Aug. 21, 1923. 1,465,304

R. E. HINCHEY

ONE-STORY MOVING DISPLAY ADVERTISING MACHINE

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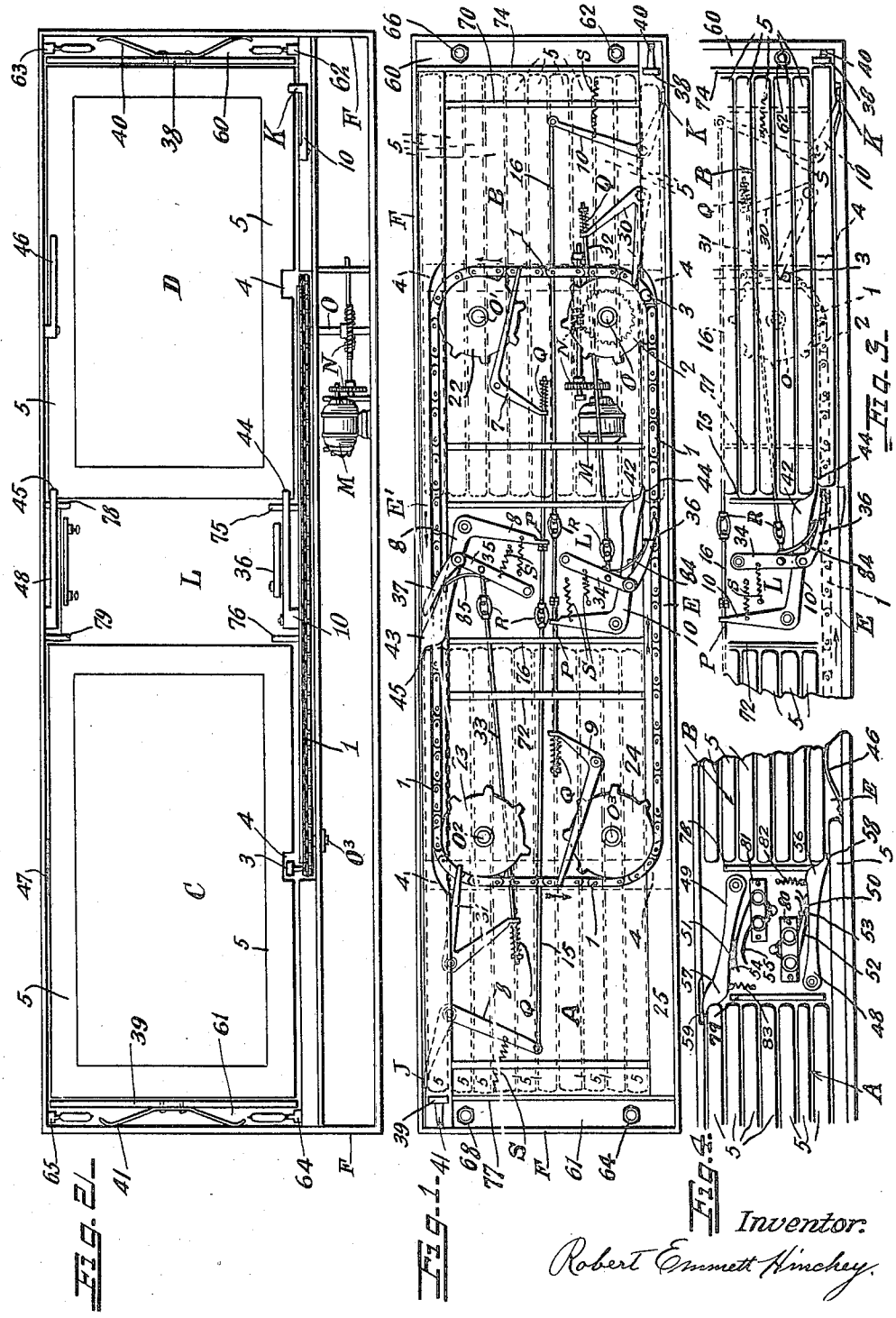


Fig. 2.

Fig. 1.

Fig. 3.

Fig. 4.

