No. 729,642. PATENTED JUNE 2, 1903.

I. A. NASH.

ROTATING DISPLAY STAND.

APPLICATION FILED AUG. 8, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

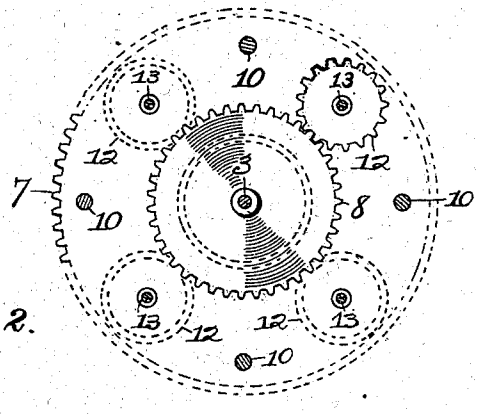


Fig. 2.

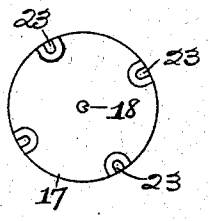


Fig. 4.

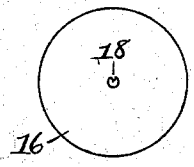


Fig. 3.

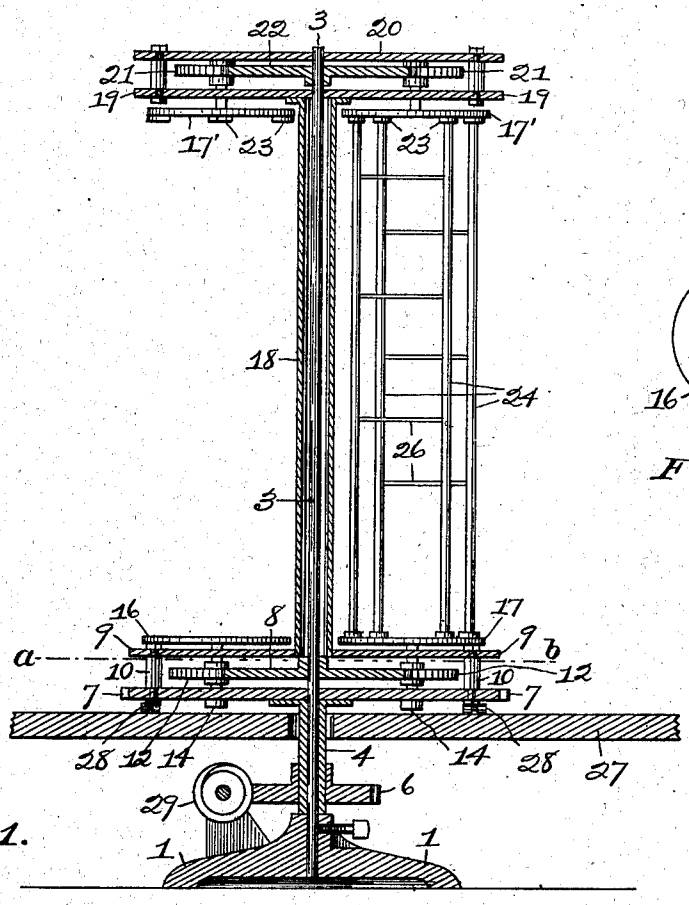


Fig. 1.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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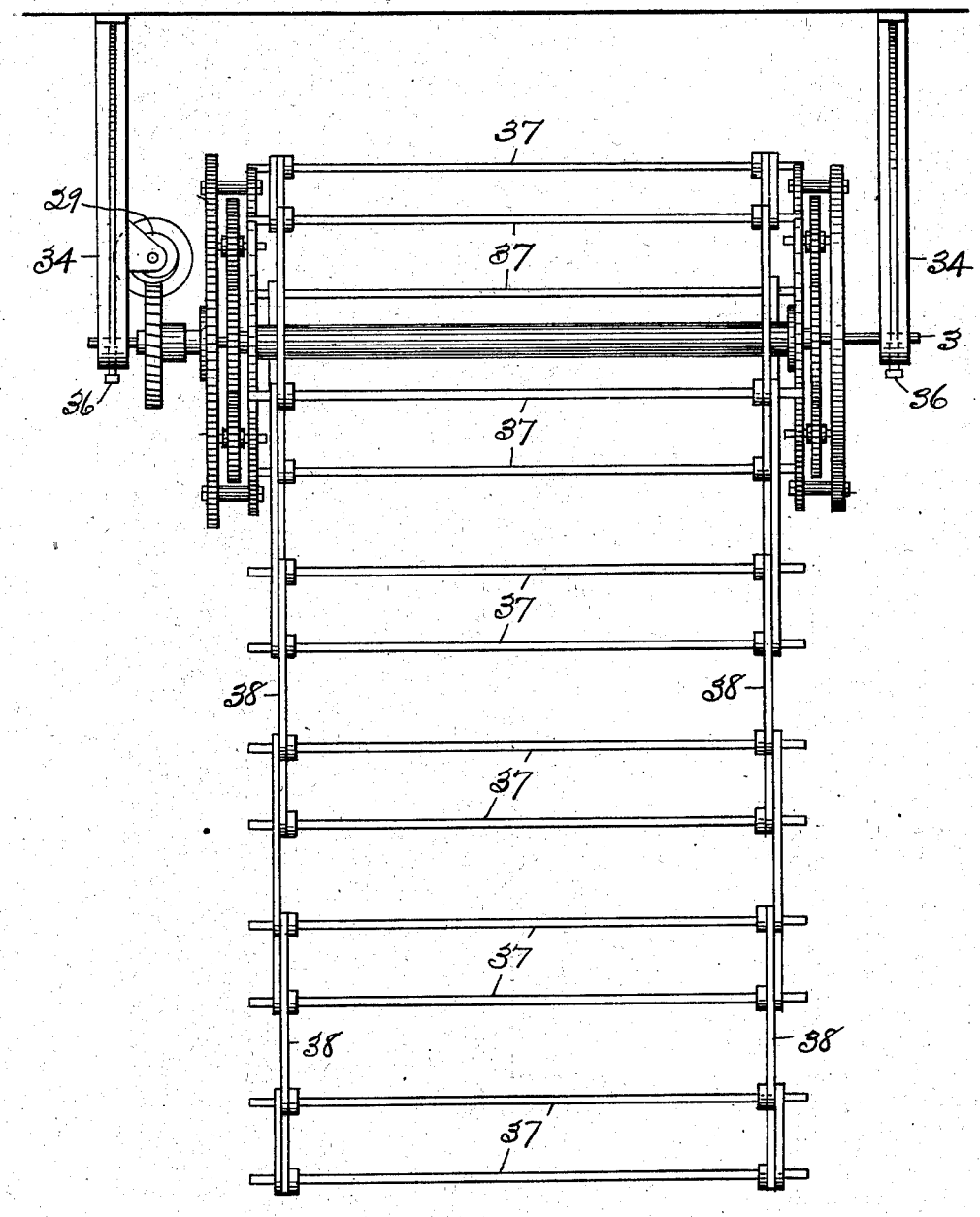


Fig. 5.

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No. 729,642. Patented June 2, 1903.

UNITED STATES PATENT OFFICE.

IRA A. NASH, OF KANSAS CITY, MISSOURI.

ROTATING DISPLAY-STAND.

SPECIFICATION forming part of Letters Patent No. 729,642, dated June 2, 1903.

Application filed August 8, 1902. Serial No. 118,871. (No model.)

To all whom it may concern:

Be it known that I, IRA A. NASH, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented new and useful Improvements in Rotating Display-Stands, of which the following is a specification.

My invention relates to rotating display-stands for exhibiting goods in shop-windows.

The object of my invention is to produce a display-stand which may be employed in several different ways, according to the arrangement and combination of its parts, as explained hereinafter.

Referring now to the accompanying drawings, Figure 1 is a central vertical section of a display-stand constructed in accordance with my invention. Fig. 2 is a sectional view of the lower gearing, taken on line *a b* of Fig. 1. Fig. 3 is a plan view of one of the ordinary disks detached. Fig. 4 is a plan view of one of the special disks detached. Fig. 5 is a front elevation of a modified form of the invention.

