

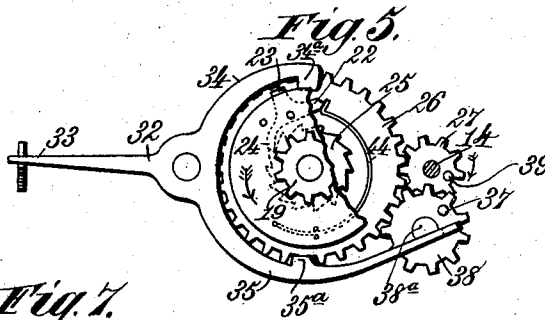
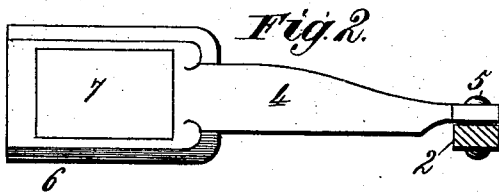
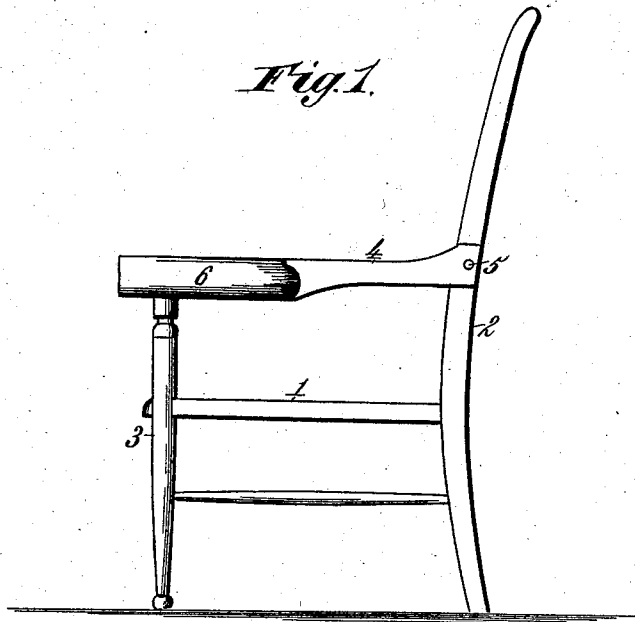
(No Model.)

2 Sheets—Sheet 1.

L. T. HAGAN.
ADVERTISING ARM CHAIR.

No. 576,054.

Patented Jan. 26, 1897.



Witnesses.

Robert Cornett.
Geo. W. Rex.

Inventor

Louis T. Hagan

By James L. Norris
Atty.

(No Model.)