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ONE-STORY MOVING-DISPLAY ADVERTISING MACHINE.

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To all whom it may concern:

Be it known that I, ROBERT EMMETT HINCHEY, a citizen of the United States, residing at Aurora, in the county of Lawrence and State of Missouri, have invented certain new and useful Improvements in a One-Story Moving-Display Advertising Machine, of which the following is a specification, and is illustrated in the accompanying drawing.

My invention relates to a one-story, two-section, moving-display advertising machine, with means to successively display cards bearing advertisements, photographs, illustrations, designs, etc., and it has particular reference to an improvement over the advertising device shown in my U. S. Patent No. 1,429,205, filed Sept. 12, 1922. The operative mechanism comprises a combination of one set of machinery secured to the bottom of a horizontal, rectangular-shaped supporting-frame with some of the co-operative parts placed in the top, a series of vertical, card-display carrying-frames arranged in sets, one in each section. Said sets of frames rest upon two like transverse slides or runways and are bodily movable transversely, in opposite directions, the diagonally opposing endmost-frames being delivered into the horizontal portions of an endless-track, where they are individually and consecutively transferred from one set to another, and vice versa.

I attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Fig. 1 is an inside view of the lower part of the machine as seen by looking down upon it; Fig. 2, a front elevation of the apparatus embodying this invention, the inclosing glass-case being omitted; Fig. 3 is a flat view of one corner of the lower part of the machine, showing the manner in which some of the new elements operate to transfer the frames through the horizontal card-displaying to the transverse portion of the endless-track; Fig. 4, a detail view of the upper part of center space shown in Fig. 2, looking down on it with the top lifted, depicting the circuit makers and breakers for flashing the colored lights used for attractive illumination, and their manner of operation.

Similar characters of reference indicate similar parts throughout the several views.

Referring to drawing, F represents a supporting-frame, which may be made of metal or any suitable material, divided into two parallel sections, C first section and D second section that are separated by a narrow, vertically disposed space L. A represents a set or series of frames supported in the first section C, and B another set or series of like frames supported in the second section D. These frames may be made of the same material as the supporting-frame F, each to be made with a groove in the inner part and preferably open at the top to receive cards bearing advertisements that are to be slipped in back-to-back, in order that the displays may be presented to view on both sides of the machine. The construction of the supporting-frame F is such that the sections C and D, each have a front and rear display-opening, making in all four openings opposite which four different advertisements may be viewed at all times, each display being exposed to view twice on its side of the machine, all as shown in said patent.

The card-supporting frames of the sets A and B, constructed as illustrated in said patent, are movable in what we may term an endless-pathway, and will therefore be designated hereinafter interchangeably with said sections as C and D, in which one set of frames A are movable, forwardly and bodily, in the first transverse section or portion C, and the other set of frames B are movable in an opposite direction, rearwardly and bodily, in the second transverse section or portion D.

In each instance after the above-mentioned bodily movements, and as shown in said patent, the diagonally opposing endmost-frames 5 are adapted to be transferred singly and consecutively from one set, as A through the front horizontal portion E, to the other B, and vice versa, through the rear horizontal card-displaying portion E′, by means of notches 4 cut in the center of the under-edge of said display frames 5 co-operating directly with a stiff-pin 3 that is mounted on an endless-chain carrying-device 1, located in the bottom of the apparatus, under said sets of frames A and B.

Said endless-chain is operated by sprocket-wheel 2, fastened to a gear-shaft O that is

continuously rotated by the driving-gear N, (any suitable gear may be used) which in turn is engaged by the operative-power, preferably an electric-motor M. (See Fig. 2.) Fig. 1 shows the endless-chain 1 passed about the aforementioned sprocket-wheel 2, and sprocket-wheel 22 mounted on shafts O and O′ respectively, supported under section D, and about sprocket-wheels 23 and 24 mounted on shafts O^2 and O^3 respectively, supported under section C. Said sprocket-wheels so positioned are adapted to balance and guide said endless-chain 1 in a horizontal, rectangular position in order that a single stiff-pin 3 mounted thereon may have co-operation with the several parts of the operative mechanism that are located in its path at suitable intervals to effect intermittent movement, bodily and singly, of all the frames 5 through said endless-pathway, composed of the transverse portions C and D, and the horizontal, card-displaying portions E and E′. As may be seen by Fig. 1, said endless-chain 1 is supposed to be continuously in motion, so the aforementioned intermittent movements are governed by the time it takes pin 3 to travel from one co-operative part to the next, engaging and releasing them in turn, as will hereinafter be more fully described.

