(No Model.)

# A. A. ROOT.

## ADVERTISING DEVICE.

No. 521,990. Patented June 26, 1894.

Fig.1

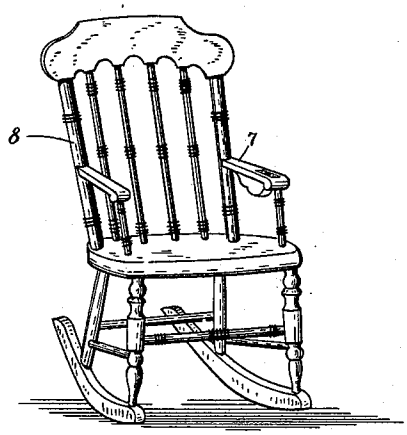


Fig.2

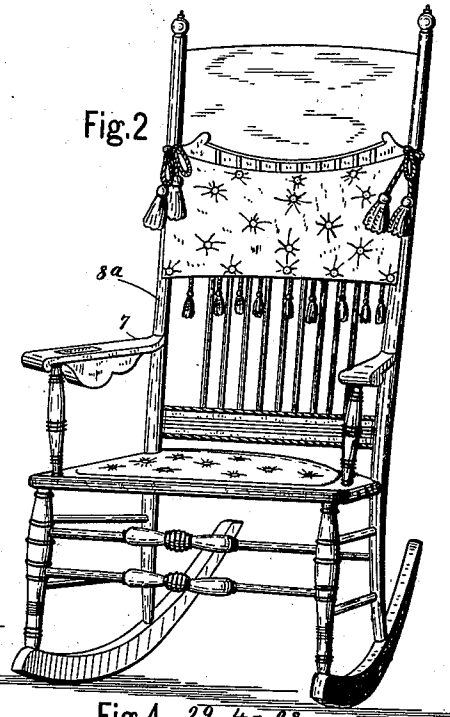


Fig.3

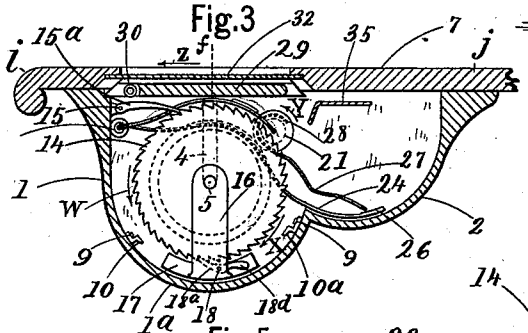


Fig.4.

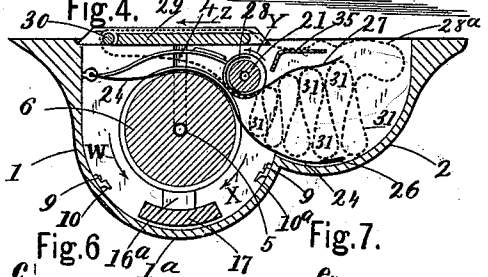


Fig.6

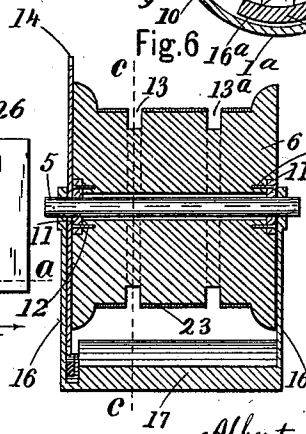


Fig.7.

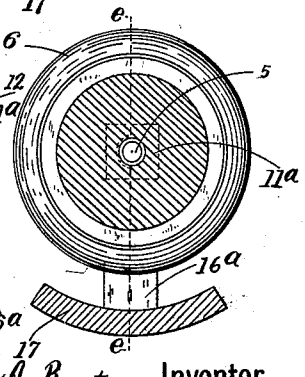


Fig.5.

