

No. 616,393.

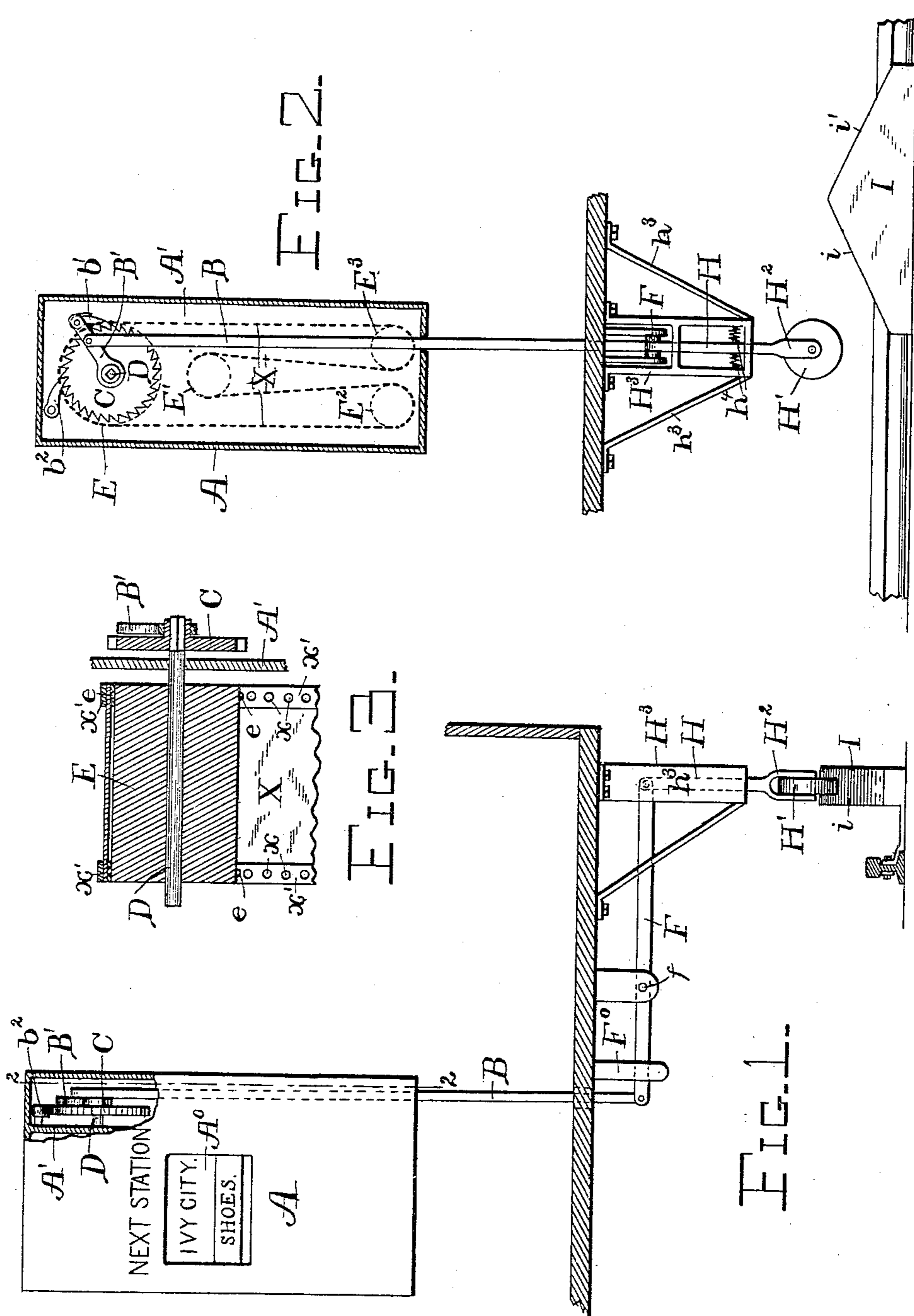
Patented Dec. 20, 1898.

