3 Sheets—Sheet 1.

B. C. POLE.

TICKET-PRINTING AND RECORDING DEVICE.

No. 191,254. Patented May 29, 1877.

Fig 1.

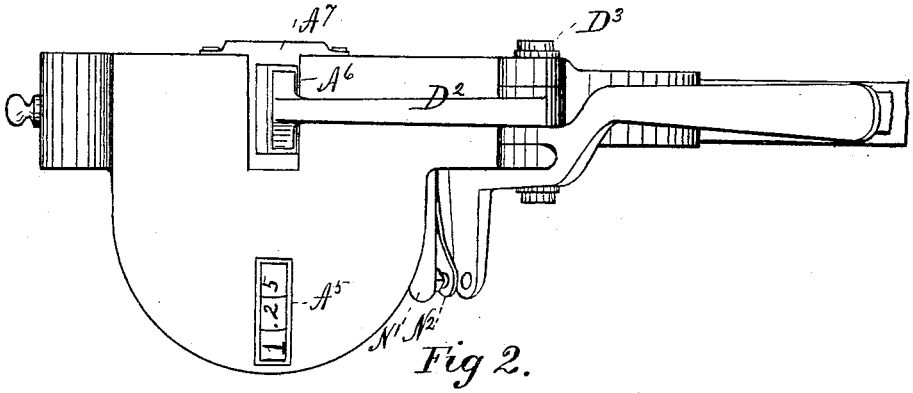

Fig 2.

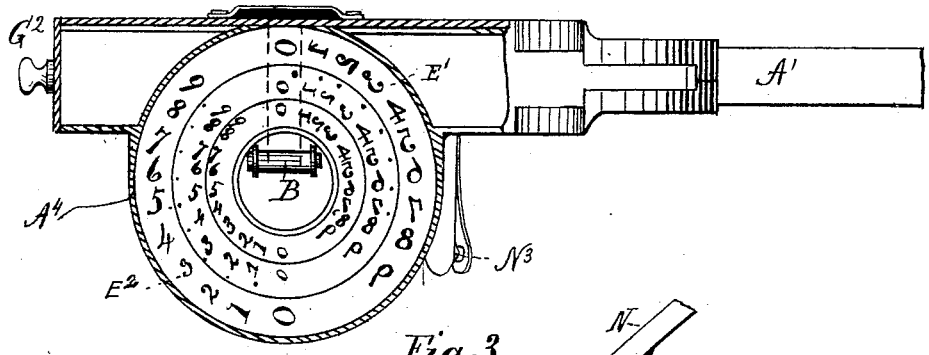

Fig 3.

