

C. E. GROBET.
TRANSFER TICKET REGISTER.

No. 571,659.

Patented Nov. 17, 1896.

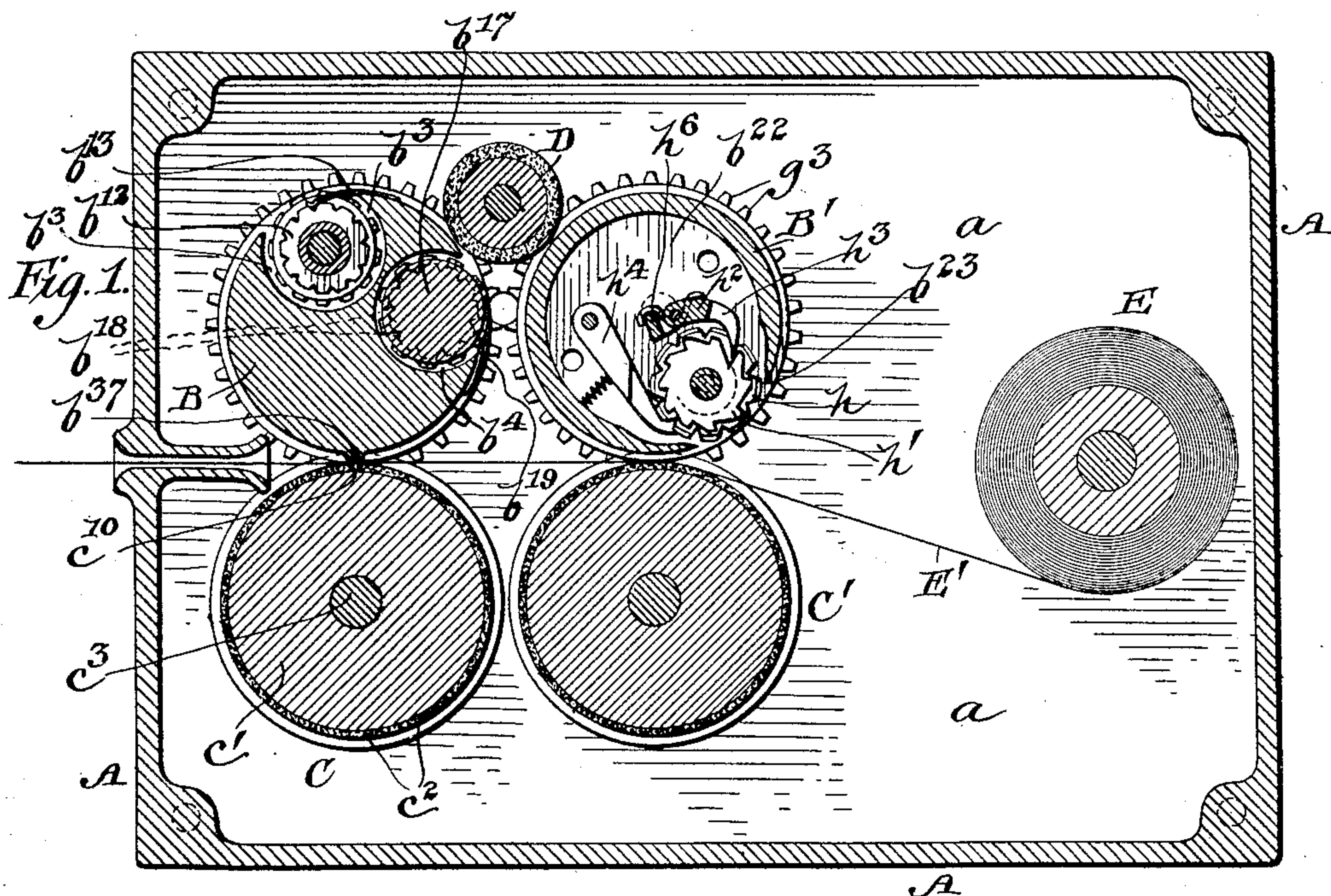
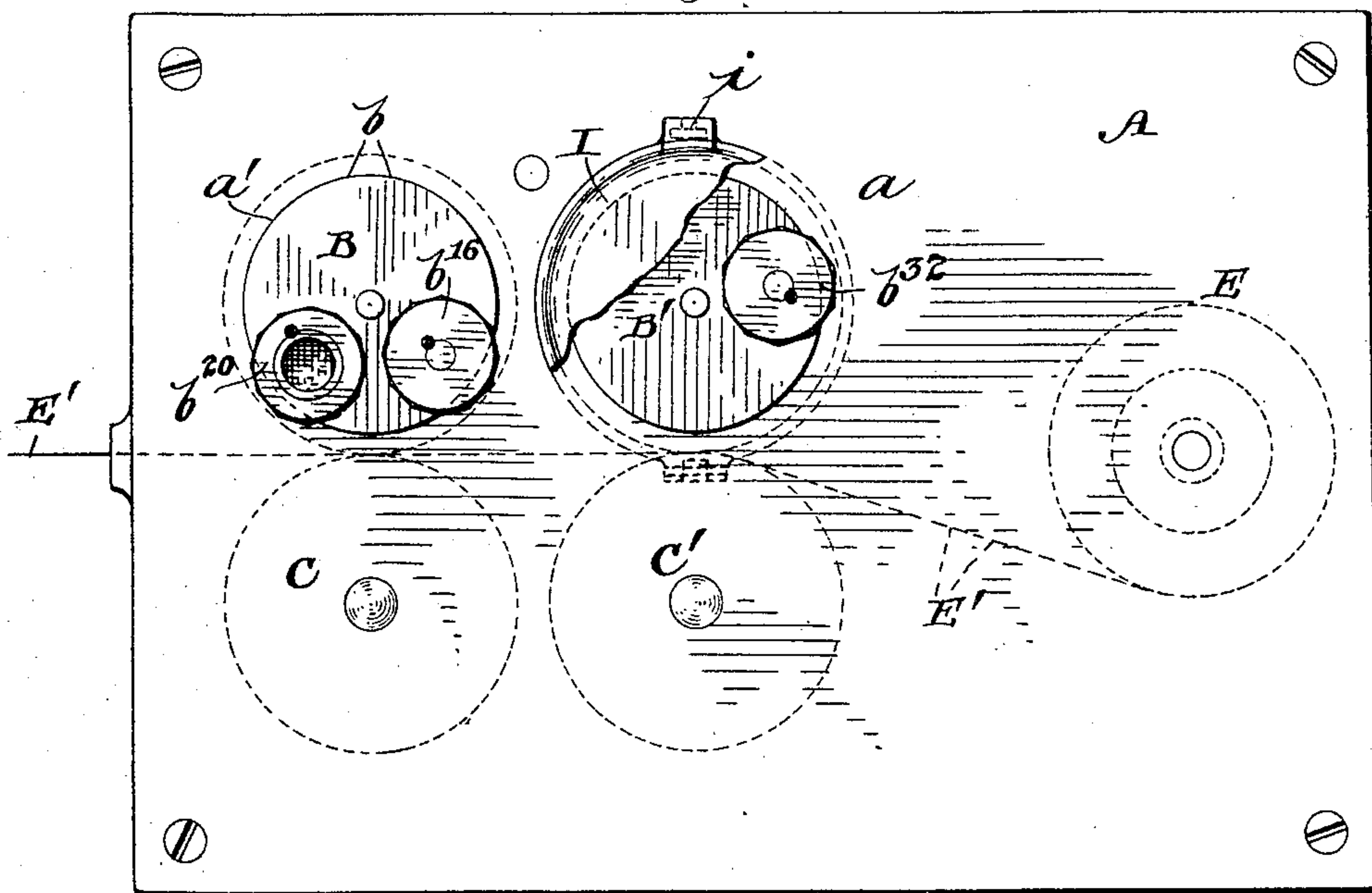


