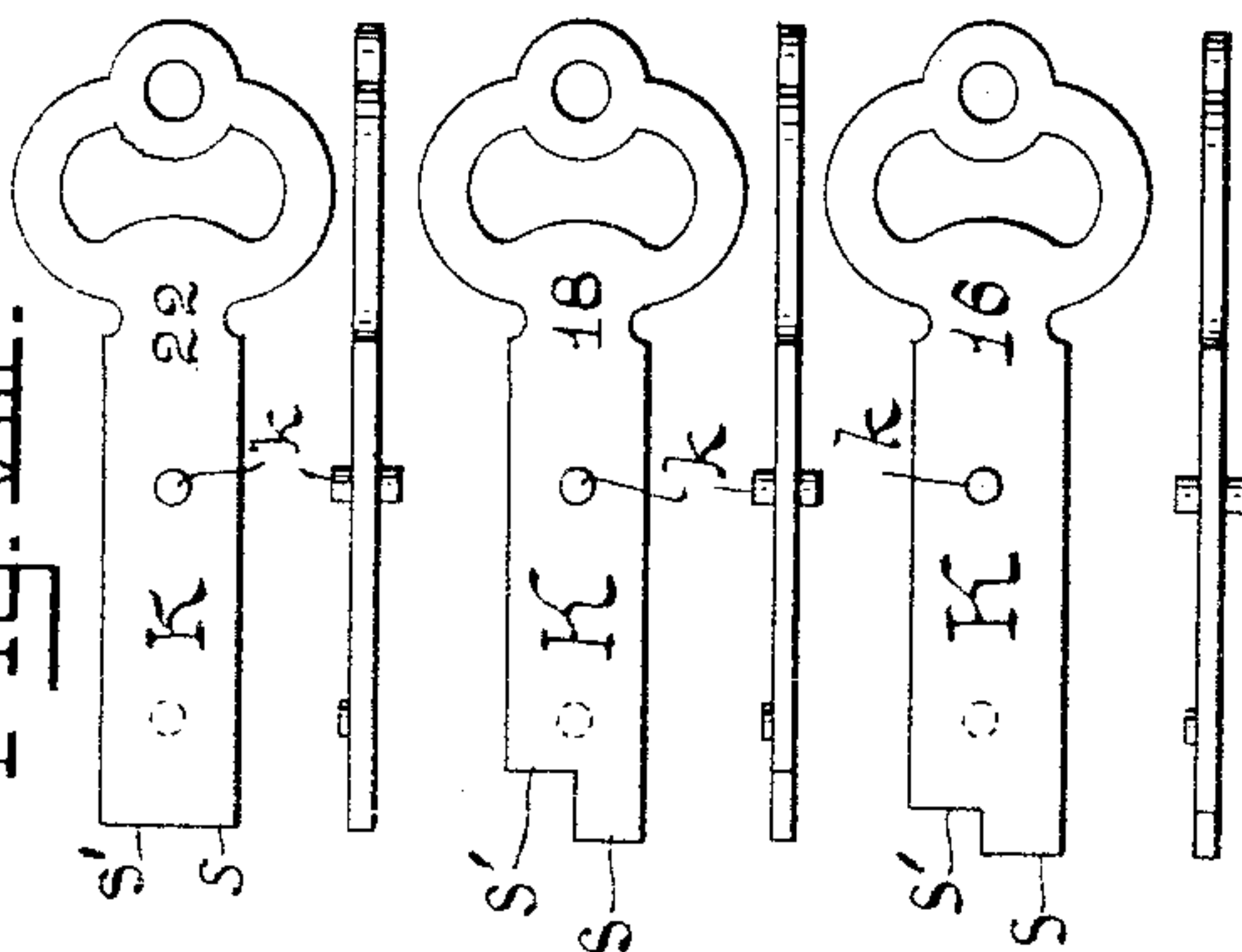
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Fig. VIII.



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(No Model.)

