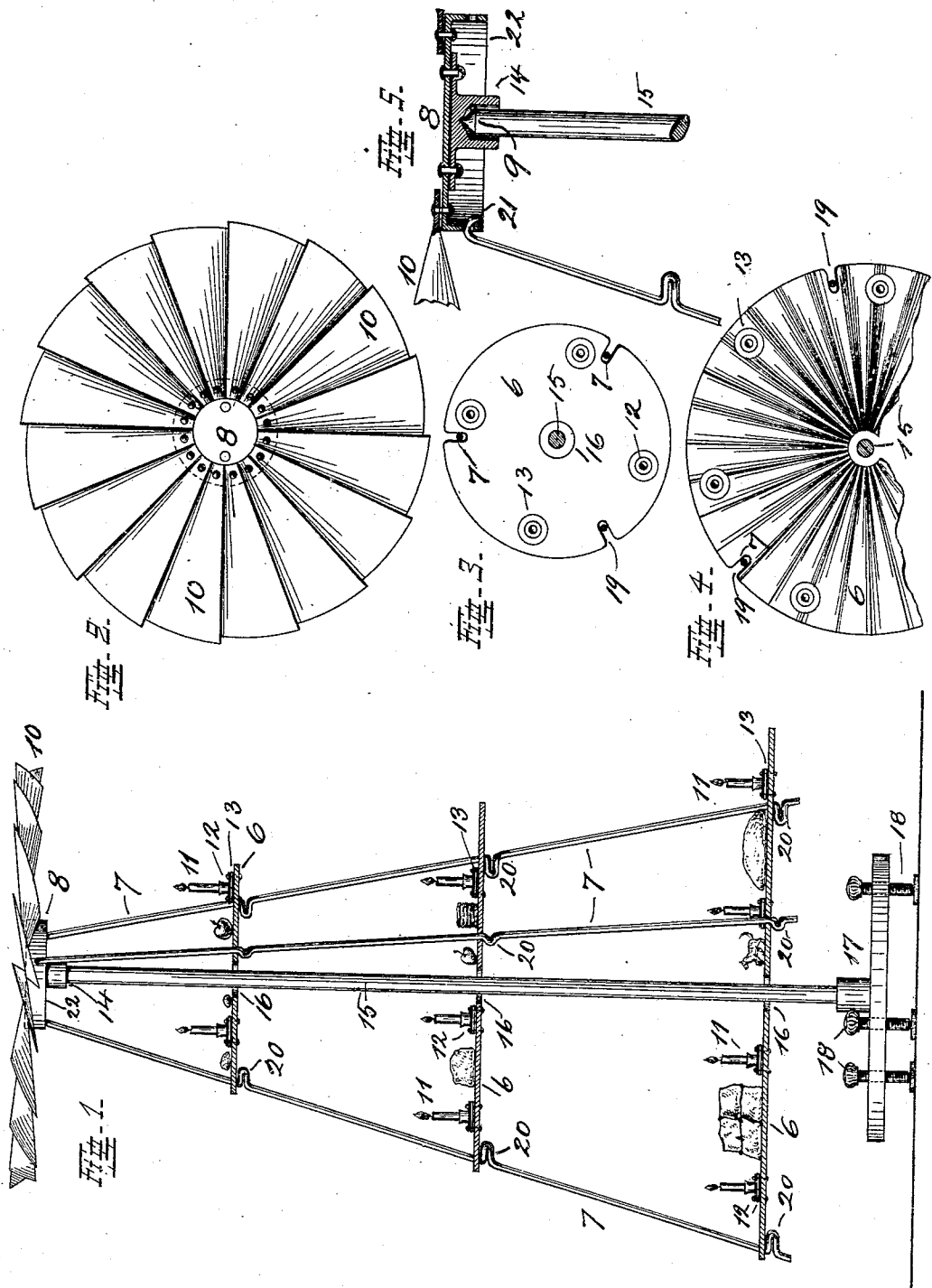


J. R. KELLER.  
 HEAT OPERATED DISPLAY DEVICE.  
 APPLICATION FILED JAN. 20, 1909.

939,705.

Patented Nov. 9, 1909.



Witnesses.  
 Thomas S. Sperry  
 J. LeBeau.

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 by C. Spengel Atty

# UNITED STATES PATENT OFFICE.

JOHN R. KELLER, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO THOMAS S. SPIVEY, OF CINCINNATI, OHIO.

HEAT-OPERATED DISPLAY DEVICE.

939,705.

Specification of Letters Patent.

Patented Nov. 9, 1909.

