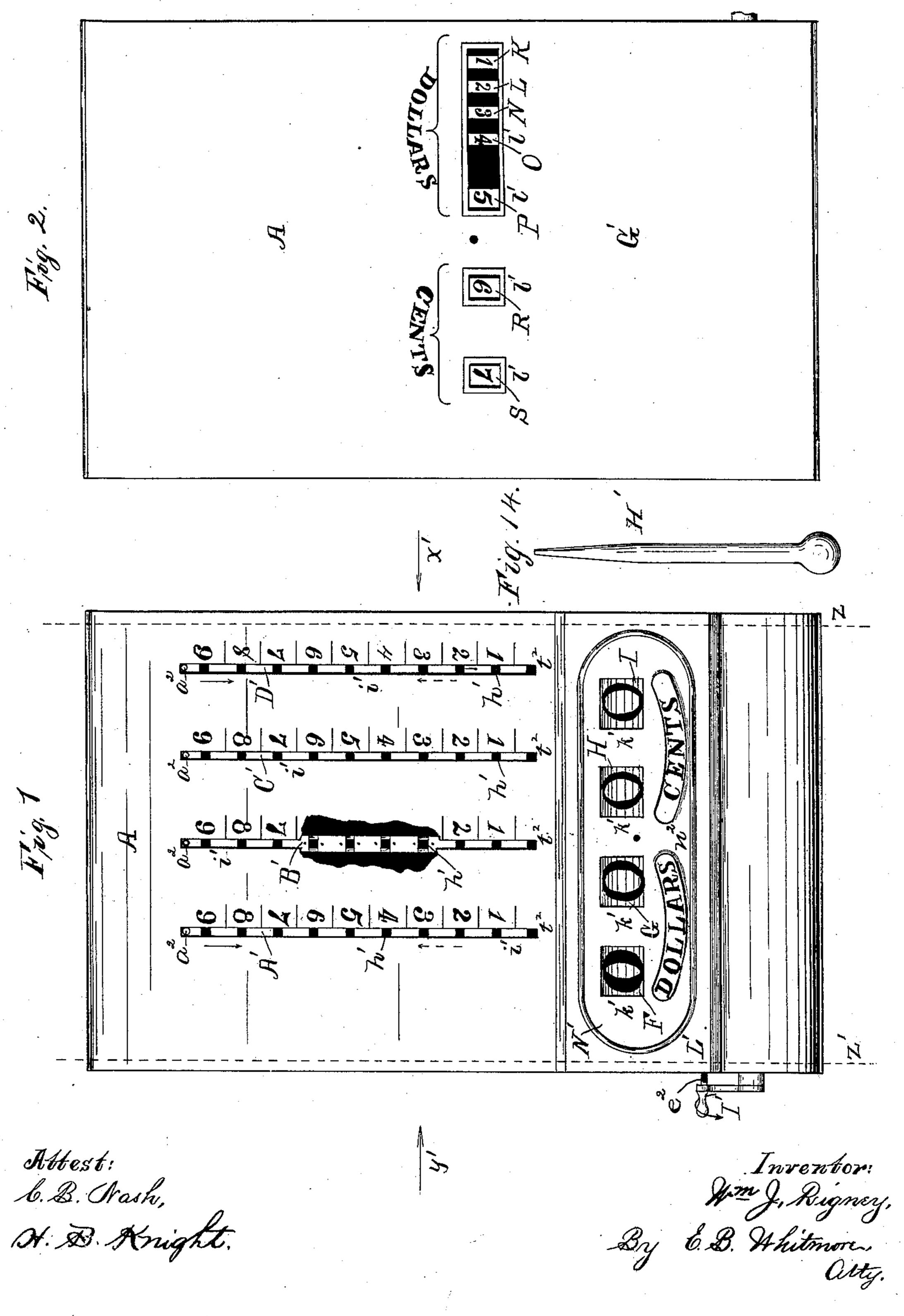
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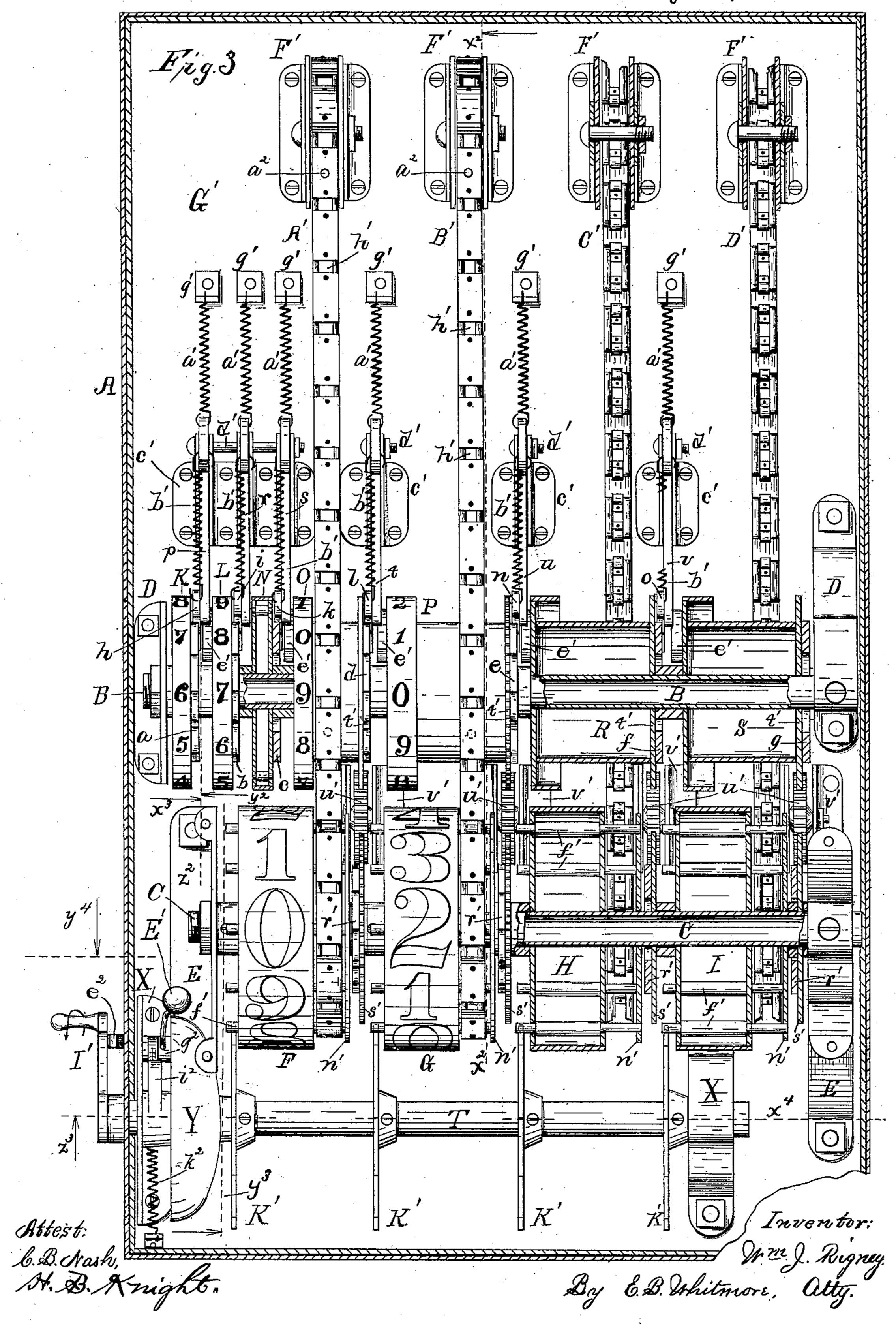
Patented May 10, 1887.