3 Sheets—Sheet 3.

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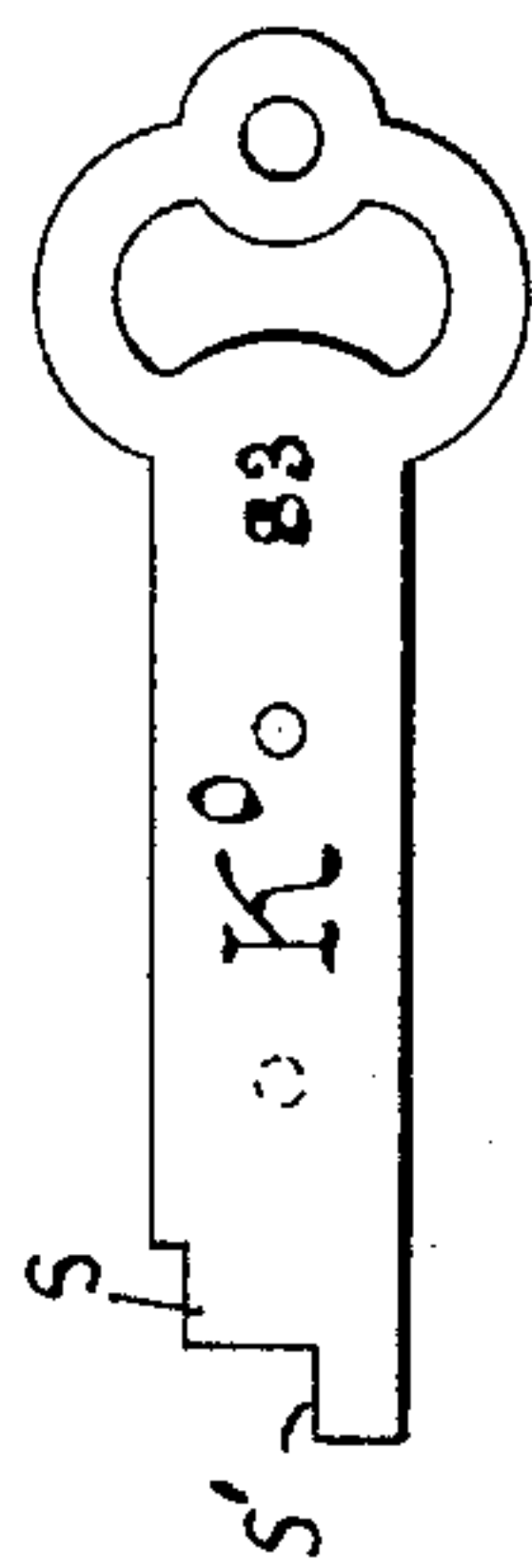


Fig. XII.