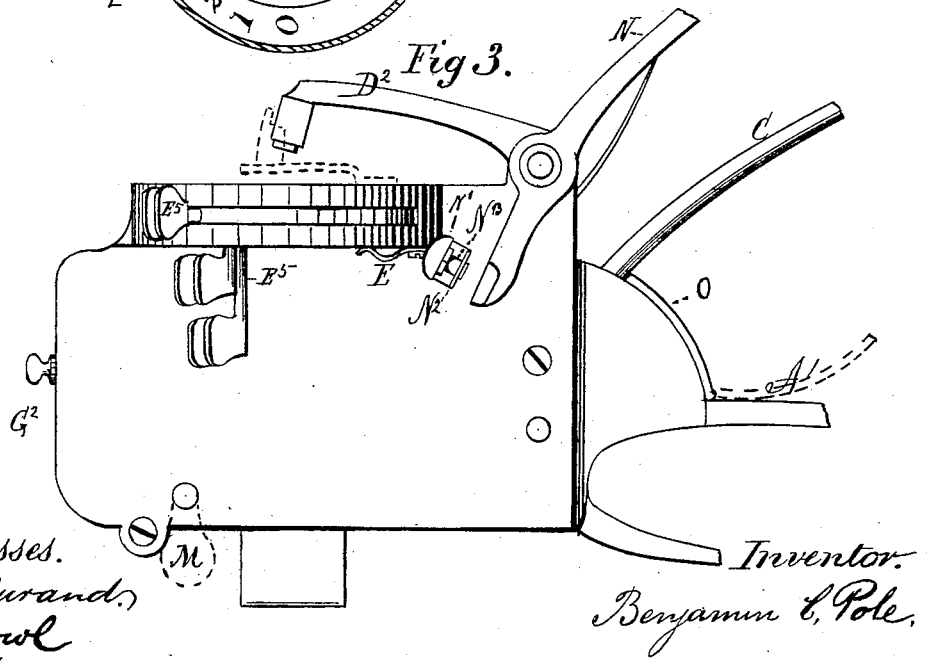

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Fig 4

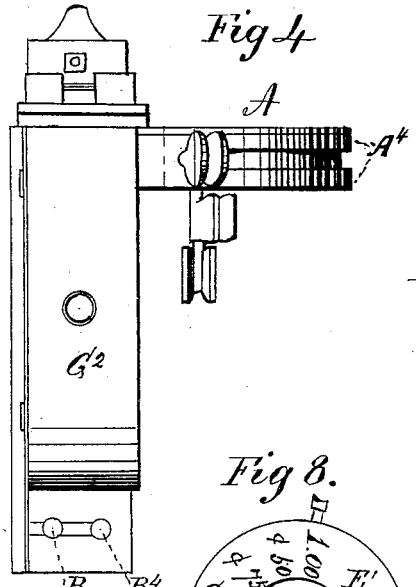


Fig 6

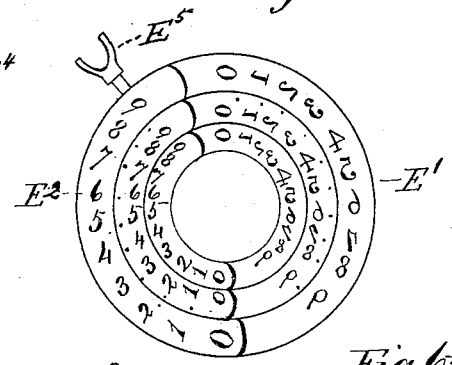


Fig 6½

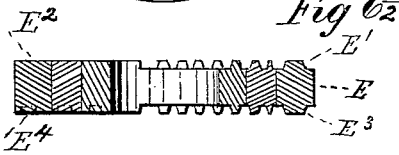


Fig 8.

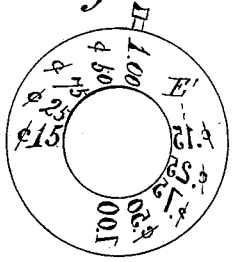


Fig 9.

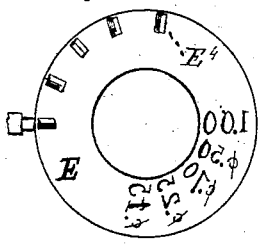


Fig 7.

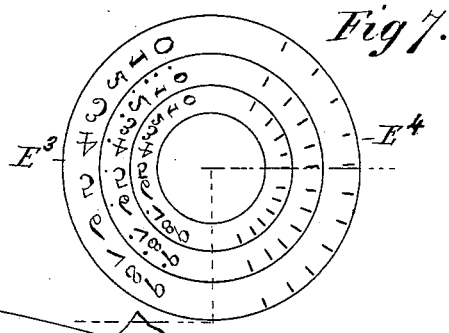
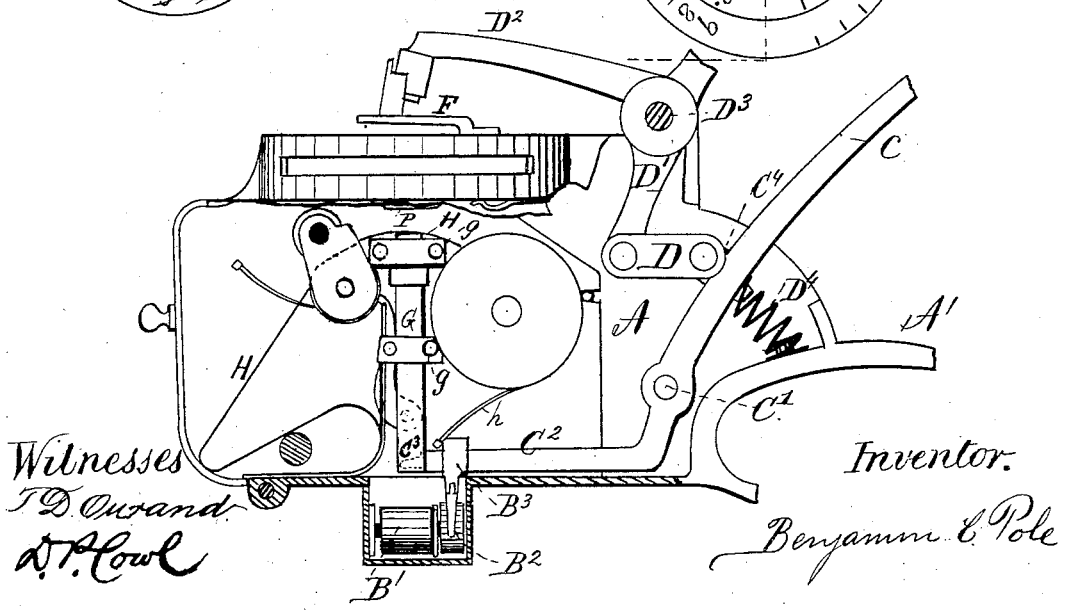