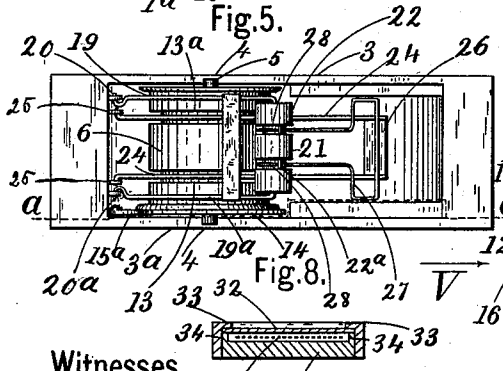


Fig.8.




Witnesses.

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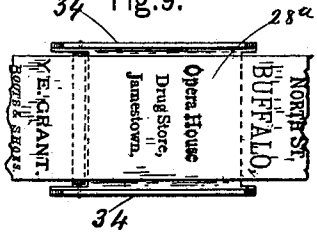
Fig.9.




THE NATIONAL LITHOGRAPHING COMPANY.
WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

ALBERT A. ROOT, OF BUFFALO, NEW YORK.

## ADVERTISING DEVICE.

SPECIFICATION forming part of Letters Patent No. 521,990, dated June 26, 1894.

Application filed February 19, 1894. Serial No. 500,640. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT A. ROOT, a citizen of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented a new and Improved Device for Exhibiting Letters, Figures, or other Characters, Educational Features, and Advertising Matter, of which the following is a specification.

My invention relates to a new and improved device, operated by a rocking chair, or other suitable means for giving it a rocking or oscillating movement, for exhibiting advertisements, or the letters of the alphabet for educational purposes, or figures or other characters, the advertisements, figures or other characters being shown successively one after the other while the oscillating or rocking movement continues, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of a child's chair, showing my invention connected to it for exhibiting the letters of the alphabet, or other matter for the education of children. Fig. 2, is a perspective view of a suitable large size rocking chair showing my invention connected thereto for exhibiting advertisements, which are brought to view by the rocking of the chair. Fig. 3, represents a vertical longitudinal section in or about line *a a*, Fig. 5, showing a side elevation of the operating mechanism. Fig. 4, is a vertical longitudinal section through the case in or about line *a a* Fig. 5, showing also a section through the large feed roller in or about line *c c* Fig. 6 and a section through one of the surrounding grooves in the small feed roller. Fig. 5, is a top or plan view of the optrating mechanism below the cover and opening through which the characters are shown. Fig. 6, represents a vertical central section in or about line *e e*, Fig. 7, through the large feed roller, its swinging operating weight and other parts. Fig. 7, is a transverse section in or about line *c c*, Fig. 6, cutting through the large feed roller and its swinging weight, looking in the direction of the arrow V. Fig. 8, represents a vertical cross section cutting down in or about line *f*, Fig. 3, through the chair arm or cover, the glass, and through the removable holding plate or board below the glass. Fig. 9 is a detached top view of the removable plate or board for holding the glass that covers the opening through which the letters or other characters are seen, showing also a portion of the ribbon upon which the letters or characters are placed.

Referring to the drawings, 1, is the front, $1^a$, the under side, and 2, represents the rear portion of the holding and supporting case. It is preferably made of wood as it can be easily and quickly cut to the required shape by a band saw, but any other well known suitable material may be used for this purpose. The sides of the case 3 and $3^a$, being plain and smooth are secured by glue, or by screws or nails in the usual manner.

In each inner side 3 and $3^a$, of the holding case is a groove 4, which are located directly opposite each other and extend down far enough to provide a rest or support for the ends of the shaft 5, that the large feed roller 6, turns on, see Figs. 3, 4 and 5, where the grooves 4, are shown. The cover 7, of the case may be the arm 7, of a chair 8 or $8^a$, to which it may be connected or form a part.

In the lower inner side of the case are secured by screws 9, two buffers 10 and $10^a$. These buffers are preferably made of india rubber, but any suitable elastic material may be used. The object of these buffers is to provide an elastic stop for the swinging weight as will be more clearly hereinafter shown.

The large feed roller or cylinder, 6, is provided with bearing boxes 11 and $11^a$, made of bone or horn or lignumvitæ wood, they being among the best and most lasting materials for that purpose to be used without oil. The shaft 5, passes through the boxes 11 and $11^a$, and remains stationary, so that the cylinder and boxes turn on the shaft. The boxes 11 and $11^a$, are secured in place by screws or nails 12, see Fig. 6.