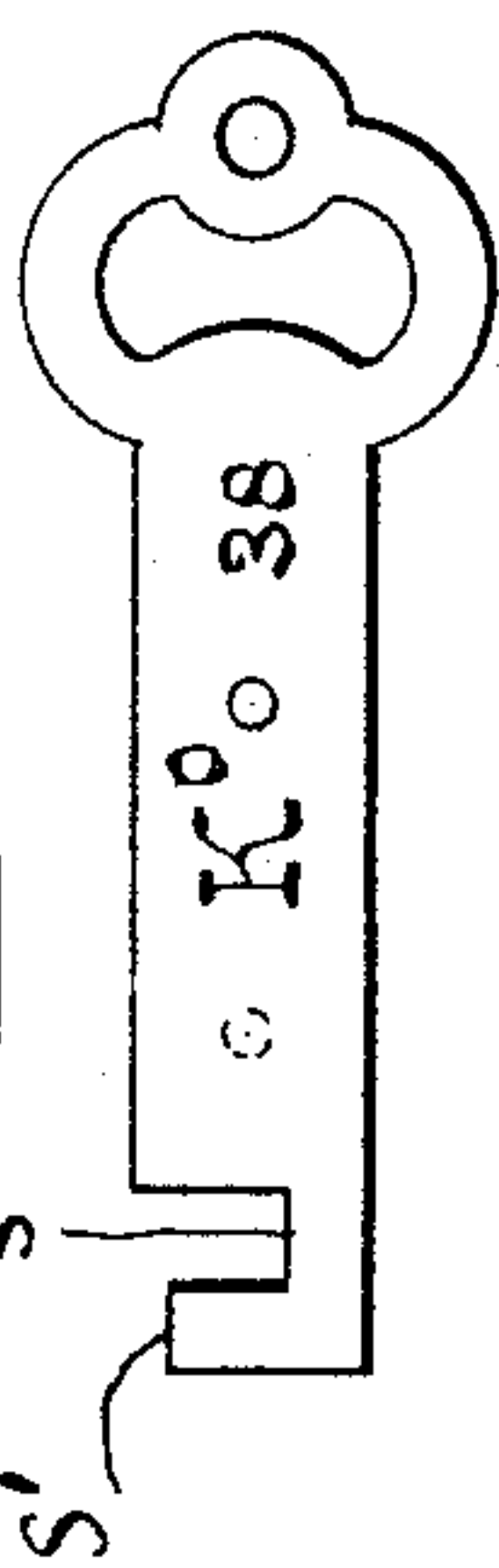


Fig. X.

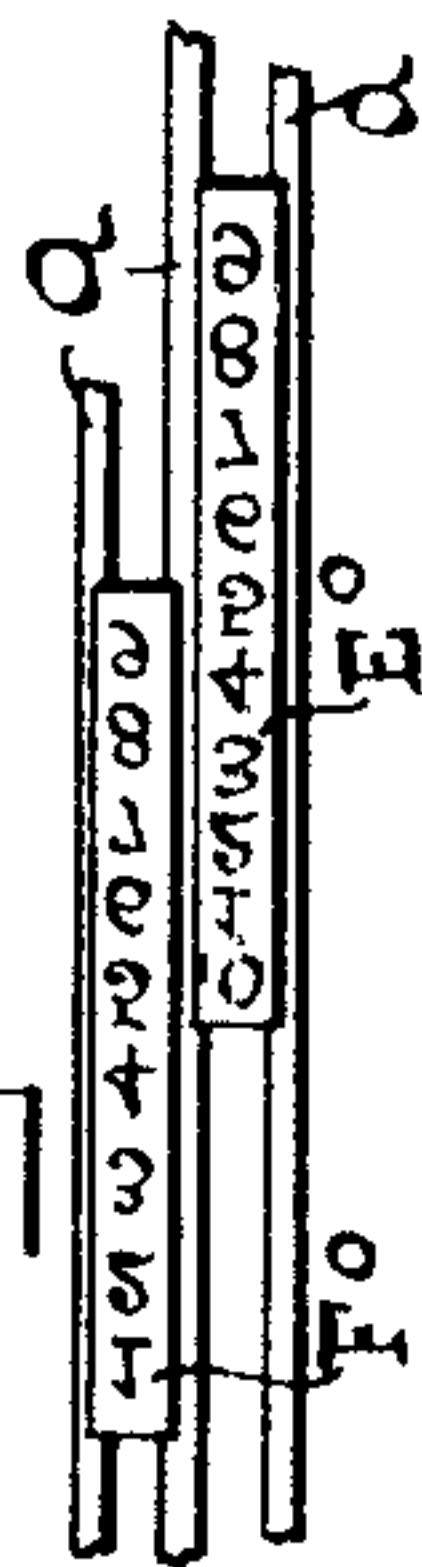


Fig. XI.