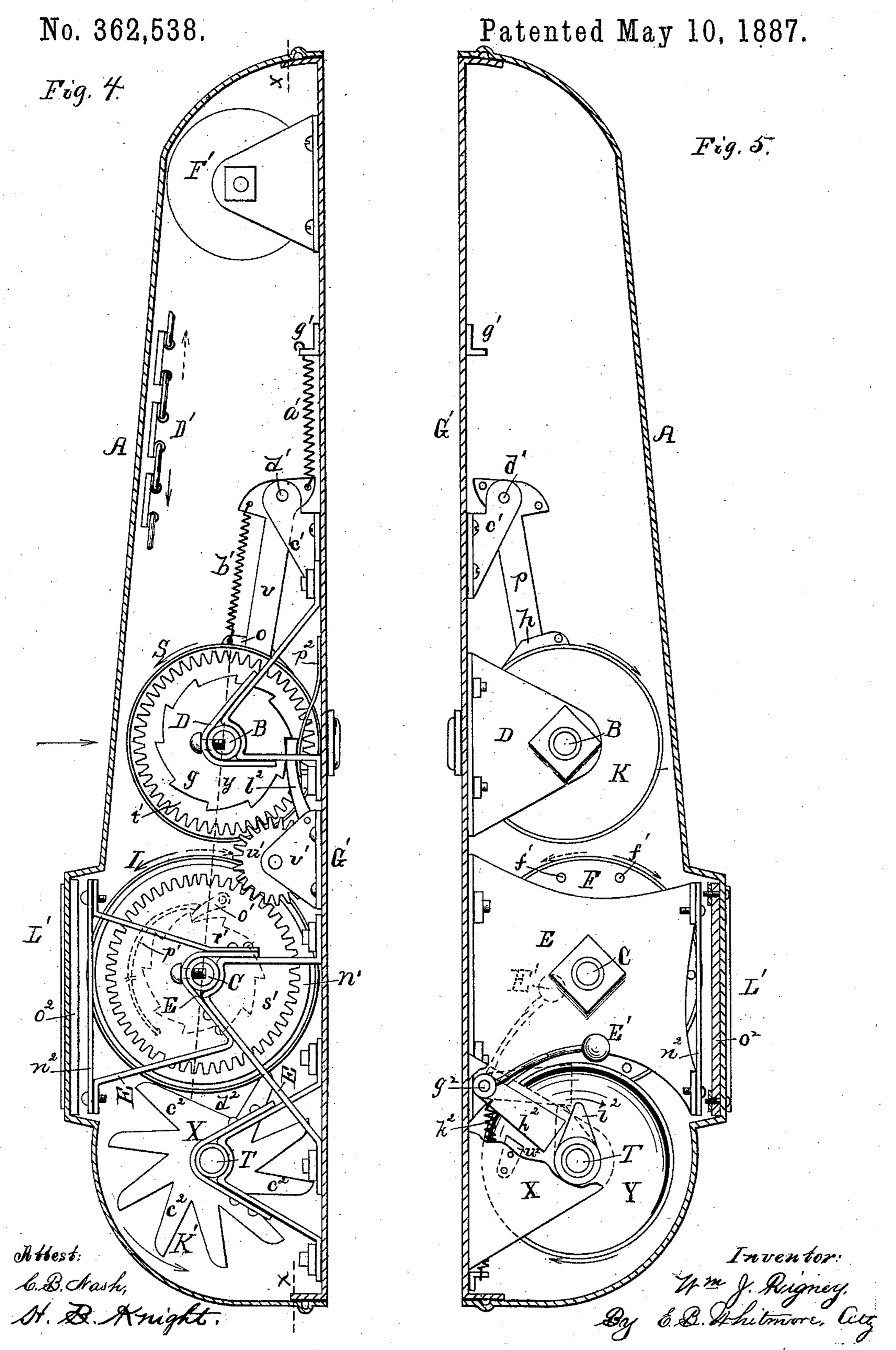
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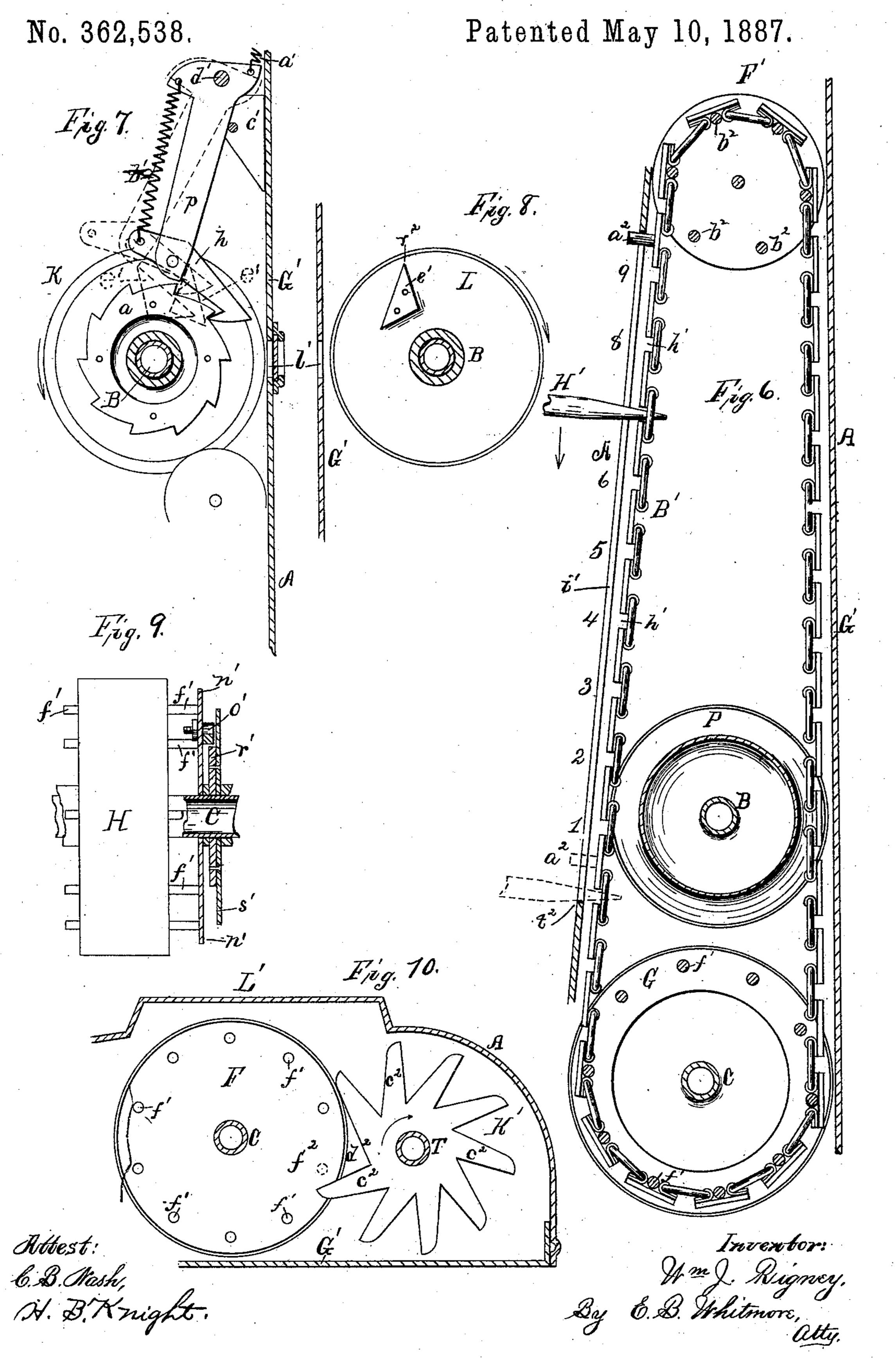