Fig. 2.



WITNESSES

Severance
W. Harry Muzzy

INVENTOR

Charles E. Grobet
by his Atty
Maun, Fawcett & Harmer

(No Model.)

3 Sheets—Sheet 2.

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Fig. 3.

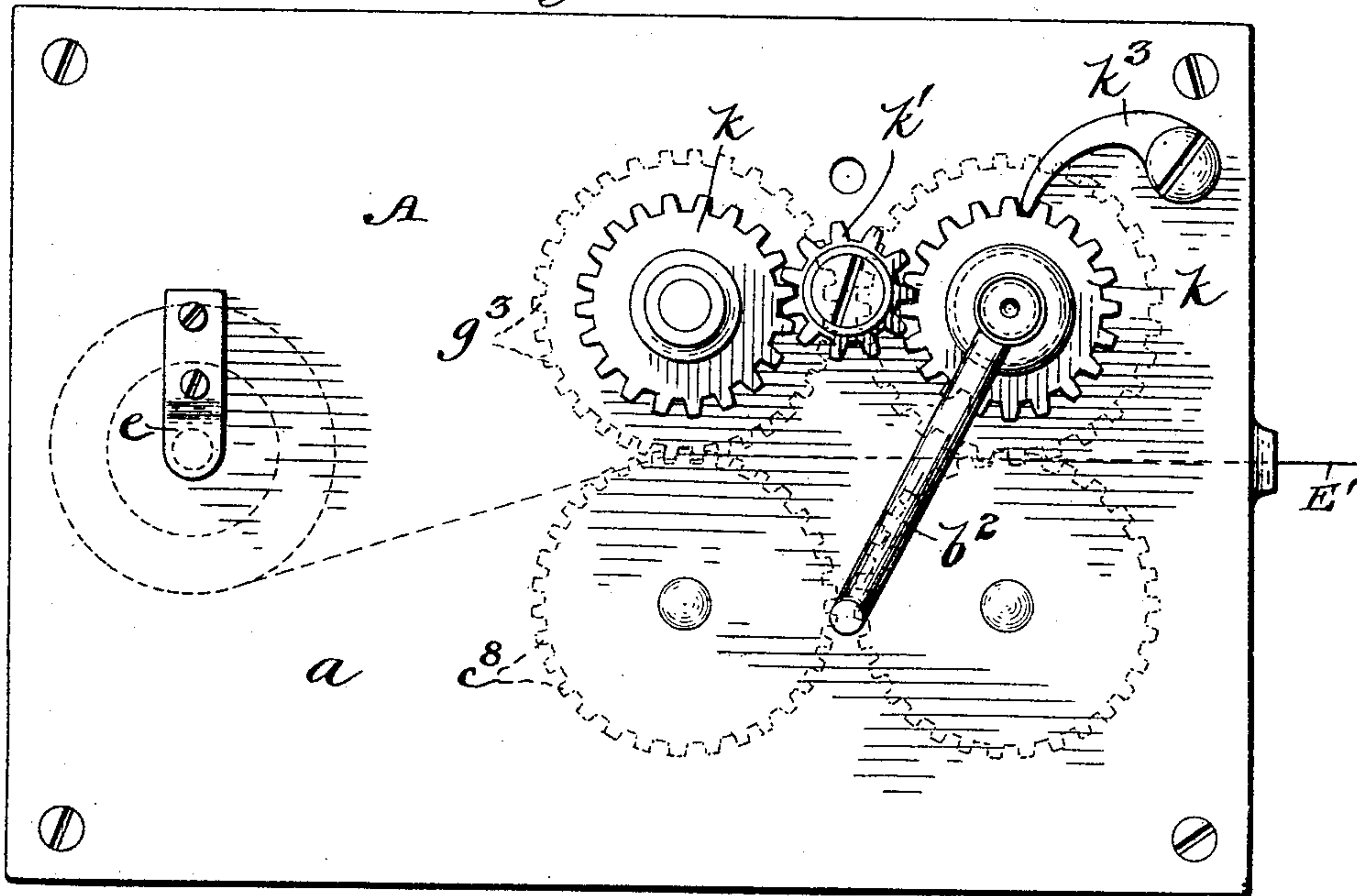
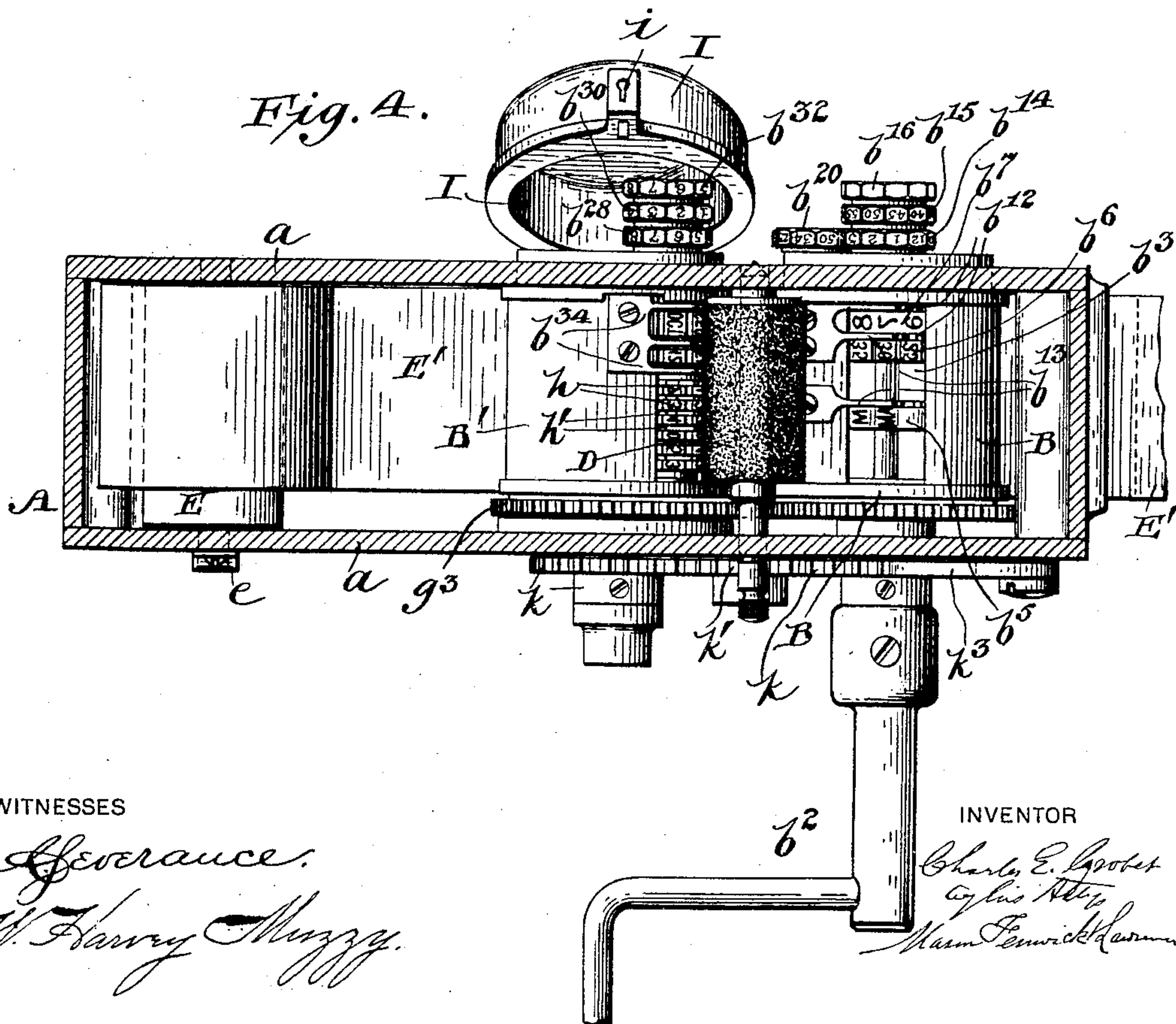


Fig. 4.