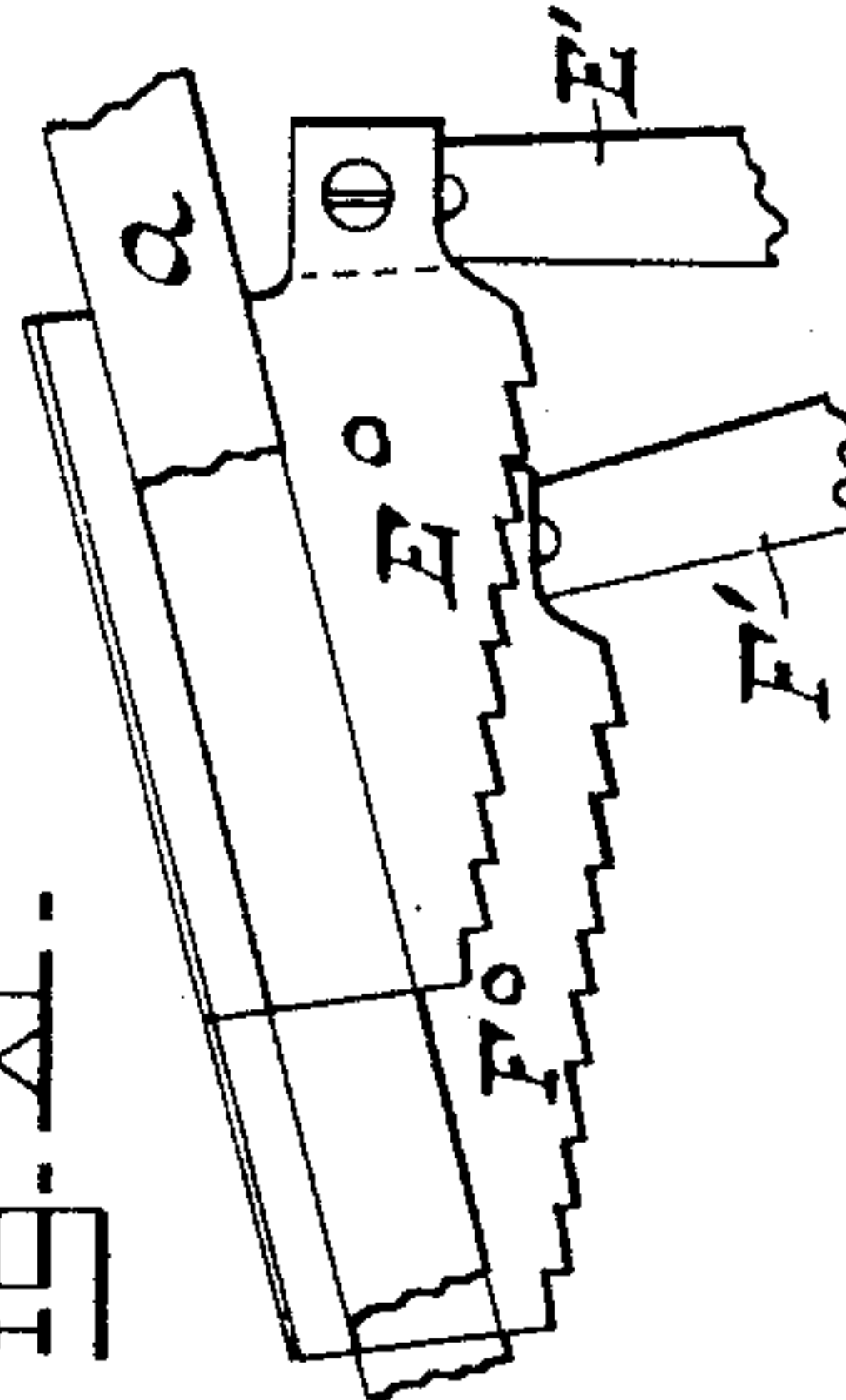