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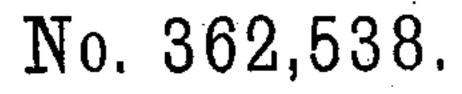
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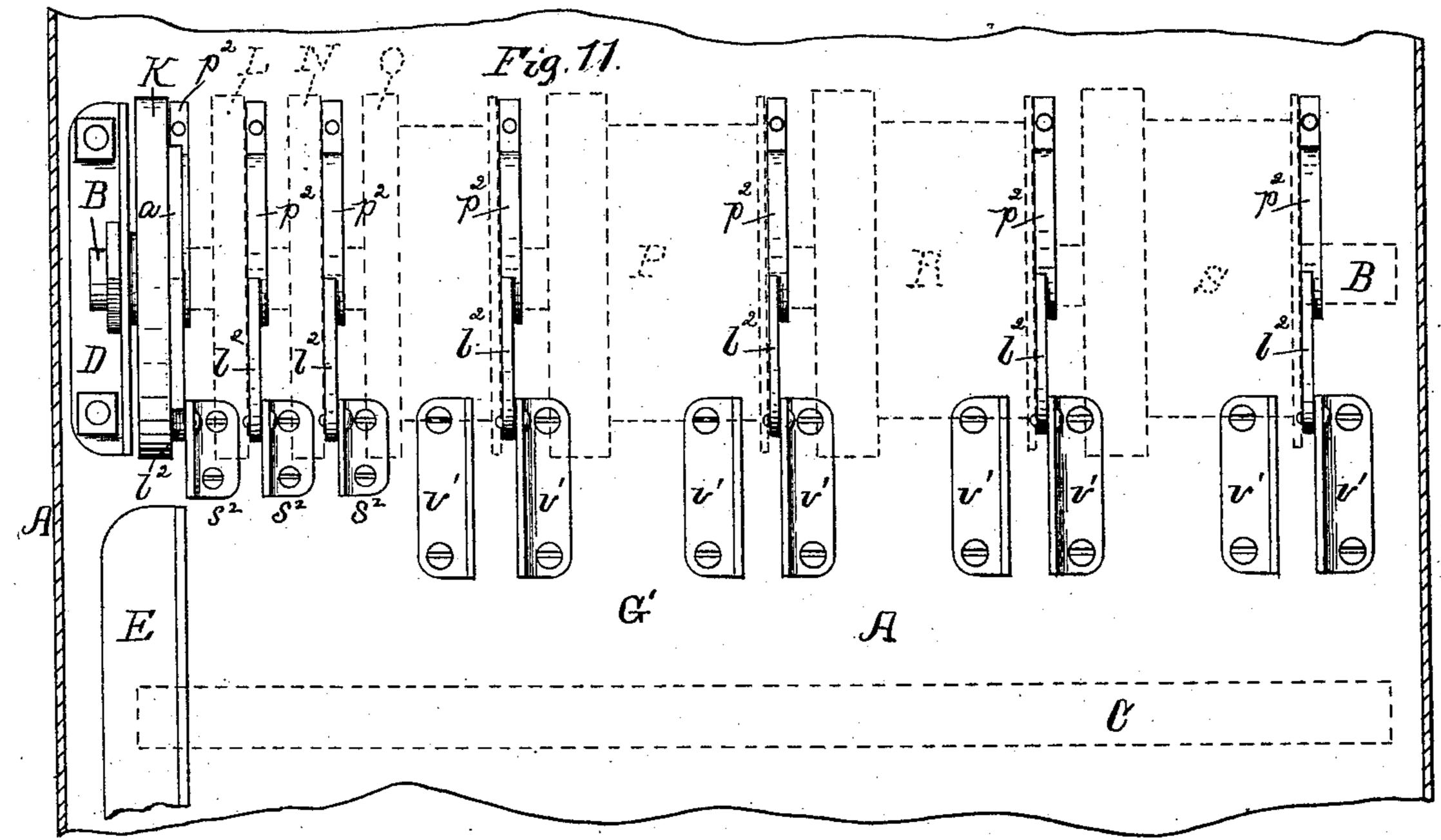
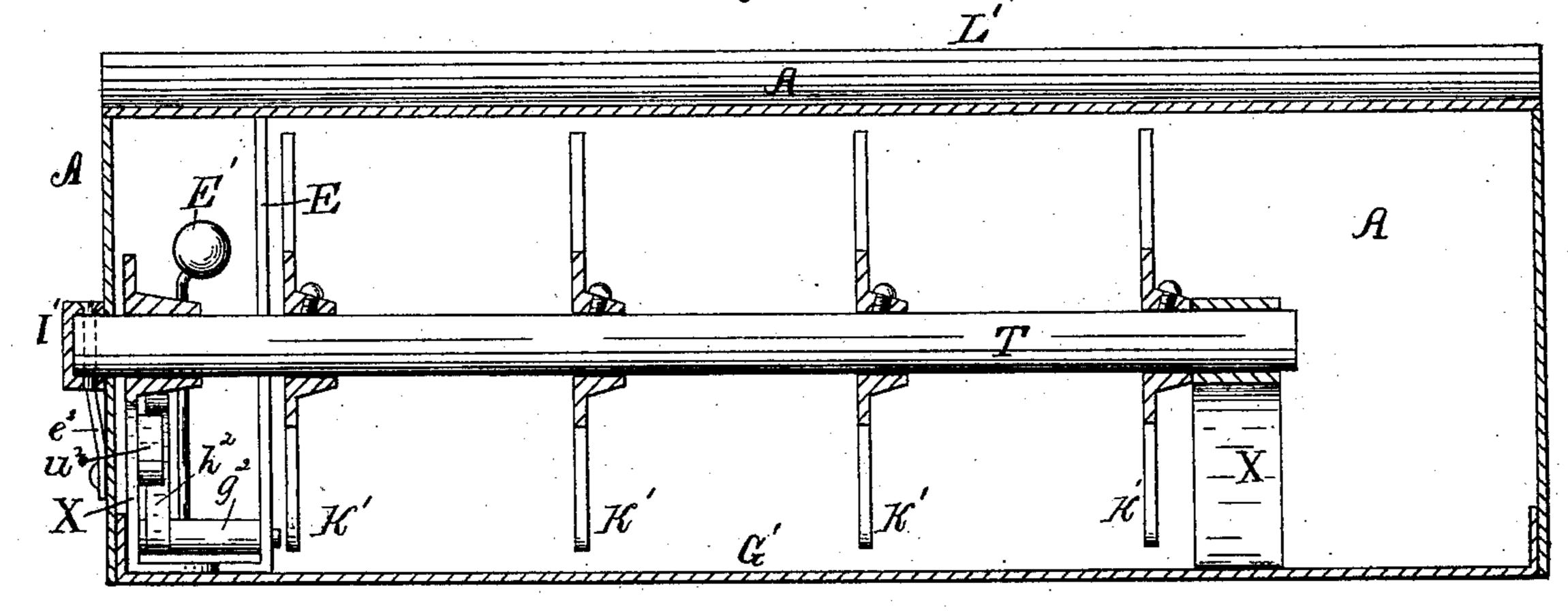
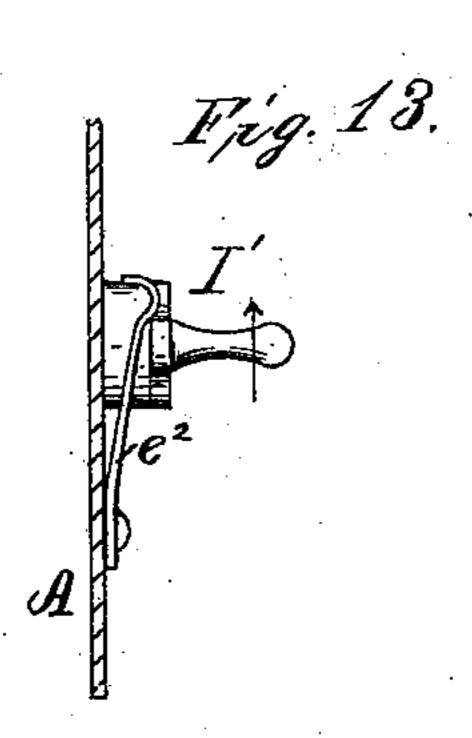


