May 28, 1957 E. F. McDERMOTT 2,793,516

MOVING VOTIVE CANDLE DISPLAY HOLDERS

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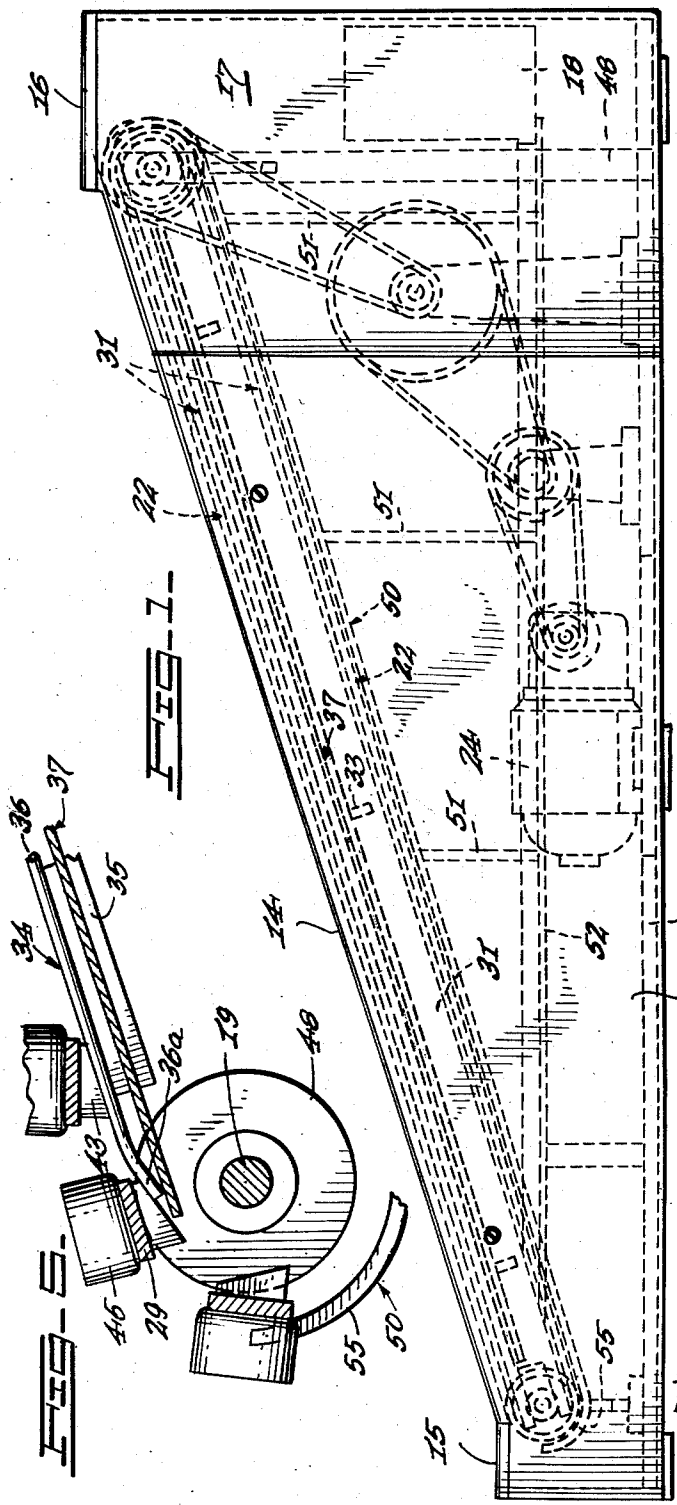


