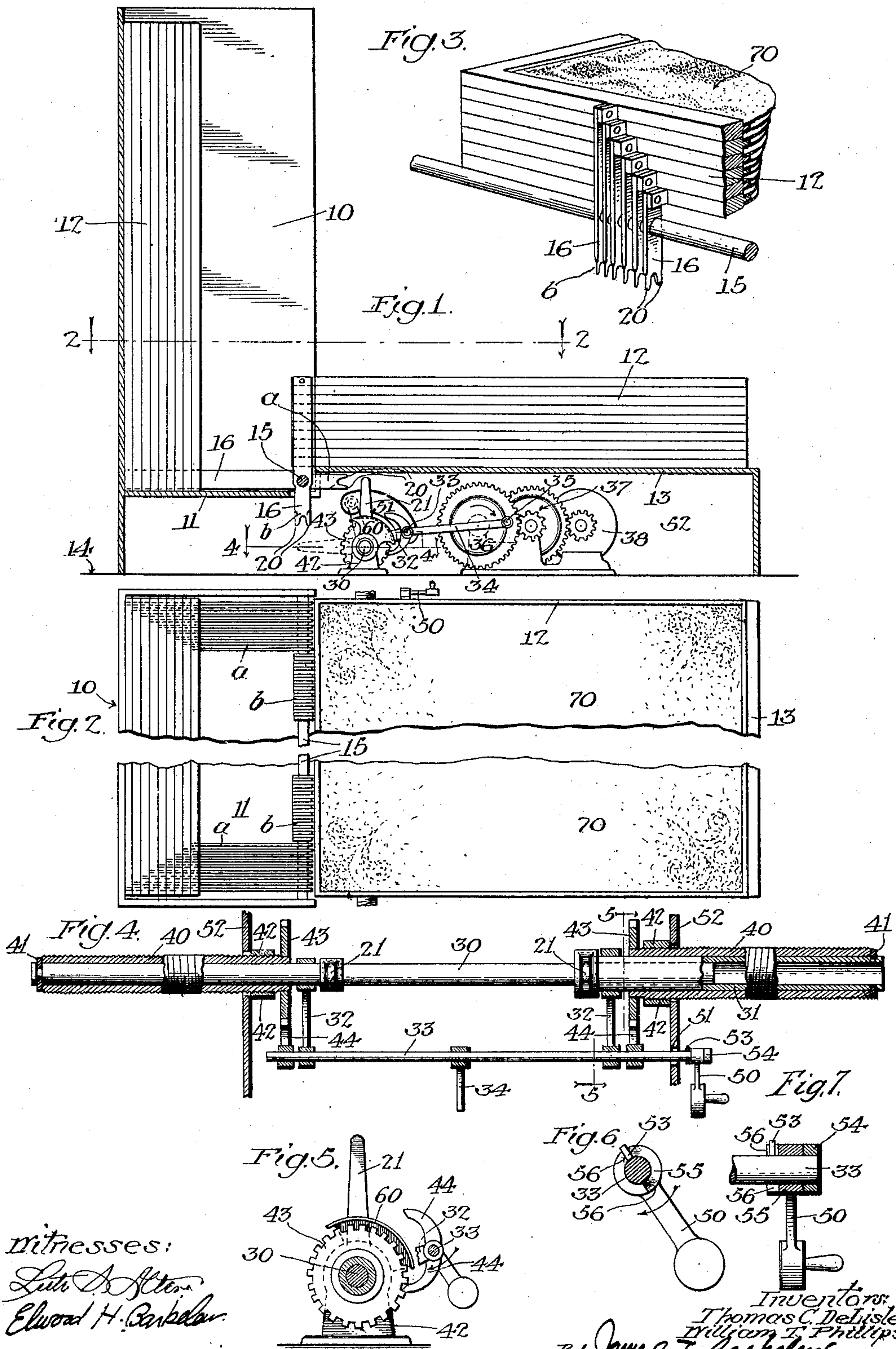


T. C. DE LISLE & W. T. PHILLIPS.  
 DISPLAY DEVICE FOR CARPETS AND THE LIKE.

APPLICATION FILED APR. 18, 1910.