2 Sheets—Sheet 2.

L. T. HAGAN.
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Fig. 3.

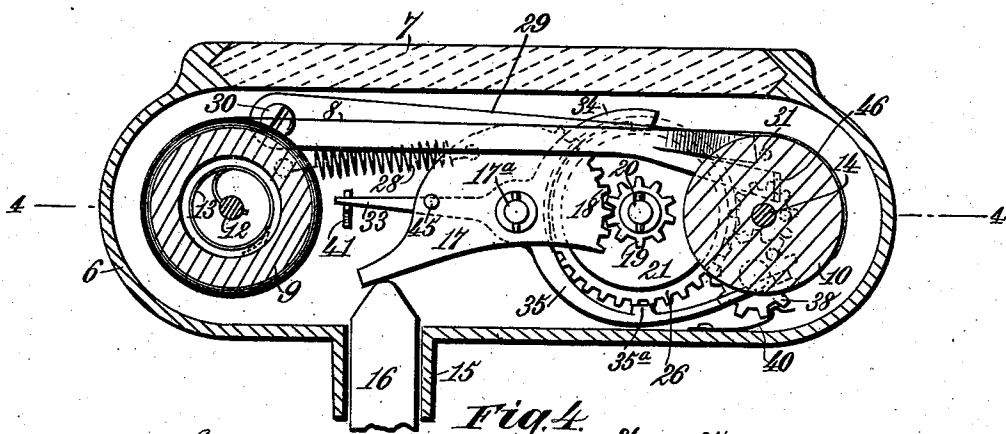
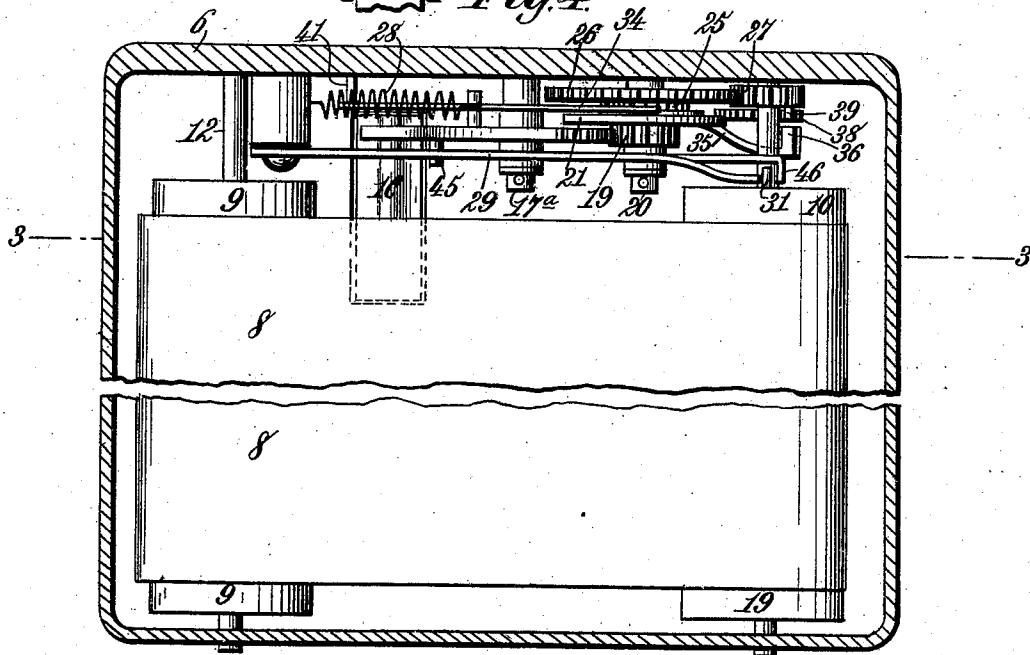


Fig. 4.



Witnesses.
Robert G. Smith.
Geo. W. Rea.

Inventor:
Louis T. Hagan.
By *James L. Norris.*
Atty.

UNITED STATES PATENT OFFICE.

LOUIS T. HAGAN, OF WINCHESTER, KENTUCKY, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE NATIONAL MANUFACTURING COMPANY, OF SAME PLACE.

ADVERTISING ARM-CHAIR.

SPECIFICATION forming part of Letters Patent No. 576,054, dated January 26, 1897.

Application filed March 14, 1896. Renewed December 31, 1896. Serial No. 617,675. (No model.)

To all whom it may concern:

Be it known that I, LOUIS T. HAGAN, a citizen of the United States, residing at Winchester, in the county of Clark and State of Kentucky, have invented new and useful Improvements in Advertising Arm-Chairs, of which the following is a specification.

This invention relates to that class of advertising mediums or devices which are designed to be arranged in the arms of chairs for the purpose of displaying or exhibiting advertisements placed on a movable carrier composed of a web of flexible material.

The chief object of the present invention is to provide an advertising arm-chair with new and improved means for effectually displaying cards, signs, or other advertising matter, the construction being such that the carrier bearing the advertisements is caused to travel whenever the chair-arm is depressed.

