

No. 622,316.

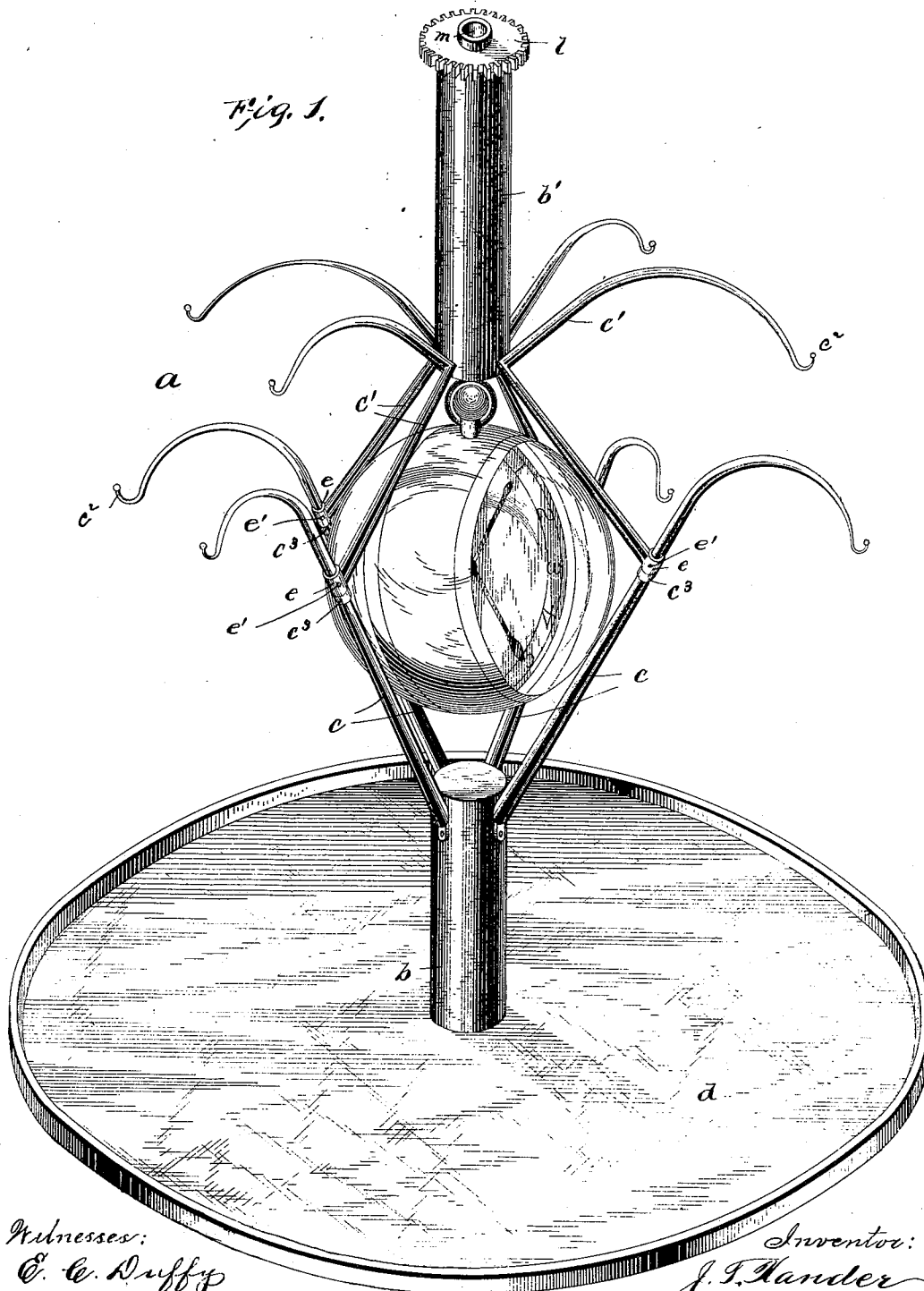
Patented Apr. 4, 1899.