J. D. BARRY.  
STATION INDICATOR.

(Application filed Mar. 14, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses  
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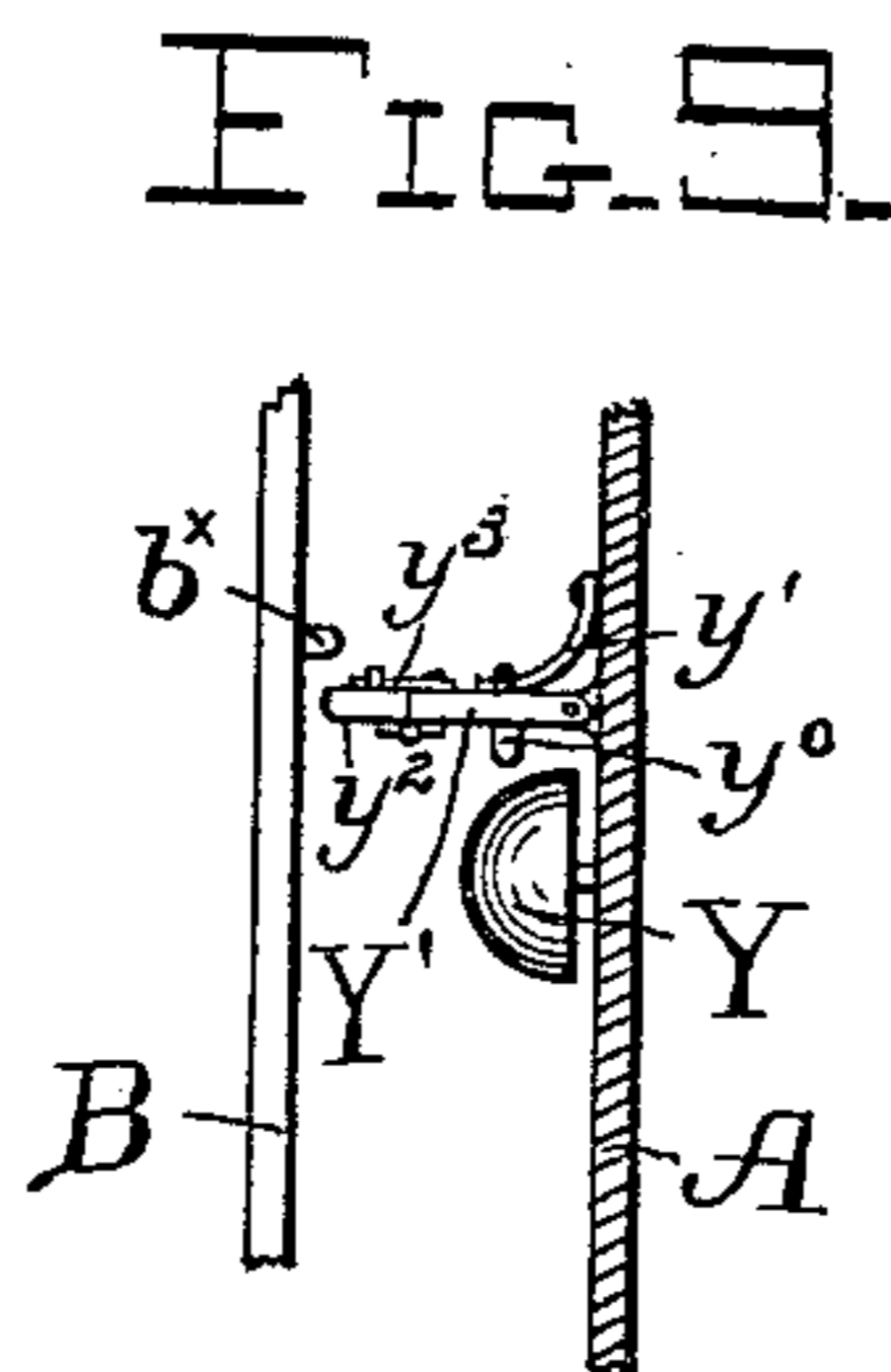
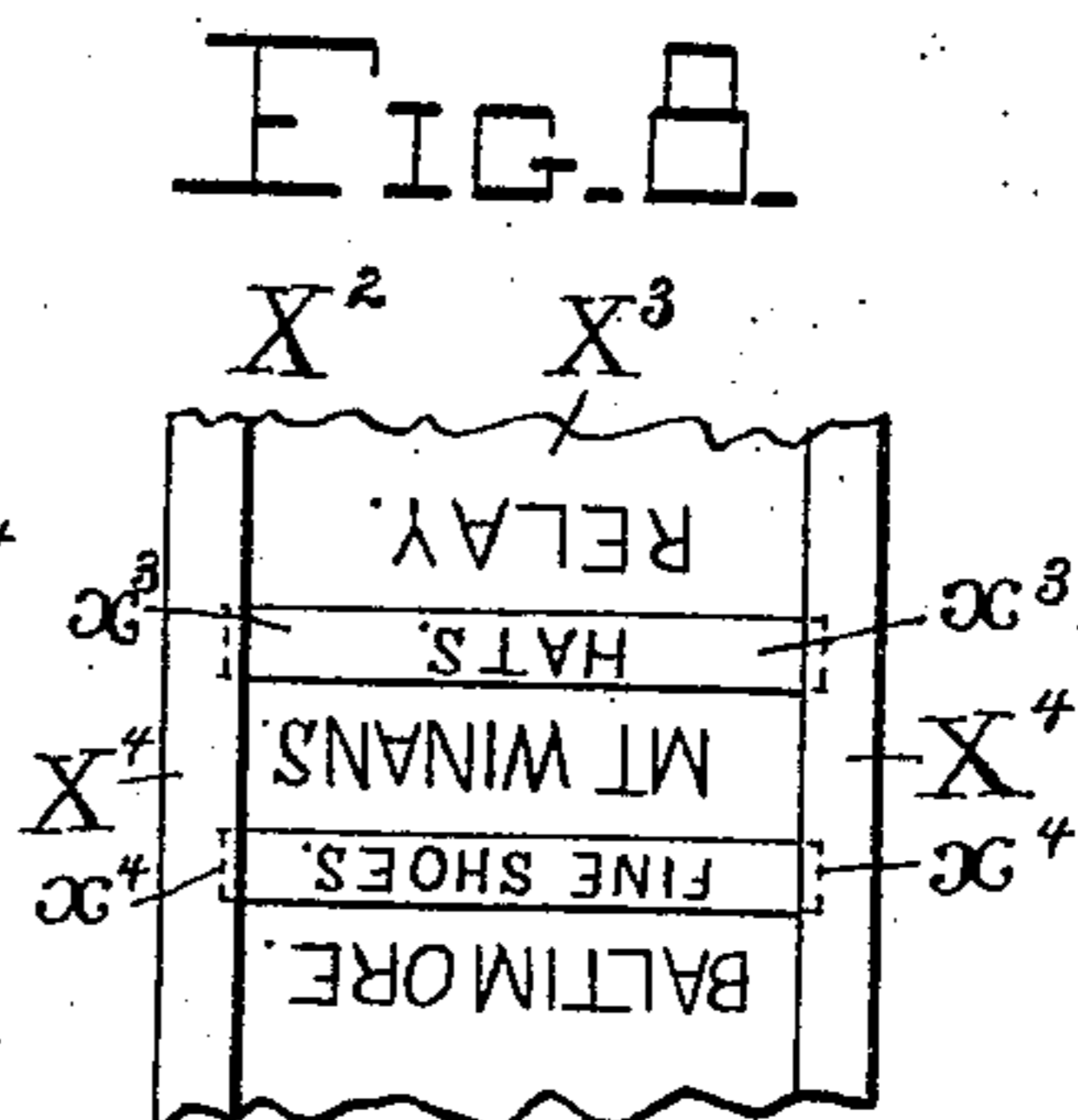