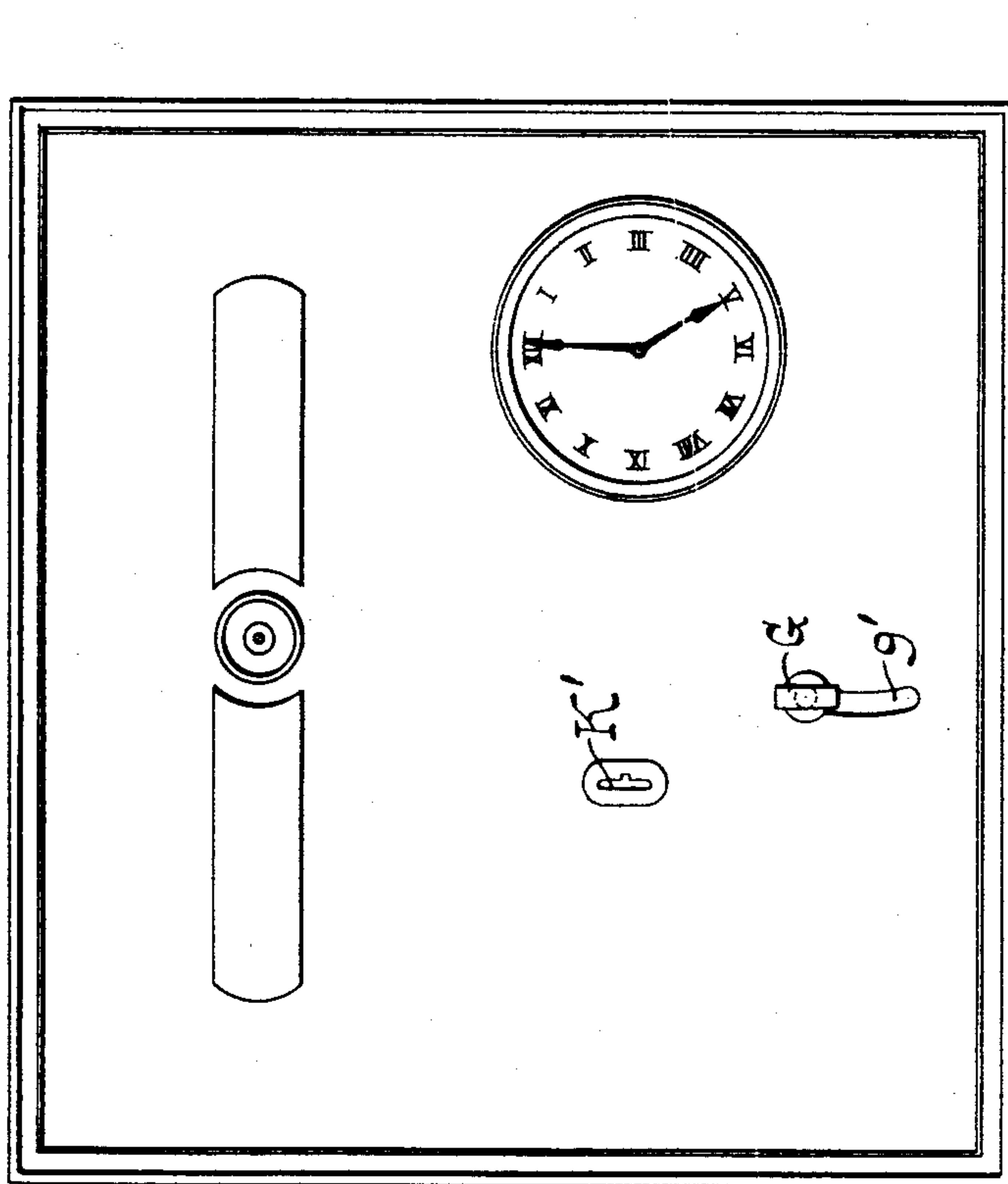