J. T. XANDER.
DISPLAY RACK.

(Application filed Sept. 29, 1898.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:
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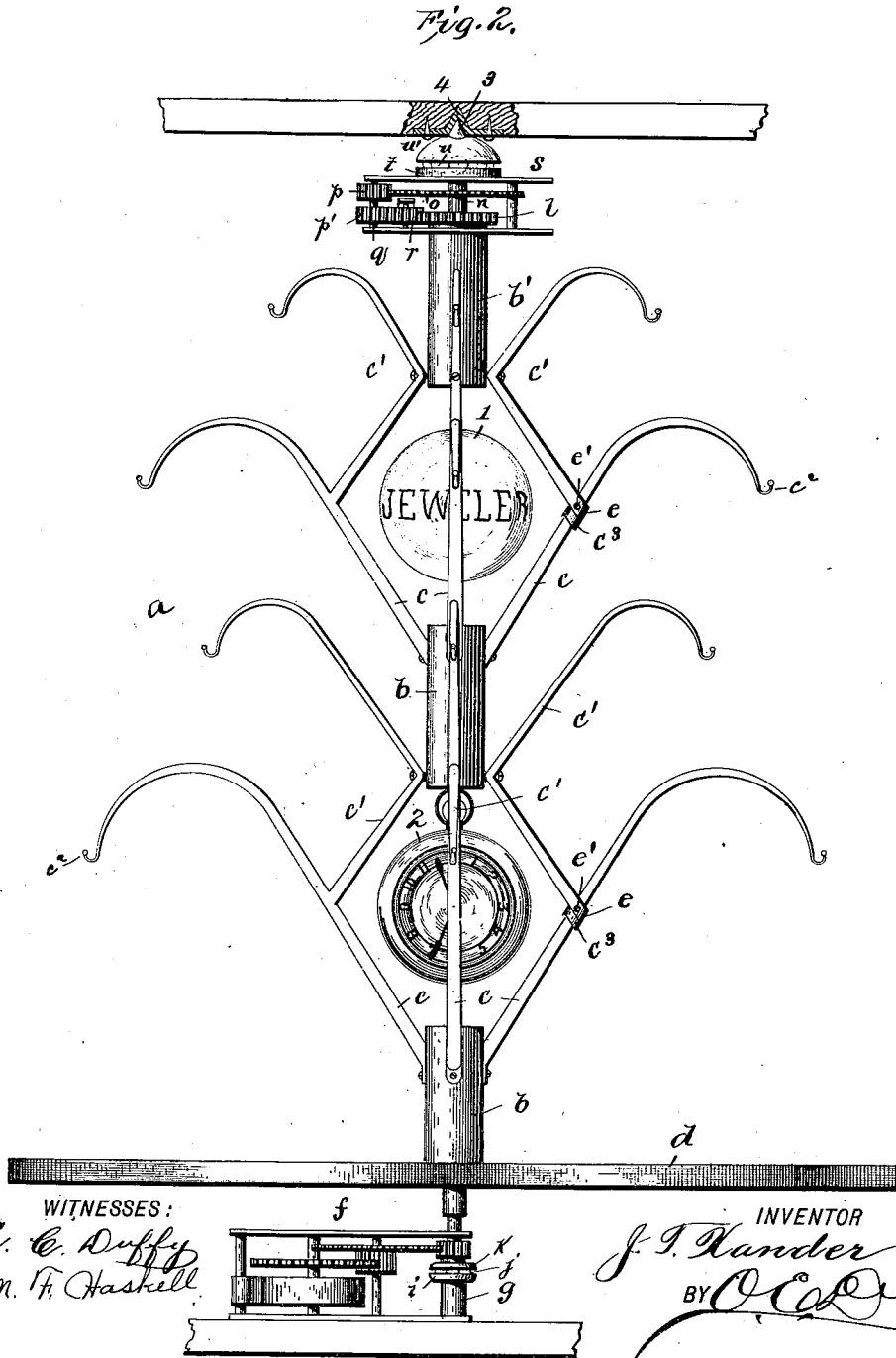