The features as thus far described are mainly like the corresponding features of the aforementioned pending patent and form no part of the present invention.

By reference to Fig. 1, the dotted lines represent the positions of the card-receiving-frames 5, arranged in sets A and B, showing the even line-up of the notches 4, which are cut in the center of the under edge of each frame 5, serving in the transverse sections C and D, as a passage for the actuating pin 3. When in the horizontal card-displaying portions E and E′, said notches 4 become co-operative with said pin 3, to effect individual movements of the frames 5 from one set, A, to the other, B, and vice versa. (Fig. 2.) At the completion of the last mentioned movements, pin 3 reaches the points where it turns about sprocket-wheels 2 and 23, respectively, (Fig. 1,) leaving notches 4 in frames 5, passing on to engage the arms of angle-levers 30 and 31 that are in the path of said pin 3, the opposite ends of said levers 30 and 31 are operatively linked by horizontal-rods 32 and 33, to straight-levers 34 and 35, respectively, which have pivoted on them arms 36 and 37, positioned and adapted, by means of springs 84 and 85, to automatically press outwardly and back of the inmost corners of the endmost frames 5, after said frames 5 have passed individually from one section to the other, as C to D, and vice versa, through the horizontal portions E and E′. A second function of arms 36 and 37 is effected by the rocking of angle-levers 30 and 31, as aforementioned, which at the proper time serves to push said frames 5 in a constant direction till they are forced against bars 38 and 39, which are made yieldable by attached double-curved, flat-springs 40 and 41, located in vertically-disposed, narrow end-spaces 60 and 61, of sections C and D. This last forward movement of arms 36 and 37 is sufficiently continuous till said frames 5 pass fingers 44 and 45 that are integral with central elbow-levers 8 and 10, to insure said fingers being beyond the inmost corners of said endmost frames 5, after said frames are released by arms 36 and 37, and then forced back within said fingers 44 and 45, by yieldable-bars 38 and 39, respectively, thereby placing said frames 5 exactly in their proper positions relative to the other frames 5 of the sets A and B, ready to be delivered into the transverse portions C and D. Said deliveries being made by the simultaneous pressure of fingers 44 and 45 on the inmost corners of said frames 5, accompanied oppositely by lugs K and J, respectively, all of which are governed by the passing pin 3 operating elbow-levers 7 and 9 as it comes to them. (See Figs. 1 and 3.) During this operation the delivered endmost frames 5 are forced against the other display-frames 5, thereby moving the sets bodily in opposite directions, the distance of the thickness of one frame, this movment placing the opposite endmost frames 5 into position to be engaged by pin 3, in the horizontal portions E and E′ of the endless-track.

The aforementioned duplicate lever devices are illustrated in Fig. 1. In the front part of the machine, lever 10 bearing an integral finger 44 represents a central lever, which is linked by a horizontal rod 16 to an opposite, outmost elbow-lever 10 having a stiff-lug K. Said rod 16 also has operative connection with elbow-lever 9, located in section C, which is actuated by pin 3 that is mounted upon an endless-chain 1.

Diagonally in the rear of the machine, lever 8 bearing an integral finger 45 represents an opposite central elbow-lever, which is linked by a horizontal rod 15 to a similar, outmost elbow-lever 8 having a stiff-lug J. Said rod 15 functions the same as rod 16, except that it operates in an opposite direction, connecting with elbow-lever 7, in section D, and is actuated by said pin 3.