Fig. 12.





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United States Patent Office.

WILLIAM J. RIGNEY, OF ROCHESTER, NEW YORK.

REGISTER FOR FARES.

SPECIFICATION forming part of Letters Patent No. 362,538, dated May 10, 1887.

Application filed August 30, 1886. Serial No. 212,159. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. RIGNEY, of Rochester, in the county of Monroe and State of New York, have invented a new and useful 5 Improvement in Registers for Fares, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

The object of my invention is to produce a 10 register for registering fares received in money, to be carried or worn by railway-conductors or other persons intrusted with the collection of money in small payments, said register showing the amount of each fare as it is received, 15 and also the sum of such fares received up to any given time, the device being fully described hereinafter, and more particularly

pointed out in the claims.

Referring to the drawings, Figure 1 is a view 20 of the front of the device as it appears suspended by a strap from the shoulder of the carrier, the lower large figures upon the faces of the internal wheels and the letters being in position to be read by any observer near, the 25 upper smaller figures in rows being turned in an opposite direction for the use of the person carrying the device, a part of the shell being broken away to more fully uncover one of the chains; Fig. 2, a view of the back or reverse 30 side of the device provided with openings through which the figures on other internal wheels may be read by the carrier or inspector; Fig. 3, a view taken of the device from the same direction in which Fig. 1 is seen, drawn to a 35 much larger scale to better show the small parts, the case or shell being sectioned, as on the dotted line x in Fig. 4, and many of the contained parts being sectioned, as upon the dotted line y in said figure; Fig. 4, a section of | 4c the shell of the device by a plane at right angles to the sectioning plane in Fig. 3, the section being taken as upon the dotted line z in Fig. 1, and viewed as indicated by arrow x'; Fig. 5, an opposite view of the device indi-45 cated by arrow y' in Fig. 1, the shell being sectioned as upon the dotted line z' therein, parts being shown in two positions by full and dotted lines, and a hanger being in part broken away to uncover parts beyond; Fig. 6, a view 50 of some of the wheels and a chain thereon, the base-plate of the device and other parts being

sectioned by a plane parallel with the planes upon which Figs. 4 and 5 are sectioned, the section being taken as upon the dotted line x^2 in Fig. 3, and viewed as indicated by the ar- 55 row pointed thereon; Fig. 7, a view of a pawl and ratchet, with a pawl-holder and other parts, seen in the direction in which Fig. 4 is seen, parts being sectioned as upon the dotted line z^2 in Fig. 3, and viewed as indicated by the ar- 60row y^2 pointed thereon, parts being shown in two positions by full and dotted lines, and Fig. 8, sectioned upon the same line, viewed in the opposite direction, as indicated by arrow x^3 ; Fig. 9, a view of one of the lower figure-wheels 65 of the device, with parts attached, seen in the direction in which Fig. 3 is seen, a part of the shaft and other parts being centrally longitudinally sectioned, the figure being drawn to further show the ratchet secured to the inner 70 surface of the gear and the pawl operating therewith; Fig. 10, a view of a notched wheel on the bell-shaft and a combined numberwheel, the case and shaft being sectioned as on the dotted line y^3 in Fig. 3, and viewed as 75indicated by the arrow pointed thereon; Fig. 11, a view of certain parts of the device seen in the direction in which Fig. 3 is seen, the sides of the case being horizontally sectioned, many parts being omitted for the purpose of 80 bringing out more clearly the form and arrangement of the parts shown, contiguous and combined parts being shown in dotted lines; Fig. 12, a view of the device seen as indicated by arrow z^3 in Fig. 3, the shell and some other 85 parts being sectioned as upon the dotted line x^4 in said Fig. 3, drawn to further show the bell-shaft and striking mechanism, with the bearings for said shaft and resetting-wheels; Fig. 13, a view of the crank and detent there- 90 for, seen in the direction indicated by arrow y^4 in Fig. 3; and Fig. 14 is a pointed instrument with which to operate the chains.

Referring to the parts, A is the case of the device for inclosing the working parts thereof, 95 formed in part of a straight stiff plate, G', to which the interior parts are secured.

B and C are parallel transverse rigid shafts for holding the different systems of wheels; D and E, bearings or supports for said respect- 100 ive shafts, secured to the rear plate, G', of the case; F, G, H, and I, display figure wheels

turning independently on the shaft C, and K LNOPRS figure-wheels turning independently on the shaft B.

A'B'C' D' are chains connected with the re-5 spective wheels F, G, H, and I, said chains at

one end passing around idlers F'.

a b c d e f g are concentric ratchets secured to the respective wheels K to S, inclusive, on the shaft B. h i k l n o are pawls for said rere spective ratchets, held by pawl-holders prst

u v, respectively.

a' are tension-springs secured to the respective pawl-holders to assist in controlling the action of the latter, said springs being secured to 15 rigid holders g', fastened to the back plate, G'. b' are similar tension-springs for the respective pawls h i k, &c., being secured at one end to said pawls and at their other ends to the respective pawl-holders, as shown. The pawl-20 holders are held movably to rigid rests c', secured to the plate G' upon pivot-pins d'.

The wheels L to S, inclusive, are each supplied with a projection, e', for moving the respective pawl-holders to cause the pawls to 25 move the adjacent wheel in either case by means of the respective ratchets a b, &c.

The wheels F, G, H, and I are each provided with a series of ten equally-spaced pins, f', projecting out from each side thereof. These 30 pins are parallel with the axes of the wheels and hold the respective chains A' B' C', &c., at the right sides of the respective wheels, as shown. At the opposite sides of the wheels the pins project at a less distance, the project-35 ing part of one pin for each wheel being omitted, for purposes hereinafter stated. Each of the wheels F G, &c., is turned by the connected chain, the person carrying the device moving a chain, when a fare is paid, by insert-40 ing the point of a steel instrument (shown at at H', Fig. 14, Sheet 1) in a space, h', between the links of the chain and urging the latter in a direction toward the wheel. The front plate or part of the case is close to and parallel with 45 the chains, and is pierced by parallel longitudinal slits i' over the respective chains, (shown in Figs. 1 and 6,) through which said instrument may be thrust into the opening in the chains, as desired.

T is a resetting-shaft for the display-wheels FGHI, held by bearings X, secured to the plate G' parallel with the shaft C, said shaft projected from the case and supplied with a crank, I'. Upon this shaft are secured a bell, 55 Y, of ordinary form, and notched resettingwheels K', the latter being held in position to have their teeth or fingers strike the projecting ends of the pins f' of their display-wheels when the shaft is turned. By this means a 50 turning of the shaft will at any time bring all of said display-wheels back to zero, or to positions in which the figure 0 of each will appear at the opening k' in the case.

n', Figs. 3 and 9, is a series of circular 65 disks secured, respectively, to the ends of the pins f' of the display-wheels parallel with the

sides thereof, as shown. The function of these disks is in part to prevent the chains running off the pins. Besides, each disk carries a pawl, o', and spring p' therefor. (See Figs. 4 and 9.) 70

s' is a series of toothed wheels turning independently upon the shaft C at the sides of the respective disks n', said toothed wheels being provided with ratchets r', secured thereto, each ratchet being in a position to engage a pawl 75

o' of the disk n', as shown.