In the large feed roller 6, are two grooves 13 and $13^a$, the office of which will appear farther on, and to one side of the large feed roller 6, is rigidly secured by screws, or in any well known way, a ratchet wheel 14, and to the inner front upper side of the case is pivoted by a pin 15, a pawl $15^a$. This pawl $15^a$, engages with the teeth in the ratchet wheel 14, and prevents it from moving back-

ward or in the direction of the arrow W, while it is free to turn in the opposite direction, or in the direction of the arrow X.

Fitted loosely on the shaft 5, so as to swing easily thereon, are two arms 16 and 16ª, one at each side of the feed roller, see Fig. 6, where both arms are shown, in section, and one is represented in Fig. 7. To the lower ends of these arms is rigidly secured a weight 17, and to one side of the weight, on the arm 16, is pivoted by a pin 18, another pawl 18ª, which is adapted to engage with the teeth in the ratchet wheel 14, at the under side of said wheel. The object of this construction is to cause the ratchet wheel and its feed roller to turn in the direction of the arrow X, every time the weight 17, swings in that direction.

Two curved arms 19 and 19ª, preferably formed of a single piece of heavy wire, are pivoted at the points 20 and 20ª, to the inner front side of the case and extend back, and up over the large feed roller 6, where the wire is bent, so as to form a straight portion between them, on which is loosely mounted a small feed roller 21, this roller rests on top of the large feed roller and turns thereon. In this feed roller, 21, are also two surrounding grooves 22 and 22ª, these grooves it will be noticed, are so located that they will not cross or interfere with the grooves 13 and 13ª in the large feed roller. The peripheries of both, the large and the small feed rollers, are covered with felt 23, shown in Fig. 6, on the large feed roller, both rollers being alike in this respect.

A wire frame 24, is pivoted to two projecting pieces 25, shown in Fig. 5, (the wire frame 24, being shown in Figs. 3, 4 and 5.) This wire frame 24, projects forward and curves downward over the roller 6, so that a portion of the wire sides of the frame rests in the grooves 13 and 13ª, substantially as shown so as to be even with or below the surface of the roller, the frame 24, then extends forward and rests on the rear portion of the bottom of the case, it is provided with a weight 26, at the end. The object of this wire frame is to prevent the advertising or character exhibiting ribbon, (a description of which will appear farther on) from being drawn down around the roller 6, in the direction of the arrow X, or down under the roller in the direction the roller turns.

The small feed roller 21, is provided with a light wire frame 27, which is hooked on to the roller, the hook portions 28, lying in the grooves 22 and 22ª, in said roller and the opposite end which extends out each way so as to be wider than the rest of the frame, see Figs. 3 and 5, rests by its own gravity on the bottom rear portion of the case or substantially so.

The object of this frame is to prevent the advertising or exhibiting ribbon from passing up around the roller 21, in the direction of its movement, or in the direction of the arrow Y, shown in Fig. 3, and also acts as a folder for the ribbon, as will more clearly appear farther on.

An endless ribbon 28ª, shown by the dotted lines in Fig. 4, is made sufficiently wide, to about or nearly cover the roller 21, and is put in the machine so that one side of it passes forward over the removable board or plate 29, in the direction of the arrow Z, then down over the roller 30, which is pivoted to the front end of the plate 29, then backward and down between the two feed rollers and then through a series of folds 31, (see Fig. 4,) to the starting point. It will be noticed by reference to Figs. 3 and 8, that the ribbon passes under the glass 32, or between the glass 32 and the removable plate 29, so that the advertisements or other matter can be seen through the glass. The cover (or chair arm when a chair is used) is provided with an opening through it having inner projecting flanges 33, see Fig. 8 against which the glass 32, is held up by the upwardly projecting ledges 34 which are an integral part of the plate 29. It will be noticed that the weight of the feed roller 21, rests on the periphery of the roller 6, and receives its feeding movement therefrom.