The elbow-levers 8 and 10 are placed diagonally in opposite positions, and are adapted by means of said finger 44 and lug K, finger 45 and lug J, respectively, to operate on the opposing lower corners of said endmost frames 5 in actuating the transverse directions, while the tops of said frames are kept in balance by independent, flat curved-springs 46 and 47, which are mounted longitudinally inside of the sup-

porting frame F, (see Fig. 2,) having free ends that curve inwardly to press against the top edges of said frames, thereby operating automatically in unison with the aforesaid fingers and lugs in moving the sets of frames 5, bodily and transversely. As may be seen in Fig. 1, the set A of frames 5, in the first section C move forwardly; while a similar set B, in section D move oppositely and rearwardly.

Referring to Fig. 1, the central elbow-levers 10 and 8 have widened portions at 42 and 43, the corresponding upper straight-levers 48 and 49, Fig. 4, have similar widened portions 56 and 57, all these are positioned to form upper and lower abutments for the inmost corners of the endmost frames 5, when they are forced back by yieldable-bars 38 and 39.

Fingers 44 and 45 that are integral with elbow-levers 10 and 8, function in unison with other elements to move the sets of frames 5 bodily, as has been explained. The similar fingers 58 and 59 (Fig. 4,) that are integral with straight-levers 48 and 49, serve in the upper part as safeguards against succeeding frames 5, in passing through the horizontal portions E and E'.

In Fig. 1, the inmost arms of elbow-levers 8 and 10, have loops or slots P P, to allow them to slip back on rods 15 and 16 without moving said rods and other parts of the mechanism when said levers 8 and 10 are being pushed in by the pressure of the passing individual frames 5.

Said rods 15 and 16 have nuts on them, which catch and pull said levers 8 and 10, when the frames 5 are to be moved bodily in the sections C and D.

Link-rods 15 and 16, 32 and 33 are designed with turn-buckles R, to regulate their length, and restraining-springs Q on the ends where they join their respective actuating levers 7 and 9, 30 and 31, to obviate the possibility of breakage or stoppage of the machine. All of these said rods and levers are returned to their normal positions by small springs S. In Fig. 2, the motor M is shown in the bottom of the machine, but for the sake of convenience it may be placed elsewhere, the inside mechanism to be positioned according to the desired change.

Fig. 4 shows the electrical apparatus inside of the upper part of center space L. Levers 48 and 49 have double functions: first, as safeguards in case the upper edges of preceding frames 5 might be in the way of the succeeding endmost frames 5, in passing through the horizontal portions E and E': second, to connect and disconnect the lighting mechanism, thereby alternating the colored flashes. Said levers 48 and 49 have insulations 50 and 51 attached where they come in contact with circuit-makers and breakers 52, 53; 54, 55. Said alternating-lights are controlled by the passing of the individual endmost frames 5, which intermittently press inwardly, levers 48 and 49, and these in turn force 52 and 54 into contact with said members 53 and 55.

The operation of the apparatus herein shown may be briefly described in detail as follows: As shown in Fig. 1, a link-chain device 1, driven by a sprocket-wheel 2, has in it a stiff-pin 3, which extends up far enough to catch in notches 4, cut in the under edge of display-frames 5, also to engage the arms of certain levers hereinafter described as it comes to them.

Referring to Fig. 2, the apparatus may be supposed to be continuously in motion, whereby the endmost-frame 5, first set A, in the first section C, has been delivered into the receiving-space 25 (Fig. 1) of the front horizontal portion E, where pin 3 catches in notch 4 of said endmost-frame 5, transferring it to a supposed vacant space 25 (not herein shown) in the second section D, thereby leaving a space 25, in the first section C. (These alternate receiving and delivering spaces 25 are created opposite each of the four supposed display-openings, two on each side, by the intermittent movements of the sets A and B of frames 5, none of which is shown except at the aforementioned starting-point in Fig. 1.)

Upon curving about sprocket-wheel 2, Fig. 1, pin 3 leaves notch 4, thereby releasing frame 5, and immediately engages angle-lever 30, which is adapted by means of link-rod, 32, to oscillate straight-lever 34, which has pivoted on it a tapering out-most arm 36 that pushes frame 5 against yieldable-bar 38, the pressure being sufficiently continuous to permit said frame 5 to pass the lug 44 on elbow-lever 10, thereby allowing said lever 10 to rock outwardly far enough to place the widened portion 42 in position to serve as a stop for said frame 5 when it is returned by bar 38; by this same movement lug 44 is adapted to rest outside of the inmost corner of said frame 5. This return movement of bar 38 is effected by pin 3, as it releases angle-lever 30, thereby completing the horizontal movement in placing said frame 5 exactly in line with the frames 5 in set B, to be delivered into the transverse portion D.