The invention also has for its object to provide a chair-arm with a web of advertisements which will be wound on a winding-roller and unwound from an unwinding-roll to successively display advertising cards or signs through a sight-opening in the chair-arm until a predetermined time, when the motion of the rollers is reversed and the web is intermittently rewound on the unwinding-roller and unwound from the winding-roller.

The invention also has for its object to provide a chair with a pivoted chair-arm containing a web of advertisements, cards, signs, or other advertisements and mechanism whereby an intermittent motion is imparted to the web by the depression of the pivoted chair-arm.

The invention also has for its object to provide new and improved mechanism for reversing the motion of the advertising-web after it has been unwound from one roller and wound on another roller.

To accomplish all these objects, my invention involves the features of construction, the combination or arrangement of parts, and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a side elevation of an arm-chair provided with my invention. Fig. 2 is a de-

tail plan view of the chair-arm, a portion of the chair-back being shown in section. Fig. 3 is a sectional view taken on the line 3 3, Fig. 4. Fig. 4 is a horizontal sectional plan view, the plane of section being on the line 4 4, Fig. 3. Fig. 5 is a detail view of the gear-wheel, pinions, and pawl-tripping lever to more clearly illustrate the devices for reversing the motion of the advertising-web. Fig. 6 is a detail view showing the device for retaining the pawl-tripping lever in either position to which it is shifted for changing the direction of motion of the advertising-web, and Fig. 7 is a detail plan view of the pawl-tripping lever and the reversing-pinion.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the accompanying drawings, wherein—

The numeral 1 indicates the seat of the arm-chair, 2 the chair-back, and 3 the front leg-frame or post, all of which parts may be of any ordinary or suitable construction, according to the style of chair desired, and therefore the chair illustrated in the drawings is only typical of many different constructions or forms of chair to which my invention may be applied.

The chair is provided with a chair-arm 4, which may be of any construction suitable for the purpose in hand and is pivoted at its rear end to the chair-back through the medium of a suitable pivot-pin 5. The chair-arm is adapted to rise and fall in a vertical plane for the purpose of actuating the mechanism which causes the carrier bearing the advertising cards, signs, or other matter to travel whenever the chair-arm is depressed. The advertising-carrier and the operating mechanism therefor are designed to be arranged in the outer end portion of the chair-arm, and for this purpose I prefer to provide a casing or housing 6, having a sight-opening containing a glass or other transparent medium 7 and secured to or forming part of the chair-arm 4. The casing or housing renders it possible to operatively assemble the mechanism therein and to subsequently attach the same to the chair-arm, but for the purposes of my invention the casing may be regarded as

a part of the chair-arm, as obviously the chair-arm could be constructed in any suitable manner with a chamber or compartment in its outer end portion for receiving the carrier and its operating mechanism, hereinafter explained.

The carrier on which the advertising-cards, signs, or other advertisements are placed is in the form of a web 8, of flexible material, having one end secured to the periphery of an unwinding-roller 9 and its other end secured to the periphery of a winding-roller 10.

I term the rollers 9 and 10, respectively, "unwinding" and "winding" rollers to more clearly distinguish them and to enable the invention to be more clearly understood from the written description, as will hereinafter appear.

The unwinding-roller 9 is hollow or in the form of a tube and is rotatably mounted on a non-rotary shaft 12, having its ends secured in the walls of the casing or housing 6. The hollow or tubular roller contains a helical or spiral spring 13, which is attached at one end to the non-rotary shaft and at the other end to the roller for a purpose which will hereinafter appear.

The winding-roller 10 is mounted on a shaft 14, rotatably mounted in the casing or housing. The rollers 9 and 10 are of a length approximately coextensive with the width of the advertising-web 4, and preferably the length of the rollers slightly exceeds the width of the web.