WITNESSES

H. Harry Muzzy.
H. Harry Muzzy.

INVENTOR

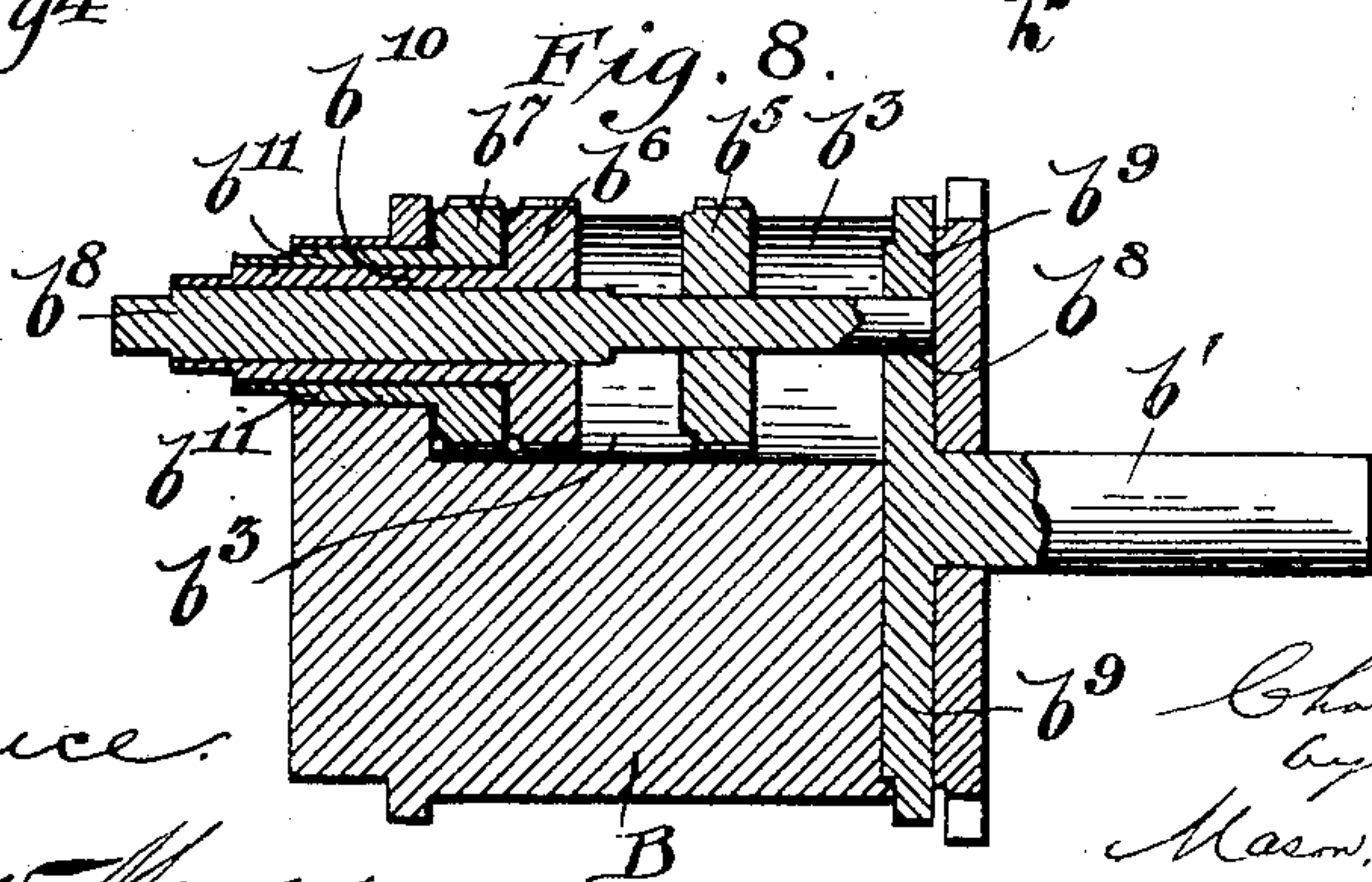