Fig 5



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TICKET-PRINTING AND RECORDING DEVICE.

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Fig 10.

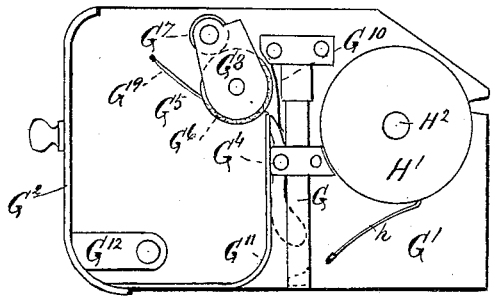


Fig 10½.

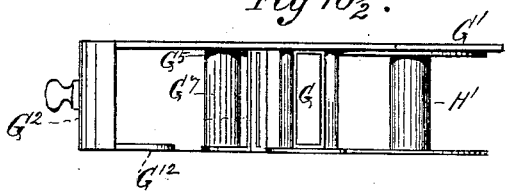
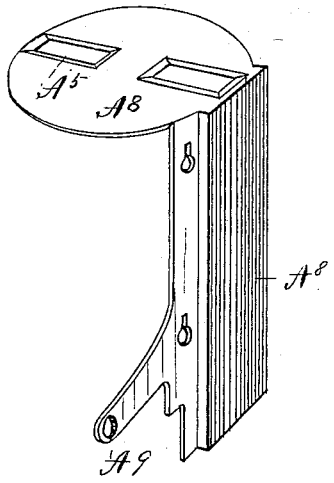


Fig 11.



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UNITED STATES PATENT OFFICE.

BENJAMIN C. POLE, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN TICKET PRINTING AND RECORDING DEVICES.

Specification forming part of Letters Patent No. **191,254**, dated May 29, 1877; application filed April 3, 1877.

To all whom it may concern:

Be it known that I, BENJAMIN C. POLE, of Washington, in the county of Washington, District of Columbia, have invented certain new and useful Improvements in Printing-Registers for Collectors and Conductors; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification

The object of this invention is to produce a portable printing-register to be used by conductors and collectors for recording cash receipts; and the nature thereof consists in certain construction for the above-mentioned object, in which a single ring, or a number of rings, each complete in itself, performs the desired service by being provided with an upper set of printing-characters, and a similar reading set, and upon the under side a duplicate set of printing-characters, and also a ratchet to stop the ring or rings in the proper or desired position, said ring or rings being actuated by a suitable handle or knob.

This device is arranged in a case provided with a set of compound levers having pressing-surfaces arranged to work simultaneously by the action of the handles, and press said surfaces equally on both sides of the beforementioned rings. By closing against said rings any cloth, card, or paper that should be interposed between the upper and lower pressing-surfaces it would be forced against the naked face of the duplicate printing-surfaces of the rings. There is also provided a suitable punch to be worked when desired, and arranged to be partly operated by the case-handle of the instrument, it having a special handle also, all of which will be hereinafter more fully described.

In another application previously filed by me, of which this is a division, are shown, but not separately claimed, a number of the features claimed in this application.