The operation of the device is produced by the rocking of a chair, or other means, to which it may be connected, when used on an ordinary rocking chair its action is as follows:—Referring to Fig. 3, when the end marked *i*, moves upward and the end *j* downward, the weight 17, connected to the arms 16 and 16ª, which hang loosely on the shaft 5, remains substantially stationary during this operation, consequently the ratchet wheel 14, connected with the roller 6, moves several notches under the pawl 18ª, which is weighted at 18ᵈ, to keep it in engagement with said ratchet wheel, the end of the weight 17, may come in contact with the buffer 10ª, if this movement is great enough, the movement is therefore limited by said buffer. The pawl 15ª, (while this movement is being made,) is in engagement with the ratchet wheel and thereby prevents it from turning backward while the lower pawl 18ª, is moving backward over the teeth of said ratchet wheel. When the device is made to oscillate the other way so that the end *i*, moves down while *j*, moves up, the weight 17 will remain substantially stationary as before and with its pawl 18ª, it will cause the wheel 14, and its roller 6, to turn (the pawl 15ª, allowing it to turn in that direction only) so that several teeth of the ratchet wheel 14, will pass under the end of the pawl 15ª. In this way the motion of the main feed roller 6, is continued in the direction of the arrow X, and the feed roller 21, in the direction of the arrow Y, and the two rollers thereby act as a feed for the endless ribbon. The object of the felt on the rollers is that it feeds better than a smooth slippery roller would. Now by referring to Fig. 4, the operation of the endless ribbon 28ª, will be understood, it is placed so that one side runs between the

felt covered feed rollers 6, and 21, and passing therefrom, it is inclined to pass up around the feed roller 21, in the direction of the arrow Y, but the light wire frame 27, prevents it from doing so, by causing it to turn downward until it strikes the frame 24, it is again turned upward, forming another fold, 31, which is turned downward again as soon as it comes in contact with the wire frame 27, which causes it to turn down again and form another fold, 31. This operation is continued until as many folds are made as there is room for, or until they pass the end of the frame 27, the ribbon then passes up and forward over the angular table 35, and from thence forward between the glass 32, and the board 29, and then back between the feed rollers as before mentioned. The object of the angular platform 35, is to prevent the ribbon from dropping down at that point and coming in contact with the roller 21, which would be inclined to draw it in a fold forward between the roller 21 and the plate or board 29, and thereby prevent the proper operation of the ribbon. This motion of the ribbon causes the letters, figures or advertisements to pass one after the other under the glass where they can be seen or read. For some purposes the ribbon may be made much shorter.

I do not confine myself to the location of the device on the arm of a rocking chair as it may be put on any other portion of the chair where sufficient rocking movement can be had to operate it, or it may be used on any device that will give it the necessary oscillating motion.

The supporting case for the mechanism, is secured to the arm of a chair, or other device for giving it a rocking motion by nails or screws, in any well known way.

I claim as my invention—

1. In a device for exhibiting advertisements, letters, or other matter, the combination with a holding case secured to a rocking device for giving the necessary oscillating movement, of a feed roller provided with a ratchet wheel on one side and mounted on a shaft secured in said case so that the feed roller can rotate thereon, an arm at each side of the feed roller hung loosely on the shaft, a weight connecting the lower ends of the arms for keeping them in a substantially vertical position while the roller is being rotated, a pivoted pawl for preventing the feed roller from turning back, and a pivoted pawl on the lower part of one weight supporting arm for engaging with the teeth in the ratchet wheel and turning the feed roller by an oscillating movement of the device, substantially as described.

2. In a device for exhibiting letters or other matter, the combination with the arm of a rocking chair, of a holding case secured to said arm, an opening through said arm covered by a plate of glass, an endless ribbon located in said case so that its upper side passes between the glass and over a table or plate having a friction roller pivoted to its front end over which the ribbon passes to and between feed rollers by which it is carried continually around in one direction so as to exhibit the characters upon its face as they pass successively under the glass, and mechanism substantially as above described for giving the main feed roller its proper forward feeding movements, operated by rocking the case in which the mechanism is inclosed substantially as herein set forth.