FIG. 7

FIG. 5

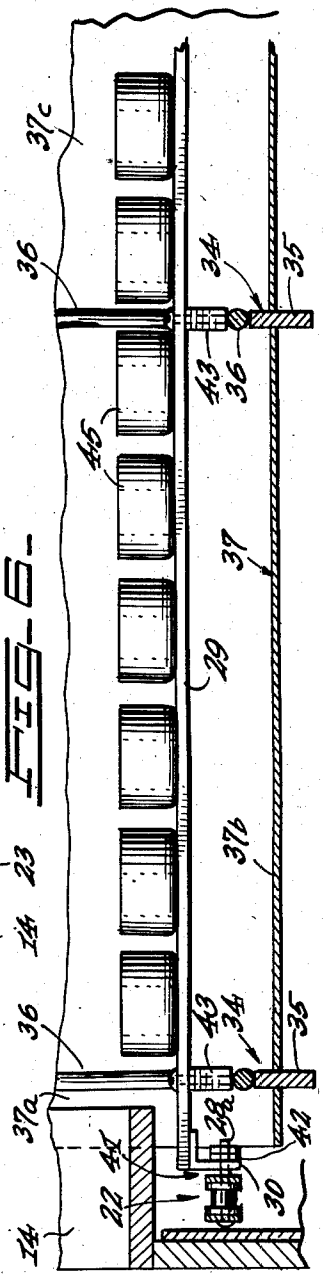


FIG. 6

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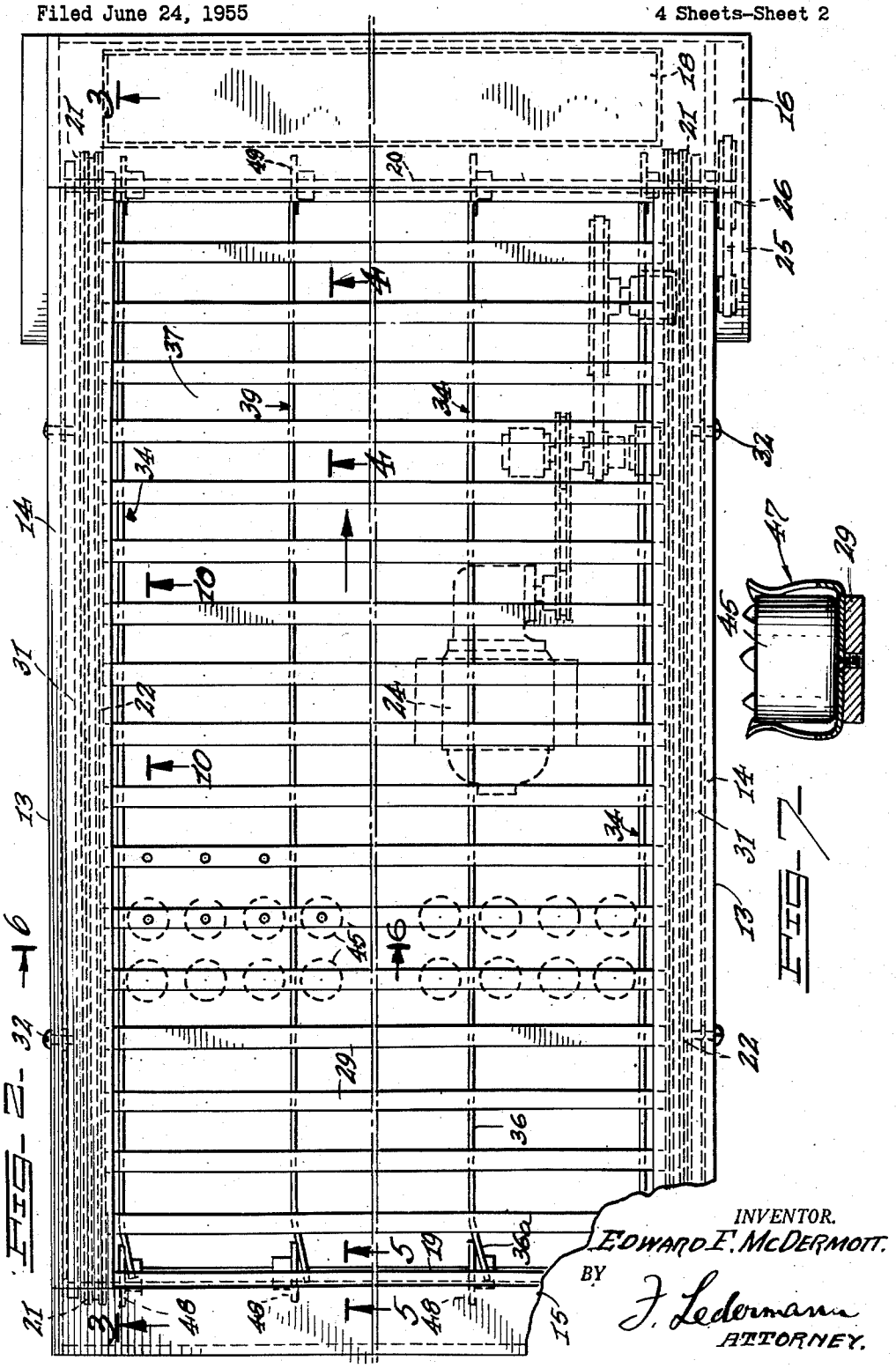