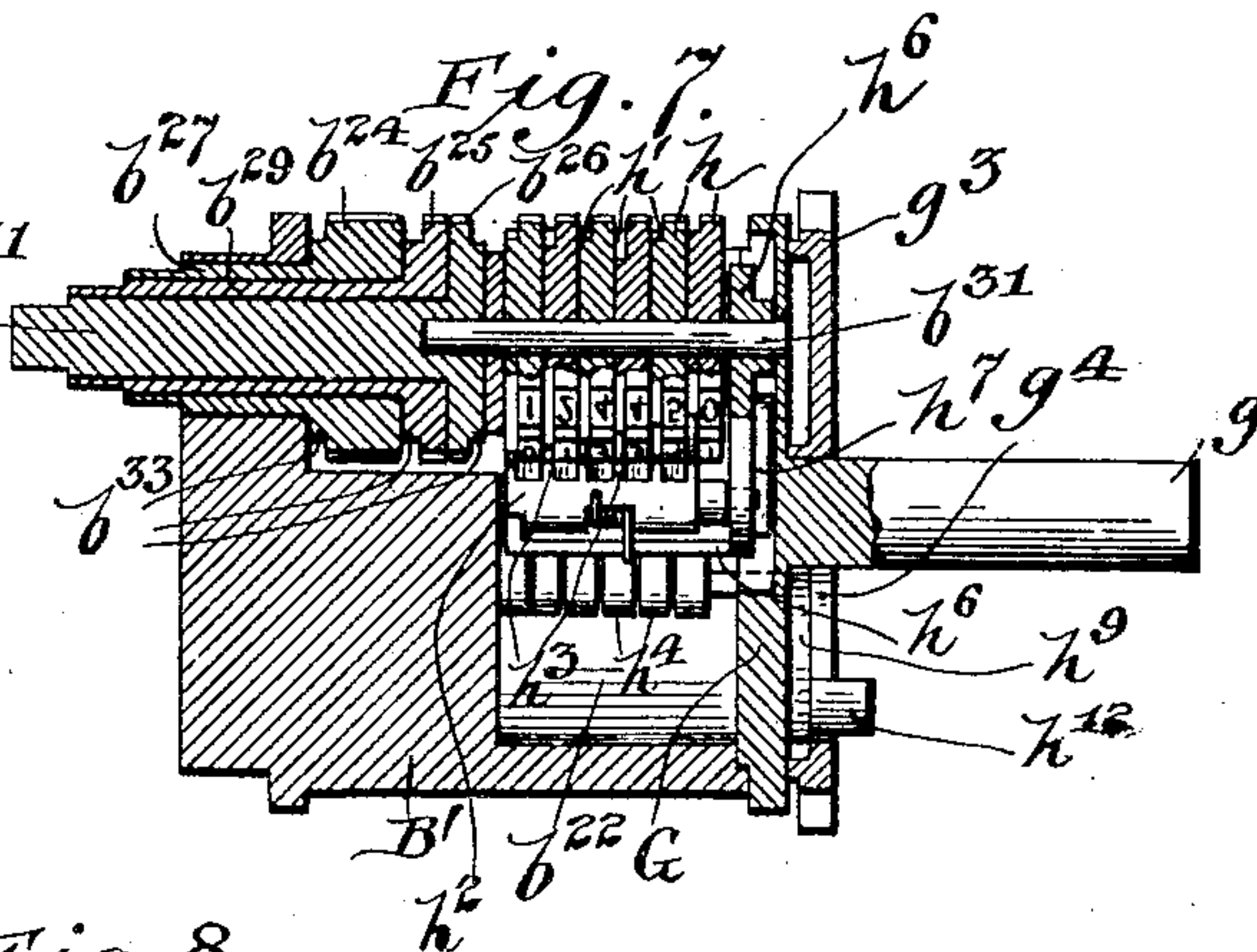
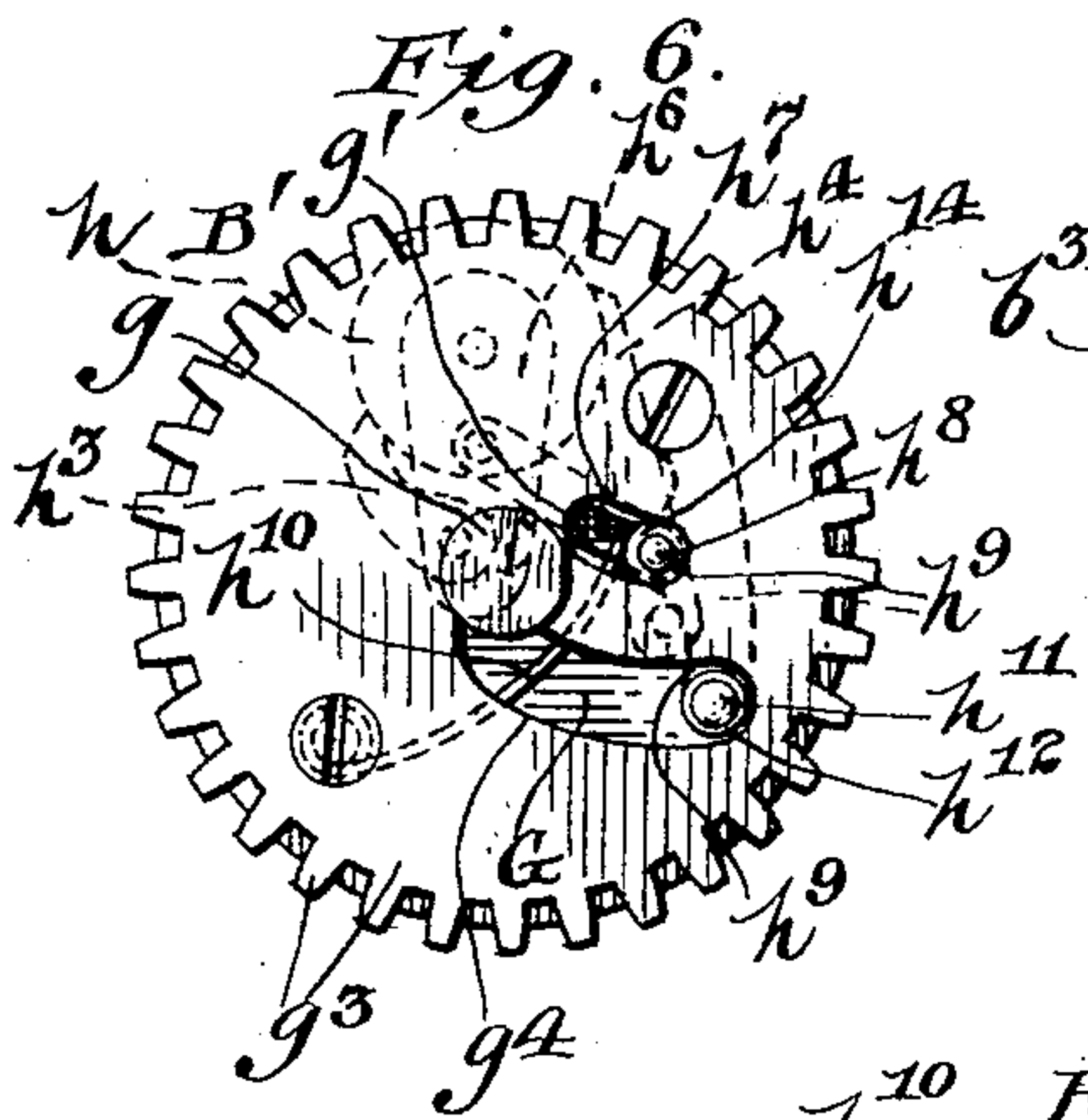