As shown in Fig. 4, the bottom wall of the casing is constructed with a pendent tubular extension 15, slidably arranged over the upper end of an arm or lug 16, mounted on the upper end of the leg-frame or front post 3 of the chair in such manner that the outer end portion of the chair-arm can rise and fall to a limited extent on the arm or lug, so that when the chair-arm is depressed the arm or lug will actuate a lever 17, which is geared with and serves to transmit motion to the winding-roller 10 for the purpose of winding the advertising-web thereupon and unwinding it from the roller 9. The lever 17 is approximately semicircular in outline and is constructed with a tailpiece, which overhangs the upper end of the arm or lug 16, and with a curved toothed portion, which constitutes a segmental gear 18. The actuating-lever is mounted at or near its center upon a shaft or stud 17', extending from one wall of the casing or housing 6, and the segmental gear 18 meshes with the teeth of a pinion 19, mounted on a shaft or stud 20.

The pinion 19 is attached to or forms part of a disk 21, provided with a pivoted pawl 22, having a tailpiece 23 and an acting end 24 to engage the teeth of a ratchet-wheel 25, attached to or forming part of a spur-gear or gear-wheel 26, mounted on the shaft or stud 20. The gear-wheel 26 engages the teeth of a pinion 27, keyed or otherwise secured to the shaft 14 of the winding-roller 10, so that if

rotary motion is imparted to this pinion the shaft and roller will likewise be rotated. The pinion 27 is arranged on the shaft 14 at some distance from one end of the roller 10, as will be seen by reference to Fig. 4.

It will be obvious that when the chair-arm is depressed the tail end of the lever 17 is elevated by the action of the arm or lug 16, the pinion 19 and disk 21 are rotated in the direction of the arrow, Fig. 5, and the pawl 22, carried by the disk 21, rotates the ratchet-wheel 25 and gear-wheel 26, which latter turns the pinion 27 in the direction of the arrow, Fig. 5, thereby correspondingly turning the roller 10, so that the advertising-web 4 is wound on this roller and unwound from the unwinding-roller 9.

When the pressure on the chair-arm is released, so that it can rise, a spring 28 will act to restore the actuating-lever 17 to its normal position, Fig. 3, and at the same time raise the chair-arm. Owing to the presence of the ratchet-wheel 25 and pawl 22 the movement of the actuating-lever to normal position is rendered possible without imparting rotary motion to the roller 10. This roller is, however, positively prevented from turning backward, except as hereinafter explained with reference to the reversing mechanism, through the medium of a pawl 29, mounted at one end on a pivot-pin 30, and having its other end adapted to lie in the path of a pin 31, secured to and extending from one end of the roller 10. When this pawl 29 is in its normal position, as shown in Fig. 3, its free extremity lies behind the pin 31, and obviously the roller 10 cannot turn backward.

The individual advertising cards or signs on the web are each approximately equal to the circumference of the winding-roller 10, so that each revolution of this roller moves the web the distance required to place a card or sign under the sight-opening containing the glass or other transparent medium 7, through which the card or sign is visible and can be read by the person occupying the chair. These remarks apply under the presumption that different advertising cards or signs are placed upon the web, but obviously a single continuous advertisement can be placed upon the web or upon a portion thereof, and the chair-arm operated to move the web, so that by repeated operations of the chair-arm the entire advertisement can be caused to travel under the glass or other transparent medium through which the advertisement may be read.

When the web is nearly or entirely unwound from the unwinding-roller 9 and wound upon the winding-roller 10, the traversing motion of the web should be reversed, so that it will then be unwound from the winding-roller and wound on the unwinding-roller. This is accomplished through the medium of reversing devices or mechanism of which the helical or spiral spring 13 hereinbefore explained is a part. The reversing mechanism also

comprises means whereby the pawl 22 can be tripped from engagement with the ratchet-wheel 25, and stop devices so arranged that at each depression of the chair-arm the helical or spiral spring 13 will turn the roller 9 in the direction required to wind the web thereupon and unwind it from the roller 10, when the latter will be stopped at the time it completes a revolution.