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To all whom it may concern:

Be it known that I, JOHN R. KELLER, a citizen of the United States, and residing at Cincinnati, Hamilton county, State of Ohio, have invented a certain new and useful Heat-Operated Display Device; and I do declare the following to be a clear, full, and exact description thereof, attention being called to the accompanying drawing, with the reference characters marked thereon, which forms also a part of this specification.

This invention relates to a display device which is adapted to be fitted out with candles the heat from which, when they are lighted, is utilized to impart motion, the appearance and general arrangement being such that the device may serve as a substitute for a Christmas tree to display presents.

In the following specification and particularly pointed out in the claims at the end thereof, will be found a full description of my invention, together with its operation, parts and their particular construction, which latter is also illustrated in the accompanying drawing, in which:—

Figure 1, is a side-elevation of the device partly in section. Fig. 2 is a top-view of the same. Fig. 3, in a horizontal section shows one of the exhibit-supporting shelves. Fig. 4, in a similar view shows a modified form of such a shelf. Fig. 5, is an enlarged detail view showing the upper part of the device in a vertical section.

In the drawing, 6 indicates the shelves which serve to support the exhibits. A suitable number is used, three being shown, all made preferably of sheet-metal. They are supported one below the other with a space between them sufficient for the purpose. They are preferably circular and of graduated sizes, the smallest one being uppermost as best shown in Fig. 1. Rods 7 preferably of wire are used for supporting the shelves in this manner. The upper ends of these rods where they are closest together, are connected to a hub 8 which is supported horizontally upon a pivot 9. Spaced blades or wings 10, radially arranged, are connected to this hub at their inner ends so as to project horizontally therefrom. They are inclined transversely and together with the hub form an air-motor susceptible to the action of air currents which, when passing

through the spaces between the blades, cause rotation of the motor. The shelves suspended below it share in this rotation so that the articles supported thereon may readily be seen. The necessary movement of air is induced by heat generated from sources carried on the shelves. In order to carry out as fully as possible the idea of a substitute for a Christmas-tree, candles 11 are used to furnish the heat when lighted. Holders or sockets 12 are provided for their reception which are preferably separated from the shelves by pads 13 of insulating material like asbestos for instance, to prevent any effects of heat from reaching that part of the candle which occupies the socket. It is contemplated that articles of limited weight only are to be supported upon these shelves, so that the heat radiated from the candles, aided by a particular manner of support which avoids frictional resistance, readily furnishes sufficient motive power for the air-motor. This limited support is obtained by the pointed pivot 9 loosely fitted to an inverted socket 14, which forms a part of hub 8 from the underside of which it projects. Pivot 9 is formed at the upper end of a post 15 of a height sufficient to sustain the shelves with the lowermost one sufficiently elevated to be above any interfering obstacles. All the shelves are centrally perforated as shown at 16, to clear this post, the openings being of sufficient size to preclude possibility of contact between the two which would retard the rotary movement. This presumes that post 15 is as near as possible in a true vertical position, so that the stack of shelves supported thereon may find its proper position clear of the post, it being further presumed of course that the articles carried on the shelves are evenly distributed thereon as to weight. Fig. 1, illustrates this condition quite clearly, the shelves being shown in section.

A suitable base 17 is provided whereby the post is supported in upright position and to facilitate proper adjustment of the set of the shelves to a balanced position, adjusting screws 18 are provided on this base, three being shown, equally distributed thereon. All parts of the device are presumed to be of metal so that no danger from ignition need be apprehended. The construction is further such that the device may be conveniently dismantled to be packed

away, or for shipping. The connection between shelves and rods is a detachable one, the latter merely occupying notches 19 in the shelves, the shelves resting upon projections on the rods. These projections are formed by kinking the rods as shown at 20. The rods are detachably connected to the hub by means of hooks 21 at their upper ends which engage perforations in a flange 22 on said hub. The shelves may be either plain and smooth as shown in Fig. 3, or corrugated as shown in Fig. 4.

Having described my invention, I claim as new:

- 15 1. In a display-device, the combination of an air-motor supported in an elevated position, rods depending therefrom, each provided with equally spaced projections, and shelves supported upon these projections.
- 20 2. In a display-device, the combination of an air-motor supported in an elevated position, rods depending therefrom, each pro-

vided with equally spaced projections, which are formed by kinking these rods, and shelves notched at their edges to admit these rods to permit the kinks to pass below the shelves to support them. 25

3. In a display-device, the combination of a post, pointed at its upper end, a base to which it is rigidly connected an air-motor having a hub with an inverted socket fitted to loosely rest upon this pointed end of the post, shelf-supporting rods connected to and depending from the hub of the motor, shelves supported exclusively by these rods, they being centrally perforated to clear the post and candle-sockets provided on these shelves. 30 35

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

JOHN R. KELLER.

Witnesses:

THOMAS S. SPIVEY,  
C. SPENGLER.