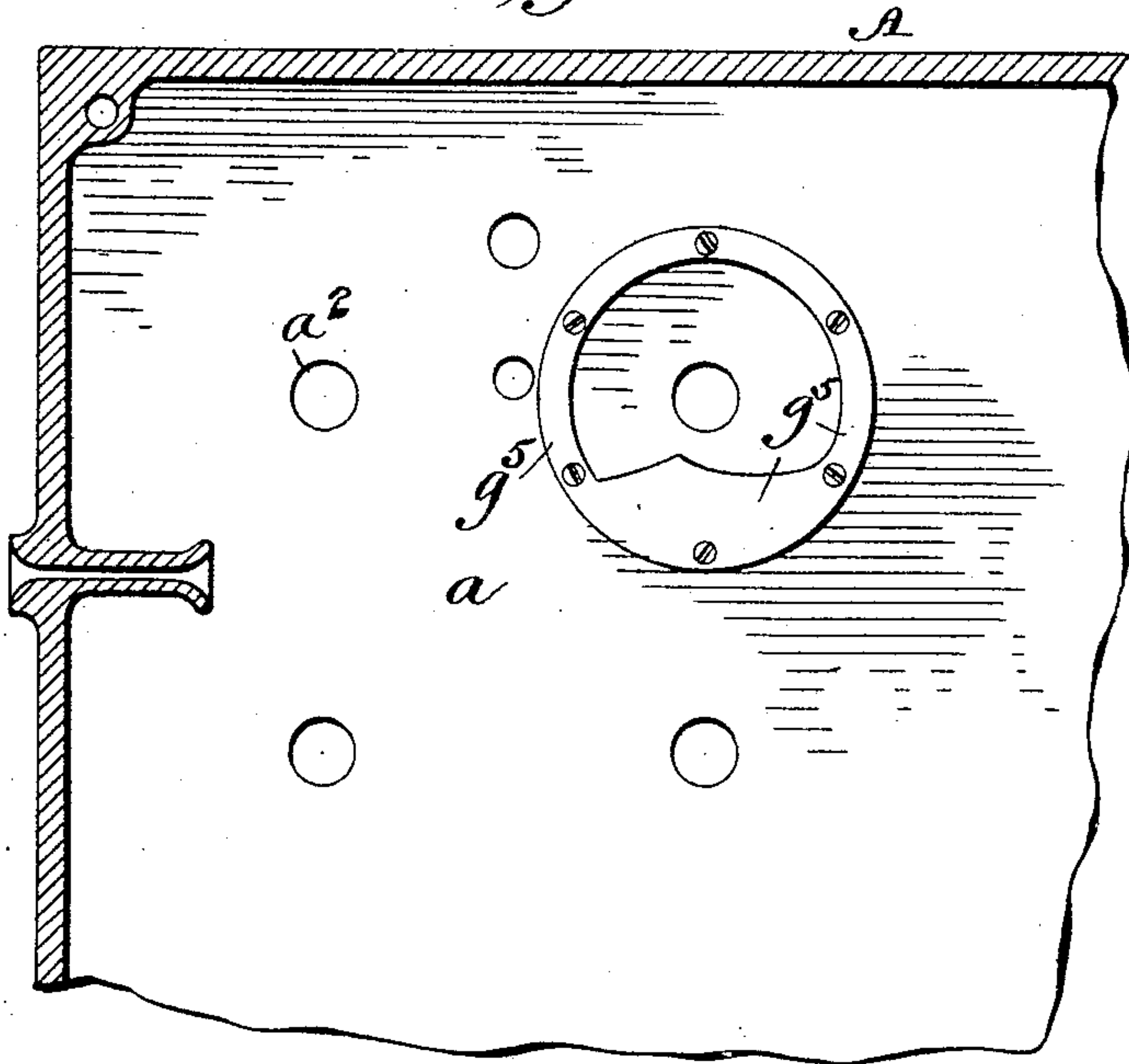
Charles E. Grobet
By his Attys
Wm. Fenwick Harrison