976,442.

Patented Nov. 22, 1910.



Witnesses:  
*Lute A. Allen*  
*Elwood H. Barkley*

Inventors:  
*Thomas C. DeLisle*  
*William T. Phillips*  
 By *James T. Barkley*



# UNITED STATES PATENT OFFICE.

THOMAS C. DE LISLE AND WILLIAM T. PHILLIPS, OF LOS ANGELES, CALIFORNIA.

DISPLAY DEVICE FOR CARPETS AND THE LIKE.

976,442.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Application filed April 18, 1910. Serial No. 556,081.

*To all whom it may concern:*

Be it known that we, THOMAS C. DE LISLE and WILLIAM T. PHILLIPS, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Display Devices for Carpets and the Like, of which the following is a specification.

10 This invention relates to a display device adapted to show carpets or the like in a position similar to that in which they are ordinarily viewed—that is, in a horizontal position.

15 Heretofore most of the devices for the display of carpets have been so constructed that the goods could only be exhibited in a vertical position. It is difficult for the customer to form a correct idea of a carpet or rug while held in this position, some designs appearing quite different when laid on a floor. For this reason it is desirable to exhibit the carpets horizontally before the intending purchaser.

20 To our own knowledge there are machines in use which display the carpet on the floor, or approximately so; but these machines are complicated in their structure and demand that the individual carpets or rugs shall be secured or fastened in a special manner, and further, the fastening of the carpet is such that it is difficult to withdraw a single carpet or to insert one.

25 Our device is designed to overcome all of these undesirable features and to be simple in construction and operation, allowing the carpets to be attached thereto in a simple manner and so that any one can be withdrawn with a minimum amount of labor and without disturbing any of the remainder.

30 In the accompanying drawings: Figure 1 is a sectional elevation of our device. Fig. 2 is a sectional plan view taken on line 2—2 of Fig. 1. Fig. 3 is a perspective detail showing the construction and arrangement of the display frames and the connection of the arms thereto. Fig. 4 is an enlarged section of a portion of the operating mechanism and taken on line 4—4 of Fig. 1. Fig. 5 is a cross section taken on line 5—5 of Fig. 4. Figs. 6 and 7 are details showing the construction and arrangement of the reversing arm.

In the drawings 10 designates a cabinet

of suitable size and configuration for containing the mechanism about to be described. This cabinet is provided with a floor 11 on which the display frames 12 rest when within the cabinet. The frames are then in a vertical position and rest upon their edges. Extending forwardly from the cabinet is a platform 13 on which the display frames rest when in position to display the carpets or other articles carried by them. Both floor 11 and platform 13 are raised above the surface 14 on which the whole device rests so as to afford a space beneath for the operating mechanism of the device. The frames are made to carry one or two carpets apiece. In case two carpets are carried, one on each side, one carpet must be shown in a vertical position; but this does not detract in the least from the merits of the device. In the drawings each frame is shown as carrying two carpets.

Across the lower front portion of the cabinet a shaft 15 is placed, preferably stationary. To each of frames 12 a pair of arms 16 are attached, these arms all being journaled on the shaft 15 and extending beyond it as is illustrated in Figs. 1 and 3. The arms are rigidly attached to their respective frames so that the frames may be moved by the movement of the arms. From Fig. 2 it will be seen that the outermost arms are attached to the frame 12 which is farthest removed from the shaft 15, the next set of arms being attached to the adjacent frame, and so on, until the innermost set of arms is attached to the frame closest to the shaft. This arrangement is not compelled by the nature of the mechanism, but is made desirable by the fact that each frame is thereby centrally supported by the arms.

With the arrangement as shown, and supposing all the frames to be back within the cabinet, if the innermost set of arms is acted upon to be moved from the position designated *a* to that designated *b*, the display frame closest to the shaft will be moved from its position in the cabinet to the position on the platform 13 where it is shown in Fig. 1. If the next inner set of arms be acted on in the same manner the next frame will be brought down where the carpet held thereby may be viewed; and so on until all the frames shall have been brought down to a horizontal position. To replace the



frames in their vertical positions within the cabinet it is only necessary to act upon the arms in the opposite sequence.