FIG. 2

FIG. 7

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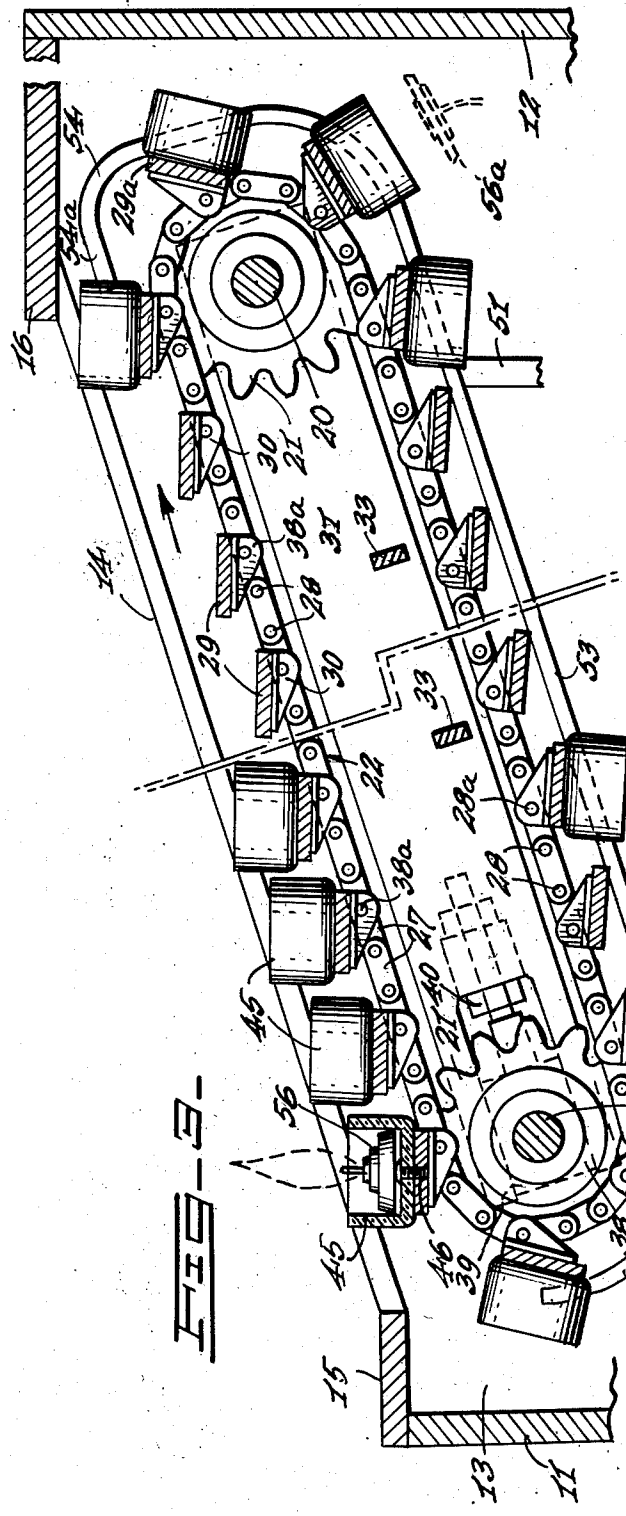