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Fig. 5.



WITNESSES

Everance
W. Harvey Muzzey

INVENTOR

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UNITED STATES PATENT OFFICE.

CHARLES E. GROBET, OF NEW YORK, N. Y., ASSIGNOR OF TWO-THIRDS TO
AUGUSTUS T. DOCHARTY AND JULIO HATCHIWELL, OF SAME PLACE.

TRANSFER-TICKET REGISTER.

SPECIFICATION forming part of Letters Patent No. 571,659, dated November 17, 1896.

Application filed February 21, 1896. Serial No. 580,223. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. GROBET, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Transfer-Ticket Registers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in ticket-printing machines, and has more particular relation to portable machines for printing or stamping transfers or tickets on street and other railway systems.

The invention consists of certain novel constructions, arrangements, and combinations of parts whereby a novel and improved transfer-ticket register is produced, the construction, arrangement, and combination being such that the web of paper is fed continuously between each set of printing and pressure drums, while each printing-drum is connected by independent gearing with its respective pressure-drum, and the types carried by each of said drums are inked by an inking-roller interposed between the printing-drums, and also other important objects are secured, as hereinafter set forth and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 represents a central vertical longitudinal section through the devices embodying my invention. Fig. 2 represents a side elevation of the same. Fig. 3 represents a side elevation of the opposite side of said devices. Fig. 4 represents a top plan view of said devices, the top of the casing being removed and the hinged cover for the date-adjusting disks partially open. Fig. 5 represents a detail side elevation of the interior surface of one of the side plates, showing the cam-ridge formed thereon. Fig. 6 represents an end elevation of the drum containing the consecutive numbering-type. Fig. 7 represents a detail longitudinal vertical section through the same, and Fig. 8 represents a detail longitudinal vertical section through the drum containing the hour-stamping type.

A in the drawings represents the casing; B B', the printing-drums; C C, the pressure-

rolls; D, the inking-roller, and E the paper-carrying reel.

The casing is made of any suitable shape or design and is provided with two side plates *a a*, in which the ends of the several drums, rollers, &c., are journaled or have their shafts journaled.