Fig. IX.



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UNITED STATES PATENT OFFICE.

CHARLES A. WIDMER, OF NEW YORK, N. Y., ASSIGNOR TO THE WIDMER
TIME RECORDER COMPANY, OF NEW JERSEY.

WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 542,578, dated July 9, 1895.

Application filed March 14, 1895. Serial No. 541,651. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. WIDMER, a citizen of the United States of America, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Workmen's Time-Recorders, of which the following is a specification.

My invention has reference to employes' time-recorders, and especially to improvements in the devices for printing the record of the keys inserted.

It has for its object to simplify the construction of, to reduce the cost of, and at the same time to obtain increased reliability of record and greater durability in time-recorders.

To this end my invention consists essentially in embodying in a time-recorder one or more type-plates, each provided with a series of stepped teeth with which the key engages to arrest the motion and to determine the position assumed by said type-plates when the actuating-handle is depressed.

The nature of my invention will best be understood when described in connection with the accompanying drawings, in which—

Figure I represents a front elevation of a time-recorder constructed according to my invention with a portion of the frame removed. Fig. II is an end elevation, looking from the left of Fig. I. Fig. III is a top view, part being broken away. Fig. IV is an end elevation, on an enlarged scale, illustrating the type-plates and the parts actuating the same. Fig. V is a section on the line 5 5, Fig. IV. Fig. VI is a section on the line 6 6, Fig. V. Fig. VII is a plan or top view of one of the type-plates. Fig. VIII illustrates the construction of the keys. Fig. IX is a front elevation of the time-recorder incased. Fig. X is a plan view of a modified form for the type-plates. Fig. XI is a side elevation of Fig. X. Fig. XII illustrates keys adapted for the construction shown in Figs. X and XI.

Similar letters of reference designate corresponding parts throughout the several views of the drawings.

Referring at present to Figs. I, II, and III of the drawings for a brief description of the parts usually embodied in employes' time-re-

cordors, the letter A designates a frame suitably constructed to support the several operative parts. C, Fig. I, is a clock-movement of a usual form and connected by intermediate pinions to the time-wheels B D for indicating the hours and minutes, respectively. R is the paper ribbon or tape, coiled on a suitable delivery-spool R' at the top of the frame and conducted to the take-up roll R² at the bottom of the frame. H is a suitable hammer, and I is the ink-ribbon supplied from the spool I' and received by a take-up roll or spool I². All these parts are well known and may be of any suitable form and operated as usual, the distinctive features of my invention being the type-plates and the means for operating the same, which I shall now proceed to describe with reference to Figs. I, IV, and V.

Referring now to said figures, the letters E F designate two type-plates fitted to reciprocate between two rectilinear guides *a a* secured to the frame A. Said type-plates are provided on their upper or printing faces with numerals or other characters corresponding to the keys. In the present instance I make use of numerals, those on the plate E corresponding to the units and those on the plate F to the tens. These plates are mounted vertically and provided with webs at right angles thereto, formed each with a series of stepped teeth *e f*, adapted to engage with the key. The keyhole K' is arranged directly opposite the stepped teeth *e f* of the type-plates, and the key is adapted to extend across the paths of said teeth to engage with the same for the purpose of arresting the forward motion of the type-plates. The type-plates are independently mounted and may be actuated by any suitable mechanism. In the present instance the same are connected by two levers E' F' adapted to turn about a shaft *b* at the lower part of the frame. Said type-plate levers are connected by springs *c d*, or by any other suitable yielding connection, to a crank-arm G adapted to be turned about the shaft *b* and retracted by a spiral spring *g*. This arm is provided with a handle G' projecting through the casing of the device and playing in a slot *g'* in the frame A,

which slot limits its motion in either direction. The crank-arm G is provided with a heel g^2 reaching across and bearing against the levers E' F' for the purpose of holding
 5 said levers and consequently the type-plates in their normal positions, as shown in Fig. I, the type-plates then being against the ends of the guides $a a$. For actuating the hammer H the crank-arm G is provided with an arm
 10 or extension h , arranged to engage with a lever J, pivoted on the arbor i of the take-up spool I^2 . On said lever is mounted a hinged spring-pressed finger j , adapted to engage with the roller-stud on an arm j' , projecting
 15 from the hub of the hammer, which hub can turn on the shaft j^3 . The finger j is faced off taper on its rear vertical side and drops the arm j' after the hammer is sufficiently lifted, thus tripping the latter. On the return stroke
 20 of the lever J the finger yields laterally and passes the arm j' .

To lift the hammer from the paper ribbon or tape after the impression has been made, I provide a rebounder l , consisting of a spring-pressed stud arranged in the path of an extension l' on the hammer H. The stud yielding permits the hammer to make the impression and then holds the same slightly above the ribbon.