The device for tripping the pawl is composed of a duplex armed or bifurcated tripping-lever 32, having an elastic or spring-tailpiece 33, and its two arms or members 34 and 35, preferably made of unequal length, the arm 35 being the longest and constructed or provided at its extremity with a lateral stud 36, preferably formed by bending or turning the extremity of the arm 35 in a direction laterally toward one end of the roller 10, as best seen in Fig. 4, so that the stud is adapted to be acted upon, as hereinafter explained, by a pin 37, extending from a reversing pinion 38, which is mounted on a stud-shaft 38^a. The arms or members of the tripping-lever are provided, respectively, with tripping lugs or teeth 34^a and 35^a for tripping the pawl 22 into and out of engagement with the ratchet-wheel 25, as hereinafter explained.

The pinion 27 is provided with a lateral pin 39, which at the completion of each revolution of the pinion engages one of the teeth of the reversing-pinion 38, so that for every revolution of the pinion 27 the pinion 38 advances one step or the space of one tooth.

The teeth of the pinion 38 are engaged by the free extremity of a leaf-spring 40, which permits the pinion to be forcibly rotated, but prevents it from being accidentally moved. The pinion 38 is constructed with a number of teeth, the same as the number of the advertising cards or signs or card-spaces provided on the web 8.

The engagement of the pin 37 on the pinion 38 with the stud 36 of the tripping-lever 32 is designed to occur at the time that the web reaches the end of its travel in either direction. It will be obvious that when the pinion 38 is rotated in the direction of the arrow thereupon in Fig. 3, and the pin 37 strikes the stud 36 of the tripping-lever, the long arm 35 of the latter will be elevated and the lug or tooth 34^a on the short arm 34 will be raised out of the path of the tail 23 of the pawl 22, while the lug or tooth 35^a on the arm 35 of the trip-lever will be moved into the path of the tail of the pawl, in consequence of which the pawl will be tripped and thrown out of engagement with the ratchet-wheel 25. It is now possible for the motion of the roller 10 to be reversed for the purpose of reversing the motion of the advertising-web.

When the arm 35 of the tripping-lever is elevated by the pin 37 of the pinion 38, as above explained, the elastic tailpiece 33 of the lever lies in engagement with the trip-lever-retaining block 41, which is secured in a fixed position to one of the walls of the cas-

ing or housing. This retaining-block 41 is constructed with two reversely-inclined surfaces 42 and 43. When the tripping-lever is in the position shown in Fig. 5, the tailpiece 33 engages the upper inclined surface 42, and when the trip-lever is operated on by the pin 37 to lift the arm 35 of the lever the tailpiece 33 engages the inclined surface 43 of the retaining-block. By this means the tripping-lever is retained in either position to which shifted; but at the same time it can be operated by the action of the pin 37 on the stud 36.

The reversing-pawl 22 is acted upon by the free extremity of a leaf-spring 44, so constructed that it will retain the pawl in or out of engagement with the ratchet-wheel 25; but at the same time the pawl can be positively shifted by the action of either of the lugs or teeth 34^a and 35^a on its tail, as above explained. When the pawl is thrown out of engagement with the ratchet-wheel and the chair-arm is depressed so that the arm or lug 16 enters the casing or housing and raises the tail end of the actuating-lever 17, a pin 45 on this lever will act against the under side of the pawl 29 and raise its free end out of the path of the pin 31 on the end of the roller 10. At this instant the helical or spiral spring 13 rotates the roller 9, and a stop-finger 46, extending from the pawl 29, is moved into the path of the pin 31, so that when the roller 10 has made a complete revolution the pin 31 will strike the stop-finger 46 and arrest the roller. The stop-finger 46 will hold the pin 31 so long as the chair-arm is held depressed, but when the chair-arm is released the pawl 29 will fall by gravity, and the pin 31 will pass over the extremity of the finger 46 and strike the extremity of the pawl 29. The parts are now in position for a subsequent operation, which is carried into effect by depressing the chair-arm, whereupon the operation last above described is repeated, so that by repeatedly depressing and releasing the chair-arm the advertising-web 8 is unwound from the winding-roller 10 and wound upon the unwinding-roller 9, and when the web is nearly or entirely unwound from the roller 10 the pin 37 of the pinion 38 strikes the stud 36 on the long arm of the tripping-lever, thereby depressing this arm 35 and causing the lug or tooth 34^a on the arm 34 to move into the path of the tail 23 of the pawl 22, so that the acting end of the latter is thrown into engagement with the ratchet-wheel 25, in consequence of which the reverse motion of the advertising-web is provided for, and the depressions of the chair-arm will cause the web to wind upon the roller 10 and unwind from the roller 9, as first explained.