In the drawings, Figure 1 is a plan view of the mechanism; Fig. 2, section, showing part of case and rings exposed; Fig. 3, side elevation, having the handles partly shown; Fig. 4, front view; Fig. 5, sectional elevation, showing the draw and feeding mechanism in position; Fig. 6, top view of the rings; Fig. 6½, sectional side elevation of rings; Fig. 7, under side of rings; Fig. 8, plan of rings provided with figures cut in rows, and having a duplicate reading-surface; Fig. 9, under side of Fig. 8; Figs. 10 and 10½, views of the draw withdrawn; Fig. 11, view of modified cover and side for rings.

The case A is provided with a handle, A^1, which may be single or of the loop formation. This case A has a second handle, C, which with handle A forms the upper and lower gripe to work the mechanism. Said second handle C is pivoted at C^1, and then led along the bottom of the case by its projection C^2, the termination of which is provided with a shoulder or rest, C^3. On the handle C is a connecting-lug, C^4. This is connected, by a pin with a link, D, to the lower arm D^1 of the upper presser D^2, the pivot being D^3. A spring, D^4, is made to hold the handle C in position.

At the top of the case A and beneath a sheet of metal, which may be part of the case, is placed a ring or rings, E, which are arranged on the horizontal plane, or, more properly speaking, are laid flat with reference to the handles, one being placed within another when more than one is used. These rings E have upon the upper surface a set of characters, E^1, for printing, representing money, and, in some instances, are worked either with the $ or c. sign, and directly opposite, or upon the same axis, is a corresponding set of characters, E^2, for reading, forming a reading-dial. Upon the under side of the rings E is a set of printing-characters, E^3, these being the duplicates of E^1 for printing the same characters as printed by E^1, and being the register thereof. There is also provided a ratchet, E^4, to stop the rings in their position for printing, as well as handles E^5 to move the rings. These rings rest in their socket A^4 of the side of the case A. The socket A^4 is provided with openings at the side and bottom, so that the handles E^5 may connect with the rings, and that the ratchet E^4 may be brought in contact therewith for stopping them in the proper position for printing.

To see the reading-dial E^2 of the rings, the opening A^5 is made in the top of the case, and opposite the same is another opening, A^6. This is directly above the figures desired to be printed, and may be closed by an additional piece, A^7, or be a similar opening to A^5. In this case there would be a separate top, A^8, which would fit over the top of the rings, and fit over the socket A^4. (See Fig. 11.) It also forms the cover for the ink-ribbon, and is provided with a projection, A^9, which engages with the bolt of the lock M for fastening the mechanism. In the socket A^4 there is provided a roller, B, around which the ink-ribbon is passed, and from thence is led down the sides to the roller B^1. This is actuated by a ratchet-wheel, B^2, and pawl B^3, which is made to connect with the handle-extension C^2. The said ink-ribbon may be endless or unwound off of a roller, B^4, and arranged to pass up and under the register printing-surface around the roller B, over the printing-surface E^1, and down to the roller B^1, all being closed in by the pieces A^7 or A^8, as the case may be. Upon the top of the plate A^8 of the case is the guard-piece F. This is arranged so as to protect the ticket and regulate the position for inserting the same.

The extension C^2 of the handle is made to enter the seat C^3 of an upright sliding bolt, G, which is provided with guides *g* attached to a separate side piece, G^1. Said side piece G^1, with a front piece, G^2, forms a draw. Said upright bolt G is provided with a pawl, G^4. This engages with a ratchet, G^5, on a friction-wheel, G^6, above which is another friction-wheel, G^7. These two wheels are upon spindles attached to the draw side G, and held in position by a side piece, G^8. The two wheels G^7 and G^6 are covered with rubber or suitable substance to allow a strip of paper, H, being drawn through. Said paper is unwound off of a reel, H^1. This said reel is upon a spindle, H^2, which is attached to the side G^1 of the draw. To prevent the reel unwinding too freely, a break-spring, *h*, is attached to the side G^1, and presses on the reel of the rim H^1. And to prevent the ratchet-wheel G^5 turning in the wrong direction there is provided the spring G^9; also, for forcing the pawl against the ratchet G^5 there is the spring G^{10}. There is also attached to the side G^1 a plate, G^{11}. This prevents the paper becoming engaged with the upright G. Also, on the front G^2 there is a projection, G^{12}, to engage with the rod of the bolt of the lock M. It will be readily understood by this construction that the registering tape or paper can be taken out with the whole register-working mechanism, and that there can be duplicate registering mechanisms, so as that when a conductor or collector comes in, the register may be entirely removed and a fresh one inserted, so that there would not be loss of time in changing the tape or paper H, and keeping the whole mechanism with the rings waiting while it is done. The draw may also be allowed to carry the inking-ribbon.