The printing-drum B is slightly reduced in diameter at one end to form a journal portion *b*, which is journaled in an aperture *a'* cut in one of the side plates *a*. This drum is provided at its opposite end with a rigid shaft or journal *b'*, that is journaled in an aperture *a''* in one of the plates *a* and extends through said plate a sufficient distance to form an arbor, to which an operating-handle *b''* is attached. Said drum B is provided with two longitudinal peripheral grooves *b'' b'''*, in which the movable type are mounted. The groove *b''* contains three rotatable printing-wheels *b''*, *b'''*, and *b'''*, respectively. The wheel *b''*, carrying the "A. M.," "M.," and "P. M." type, is rigidly mounted on a shaft *b'''*, that is journaled at one end in a cap *b'''*, which is applied over the end of said drum. The wheel *b'''*, carrying the numerals or type representing fractions of the hours, is fast to a sleeve *b'''*, which latter is mounted on the shaft *b'''* and projects through the end wall of the drum within a short distance of the end of the shaft *b'''*. The wheel *b'''*, carrying the numerals or type representing the hours of the day, is rigidly mounted on a sleeve *b'''*, which sleeve is in turn mounted on the sleeve *b'''*, but does not project out quite as far as the end of the same, so as to leave a portion of the sleeve *b'''* exposed. The sleeve *b'''* is journaled in the end of the drum. Each of the wheels *b''*, *b'''*, and *b'''* is provided with notches *b'''*. Spring-pawls *b'''* are mounted on the periphery of the drum B and engage the notches in said wheels, respectively, so as to hold the several types thereon in the correct printing positions as the said wheels are revolved by their respective sleeves or shaft.

The end of the sleeve *b'''* that projects beyond the end of the drum is provided with an adjusting-disk *b'''*, fast thereon. This disk is numbered about its periphery from "1" to "12" to correspond with the printing-type for printing the hours of the day. It will

thus be seen that the hour-wheel can be adjusted so as to bring the correct hour-numeral into printing position by means of the disk b^{14} . This is done by bringing the correct number on the said disk so as to correspond with a suitable indicating arrow or dot on the end of the drum or the casing. The sleeve b^{10} is provided with an adjusting-disk b^{15} , fast thereon and provided about the periphery with numerals running from "0" to "55" and jumping five at a time—thus, "5," "10," "15," "20," &c. The shaft b^8 is also rotated to bring the type carried by the wheel b^5 into printing position by a disk b^{16} , fast to said shaft. This disk is provided with suitable indications about its periphery by means of which the position of the type on the wheel b^5 may be ascertained. The groove b^4 in said drum contains a journaled printing-roller b^{17} , about which the names of the respective transfer-streets are arranged. This roller may also contain information to be printed on the tickets, as to issuance of block-tickets, when the car-line has become temporarily blocked or inoperative. The said roller is provided at one end with a notched wheel b^{18} , that is engaged by a spring-pawl b^{19} , fast to the periphery of the drum, so as to hold the type on said roller in the correct printing position when the said roller is adjusted, as will be hereinafter described. The journal portion b^{19} at one end of said roller projects through the end of the drum and is provided with an adjusting-disk b^{20} , fast thereto. This disk is stamped about its periphery with letters or numbers whereby the position of certain information on said roller may be ascertained and adjusted to the printing position. The periphery of the said drum B between the two longitudinal grooves may be provided with any suitable advertising or other printing type. This drum B is also provided with a longitudinal slot b^{37} , into which perforating-teeth c^{10} , mounted in a longitudinal line on pressure-roller C, are adapted to fit. As the web of paper passes between the drum B and roller C it is perforated laterally at the interval of every ticket and the tickets can thus be accurately torn apart afterward. One end of the drum is provided with a gear-wheel b^{21} , that meshes with a gear-wheel c on the end of the pressure-roller C, thus causing said roller to revolve at the same time and with the same speed as said drum. This pressure-roller comprises a solid roller c' , covered about its periphery with a rubber or other suitable facing c^3 . This roller is journaled on a shaft c^3 , that has its ends mounted in the side walls of the casing. The printing-drum B' is also reduced at one end similar to the drum B to form a journal, which is mounted in a suitable aperture in one of the side plates. Said drum is also hollowed out, as at b^{22} , to accommodate the automatic consecutively-numbering mechanism. It is also provided with a longitudinal groove b^{23} , in which the date-printing wheels b^{24} , b^{25} , and b^{26} are mounted.

The wheel b^{24} contains the types for printing the names of the months and is mounted on a sleeve b^{27} , that is journaled in the end of the drum and projects some distance beyond the same for the attachment of the adjusting-disk b^{28} . This disk is rigidly attached to said sleeve, and is provided about its periphery with suitable numerals whereby the positions of the respective months may be determined and adjusted. The wheel b^{25} is mounted on a sleeve b^{29} , journaled in the sleeve b^{27} and extending beyond the end of the same, so that it may have an adjusting-disk b^{30} attached thereto. This wheel b^{25} contains the printing-type "1," "2," and "3," and the disk b^{30} contains corresponding indications whereby the said printing-type may be adjusted to the proper printing positions. The wheel b^{26} is mounted on a shaft b^{31} , which is journaled in the sleeve b^{29} , and extends beyond the end of said sleeve whereby an adjusting-disk b^{32} may be applied thereto. The said wheel b^{26} is provided with printing-numerals from "0" to "9," and its disk b^{32} with similar numeral indications whereby the printing positions of the types on said wheel may be adjusted. It will be observed that both the wheels b^{25} and b^{26} are required in order to give the full date, that is, after the date runs above "9." Each of the wheels b^{24} , b^{25} , and b^{26} is provided with a notched disk b^{33} . Spring-pawls b^{34} , attached to the periphery of the drum, engage said notched disks respectively and securely hold the type-wheels in their adjusted positions.