It will of course be understood that the motion of the pinion 38 is reversed whenever the motion of the roller 10 is reversed, and that therefore the pin 37 will operate at one time to depress the arm 35 of the tripping-lever and at another time will elevate this

arm of the tripping-lever, so that the lugs or teeth 34^a and 35^a on the arms 34 and 35 of the lever are alternately thrown into and out of the path of the tailpiece on the pawl which is designed to engage and disengage the ratchet-wheel of the spur-wheel or gear-wheel which meshes into the pinion on the shaft of the winding-roller.

In the operation of the mechanism the pin 37 of the reversing-pinion 38 never actually passes by the stud 36 on the arm 35 of the tripping-lever; but, on the contrary, the pinion 38 immediately reverses its direction of motion after the pin 37 presses against the stud 36 sufficiently to move the same the distance required to throw either of the lugs or teeth 34^a and 35^a into or out of the path of the tail on the pawl of the ratchet-wheel.

The mechanism described is novel, simple, and efficient, and enables the advertising-web to be moved in one direction a predetermined time and then automatically reversed to move in the opposite direction, so that the advertisements provided on the web can be repeatedly exposed to view through the glass or sight opening in the upper side of the chair-arm.

It is desirable that the individual cards or signs provided on the web be placed somewhat farther apart toward the end portions of the web in order to compensate for the increasing circumference of the rollers as the web winds upon either one of them, for the purpose of causing all of the cards or signs to be properly presented to view through the glass or sight opening.

The helical or spiral spring 13 tends to rotate the roller 9 in the direction to wind the web on this roller, and when the roller 10 is rotated to wind the web thereupon the draft of the web rotates the roller 9 in opposition to the force of the spring 13, thereby winding the spring and placing it under the required tension for the subsequent rewinding of the web on the roller 9 when the reversing mechanism operates to permit the reverse motion of the parts.

Having thus described my invention, what I claim is—

1. The combination with a chair, of a chair-arm pivotally mounted on the chair above the chair-seat and containing an advertisement-carrier, mechanism located within and carried by said pivotally-mounted chair-arm and in operative connection with said advertisement-carrier for moving the same, and a device mounted on a part of the chair for operating said mechanism when the chair-arm is moved on its pivotal point, substantially as described.

2. The combination with a chair, having a depressible chair-arm provided with a sight-opening, rollers mounted within the chair-arm, an advertising-web connected at its ends with the rollers, and mechanism located in the chair-arm and operated by the depression of the same for positively rotating one of the

rollers to wind and unwind the advertising-web, substantially as described.

3. The combination with a chair, of a pivoted, depressible chair-arm having a sight-opening, an advertising-web arranged wholly in the pivoted chair-arm, and mechanism located in said chair-arm and operated by the depression thereof to impart a traveling motion to the web, substantially as described.

4. The combination with a chair having a depressible chair-arm, of rollers mounted within the chair-arm, a web arranged in the chair-arm and connected at its ends with the rollers, a lever geared to one of the rollers, and a device mounted on a part of the chair and acting to move the lever when the chair-arm is depressed, for the purpose of imparting rotary motion to one of the rollers to wind and unwind the web, substantially as described.