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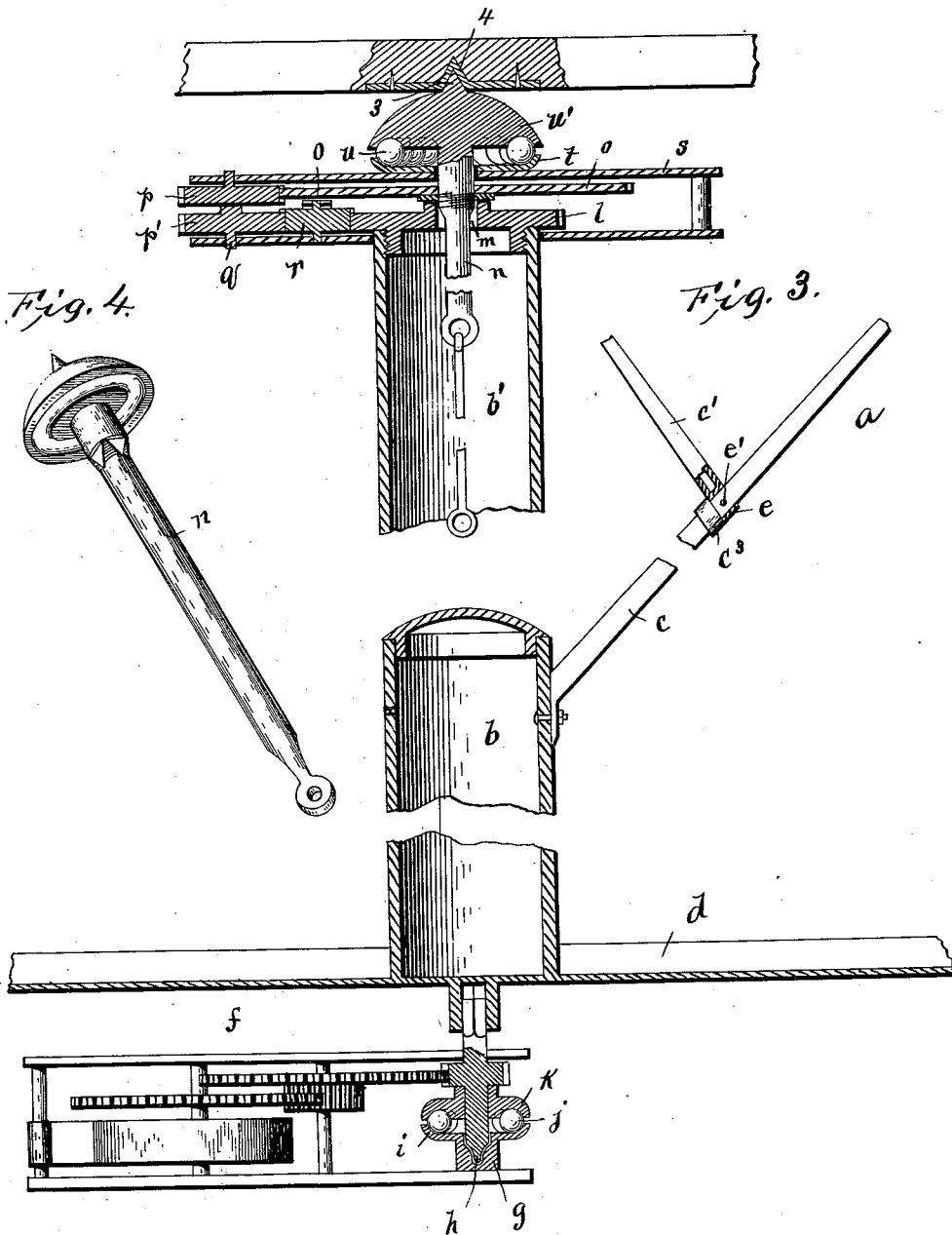
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(Application filed Sept. 20, 1898.)