The movement of the arms in the appropriate manner is accomplished by means of the mechanism shown beneath the platform 13 and illustrated in detail in Figs. 4 to 7.

Each of the ends of arms 16 is bifurcated so as to present two prongs 20. With these prongs an operating arm 21 is adapted to engage. There are two arms 21, adapted to oscillate between the position shown in full lines and the position indicated in dotted lines in Fig. 2. These arms are so placed that their ends are adapted to enter the notches between prongs 20 on the ends of arms 16 and to press against one of the prongs while moving in one direction and against the other prong while moving in the other direction. The action will be seen to be somewhat similar to that of a starwheel; arms 16 will be moved from one position to the other but arm 21 will be allowed to pass on to either of its final positions while arms 16 will be stopped by their frames coming into their extreme positions.

To move the display frames down to their horizontal positions it will be seen that arms 21 must move the arms 16 from the position *a* to the position *b*, and that arms 21 must move outwardly after each oscillation through distances equal to the distance between adjacent arms 16 so as to engage with the next set of arms on their next oscillation. In other words, starting with the arms 21 in the position shown in full lines, the movement of the arms must be an oscillation to the positions indicated in dotted lines and back to the full line position, and then a movement outwardly so as to engage the next set of arms 16. To move the display frames up, arms 21 must start operating on the outermost set of arms 16, moving inwardly each time they reach the position indicated in dotted lines. This movement of arms 21 is accomplished by the mechanism shown in Figs. 4 to 7. One arm 21 is mounted on shaft 30, the other on a sleeve 31. Sleeve 31 and shaft 30 are provided with arms 32 set tightly thereon and through the medium of which the sleeve and shaft are both oscillated. Through the outer ends of arms 32 a rod 33 is secured, this rod connecting the two arms so that the sleeve and shaft are both oscillated together. A connecting rod 34 engages with rod 33 and connects to a crank pin 35 on a gear 36 operated through the medium of a chain of gears 37 from a motor 38, or any other convenient source of energy. The crank mechanism is so proportioned that it oscillates shaft 30 and sleeve 31 through the angle indicated by the positions of arms 21 shown.

Shaft 30 and sleeve 31 are both supported in sleeves 40, being connected thereto by

means of collars 41 so that both shaft 30 and sleeve 31 are revoluble in sleeves 40 but are fixed in longitudinal arrangement therewith. The outer faces of sleeves 40 are screw threaded in opposite directions and passed through interiorly threaded bearings 42. On the inner ends of sleeves 40 are mounted ratchets 43 having teeth with square faces on each side so that the ratchet is adapted to be turned in either direction by a pawl. Mounted on rod 33 are pawls 44, each pawl being double ended as shown in Fig. 5. The pawls are tight on rod 33 and are of such a configuration that only one end of each pawl may be in a position to engage with its ratchet at one time. By turning rod 33 it is possible to throw the other end of the pawls to a position to engage with the ratchets. This turning of rod 33 is accomplished by means of a weighted arm 50 on the outer end of the rod, the rod projecting through a slot 51 in side wall 52 supporting platform 13. This arm is revoluble through about half a revolution on rod 33 and is confined longitudinally between a pin 53 and a collar 54. As shown in Figs. 6 and 7, hub 55 of arm 50 is provided with two shoulders 56 which are adapted to engage with the pin. In the position shown it will be seen that weighted arm 50 tends to rotate rod 33 in a direction indicated by the arrow so that the lower end of pawl 44 is thrown into engagement with the ratchet. If the weighted arm is thrown around through a half revolution so that the other shoulder 56 will bear against pin 53, rod 33 will be rotated in the opposite direction and upper end of the pawl 44 will be thrown to engage with the ratchet.