FIG. 3

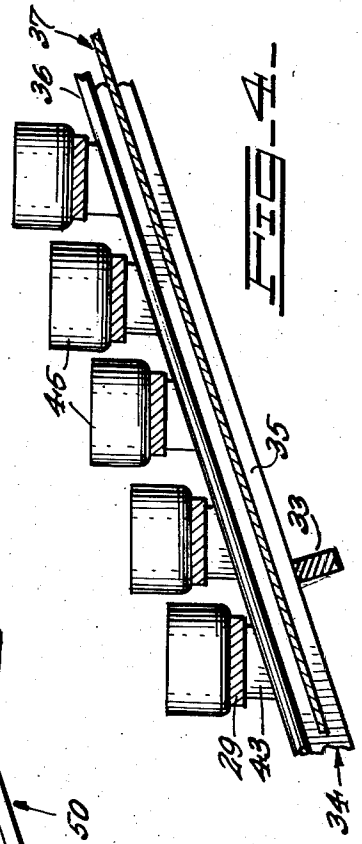


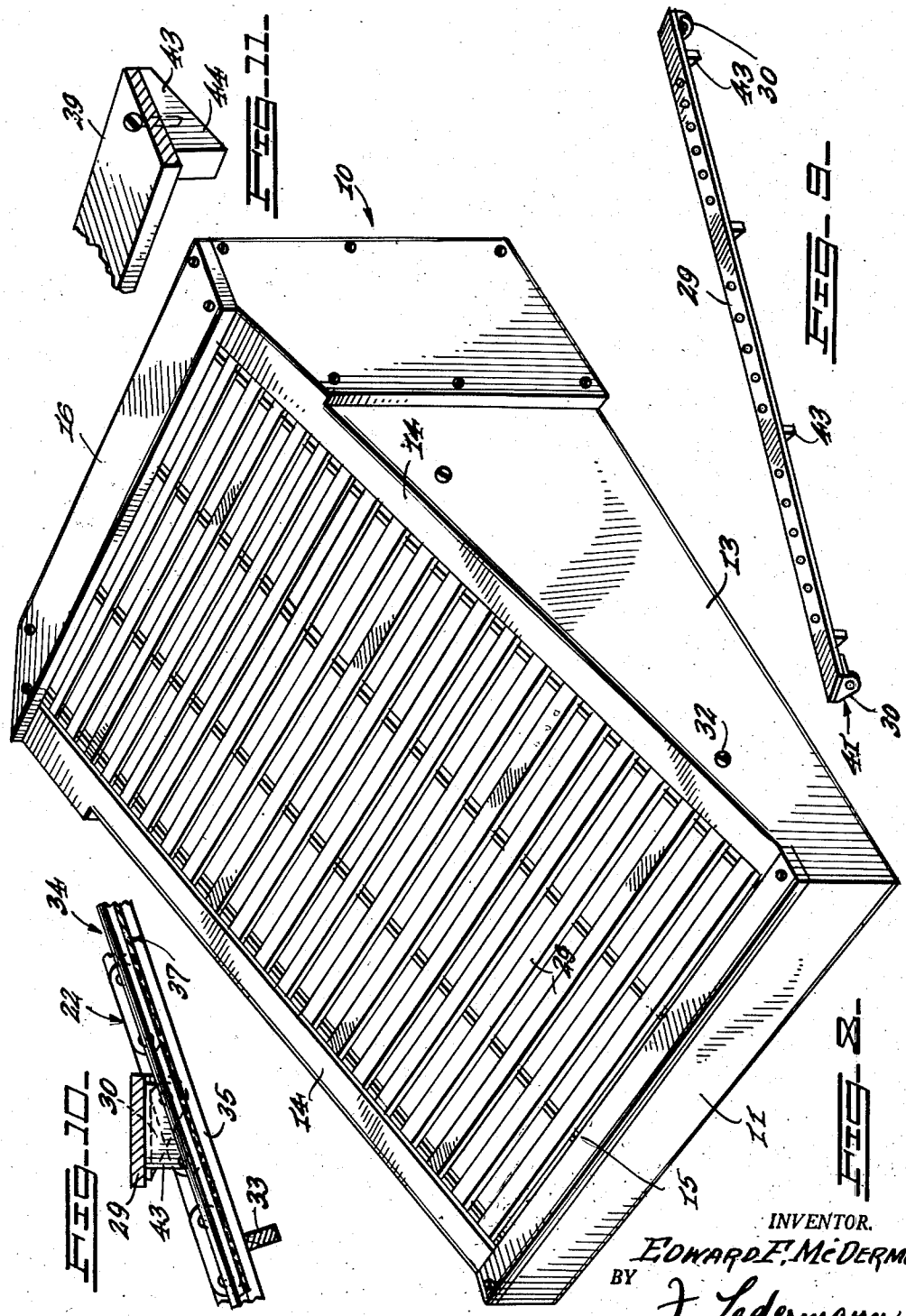
FIG. 4

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MOVING VOTIVE CANDLE DISPLAY HOLDERS

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2 Claims. (Cl. 67—25)

This invention relates to votive candle display holders, and the main object is the provision of a device having means for simultaneously burning a very large number of candles, with the candles traveling upward along a ramp or incline at a very slow speed, in relatively wide rows, with newly lighted candles starting at the bottom of the ramp, the timing of travel of the candles being such that by the time they reach the top of the ramp they will have burned out.

Another object of the invention is the provision of means, in connection with the device, for discharging burnt out candles from the upper end of the ramp, into, say, a hopper, whence they may be easily disposed of.

The present device permits of a considerable saving in space which is otherwise necessary for the accommodation of votive candles in, for instance, churches, as the device can accommodate a very large number of candles in a small floor space.