Pin 3 moves on, transversely, to engage elbow-lever 7, which is adapted by means of link-rod 15, to rock elbow-levers 8—8, bearing lugs or fingers 45 and J, operating to move all frames 5 in first section C, forwardly and bodily the distance of the thickness of one frame 5, thus filling the space 25 in the front, and leaving another space 25 in the rear of said section C.

Pin 3 passes on through the line-up of notches 4, and about sprocket-wheel 22 preparatory to catching in notch 4 in the

rear endmost frame 5, of the second section D, operating to transfer said frame 5 through the horizontal portion E′ to the space 25 in the rear of first section C, thus leaving a space 25 in the rear of said second section D.

During this last movement said endmost frame 5, in passing, presses in lever 49 at top, Fig. 4, which in turn forces contact-spring 54 against similar spring 55 that is connected electrically with the alternating lamps 66; 68, in rear and spaces 60 and 61, sections D and C—66 and 68 are shown in Fig. 1—the corresponding upper lamps not being shown. The circuit is broken by lever 49, automatically springing outwardly, after said frame 5 has passed far enough to release said lever 49; by this same movement of lever 49, its lug 59 is adapted to be outside of the top inmost corner of said endmost frame 5, while the widened portion at 57 is positioned to serve as an abutment, functioning simultaneously with a like widened portion 43 of elbow-lever 8, in placing said frame 5, exactly in alinement with the other frames 5 of set A, section C, when it is returned by yieldable-bar 39. Leading up to this last mentioned operation, pin 3 curves about sprocket-wheel 23, thereby leaving said notch 4, and immediately engaging angle-lever 31, which is adapted by means of link-rod 33, to oscillate straight-lever 35, which has pivoted on it a tapering outmost arm 37 that serves to push frame 5 against yieldable-bar 39, the pressure being sufficiently continuous to permit said frame 5 to pass lug or finger 45 of elbow-lever 8, thereby allowing said lever 8 to rock outwardly far enough, to place the widened portion 43 in position to serve as a stop for said frame 5, when it is returned by bar 39; by this same movement, lug or finger 45 is adapted to rest outside of the lower inmost corner of said rear endmost frame 5.

This return movement of yieldable-bar 39 is effected by pin 3 releasing angle-lever 31, thereby completing the individual movement through the horizontal portion E′, in placing said frame 5, as aforementioned, exactly in line with the other frames 5 of set A, to be delivered into the transverse portion or section C.

Pin 3 moves on, transversely, to engage elbow-lever 9, which is adapted by means of link-rod 16, to rock elbow-levers 10—10, bearing lugs or fingers 44 and K, operating to move all frames 5 in second section D, rearwardly and bodily, the distance of the thickness of one frame 5, thus filling the space 25 in the rear, and leaving a like space in the front of said section D.

Pin 3 passes on through the line-up of notches 4, and about sprocket-wheel 24 preparatory to catching in notch 4 in the front endmost frame 5 of the first section C, operating to transfer said frame 5 through the horizontal portion E to the space 25 in the front of the second section D, thus leaving a similar space 25 in the front of said first section C.

During this last movement, said frame 5, in passing, presses in at top an independent, straight-lever 48, Fig. 4, which in turn forces contact-spring 52 against similar spring 53 that is connected electrically with the alternating lamps 62, 63, 64; 65, located in the front of end spaces 60 and 61, Fig. 2. The circuit is broken by lever 48, automatically springing outwardly, after said frame 5 has passed far enough to release said lever 48; by this same movement of lever 48, its lug or finger 58 is adapted to be outside of the top inmost corner of said front endmost frame 5, while the widened portion at 56 is positioned to serve as an abutment, to function simultaneously with a similar widened portion 42 of elbow-lever 10, lower center, in placing said frame 5 in exact alinment with the other frames 5 of set B, section D, when it is returned by yieldable-bar 38 as has been explained in a preceding paragraph. (See Figs. 4 and 1.)