3 Sheets—Sheet 3.

(No Model.)



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UNITED STATES PATENT OFFICE.

JONATHAN T. XANDER, OF PENNSBURG, PENNSYLVANIA.

DISPLAY-RACK.

SPECIFICATION forming part of Letters Patent No. 622,316, dated April 4, 1899.

Application filed September 29, 1898. Serial No. 692,212. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN T. XANDER, of Pennsburg, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Display-Racks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

This invention relates to certain new and useful improvements in display-racks, and more particularly to the class of revolving racks.

The object of the invention is to provide a neat and gracefully-arranged tree or rack motor operated to revolve and attract attention to the display of goods thereon.

A further object of the invention is to provide a motor-operated revolving display rack or tree having one or more trays arranged as desired to receive articles to be exhibited in a merchant's window, and a clock and sign or other decorated and useful attachment to revolve within the rack in an opposite direction to said rack.

A further object is to provide the rack or tree with a hollow stem turned in one direction and a rod within said stem to revolve in the opposite direction.

A further object is to provide ball-bearings and guides for the rack and means for operating the parts in various directions by the same motor.

A still further object is to provide means for neatly and securely fastening the arms or limbs to the rack or tree.

The invention consists in certain novel features of construction and in combinations of parts more fully described hereinafter and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a perspective view of my improved display-rack detached from the motor, the bearings and guides also removed. Fig. 2 is an elevation of a double rack in operative adjustment. Fig. 3 is a central vertical section, enlarged, showing a portion of one of the arms and the means for attaching them. Fig.

4 is a perspective detail view of the central revolving rod, showing the ball-bearing cone and center point composing the head.

Referring more particularly to the drawings, *a* is the hollow stem or drive-shaft, composed of the tube-sections *b* and *b'* and the arms *c* and *c'*, connecting the tube-sections *b* and *b'* in such manner as to form bows in which the clock, sign, &c., may freely revolve. The lower tube-section *b* of the stem or drive-shaft carries at its lower end the tray *d*, and at its upper end are secured the lower ends of a series of arms *c*, which radiate therefrom in an upward direction. To the lower end of the next tube-section *b* (or *b'*, Fig. 1) is suitably secured, by means of bolts, which may be screwed into the side of the hollow shaft, another series of arms *c'* about their middle, where they are bent at an angle suitable to permit their lower halves, which are provided with rings or bands *e*, to pass over the curved ends *c²* of arms *c* and their upper halves to upwardly radiate from the shaft similar to the arms *c*.

The arms *c* are provided with flanges *c³*, against which the ringed ends *e* of the arms *c'* rest and are rigidly secured to the said arms *c* by suitable means *e'*, such as a set-screw, as shown. The shaft may be indefinitely lengthened in this way, to the desire of the user, as is shown in Figs. 1 and 2. These arms, forming the intermediate bows, constitute a portion of the shaft, and consequently must be strong and rigidly secured together and to the tube-sections. At the ends of these arms *c* and *c'* are hooks or other arrangements to secure articles for display.

The lower end of the hollow drive-shaft *a* is geared to a motor *f* and is provided with a ball-bearing and guide-step in which it revolves. *g* is the step, having a conical socket somewhat larger than the center point *h*, which revolves therein and is adapted to hold a suitable amount of lubricant. At the top of the step *g* is a dished disk *i* to receive and hold the balls *j*, on which rests and revolves the cone *k*, supporting the entire rack. The socket *g* being deep enough to form a guide for the center pin carrying the cone *k* keeps the two disks of the bearing in perfect adjustment.