The above broad as well as additional and more specific objects will be clarified in the following description wherein reference numerals refer to like-numbered parts in the accompanying drawings. It is to be noted that the drawings are intended solely for the purpose of illustration and that it is therefore neither desired nor intended to limit the invention necessarily to any or all of the exact details of construction shown or described except insofar as they may be deemed essential to the invention.

Referring briefly to the drawing, Fig. 1 is a votive candle display device embodying the features of the present invention.

Fig. 2 is a plan view of the same.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 2.

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 2.

Fig. 6 is a sectional view taken on the line 6—6 of Fig. 2.

Fig. 7 is a cross-sectional view through one of the candle holder support slats, showing a modified construction of the holder.

Fig. 8 is a perspective view of the device, with the candle holders omitted.

Fig. 9 is a perspective view of one of the candle holder support slats, per se.

Fig. 10 is a sectional view taken on the line 10—10 of Fig. 2.

Fig. 11 is a fragmentary perspective view, partly broken away and partly in section, through one of the candle holder support slats, showing one of the spaced triangular blocks secured thereto, whereby the slats are positioned horizontally while travelling up the ramp.

Referring in detail to the drawing, the numeral 10 indicates the frame of the device, which comprises a low front wall 11, a higher rear wall 12, and sloping side walls 13. The top of the frame is open, except for

framing borders 14 at the sides, 15 at the bottom, and 16 at the top, the latter concealing a compartment 17 in which a hopper 18, to receive burnt out candles, may be placed.

A transverse shaft 19 is rotatably mounted in the front or lower end of the frame, and a similar shaft 20 is mounted at the rear top end of the frame. The shafts 19 and 20 have sprocket gears 21 on their ends, about which sprocket chains 22 are trained. On the base 23 of the frame, an electric motor 24 is mounted, which, through a series of speed reduction pulleys and belts, not specifically described herein, terminating in a belt 25 driving a pulley 26 on the shaft 20, drives the chains 22.

The chains 22 are of standard construction, and comprise links 27 pivoted end-to-end on pivots 28. Every third pivot 28 is utilized to mount the transverse candle holder support slats 29 on the chains. This is done by securing a lug 30 against the underside of each slat 29 at each end thereof, and substituting an equivalent pin 28*a* for the pin 28. Thus, as the chains travel in the direction of the arrow, Fig. 3, the slats 29 are carried upward, in the fashion of a moving ramp, up the slope of the frame.

Elongated plates 31 are secured, as by means of screws 32, against the side walls 13 of the frame, each between a vertical plane through the adjacent chain 22 and the side wall. Spaced transverse bars 33, of which three are shown in Fig. 1, extend between the plates 31 and have their extremities secured, by any means, not shown, to the plates. Supported on the bars 33 in spaced relationship are longitudinal rails 34, of which four are shown in Fig. 2, each rail comprising a beam 35 surmounted by a cylindrical rod 36, the latter being fixed on the beam by any means, not shown. A board or cover 37, positioned substantially as shown, whose sole purpose is to conceal from above the inner mechanism of the device, may be provided in sections 37*a*, 37*b*, 37*c* etc. in a common plane, with the side edges of the sections secured to the sides of the beams 35 by any suitable means, not shown.

The rotatable shafts 19 and 20 are mounted in the ends of the plates 31 and, through the medium of the latter, are secured to the frame 10. At its lower end, each plate 31 has a cut-out 38 in which a block 39 is slidably mounted, in which block the shaft 19 is rotatable. By means of a chain tension adjusting means shown only generically at 40, and which is common and of standard construction for the purpose of tightening chains after they have been loosened by use, the block 39 and with it the shaft 19 may be moved outward in the cut-out 38, to tighten the chain. Since this adjusting means is not pertinent to the invention it will not be described in further detail.

The manner of pivotally supporting the slats 29 on the chain, as mentioned above, is illustrated in Fig. 6. An angle 41 is secured under the end of the slat, and an elongated pin 28*a* is substituted for the pin 28 of the chain and passed through an opening in the lug 30 which constitutes the vertical flange of the angle 41. The stem or pin 28*a* has its extremity threaded, and by means of two nuts 42 the pin is locked in the lug but is free to rotate.

At spaced intervals, equivalent to the spacing of the rails 34, the underside of each slat 29 has attached thereto a rider, substantially right-triangular in outline, shown at 43, whose bottom surface 44 slopes at the same angle with respect to the slat as the top edges of the side walls 13 of the frame. Thus, as the slats are carried upward along the ramp by the chains 22, the slats are positioned horizontal.