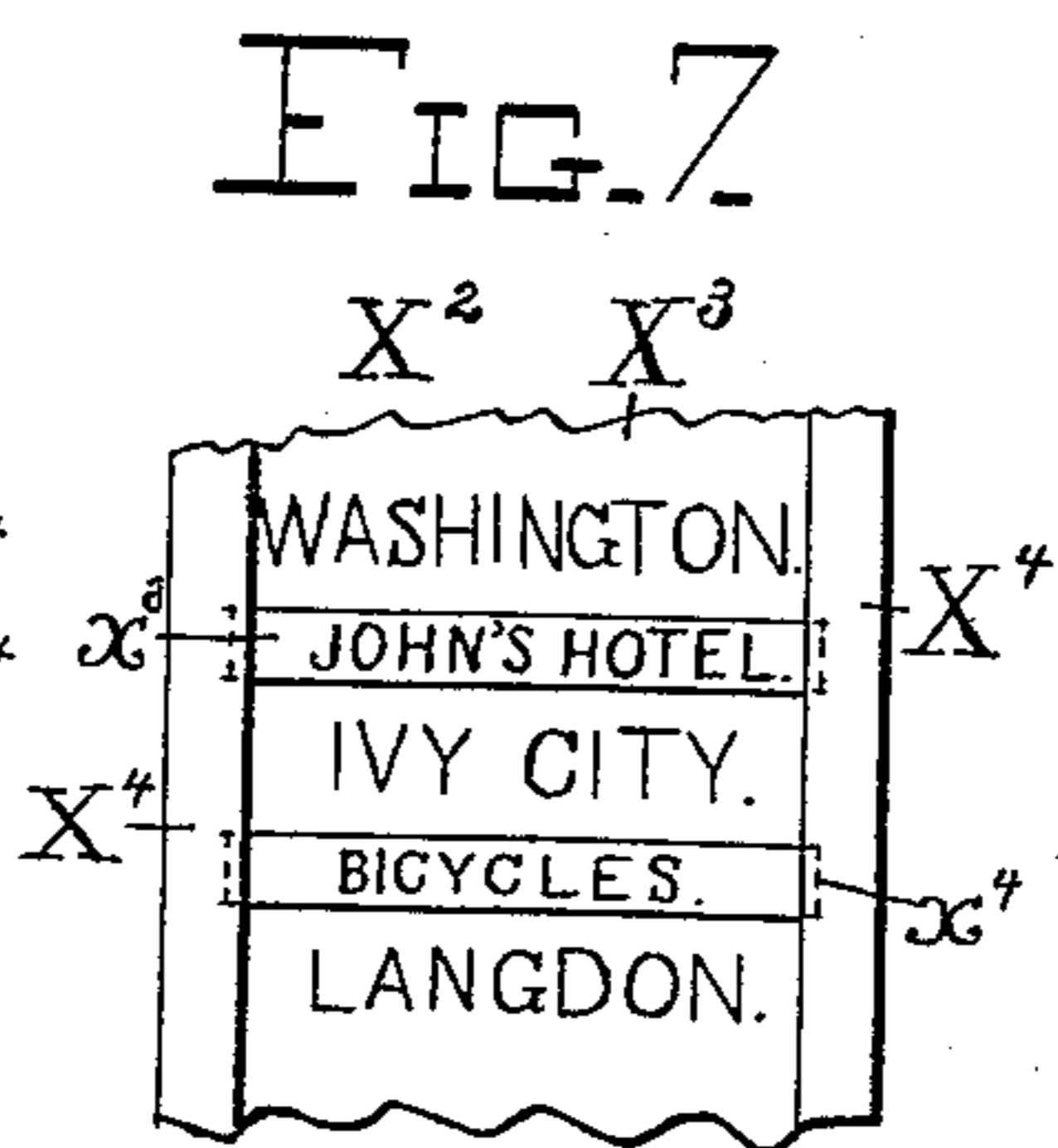
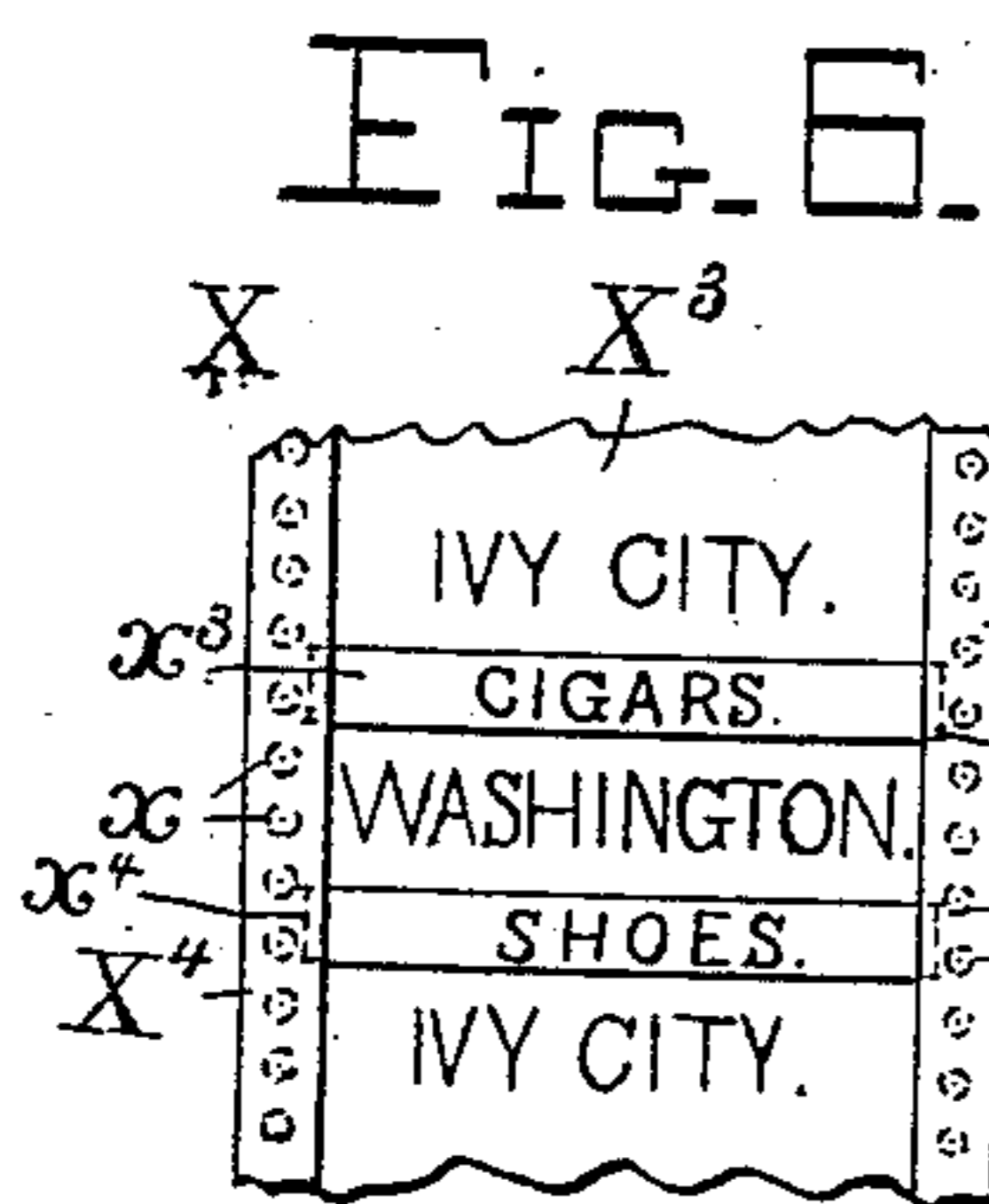
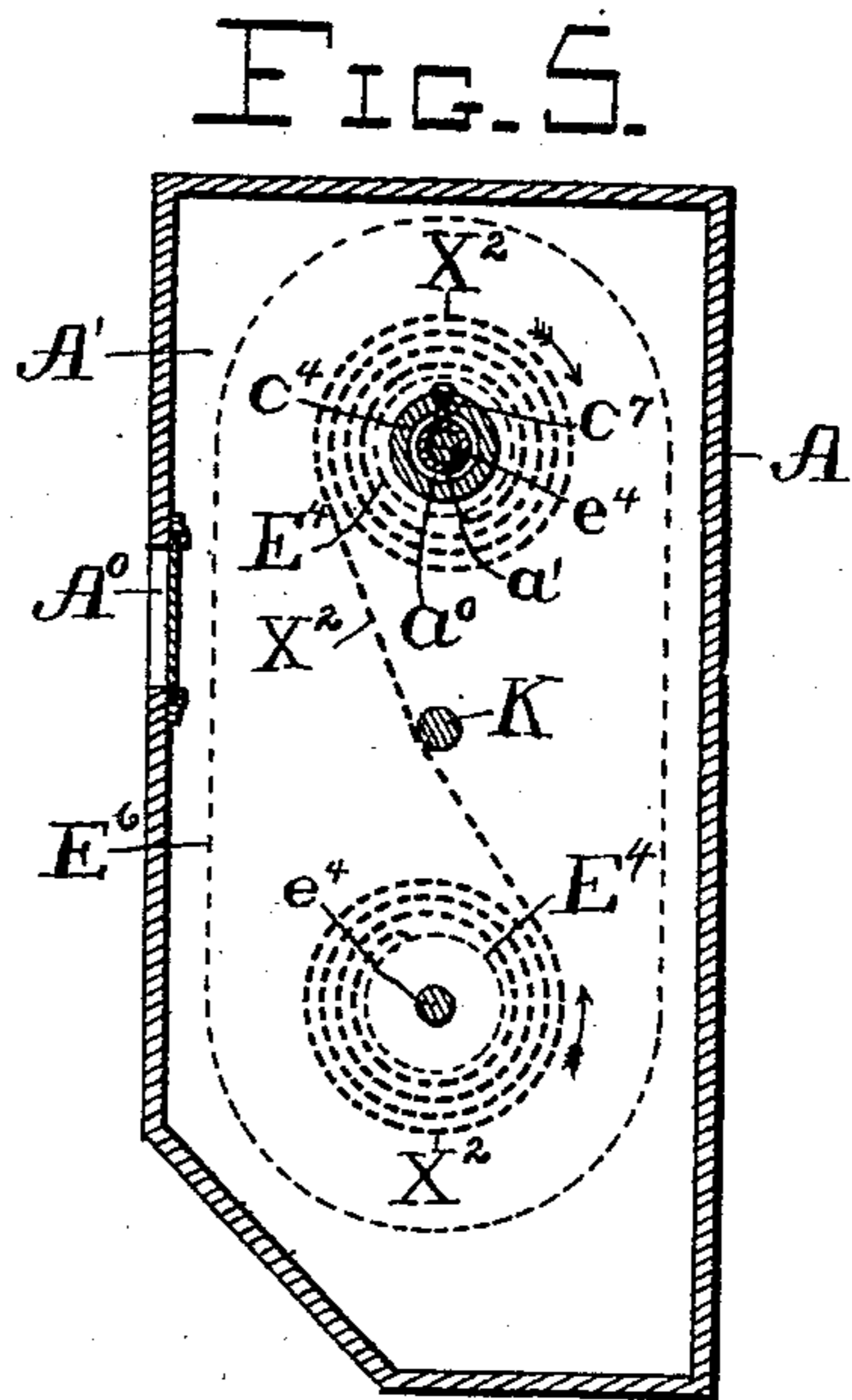