A shield 60 covers a portion of the periphery of the ratchet so that pawl 44 is only allowed to engage with the ratchet during the portions of the movement directly adjacent the extreme positions of the pawl and while arm 21 is out of engagement with arms 16. At the end of each complete oscillation, then, ratchet 43 will be rotated a definite amount in either one direction or the other. This will rotate sleeves 40 and move them, by virtue of their screw threaded engagement with bearings 42, either inwardly or outwardly by a definite amount. The arrangement of the parts and the direction of the screw threads on sleeves 40 is such that with the parts in the position shown the following actions will take place: Starting with arm 21 in the position shown in full lines and assuming crank pin 35 to be revolving so as to oscillate arms 21, arm 21 will oscillate from the position shown in full lines to the position shown in dotted lines. During this movement it will engage with one of prongs 20 on the end of an arm 16 and will move that arm from the position shown at *a* to the position shown at *b*



6. It will then oscillate back to the position shown in full lines over precisely the same path it covered in moving down. As it nears its initial position the lower end of  
 5 pawl 44 will engage with the ratchet and turn sleeve 40 so as to move the sleeve, and with it arm 21, outwardly far enough to be opposite the next arm 16. On its next movement down arm 21 will engage with this  
 10 arm 16 and will move it to the position 6. This operation will be repeated as long as there are any frames 12 standing within the cabinet or until the operator brings the machine to a standstill by stopping the motor.  
 15 This may be done at any time in the usual manner, so that, if a customer desires to particularly examine any one carpet, that carpet may be left in view for some time.

To move the frames and their carpets up into the cabinet it is only necessary that  
 20 weighted arm 50 be thrown over to its other position, when sleeves 40 will be screwed inwardly toward each other so as to move arm 21 step by step back toward their central positions.  
 25

Carpets 70 may be secured to the frames in any desirable manner, such as by clips or clamps. It will be seen that a carpet may be placed on or removed from any one frame  
 30 without in any manner disturbing any of the remaining frames. Thus, if a carpet is sold from the display device, it involves no trouble to remove that carpet.

Having described our invention, we claim:  
 35 1. A display device, comprising a frame, a shaft supported by the frame, a plurality of display frames mounted on the shaft and rotating thereon independently of each other, an operating arm, means to engage the oper-  
 40 ating arm successively with the display frames, and means to move the operating arm to rotate the display frames.

2. A display device, comprising a frame, a shaft supported by the frame, a plurality of  
 45 display frames mounted on the shaft and rotating thereon independently of each other, arms mounted on the display frames and spaced from each other along the shaft supporting the display frames, an operating  
 50 arm, means to intermittently move the operating arm in a direction parallel to the shaft

to engage successively with the frame arms, and means to move the operating arm to rotate the display frames.

3. A display device, comprising a frame, a shaft supported by the frame, a plurality of display frames mounted on the shaft and rotating thereon independently of each other between two set positions, an arm attached to each display frame, an operating arm, means  
 60 to move the operating arm successively into engagement with the arms on the display frames, and means to move the operating arms to move the display frame arms.

4. A display device, comprising a frame, a shaft supported by the frame, a plurality of display frames mounted on the shaft and rotating thereon independently of each other between two set positions, an arm attached to each of the display frames, an operating  
 70 shaft, an operating arm mounted on the shaft so as to both revolve and slide thereon, and adapted to engage with the display frame arms, means to oscillate the operating arm on the operating shaft, and means to  
 75 intermittently slide the operating arm along the shaft.

5. A display device, comprising a frame, a shaft supported by the frame, a plurality of display frames mounted on the shaft and rotating thereon independently of each other between two set positions, an arm attached to each of the display frames, an operating  
 80 shaft mounted on the main frame parallel to the display frame shaft, an operating arm slidably and rotatively mounted on the operating shaft, means to oscillate the operating arm to engage with the display frame arms and to move them, and means operated  
 85 in conjunction with the oscillating means to move the operating arm along the shaft through a distance equal to the distance between adjacent display frame arms on each oscillation of the operating arm.

It witness that we claim the foregoing we  
 95 have hereunto subscribed our names this 12th day of April 1910.

THOMAS C. DE LISLE.

WILLIAM T. PHILLIPS.

Witnesses:

ROBT. LUNNEY,

ELWOOD H. BARKELEW.