At closely spaced intervals along each slat 29, glass

cups 45 are secured on the slat, either by means of screws 46 passed through holes in the cups, as shown in Fig. 3, or by screwing metallic or plastic spring sockets 47 on the slat and releasably setting the cups 45 therein, as shown in Fig. 7.

At the lower end of each rail 34, a roller 48 is rigid on the shaft 19, and at the upper end of each rail 34 a similar roller 49 is rigid on the shaft 20. The lower extremity of the rod 36 is deformed toward the shaft, as shown in Fig. 5. As the slats 29, with their cups 45, rise while the roller is turning clockwise, the riders 43 ride up the lower extremity 36*a* of the rod 36 onto the rod.

In the plane of each pair of rollers 48 and 49, a deformed guide or track 50 is provided, somewhat in the shape of widened inverted U, which is supported on uprights 51 rising from horizontal frame members 52 supported above the base 23. The greatest portion 53 of this guide is straight and parallel with and spaced below the lower side of the chain 22 but, of course, spaced transversely from the plane through the chain. The spacing of the portion 53 of the guide below the plane through the pivots 28 of this side of the chain is such that, as the slats hang freely from their pivots 28*a* their edges rest on the portion 53 and thus the candle holders 45 are maintained in upsidedown position and prevented from swinging, with the slats. The upper end of the guide, beyond the portion 53, curves substantially concentric with the shaft 20 except for the upper right-hand quadrant 54, which bulges outward to permit the slats 29, as they pass over the top of the ramp, to swing freely yet not to fall suddenly into the position shown, for example, by the slat 29*a*, Fig. 3. The upper turned-back extremity 54*a* of the guide is so spaced from the top side of the chain that the slat 29 will just pass thereunder. The lower extremity 55 of the guide is concentric with the shaft 19 and terminates adjacent the upper left-hand quadrant of the shaft 19.

It is now apparent that, as the chains carry the slats clockwise, Fig. 3, the slats and their cups are carried up the ramp so that the cups are upright. In use, as the slats travel upward at a very slow speed, i. e., six feet in fifteen minutes, candles 56 may readily be inserted into the lowermost cups 45 as they appear at the bottom of the ramp, and lighted. When the cups reach the top of the ramp the candles will have burnt out, and as the cups are tilted in going over the top the burnt out candles 56*a* are dropped out of the cups into the hopper 18. The rods 36 are made cylindrical to reduce friction between them and the riders 43 which ride up the rods.

I claim:

1. A device comprising an upright frame having a relatively low front wall and a relatively high rear wall and having side walls whose upper edges slope upward at an angle between the front and rear walls, a transverse shaft rotatably mounted in the frame near said front wall, a second transverse shaft rotatably mounted in the frame near the upper edge of said rear wall, spaced toothed wheels on said shafts near the sides of the frame, sprocket chains trained about the wheels near each side of the frame and having the upper and lower sides thereof sloping at said angle, means for rotating one of said shafts for moving said chains in a direction to move the upper side of the chain upward from said front wall, spaced transverse slats pivotally mounted on said chain, spaced longitudinal rails in said frame sloping at said angle and positioned in a common plane below the plane of the upper side of the chain, said slats having riders on the undersides thereof riding on said rails, the lower edges of said riders sloping at said angle with respect to the slats whence said slats are positioned horizontal on said upper side of the chain, said slats being adapted to have candles mounted in spaced relationship thereon, said first-named shaft having a roller thereon in substantially the same vertical plane as each of said rails, said rollers having a diameter substantially equal to the maximum diameter of said wheels on said first-named shaft whence said slats ride over said rollers in rounding the lower end of their travel with said chains, said rails extending substantially tangentially to said rollers, the lower ends of said rails having downwardly deformed extremities providing means for said riders to ride up thereon onto said rails.

2. The device set forth in claim 1, having a number of guides not exceeding the number of said chains, each of said guides comprising a track lying approximately in the vertical plane of one of said chains, said track having a substantially straight intermediate portion positioned below and parallel with the underside of the chain and having curved end portions spaced radially outward from the wheels about which the chain is trained, the spacing of said track outward from the path of travel of the axes on which the slats are pivoted to the chain being less than the width of the slats, said slats riding between said track and said chain, the free edges of the slats opposite said axes being supported on and riding frictionally on said track.

References Cited in the file of this patent

UNITED STATES PATENTS

1,802,928	Rowe	Apr. 28, 1931
2,376,495	Law	May 22, 1945
2,659,564	Gibson	Nov. 17, 1953