Upon the top of the case A is arranged a punch-handle, N, which is made use of when the conductor or collector desires to punch a pass. This is accomplished by the projecting die N^1 on the side of the case. To clear the said punched ticket there is provided a clearing-spring, N^2. This works around the punch-bit N^3. To prevent the handle C descending when the punch is being used, there is provided the positive stop O.

By referring to Figs. 8 and 9 the printing done by a ring of this character will be a full fare and a register thereof. Hence, "c 75" will be in full, or "c 15," or "1.00," or "c 25." This system is used where there would be only a certain stated sum not needing the combinations 9.99 or more.

The operation of the invention is simple. The collector or conductor, by revolving the rings, brings the desired figures of the reading-dial directly to the opening A^5. The ratchet E^4 held by a slight catch showing the proper position, the duplicate printing-characters E^1 and E^3 are now in a corresponding position directly under A^6 and over the upright bolt G. The bolt G and arm D^2 both press the rings simultaneously when a ticket has been inserted over A^6 under guard F, and the paper H of the register has been placed over the end of bolt G. The inking-ribbon being in position, it is clear to be seen that simultaneously the ticket and the register are printed, the ticket to be given to the payer and the register retained, as before stated, and by the action of the bolt G the paper H, that is fed between the rollers G^6 and G^7, is moved along at each action of the said bolt G, as the same is rising upward, the pawl being arranged to free the ratchet just at the point of contact, permitting the contact and printing. A cover-piece, P, is provided under the rings to close in the ink-ribbon and insure a clear print.

Having thus described the construction and operation of my invention, what I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a ticket printing and registering device, a ring provided with duplicate printing devices on its opposite flat surfaces, a reading-dial, and a ratchet and operating handle, substantially as and for the purposes set forth.

2. In a ticket printing and registering device, the combination of a ring or rings with printing-characters on their opposite flat surfaces, a reading-dial, and a ratchet and operating handle, of a tape or band and a compound lever so arranged as to press simultaneously a ticket on one flat printing-surface, and a tape or band on the reverse flat surface of the printing ring or rings, substantially as and for the purposes set forth.

3. In a ticket printing and registering device, the combination, with a ring provided with printing-character on its opposite flat surfaces, a reading-dial, and a ratchet and operating-handle, of a recording tape or band, an inking tape or surface, and a compound le-

ver operating double pressing-surfaces to force a card or ticket and a recording-tape simultaneously into position to be similarly printed, substantially as and for the purpose set forth.

4. In a ticket printing and registering device, the combination, with a series of rings, each provided with printing-sufaces on the opposite flat sides, a reading-dial, and a ratchet and operating-handle, of a single inking or marking ribbon or tape passing through the rings and over the printing or marking surfaces, and conducted to rollers on the under side or side of the register, substantially as shown and described.

5. The combination of a removable drawer, carrying the register-tape and said tape-actuating mechanism, with a printing-register, substantially as and for the purposes set forth.

6. The combination, in a removable register-drawer, of the ratchet friction-wheels and the reel, provided with a break-spring, all in combination with a compound lever, substantially as and for the purpose set forth.

7. In a ticket printing and registering device, the combination, with a compound lever, provided with pressing-surfaces adapted to simultaneously press a ticket and register strip against opposite printing-surfaces, of a ratchet-pawl actuating an inking-ribbon, substantially as and for the purposes set forth.

8. A ticket printing and registering device embracing in its construction the case A, having printing and punching mechanism, and provided with lever-actuating handles C and A′, and punch-actuating handle N, the latter being located above the former, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

BENJAMIN C. POLE.

Witnesses:
C. HOBSON,
WM. MCNEIR.