The consecutive numbering mechanism comprises a number of printing-wheels h , loosely mounted on the shaft b^{31} . Each of these wheels is provided with printing-types numbered from "0" to "9." They are also each provided with a notched disk h' , having one notch much deeper than the remainder. A simple spring-pressed pawl h^2 is provided with pawl-teeth h^3 of progressive lengths that are adapted to engage said notched disks to move them forward. Independent spring-pressed pawls h^4 also engage said notched disks to prevent back action of the same and also to hold the several types in exact printing position. The pawl h^4 is mounted in a casting h^6 , that is journaled on the end of the shaft b^{31} . The movement of this casting causes the pawl h^4 to operate in the usual manner for such consecutive numbering-disks. This mechanism for consecutive numbering is old in the art, and its action will therefore be well understood without additional description. The casting h^6 is moved up and down to operate the pawl upon every revolution of the drum by a lever h^7 , pivoted at one end to said casting and provided at the opposite end with a projecting stud h^8 . A cap G, having a journal-stud g , that is mounted in one side of the casing, is applied over the open end of the drum. This cap has a segmental slot g' formed therein. The stud h^8 passes through this slot and is operated by a lever h^9 , pivoted to the outside of the cap G

at *g*. The lever *h*⁹ is provided with an apertured lug *h*¹⁴, that fits over the stud *h*⁸ and thereby operates said stud upon the movement of the lever. This lever is engaged by
 5 a spring *h*¹⁰, that normally holds it down with the stud *h*⁸ in the lower part of the slot *g*¹, and is provided in its turn with a stud *h*¹¹, surrounded by a loose sleeve *h*¹². A gear-wheel *g*³ is applied over the said cap *G* and is provided
 10 with a segmental slot *g*⁴, through which the stud *h*¹¹ passes and is hollowed out on its inner side to accommodate the movements of the lever *h*⁹ and spring *h*¹⁰. The stud *h*¹¹ is forced from one end of the slot *g*⁴ to the other once
 15 every revolution of the drum by a cam ridge or flange *g*⁵, attached to the inner face of the wall, and thus the numbering-wheels are moved forward one number. The gear-wheel *g*³ engages a gear-wheel *c*⁸, attached to the end
 20 of the pressure-roller *C*'. This pressure-roller *C*' is similar to roller *C* and is journaled in a similar manner between the side plates of the casing. The reduced end of the printing-roller *B*' that projects through the
 25 side wall of the casing is protected by a hinged cover *I*, provided with a lock *i*, whereby it may be locked over the disks for moving the date-types and thus prevent any tampering with the same by an unauthorized person.

30 The projecting shafts of the printing-drums are each provided with a gear-wheel *k*, an intermediate gear-wheel *k*¹, journaled on the casing and being interposed between the two, so that their rotation will be in the same direction. An inking-roller *M* is journaled between the printing-drums, so that as the latter revolve the types therein engage said roller and are thereby inked.

40 An operating-handle *K* is applied on one of said shafts, whereby the whole series of rolls and drums are rotated. A pawl *k*³ is pivotally mounted on the casing, and is adapted to engage one of the wheels *k* to prevent the printing-drums being turned backward by
 45 accident.

The paper-carrying reel *E* is journaled between the side walls of the casing to the rear of the printing-drums. A spring *e* is attached to the casing and engages one of the journal
 50 ends of the reel to form a tension for said reel. The web of paper *E*' passes from this reel under the printing-drums and out at the front of the machine, being fed forward by the contact between the pressure-rollers and
 55 the printing-drums. In its passage under the printing-drums the web has stamped thereon a number, the date, time of day, and the sheet of transfer and any other information or advertising matter. The regulation of all this
 60 information and its adjustment are under the control of the conductor or other employee with the exception of the date and the number.

I do not wish to limit myself to stamping transfers, as my device may be used in con-

nection with any kind of tickets that are to be stamped, numbered, dated, &c., substantially in the manner herein shown and described.

By my invention I dispense with the necessity and expense of having transfer-agents located at the different transfer-stations and also with the necessity of having different-colored transfers for the different stations, as the type for printing the respective stations are changed by the conductors simply operating a knob or handle from the outside of the machine after leaving one station and before reaching another. By my invention any number of transfers desired can be rapidly turned out in a continuous perforated strip and readily separated and handed to passengers.

I contemplate employing my register in stamping tickets and transfers of any kind, and the invention will be found very useful on steam-railways as well as on street-cars.

When used on street-railways, the register will be secured on the wall of a car at any suitable place, preferably on one of the platforms. If it is desired to have the register carried by the conductor, the frame will preferably be made of aluminium to give it lightness. Advertisements and other matters of information may be printed on the back of the roll of paper used for transfer-tickets.

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

The combination in a ticket and transfer device, of a suitable casing having an exit guide-passage in line with the movement of the tickets or transfers, for the delivery of the same, printing-drums mounted in said casing, time-indicating types and place-indicating types, in separate recesses of one drum, and dating and numbering types mounted in the recesses of another of said drums, means for moving said time, place and dating types independently, from the exterior of the casing, a reel carrying a web of paper, independent pressure-drums below each printing-drum, whereby the web of paper is fed continuously between each set of printing and pressure drums, independent gearing, operatively connecting each printing-drum with its respective pressure-drum, an inking-roller interposed between the printing-drums, for inking the types carried by each of said drums, and gearing for revolving the printing-drums, simultaneously from the exterior of the casing, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

CHARLES E. GROBET.

Witnesses:

AUGUSTUS T. DOCHARTY,
 JULIO HATCHWELL.