At the top of the drive-shaft *a* is a cog-

wheel *l*, adjustably secured, having an opening *m* through its center for the free rotation of the central rod *n*, which is revolved in an opposite direction to the stem by means of cog *o*, engaging the upper cog *p* of two carried on the shaft *g*, the lower one, *p'*, taking the motion from the cog *l* by means of an intermediate cog *r*, which of course reverses the motion of the cog *o* through the medium of the double cogs *p* and *p'*. These cog-wheels are carried by a frame *s*, upon which and directly over the hollow drive-shaft is a dished disk *t*, adapted to receive the balls *u*, on which rests the cone *u'*, forming a ball-bearing and support for the central rod to which is suspended the sign 1 and clock 2 by means of a link passing through the tube-section *b*; but if it is of the single design, as shown in Fig. 1, the clock 2 only is attached and a single tree is used.

The top of the cone *u'* is provided with a center point 3, rotatable in a metal socket 4, forming, with the lower ball-bearing step *g*, a perfect pivot of journal arrangement, the weight of the tree resting on the lower ball-bearing and held in vertical adjustment by the central rod *n*, while the weight of the clock, sign, or other ornament hangs from the upper ball-bearing by means of the cone *u* and the central rod *n*.

In operation the device is very simple and is as follows: The power is applied by any suitable motor to the hollow stem or drive-shaft *a*, which, we will say, revolves to the right. At the top of this shaft is a series of cog-wheels which transmit the power from the stem to the central pin and at the same time reverse the motion. Hence the rack revolves in one direction, while the sign, clock, or other attractive attachments rotate in the opposite direction, the whole presenting a very beautiful, ornamental, and serviceable display-rack to arrest and hold the attention of possible purchasers.

It is evident that various slight changes might be made in the forms, arrangements, and construction of the parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the exact construction herein set forth, but consider myself entitled to all such changes.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a display-rack having a central hollow shaft made of sections, a central rod within said shaft, said shaft and rod having gear-wheels by which they are rotated in opposite directions and a motor for operating said gear-wheels, substantially as described.

2. The combination in a display-rack of the sectional tubular shaft provided with upper and lower gearing and resting in a step on its

lower end and in a frame on its upper end, with a central rod provided with a center point and a ball-bearing interposed between the said shaft and center point whereby the upper end of the shaft is held in alinement with the center point and step, and operating means for said shaft and rod, substantially as described.

3. A display-rack comprising the hollow drive shaft or stem made in tube-sections, arms radiating from said sections forming bows, a series of cog-wheels operated by said drive-shaft, a central rod within said shaft carrying an ornament, said rod and shaft being oppositely rotated and means for imparting motion to said cog-wheels, substantially as described.

4. A display-rack comprising the hollow drive shaft or stem made of tube-sections, a series of arms radiating from each section, said arms secured together to form a bow, a tray carried by the lowest tube-section adapted to revolve therewith, a central rod within said hollow shaft adapted to suspend an ornament revolving within said bow in an opposite direction thereto and gearing carried by said shaft and rod to produce the opposite rotation, substantially as set forth.

5. A display-rack comprising the hollow shaft having bows within its length forming arms, a tray carried by said shaft, a ball-bearing step in which said shaft revolves, a frame at the top of said shaft carrying cog-wheels, a ball-bearing carried by said frame, a central rod depending from the upper cone of said bearing, a center point on said cone, a bearing for said point, the point forming a bearing for the rod, and step forming bottom bearing for the shaft, the said central rod being adapted to carry a clock or ornament and revolved by said central pin in a reverse direction to said bow-arms and a motor for operating said gear-wheels, substantially as described.

6. A revolving display-rack comprising the hollow shaft or stem, arms radiating therefrom forming a bow, ball-bearing in which said stem revolves and rests, and a ball-bearing at the top of said shaft or stem in combination with a central rod reversely rotated within said stem and a series of cogs also operated by said stem, substantially as described.

7. A rotary shaft made up of hollow sections, bowed arms connecting the ends of said sections, said arms being rigidly secured to the end of the sections and forming a continuous and intermediate part of said shaft, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JONATHAN T. XANDER.

Witnesses:

O. E. DUFFY,
E. C. DUFFY.