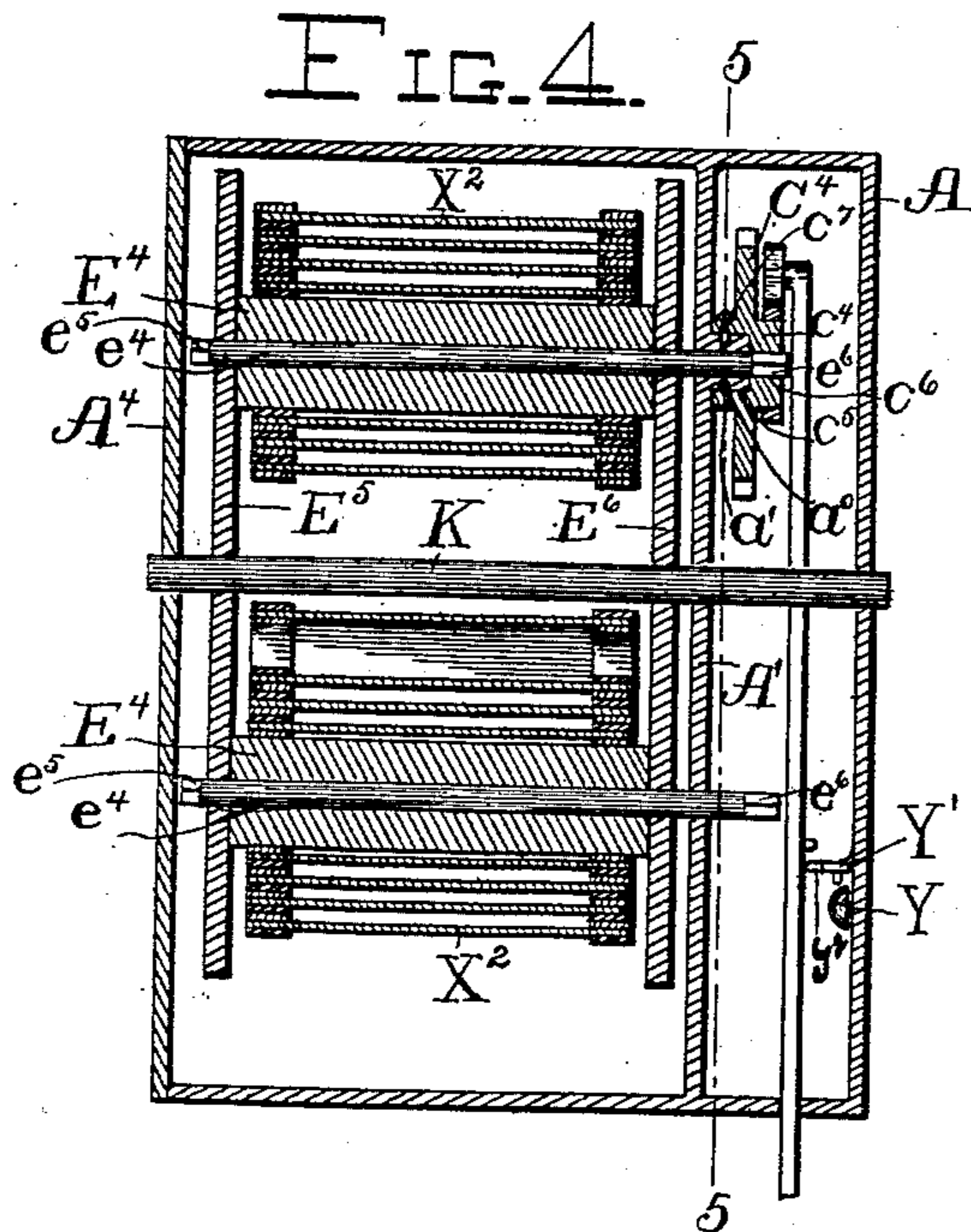
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2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