The wheels OPRS of the upper series on the shaft B are each provided with toothed wheels t', (see Figs. 3 and 4,) similar to the wheels s', respectively opposite the latter, and 80 intermediate pinions, u', are held by standards v', secured to the plate G', in position to engage each of the toothed wheels of the opposing pairs s' t', as shown in Fig. 4. The ratchets d e f g are secured, respectively, to the 85 wheels t', and turn with them. By means of this connecting-gearing, whenever a wheel, F, G, H, or I, of the lower series is turned by moving a chain, the opposing wheels O, P, R, or S of the upper series will also be turned in 90 the same direction and to the same distance. The wheels K, L, and N are operated from the wheel O by means described farther on.

The chains are each provided with a stoppin, a², Figs. 1, 3, and 6, projecting from cor- 95 responding links into the respective slits i' in the case, which pins limit the motion of the chains by coming in contact with the ends of said slits, the normal position of said pins being shown in Fig. 1. At the side of each slit roo is arranged a row of figures, from 1 to 9, inclusive, occupying a position with reference to the case to be read right side up by the wearer, as said case is suspended from the neck or shoulder. These numbers are opposite the 105 openings h' in the respective chains when the pins are at the ends of the slits, and when the chains are in this position the figure 0 of each of the wheels F, G, H, and I will appear at the respective openings k'. The wheels F 110 G, &c., are each provided with numbers, from 0 to 9, inclusive, equally spaced upon their respective peripheries in the ordinary manner. Now, if at any timesix cents, for instance, were given the conductor, he would insert the in- 115 strument H' in the opening h' of the chain D' through the slit opposite the figure 6, and push the chain downward, or in a direction toward the wheel I, until the instrument arrived at the end t^2 of the slit, (see Fig. 6,) when the fig- 120 ure 6 of said wheel I would appear at the opening k' in the face of the device, which would be apparent to any observer near. Should eight cents be received, by inserting the instrument in the chain opposite the figure S, 125 and moving it downward, as before, to the end t^2 of the slit, the figure 8 of the wheel would appear at the face of the device, and so with any other number up to 9, the links of the chain bearing such a relation as to length to the size 130 of the wheel that when the chain is moved to the extent of the length of a link, the wheel

will be turned to the extent of the distance between adjacent numbers thereon.

The positions of the figures forming the rows are fixed to correspond to the figures on 5 the wheel—that is to say, if the opening in the chain opposite figure 1 (said chain being in its normal position) be moved to the end t^2 of the slit, a figure 1 will appear at the opening k'. If the opening of the chain opposite the figure 10 2 were brought to the end of the slit, a figure 2 would appear, and so on with the rest of the figures in the row. This description answers for all the chains and the display-wheels FG, &c., operated by them. If fifty six cents were 15 received, the instrument would be inserted first in the chain C' opposite figure 5 and pushed to the end of the slit, which would cause the figure 5 of the wheel H to appear, and then inserted in the chain D'opposite fig-20 ure 6 and pushed to the end of the slit, to show 6 on the wheel I, displaying together the number 56 over the word "cents" as the sum received. Should two dollars be received, the instrument would be inserted in the chain B' 25 opposite the figure 2 and brought to the end of the slit, when a figure 2 would be displayed over the word "dollars." By this means it will be understood that any sum from one cent up to ninety nine dollars and ninety-nine cents 30 received in a single payment may be shown at the face L' of the device to the observer.

After each payment has been received and the amount of the same shown, as stated, the display-wheels are again turned back to zero 35 by the wearer by turning the crank I' in the direction indicated in Figs. 1, 3, 4, and 13, which also carries the chains back until the respective pins a^2 bear against the upper ends of the slits, which position of the wheels and 40 chains is normal. Thus each amount up to ninety-nine dollars and ninety-nine cents is distinctly displayed as received, and the bring. ing of the parts back to their normal position by turning the crank, as stated, causes a stroke 45 upon the alarm-bell, the striking apparatus being, however, arranged so that the bell cannot sound until the wheels display a series of naughts at the face of the device.

The chains are made up of jointed links, 50 (clearly shown in Figs. 3, 4, and 6,) and as they are moved one way or the other the pins f' of the display-wheels catch in the spaces between the opposing ends of the inner links, as shown. Similar pins, b^2 , for the chains are 55 provided for the idlers F', Figs. 3, 4, and 6

The manner in which the turning of the crank I' brings the display-wheels and chains back to their normal positions is as follows: The resetting-wheels K', Figs. 4 and 10, are 60 each formed with nine fingers, c^2 , said wheels being spaced for ten equally spaced fingers; but one is omitted, leaving a large space, d^2 , instead. These wheels are secured to the shaft T in such a position that all the large spaces $65 d^2$ are in a line parallel with the shaft, and when the latter is turned to present said spaces

to the respective display wheels FGHI said display-wheels may be turned in either direction without the pins f' touching the fingers of the wheels K'. A simple spring-detent, e2, 70 for the crank, secured to the outer surface of the case, serves to hold the shaft in such position.

As above stated, one of the projecting ends of the pins f' of each display-wheel next the 75 respective wheels K' is omitted, leaving a large space, f^2 , (see Fig. 10,) which, when turned toward the shaft T, allows the fingers of said wheels to pass when the shaft is turned without moving the display-wheel, the spaces f^2 of 80 the display-wheels being relatively so placed with reference to the figures on the wheel that when either one is turned toward the shaft T the figure 0 of the wheel will appear at the opening k'. When the display-wheels are in 85any other position—that is to say, in a position in which any other figures upon the peripheries appear at the openings k'—the turning of the shaft T will cause the fingers of the wheels K' to successively strike the pins f' and g_{O} turn the display-wheels until the large spaces f^2 are presented to the wheels K', when the motion of said display-wheels will cease and the figures 0 thereof will appear, as above stated. There is a finger, c^2 , for each pin f', 95 so that in whatever position either of the display-wheels stands a single revolution of the shaft T will return them to the positions in which their figures 0 are shown.