3. In a device for exhibiting letters or other matter, the combination with a main feeding roller and its connected operating mechanism, of two surrounding peripheral grooves in said feed roller, a wire frame pivoted to the front of the case and extending back through the peripheral grooves and down to the bottom rear portion of the case where the two side portions of the frame are connected by a flat weight, whereby the endless ribbon is prevented from passing down and under said feed roller, substantially as described.

4. In a device for exhibiting letters or other characters, the combination with the arm of a rocking chair having an opening through it covered by a plate of glass through which the characters may be seen, a holding case secured to the under side of said arm, a main feeding roller 6 having a ratchet wheel on one side and a feeding roller 21 mounted in said case so as to rotate easily on a fixed shaft, a swinging weight mounted so as to swing easily on the shaft 5 and provided with a pawl for engaging with the ratchet wheel and rotating the roller, a pawl for preventing the roller from moving backward, a small feed roller mounted on a swinging frame and resting on the main feed roller, an endless ribbon having the characters to be exhibited printed upon its face, a supporting plate located below the glass having a friction roller pivoted to its front end, for supporting the ribbon which passes over it under the glass and between the feed rollers, and means for preventing the ribbon from going under or over the rollers, whereby the ribbon is moved forward during every rocking movement of the chair, substantially as described.

5. In a device for exhibiting letters or other matter, the combination of the supporting plate, the glass covering above it, a main feed roller having a ratchet wheel on one side and a small feed roller resting on the main roller, with an endless ribbon carrying a series of letters or other matter, one side passing around the supporting plate and between the feed rollers, and means substantially as above described for keeping the ribbon in place and feeding it forward every time a rocking movement is given to the device substantially as above set forth.

6. In a device for exhibiting letters or other matter, the combination with the main feed roller, the small feed roller resting on and receiving its motion therefrom, and a hooked frame bar, the hook portions of which clasp

around in grooves surrounding the small roller so as to swing lightly thereon, for preventing the ribbon from being carried up around said roller, substantially as described.

7. In a device for exhibiting letters or other matter, the combination with a main feed roller, a small feed roller resting on and receiving its motion therefrom, a hooked frame bar connected in the grooves in the small feed roller so as to swing easily thereon, a supporting plate mounted in the case below the glass, an endless ribbon having advertisements printed thereon mounted in the case so that one side will pass between the supporting plate and glass and through the feed rollers, and an angle plate over which the ribbon passes on its way back to the supporting plate, for preventing the ribbon from being carried over and between the small roller and the supporting plate substantially as described.

8. In a device for exhibiting letters or other matter, the combination with a rocking chair having on it a case carrying an endless ribbon provided with letters or other matter on its exposed face, a glass covered opening through which the matter may be seen, and mechanism substantially as herein described for giving the ribbon an intermitting forward movement and successively exposing the letters or other matter, the whole being operated by the rocking of the chair substantially as above specified.

9. In a device for exhibiting letters or other matter the combination with suitable rocking or oscillating mechanism of a supporting inclosing case, a main feed roller having two surrounding grooves and provided with a ratchet wheel on one side and suspended on a shaft secured within the supporting case, a pawl pivoted to the inner front end of the supporting case and engaging with the ratchet wheel to prevent it from going backward, a swinging weight suspended on the shaft carrying a pawl for turning the ratchet wheel and roller by means of the weight as the case oscillates, a small feed roller, also having two surrounding grooves, mounted on a light pivoted frame and resting on the main feed roller and receiving its motion therefrom, an endless ribbon having letters or other matter on its exposed face, and one side passed through between the glass, through which the letters are seen, and the supporting plate, then down between the feed rollers and back to the starting point, mechanism substantially as above described for preventing the ribbon from either going below or up on the feed rollers, and keeping it in place, whereby the ribbon is fed forward and the letters or other matter intermittingly presented to view by the rocking or oscillating motion of the supporting inclosing case, substantially as described.

10. In a rocking chair, the combination with a chair arm having a glass covered opening through it, a supporting case below the opening, an endless ribbon mounted below the glass covered opening having a series of letters or other matter on its exposed face, and means for feeding said ribbon intermittingly so as to successively expose the matter as it is moved, the whole being actuated by the rocking of the chair substantially as described.

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Witnesses:
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