JEFFERSON D. BARRY, OF MARLIN, TEXAS, ASSIGNOR OF ONE-HALF TO A. L. BRANSON, OF SAME PLACE.

## STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 616,393, dated December 20, 1898.

Application filed March 14, 1898. Serial No. 673,800. (No model.)

*To all whom it may concern:*

Be it known that I, JEFFERSON D. BARRY, a citizen of the United States, residing at Marlin, in the county of Falls and State of Texas, have invented certain new and useful Improvements in Station-Indicators for Moving Vehicles; 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 station or street-crossing indicators for street-cars and similar moving vehicles; and my invention also contemplates the provision, in connection with such an indicator, of means for displaying advertisements.

My invention will be understood by reference to the accompanying drawings, wherein the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a view, partly in section and partly in front elevation, of my invention. Fig. 2 is a section taken on the line 2 2 in Fig. 1 and looking to the left. Fig. 3 is an enlarged central longitudinal sectional view of the upper winding roller or drum used with the form of device having the arrangement of the endless belt shown in Fig. 2. Fig. 4 represents a central vertical section of an indicator having a modified arrangement of the belt and embodying various other modifications in the details of construction. Fig. 5 represents a vertical section taken on the line 5 5 in Fig. 4 and looking to the left. Fig. 6 represents a fragmentary plan view of the endless belt, illustrating the arrangement for a continuous belt, as shown in Fig. 2. Fig. 7 represents a similar view of a portion of the form of belt shown in Fig. 5, the name "Washington" indicating one terminal; Fig. 8 represents a similar view of the same form of belt as seen from the opposite or reverse side and the name "Baltimore" indicating the other terminal, and Fig. 9 represents an enlarged view of the bell intended to call the attention of the passengers to the indicator used in connection with my device and also seen in Fig. 4.