30 To feed the ink-ribbon at the required intervals, I have, in this instance, made use of a spring-pawl m , mounted on the lever J and adapted to engage with and turn the pinion i' on the arbor of the take-up spool I^2 . Below
 35 the pinion i' is located a weighted detent n , which latter prevents retrograde motion of the pinion. The take-up roll R^2 for the paper ribbon or tape is geared to the pinion i' by a pinion o .

40 The graduated keys K for determining the extent of motion of the type-plates E F, and consequently the number or numbers brought into the printing-line, are illustrated in Fig. VIII. Each key is provided with a stop k ,
 45 which determines the distance which the key can be inserted into the keyhole. The end of the key is wide enough to extend across the stepped surfaces of both type-plates E and F, and consequently the distance of the end of
 50 the key from said stepped surfaces will determine the distance which the individual type-plate can move. The surface s at the end of the key engages with the units type-plate E and the surface s' with the tens type-plate F.

55 The operation of the type-plates and key is as follows: Normally the type-plates are in the positions shown in Fig. I, in which positions all the characters thereon are to the right of the printing-line. The key, say number 16, is inserted into the keyhole and the
 60 handle G' then depressed. Under the action of the springs $c d$ the levers E' F' are turned and carry the type-plates toward the left of Fig. I. The face s' of the key is engaged by the first step on the type-plate F, and the motion of the latter is arrested and numeral 1 is

then in the printing-line. The type-plate E continues to move until the sixth step engages the face s of said key. In this position of the plate E numeral 6 is in the printing-
 70 line and completes the number 16. With the depression of the handle G' the hammer H is raised, and simultaneously therewith the paper and ink ribbons are fed forward. The crank-arm on its return stroke, under the influence of spring g , returns the type-plates
 75 and levers to their normal positions.

While I have herein shown the type-plates applied to a time-recorder worked by an actuating-handle, it is evident that they may be
 80 similarly embodied in automatic recorders—that is to say, in recorders in which the insertion of the key also actuates the several operative parts.

In Figs. X and XI, I have shown the stepped
 85 teeth formed directly on the bottom of the type-plates E' F', instead of on a web at right angles to the body of the plate. The steps on the keys K' are then formed on the side of the key, as shown in Fig. XII.

What I claim as new is—

1. In a time-recorder, the combination of a type-plate mounted to slide and provided with a series of stepped teeth adapted to engage
 95 with the key, and a handle in operative connection with said type-plate for moving the same toward the key to bring the corresponding character into the printing line, substantially as described.

2. In a time-recorder, the combination of a
 100 type plate mounted to slide and provided with a series of stepped teeth adapted to engage with the key, an operating handle, and an operative yielding connection between said
 105 handle and the type-plate for moving the latter toward the key to bring the corresponding character into the printing line, substantially as described.

3. The combination with a plurality of sliding, independently mounted type-plates provided with stepped teeth adapted to engage
 110 with the key, an actuating handle, and a yielding operative connection between said handle and the type-plates for moving the latter toward the key to bring the corresponding
 115 characters into the printing line, substantially as described.

4. The combination with a plurality of sliding, independently mounted type-plates provided with stepped teeth adapted to engage
 120 with the key, of a plurality of levers engaging said type-plates respectively, a crank arm engaging said levers for returning the same to their normal positions, and a yielding connection between said crank arm and the levers
 125 for actuating the latter to move the type-plates toward the key, substantially as described.

5. In a time recorder, the combination of a plurality of sliding, independently mounted
 130 type-plates provided with stepped teeth, keys provided with stops k and with graduated

ends adapted to extend across the stepped
teeth of the type-plates for checking the mo-
tion of the latter, and an actuating handle in
operative connection with said type-plates for
5 moving the same toward the key, substan-
tially as described.

In testimony that I claim the foregoing as

my invention I have signed my name in pres-
ence of two witnesses.

CHARLES A. WIDMER.

Witnesses:

EUGENIE PERSIDES,
CHAS. W. THOMAS.