The bell-hammer E' turns upon a shaft, g^2 , 100 Figs. 3 and 5, resting in bearings in the standards X and E, and is provided with an arm, h², reaching toward the shaft T. Said shaft is provided with a projecting finger, i2, in position to encounter and force back the arm 105 h^2 , as indicated in Fig. 5, which carries the hammer away from the bell. When the finger passes the arm, the latter is suddenly brought back by a spring, k^2 , causing the hammer to strike the bell. This is a common con- 110 struction, and not claimed by itself as being new. The finger i² is placed on the shaft in such position that it slips off the arm h^2 and allows the hammer to fall just as the displaywheels are about to cease moving when being 115 brought back to zero, or as the crank is approaching its detent e^2 . The motion of the crank each time is from its detent once around. to be caught by the detent again, which motion strikes the gong and resets the parts, as 120 stated.

As above stated, each of the wheels K L N, &c., of the upper series is provided with a fixed ratchet, a being the ratchet for the wheel K, b for the wheel L, &c. Aside from the 125 pawls h i, &c., already described, acting upon these ratchets, there are other pawls, \(\bar{l}^2\), Figs. 4 and 11, which serve to prevent any backward motion of said wheels, these wheels collectively being designed to show at any time 130 the whole amount or sum of the fares received, and are never tripped or set back like the dis-

play-wheels upon the shaft C, as stated. Every forward motion of either display-wheel F G H I serves, by means of the connecting-gearing u', to turn the wheels NOPRS opposite 5 it on the shaft B forward to the same extent; but when the display-wheel is turned back to zero, its comparison wheel on the shaft B is not moved, nor the connecting-gearing. This results from the fact that the pawls o' are each To secured to the disks n', which are rigid with the respective display-wheels, and the ratchets r' are rigid with the gears s', which turn independent of said display-wheels.

When a display-wheel is turned forward, as 15 indicated by full-linearrow in Fig. 4, the pawl, pressing a tooth of the ratchet, will turn the gear and companion wheel on the shaft B; but when turned backward for the purpose of resetting, the pawl will ride over a tooth of the 20 ratchet, and no motion of the gear will result. In other words, the display-wheels have effective bearings on the connecting gearing when moving forward only, when turned back there being no motion communicated to said gear-25 ing. There are no detent-pawls or other de-

vices to prevent the free turning of the display-wheels in either direction. Regarding the wheels upon the shaft B, each one, as appearing in Fig. 3, turns the one at 30 its left through one tenth of a revolution every time the first moves once around, in a manner similar in some respects to that in which the wheels are turned, as described in my pending application for patent, Serial No. 207,530, filed 35 July 9, 1886. In the present case I accomplish this by means of the pawl-holders p and the projection e', above described. Regarding, for convenience, the wheels K and L, the faces of each (shown in Figs. 7 and 8) are turned toward 40 each other when in place on the shaft, as appearing in Fig. 3. To the wheel L is secured the projection e', and the ten-toothed ratchet a is secured to the opposing face of the wheel \mathbf{K} . The pawl h is held between the wheels by the pawl-holder p, the end of which is also between said wheels, the pawl being opposite the edge of the ratchet, while the pawl-holder is in the plane in which said projection e' moves as the wheel L is rotated. The relation of the 50 projection e' and pawl-holder is such that when the wheel L moves around, the pointed end r^2 of said projection encounters the holder, swinging it upon its pivot-pin d' sufficient to cause the pawl to turn the wheel K in the same 55 direction to the amount of one-tenth of a revolution, or to the extent of one tooth of the ratchet. The positions of the projection when it meets the pawl-holder and as it is leaving the same are shown in dotted lines in Fig. 7, 5: the holder being crowded to the position shown in dotted lines. The projection need not be triangular, as shown; but it is desirable that its part r^2 should be pointed, as when in that form itacts more exactly in releasing the pawl-

65 holder at the proper point. When the projec-

returned to its normal position (shown in full lines) by the spring a', a stop or rest, c', being provided to hold it in position. It will be understood that every time the wheel L makes 70 a complete revolution it will turn the wheel K through one-tenth of a revolution, and the description of the operation of these wheels answers for the description of the operation of any pair of adjacent registering-wheels upon 75 the shaft B, as all are provided with similar operating parts. This manner of turning one registering-wheel by another, although somewhat similar to that described in my previous application above mentioned, is different in 80 that in my present construction either of the registering-wheels of the shaft B may be at any time turned by a display-wheel, as stated, without effecting the action of any wheel to the right of it, which is not the case in the 85 construction shown in said application.

The pawl-holders occupy the same normal position at all times and are ready to be acted upon by the respective projections e' to turn the adjacent wheels wholly without regard to oc what may have previously occurred to said wheels, while in my previous construction, should the tens-wheel, for instance, be moved forward, say, three notches by some other means than the action of the units-wheel, after the 95 latter had moved part way around, said unitswheel would have to move thirteen notches instead of ten before it overtook the tens-

The display-wheels on the shaft C have co broad faces and large figures thereon to be seen by persons at a distance, the figures being shown at openings through the front plate or face, L', of the same. The faces of the registering-wheels on the shaft B are narrower, 165 with smaller figures, as they have to be read only by an inspector or person holding the device in hand, the figures upon the wheels appearing at openings l', Figs. 2, 7, and 8, through the back plate of the device.

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wheel to act upon it.

The plate n^2 at the face of the device, pierced with openings k' for the display-wheels, is held by the bearings E of the shaft C just within the shell or case, there being an oblong opening, N', formed through the face of the shell 115 over the plate n^2 , said opening being closed by a sheet of glass, o^2 . Upon the plate n^2 the words "dollars," "cents" are lettered in their proper place with reference to the openings k', as shown.