5. The combination with a chair having a depressible chair-arm provided with a sight-opening, and an advertising-web arranged within the chair-arm, of mechanism located within the chair-arm and operated by the depression thereof to impart a traversing motion to the web in one direction, and automatic reversing mechanism located within said depressible chair-arm for changing the direction of motion of the web, substantially as described.

6. The combination with a chair having a depressible chair-arm, of an advertising-web arranged in the chair-arm, mechanism actuated by the depression of the chair-arm for imparting a traversing motion to the web in one direction, and reversing mechanism located within said chair-arm for changing the direction of motion of the web, substantially as described.

7. The combination with a chair having a depressible chair-arm, of rollers mounted in the chair-arm, an advertising-web arranged in said chair-arm and connected at its ends with the rollers, a pivoted lever geared to one of the rollers, and means for vibrating the lever on its pivot to positively rotate one of the rollers and thereby wind the web on one roller and unwind it from the other roller, substantially as described.

8. The combination of a depressible chair-arm, with rollers mounted within the chair-arm, an advertising-web arranged in the chair-arm and connected at its ends with the rollers, a lever geared to one of the rollers, a device for swinging the lever when the chair-arm is depressed to positively rotate one of the rollers, and reversing mechanism located in the said chair-arm for reversing the direction of motion of the web, substantially as described.

9. The combination with a chair-arm, of two rollers mounted within the chair-arm, an advertising-web arranged in said chair-arm and connected at its ends with the rollers, a lever geared to one of the rollers, means for moving the lever as the chair-arm is depressed for rotating one of the rollers to wind and un-

wind the web, and reversing mechanism located in said chair-arm for changing the direction of motion of the web, substantially as described.

5 10. The combination of a depressible chair-arm, two rollers mounted within the chair-arm, an advertising-web arranged in said chair-arm and connected at its ends with the rollers, a vibrating lever geared to one of the rollers to positively rotate the same, and an arm or lug which acts against and moves the lever when the chair-arm is depressed to wind the web on one roller and unwind it from the other roller, substantially as described.

15 11. The combination of a depressible chair-arm, two rollers mounted thereon, a web having its ends connected with the rollers, an actuating-lever, a pawl-and-ratchet mechanism geared with said lever and with one of said rollers, an arm or lug which acts against and moves the lever when the chair-arm is depressed for positively rotating one of the rollers and moving the web in one direction, and automatically-operating reversing mechanism for moving the web in the opposite direction, substantially as described.

20 12. The combination of two rollers, one of which is provided with a pinion and a stop-pin, a web having its ends connected with the rollers, an actuating-lever having a toothed portion, a pawl-and-ratchet mechanism geared with the toothed portion of the lever and with the pinion of the roller, a reversing-pinion geared to the pinion of the roller and actuated at intervals thereby, a trip-lever having

lugs or teeth and operated by the reversing-pinion to throw the pawl into and out of engagement with the ratchet of the pawl-and-ratchet mechanism, a stop-pawl adapted to strike the pin of the roller to arrest the rotary motion of the latter, a spring for rotating the other roller, and means for vibrating the lever, substantially as described.

40 13. The combination of an unwinding-roller, a winding-roller having a pinion and a stop-pin, an actuating toothed lever, means for vibrating the toothed lever, a pawl-and-ratchet mechanism geared with the toothed lever and with the pinion of the roller, a reversing-pinion turned at intervals by the pinion of the roller and having a pin, a tripping-lever operated by the pin of the reversing-pinion for throwing the pawl into and out of engagement with the ratchet of the pawl-and-ratchet mechanism, means for retaining the tripping-lever in the position to which shifted by the reversing-pinion, a spring acting to rotate the unwinding-roller, and a stop-pawl arranged in the path of the pin on the winding-roller and shifted out of the path of said pin by the action of the actuating-lever, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LOUIS T. HAGAN.

Witnesses:

LEELAND T. BUSH,
WILL C. YOUNG.