Referring particularly to Figs. 1 to 3, A represents the box or case containing the mech-

anism of the indicator, which mechanism is operated by means of a vertical rod B, pivoted at its upper end to a radial swing-arm B', carrying a spring-pressed pawl  $b'$  at its outer end, the said pawl engaging ratchet-teeth at one side of the ratchet-wheel C, fixed upon a shaft D, upon which a roller or drum E, over which the indicator-belt passes, is rigidly mounted, so that rotation of said ratchet-wheel causes the rotation of said roller or drum. Backward rotation of the said drum is prevented by means of a pawl  $b^2$ , which also engages the teeth upon said ratchet-wheel, as seen most clearly in Fig. 2.

The lower end of the rod B is pivotally connected to a horizontal lever F, fulcrumed at  $f$ , beneath the floor of the car, and a yoke  $F^0$ , also mounted beneath the floor of the car and inclosing the inner end of the said lever F, limits the thrust that may be given to the vertical rod B by one movement of the lever F. The outer end of the lever F is pivotally connected to an upright standard H, having forked lower end  $H^2$ , in which a roller  $H'$  is rotatably mounted. This roller  $H'$  is arranged at such a distance from the level of the ground or street-pavement that it may strike against and roll upward upon and over a block I, provided with inclined upper faces  $i$   $i'$  and fixed in a suitable position between or near the track-rails, as seen in Figs. 1 and 2.

When the roller H strikes one of the inclined faces of the block I, the said roller will be forced upward, lifting the outer end of the lever F and depressing the inner end of the said lever. As will be seen, this movement of the lever F will pull down upon the vertical rod B, which in turn, by its connection with the radial arm B' and pawl  $b'$ , will cause a partial rotation of the ratchet-wheel C and the roller or drum E upon the shaft D. The weight of the roller  $H'$  and its upright will overbalance the weight of the rod B. The roller E is provided circumferentially, near its ends, with small studs or projections  $e$ , which engage in openings or perforations  $x$  in the side strips  $x'$  of an endless belt X, which runs over said roller E, as seen in Fig. 3. The liability of the belt to slip upon the said roller is thus obviated.

The belt X (indicated by dotted lines in

Fig. 2) runs under a pair of rollers  $E^2 E^3$ , journaled in the lower part of the box or case A, and over a third idle-roller  $E'$  near the upper part of the said box or case. In this manner a much longer belt can be used within the box than could be used were not a loop thus made in said belt. One end of the shaft of each of said rollers is journaled in the corresponding side wall of the box or case, while the opposite end is journaled in a partition-wall  $A'$  near the other side wall thereof. A narrow space is thus left between the said partition-wall  $A'$  and the latter side wall of the box, within which the vertical rod B and its upper connections work, as seen in Fig. 1.

An opening  $A^0$ , which may or may not, as desired, be fitted with a pane of glass, is left at one side of the box, as seen in Fig. 1, through which the spaces upon the belt are exposed *seriatim*, as is usual with this class of indicators.

The upright H, carrying the roller  $H'$ , is mounted in a frame  $H^3$ , provided with lateral braces  $h^3 h^3$ , attached to the bottom of the car, which serves as a guide for said upright and gives sufficient lateral rigidity thereto. Springs  $h^4 h^4$  may be mounted in said frame upon opposite sides of said upright in order to take up the initial force of impact of the roller against the block I, hereinbefore described.

Instead of using an endless belt, as hereinbefore described with reference to Figs. 1 to 3, I may use a belt  $X^2$ , attached at its opposite ends to two rollers, the said belt being unwound from one roller and wound upon the other during the operation of the indicator. Such a belt is shown in Figs. 4 and 5. In these figures one side end  $A^4$  of the inclosing box or case is made removable, and a pair of rollers or drums  $E^4 E^4$ , fixed upon shafts  $e^4 e^4$ , are journaled between uprights  $E^5 E^6$ , the ends of said shafts passing through the said uprights, as seen in Fig. 4. Each of these shafts is squared at both ends, as at  $e^5 e^6$ , the said squared ends  $e^5$  extending but slightly beyond the said upright  $E^5$ , but the ends  $e^6$  extending a greater distance beyond the corresponding upright  $E^6$  and passing through the partition-wall  $A'$ . In this form of indicator, the ratchet-wheel  $C^4$  is provided with an enlarged hub  $c^4$ , partially hollowed, with an enlarged cylindrical opening  $c^5$ , and provided with a smaller squared opening  $c^6$  there-through. The enlarged cylindrical opening  $c^5$  fits over a hollow cylindrical boss  $a'$  on the partition  $A'$ , and the said ratchet-wheel is retained in a rotatable position upon said boss by means of a screw-pin  $c^7$ , which passes through the hub thereof and engages in a groove  $a^0$  around said boss, as seen in Fig. 4. In this manner the internal mechanism carrying the belt is made reversible, as would be necessary with a belt of this form, as when one terminal has been reached and the car is to run back again over the same course the frame, made up of the uprights  $E^5 E^6$ , is drawn

outwardly to the left in Fig. 4 and the rollers reversed by a half-rotation of the said frame upon the shaft K, upon which the said uprights are rigidly mounted, the ends of the said shaft K being loosely mounted in the walls of the box. The ends  $e^6 e^6$  of the shafts  $e^4 e^4$  being made similar, it will be readily understood that the squared portion of either will fit the squared opening in the hub of the ratchet-wheel, as above described.