This device is to register fares or payments received in cash, and not in tickets; and by the registering wheels the whole amount received from the commencement of the use of the device to any given time thereafter may 125 be seen at once. When the device is manufactured, all the figure-wheels (display and registering) are set to show the 0 of each, there appearing two horizontal rows of naughts, one at the face and the other at the back of the de- 130 vice. Its use is as follows: All the wheels betion has passed the pawl-holder, the latter is ling set to show their respective figures 0,

an amount of cash—say twenty seven cents being received by the carrier, the figures 2 and 7 of the display-wheels H and I will be shown at the face of the device by moving the 5 chains, the number 27 also simultaneously appearing upon the wheels R and S at the back of the device, showing upon both sides of the case that twenty-seven cents have been received. The wheels H and I are now brought back to to again display their respective figures 0 by the carrier turning the crank I' through a single revolution, which also sounds the bell, the wheels R and S still showing the number 27 as the amount of cash received. If sixteen 15 cents are now received, the chains are moved to cause the number 16 to appear upon the display-wheels at the face of the device, as before, the number 27 at the back of the device being simultaneously changed to 43, the sum 20 of the numbers 27 and 16. The turning of the display-wheels to zero again, another amountas one dollar and thirty-two cents—being received, the number 132 is shown at the face and the number 175 at the back of the device 25 on the wheels P, R, and S, 175 being the sum of all the receipts. These cases represent the whole operation and use of the device. At the end of the month, for instance, the sum total of the receipts will appear in a number at the 30 back of the device, which being noted, the device is used through another month, at the end of which the difference between the previous reading and the present reading at the back of the case will show the amount received 35 during the second month, while the present reading will show the total amount received from the commencement of the use of the device or from the time when all the wheels were at zero. As shown, the device will register 40 up to one hundred thousand dollars, when all the wheels will be brought back to zero by their own operation, ready for a new start.

The instrument shown for moving the chains is a mere tapering headed pin; but a device 45 with a hooked point and expansion-ring to slip over the finger of the carrier may be a prefer-

able form.

It is necessary to have a wheel on the shaft B, opposite and connected by gearing with each 50 of the wheels on the shaft C, so that an amount received at any time shall be simultaneously shown at two places upon independent series of wheels; but the wheels K, L, and N, at the left of O, as shown in Fig. 3, may be extended 55 indefinitely to register receipts up to any amount desired, each of said wheels being operated by the one at its right, in the manner stated.

The detent pawls l² are held against their 60 respective ratchets by simple springs p^2 , secured to the plate G', several of said pawls being pivoted to the standards v' for holding the pinions, the others being pivoted to similar standards or blocks, s², as shown in Fig. 11.

Instead of the shaft B for holding the registering-wheels, I shall sometimes use the core

referred to by letter I', (shown in my pending application above referred to,) held in place by longitudinal bolts; and instead of the wheels P, R, and S, I may wish to substitute a system 70 of wheels in the place of each similar to the system belonging to the display-wheels F, consisting of the wheels O N L K, or a system of similar close contact wheels like those upon the core above mentioned. (Shown in said 75 pending application.)

A simple stop, u^2 , for the arm h^2 of the bellstriking device is provided, secured to the standard X, to hold the hammer just off the bell, to insure a clear sound thereof. The ham- go mer, after the stop is encountered, springs forward sufficient to strike the bell when urged by the spring k^2 , but immediately retreats, on account of the stop, sufficient to allow the bell to vibrate without touching it.

What I claim as my invention is— 1. In combination with a rigid shaft, a series of rotary wheels, each provided with a gear and a ratchet turning loosely upon said shaft, each of said wheels, with its associated go gear and ratchet, turning independently of each of the other wheels, a series of pawls for said ratchets, a series of pawl-holders for said pawls, a series of detent-pawls for said ratchets, some of said wheels being provided with pro- 95 jecting parts to operate said respective pawlholders, actuating-springs for said pawls and pawl-holders, and stops for the latter, substan-

tially as shown and described.

2. In combination with a rigid shaft, a num- 100 ber-wheel turning thereon, a series of equallyspaced pins rigid with said wheel and projecting at its side in lines parallel with said shaft, a disk held parallel with said wheel at the ends of said pins, said disk being provided with a 105 spring-pressed pawl upon its face turned away from said wheel, a gear for said wheel turning upon said shaft independently of the wheel and provided with a ratchet to be engaged by said pawl, a chain having its links engaging said 110 pins of the wheel, an idler for said chain, and means, substantially as shown and described, for moving the latter.

3. In combination with a rigid shaft, a number-wheel turning thereon, a series of equally- 115 spaced pins rigid with said wheel and projecting out at both sides thereof in lines parallel with said shaft, a disk held at the ends of said pins at one side of said wheel, a chain having its links engaging said pins between said disk 120 and wheel, an idler for said chain, a rotary shaft parallel with the first-named shaft, provided with a rigid wheel formed with peripheral fingers to engage said pins at the side of said wheel farthest from said disk, substan- 125 tially as described and shown.

4. In a fare registering device, the parallel rigid shafts B and C, each provided with a series of opposing number-wheels, each wheel on said shaft C being connected by interme- 130 diate gearing with the opposing wheel on the shaft B to turn said wheel on the shaft B, said

wheels of the shaft C acting upon said intermediate gearing when turning in only one di-

rection, substantially as described.

5. In combination with a rigid shaft, a number-wheel turning thereon, a series of pins projecting out at both sides thereof in lines parallel with said shaft and equidistant therefrom, a disk held at the ends of said pins at one side of said wheel, a chain having its links engaging said pins between said disk and wheel, an idler for said chain, a rotary shaft parallel with said rigid shaft, provided with a rigid wheel formed with peripheral fingers to engage said pins at the side of said wheel farthest from said disk, the projecting end of one of said pins at the side of said wheel farthest from said disk being omitted, and one of said

peripheral fingers being omitted from said

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wheel upon said rotary shaft, as and for the

purpose specified.

6. A shaft, C, provided with a series of independent rotary wheels having figures formed upon their faces and further provided with projecting pins, a second parallel shaft having wheels formed with peripheral fingers secured 25 thereto in position to encounter said pins, said wheels provided with fingers, being formed each with a peripheral space or notch to allow said pins to pass without contact, said lastmentioned shaft being provided with an arm 30 or crank and detent therefor, for the purpose specified.

WM. J. RIGNEY.

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Witnesses:

E. B. WHITMORE, H. B. KNIGHT.