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination in a one-story, two-section, moving-display advertising machine, of a framework supporting an endless-pathway secured thereto, comprising a front and rear horizontal card-displaying portion and two oppositely disposed sections constituting in themselves, two transverse portions with a narrow space therebetween and additional spaces arranged at opposite outmost ends thereof; a series of card-display carrying-frames supported in said transverse sections to form first and second sets; an endless-chain device passed about one sprocket-wheel mounted on a gear-shaft having a gear, and three similar guide-wheels spaced apart in determinate positions; means to continuously rotate the shaft, a gear having operative connection between said shaft and the driving power; a single stiff-pin mounted in said endless-chain, adapted to the several tasks of transferring the frames from one set to the other and vice versa, of actuating the means to move said frames in the transverse sections or portions, and to place them in position to be transferred, angle-levers and elbow-levers oppositely positioned having arms disposed in timing distances in the transverse path of said actuating means—the first, to place the moving individual endmost-frames exactly in alinement to be delivered out of the horizontal into the transverse portion of said endless-pathway—the second, to receive said last frames and to

effect intermittent bodily movement of all the frames in the transverse portions while said shaft is turning, substantially as described.

2. The combination, in a one-story, moving-display, advertising machine, comprising a supporting-frame having sections in horizontal alinement with a space therebetween, and additional spaces arranged at opposite ends thereof; a plurality of vertical card-display carrying-frames arranged in sets; an endless-chain device having a stiff-pin mounted therein, adapted to actuate the means to effect intermittent bodily movement of all the frames in said sets in opposite directions, comprising oppositely positioned sets of elbow-levers, composed of oppositely disposed, operatively linked pairs of lower elbow-levers having abutments and fingers or lugs on the outmost arms, to cooperate with the frames in the transverse sections, the inmost arms of said levers having operative engagement with said actuating means, substantially as described.

3. In a one-story, moving-display, advertising machine, the combination of a series of card-receiving frames, each having a notch cut in the under edge thereof for co-operative purposes; an endless-track through which said frames are movable in horizontal and transverse directions; the device having sections in horizontal alinement with a space therebetween having in the upper part clusters of mechanism for ornamental illumination secured thereto, and connected electrically with lamps mounted in vertically disposed end-spaces, means to operate said last means comprising independent straight-levers fulcrumed adjacent said clusters and extending into the horizontal path, adapted to be actuated intermittently by the pressure of the endmost frames in passing consecutively thereby; an endless-chain provided with a stiff-pin that extends upwardly into the notches of said endmost frames to carry them from one section to the other through the horizontal portions, and means to continuously operate said chain, substantially as described.

4. In a moving-display, advertising machine, the combination having a series of card-receiving frames arranged in sets, each frame having a suitable co-operative notch cut in the under edge thereof; an endless-track through which said frames are movable in horizontal and transverse directions, in a device with sections in horizontal alinement having a space therebetween, and oppositely extending end-spaces thereon; a framework supporting said sections, provided with four display-openings, two in each section oppositely disposed, and facing the horizontal portions of said track; an endless-chain carrying a stiff-pin, adapted to engage the notches in said endmost-frames, when in the horizontal portions, to transfer them singly and intermittently from one set to the other, and to actuate the means to deliver said frames exactly in line with the other frames in said sections, comprising elbow-levers with widened arms to form abutments having fingers integral therewith, adjustable relative to the inmost corners of said endmost frames, angle-levers having operative connection with straight-levers bearing outwardly disposed arms thereon, adapted to force said frames in a constant direction far enough to permit the aforenamed abutments and lugs to spring outwardly into place, bars with double-curved springs located within said end-spaces, operating independently to form yieldable return abutments therefor when said endmost frames have reached the outer limit of motion, and means to continuously operate said actuating means, substantially as described.

In testimony whereof I have signed my name, in the presence of two subscribing witnesses, to this specification.

ROBERT EMMETT HINCHEY.

Witnesses:

MRS. W. L. RYKER,

WALTER L. RYKER.