Should the belt not be turned to its fullest extent in one direction before the return trip, a crank may be applied to the squared end  $e^5$  of the proper shaft  $e^4$ , and by turning said crank the belt may be wound to the extent required to cause it to begin to wind in the proper direction upon the then empty roller.

In using a continuous belt, as shown in Figs. 1 to 3, the terminals will appear thereon each but once, whereas the intermediate stations or stopping-places will each appear twice and will read the same in both directions from either terminal, as indicated in Fig. 6.

In using a belt having two ends the stopping-places will appear but once each upon the same side of the belt, but will also be arranged in the same order inverted upon the reverse side, as indicated in Figs. 7 and 8, Fig. 7 showing the appearance of the belt at one terminal and Fig. 8 showing the relative appearance of the same belt reversed and looking at the opposite terminal.

The belt, whether cut or continuous, is formed of a web  $X^3$ , divided transversely into spaces of sufficient width to display the name of a station or stopping-place and also to admit of the superimposition of an advertising-card, such as  $x^3$ . (See Figs. 6, 7, and 8.) Strips  $X^4 X^4$  are secured upon the face of this web at its outer edges, and the said advertising-cards are retained in position by their ends engaging in pockets therefor beneath the inner edges of said strips, as shown at  $x^4$ . The cards may thus be removed or interchanged, as desired.

The continuous belt X has but one face, and the strips  $x'$  upon its reverse side are perforated, as indicated by the dotted lines in Fig. 6 and hereinbefore described with reference to Fig. 3. The cut belt is made the same on both sides so far as its construction is concerned, the difference being in the arrangement of the matter displayed thereon merely.

In Fig. 9 I have shown a detail view of a bell and its ringing devices, which are adapted to ring every time the indicator is moved. The bell proper or gong Y is fixed to the interior of the wall of the indicator-box, and a striker  $Y'$  is hinged to the said wall just above the said gong. The said striker carries a stud  $y^0$ , normally held out of contact with the gong Y by means of a flat spring  $y'$ , which is secured at one end to the wall of the indicator-box and engages the striker at its other end, tending to hold the said striker in a horizontal position; but this spring  $y'$  allows a slight vertical movement to the said striker.

The swinging end of the striker is provided with a hinged latch  $y^2$ , which may swing downwardly only with respect to the body of the striker, and the said latch is normally held in a horizontal position, as seen in Fig. 9, by means of a spring  $y^3$ . A stud or projection  $b^x$  on the vertical rod B is adapted to strike the end of this latch as the rod B is thrust downward; but by reason of the latch being hinged, as described, the said stud will pass without ringing the gong. Upon the return of the rod B to its normal position—that is, upon its upward movement after the indicator has been turned one space—the stud  $b^x$  will strike beneath the end of the latch and will raise the striker somewhat, which striker will rebound when the said stud has passed sufficiently far and will ring the gong, thus calling the attention of the passengers to the indicator which has just been moved to indicate the next station or street-crossing.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a station-indicator for moving vehicles, the combination with an inclosing box or case; rollers mounted upon shafts journaled therein, and a belt having the names of the stations displayed thereon passing over said rollers; of a ratchet-wheel mounted upon the shaft of one of said rollers, a fixed pawl engaging said ratchet-wheel; a swinging pawl also engaging said ratchet-wheel; a rod piv-

otally connected to said swinging pawl; a horizontal lever having a fixed fulcrum, pivotally connected to said rod; a short upright also pivotally connected to said lever; a yoke inclosing said lever and limiting the swing thereof; a guide-frame for said upright; a roller carried by the lower end of said upright; a fixed gong mounted in said box or case; a hinged striker mounted in juxtaposition thereto and provided with a swinging latch controlled by a spring; and a projection of said rod adapted to strike the swinging latch on said hinged striker, substantially as described.

2. In a station-indicator, the combination with an inclosing case provided with a sight-opening therein; a pair of interchangeable rotary drums mounted therein; a belt having station-indications upon either face attached at its ends to said drums, and arranged to wind from one to the other of said drums; a ratchet-wheel mounted upon fixed bearings within said case and adapted to engage the shaft of either of said drums; and means operated by an obstruction upon the track, for rotating said ratchet-wheel, substantially as described.

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

JEFFERSON D. BARRY.

Witnesses:

FRANK D. BLACKISTONE,  
JOHN CHALMERS WILSON.