1 is the base of the stand. A vertical non-rotatable shaft 3 has its lower end rigidly secured within the base, as shown. Mounted rotatably upon shaft 3 above the base 1 is a sleeve 4, upon which is rigidly secured a gear-wheel 6, which is engaged by a worm 29. On the upper end of the sleeve 4 is a flange, to which is secured a large gear-wheel 7.

Rigidly secured on the central shaft 3 above gear-wheel 7 is a smaller gear-wheel 8. Above gear-wheel 8 is a circular plate 9, which is secured to gear-wheel 7 by shouldered bolts 10, whereby said plate rotates with gear-wheel 7 and is supported thereby. A plurality of planetary pinions 12, all meshing with the stationary gear-wheel 8, are located between plate 9 and gear-wheel 7 and have their shafts journaled in said plate and gear-wheel. The lower ends of said shafts are mounted in steps 14, formed in gear-wheel 7. Antifriction-balls may be placed in said steps below said shafts, if desired.

The upper end of each shaft 13 is grooved out, as shown, or may be squared, the object being for each of said shafts to rotate positively a small disk 16 or 17. Said disks are made detachable from shafts 13 and their center openings are provided with tongues 18, which are adapted to enter the grooves in said shafts when the disks are placed thereon. In case the upper ends of shafts 13 are squared the disks 16 17 will be provided with square openings to fit thereupon.

A tubular shaft 18, concentric with shaft 3, has its lower end rigidly secured to plate 9. Secured to the upper end of this tubular shaft is a plate 19, similar to the aforesaid plate 9. Secured to plate 19 and thereabove is a circular plate 20. Plates 19 and 20 form bearings for the shafts of several planetary pinions 21, which mesh with a gear-wheel 22, rigidly secured upon the central stationary shaft 3. The shafts of said pinions 21 depend through plate 19, and rigidly secured upon each said shaft is a disk 17′. Secured to or integral with each disk 17′ are several sockets 23, which are adapted to receive the ends of vertical rods 24. Said rods may be quickly inserted into the sockets 23 of an upper and a lower disk, respectively, and may be as quickly removed therefrom when not required. When four rods 24 are in position between disks 17′ and 17, they form a frame, as shown. Cross-pieces 26 may be attached to said rods, from which to suspend neckties, gloves, collars, or any small article desired.

27 designates the floor of a shop-window. The base 1 is secured solidly to a joist or frame below the floor, and a hole is bored through the floor through which the aforesaid sleeve 4 extends. The weight of the frame is borne mainly by the base 1; but casters 28 may be attached to the bottom of the large gear-wheel 7 for preventing the frame from leaning out of the upright position or from swaying when in motion. These casters may be most cheaply attached to the bolts 10. The purpose of embodying a gear-wheel 7 in place of a peripherally-smooth plate is that two of these stands may be set close together, with their respective gear-wheels 7 in mesh, and one of the stands will be driven by a motor connected to the worm 29, while the other stand will be rotated by the gear 7 of the motor-driven stand.

The operation of the stand is as follows: The worm 29, being driven by a motor, (not shown,) rotates gear 6, sleeve 4, and large gear 7. Large gear 7 rotates plate 9, (being connected thereto by bolts 10,) and thus the

pinions 12 are thereby rotated also. The tubular shaft 18 imparts rotation from lower plate 9 to upper plates 19 and 20, which cause the upper pinions 21 to revolve in mesh with the upper stationary gear 22. It is to be understood that all of the pinions 12 and 21 are rigidly secured upon their shafts, so that said shafts must rotate with their pinions. Thus the upper disks 17′ will revolve and rotate in unison with the corresponding lower disks 16 or 17. When the frame-rods 24 are detached from the disks, the plain disks 16 may be set upon the lower shafts 13, and any small objects to be displayed may be placed on said disks. When the frame is revolving, every side of each object upon the disks 16 will be presented several times to an observer during every revolution of the frame.

The apparatus shown in Fig. 1 may be arranged horizontally for use in a different manner, as shown in Fig. 5. The plates or wheels 9 and 19 will be provided with spaced peripheral notches adapted to receive transverse rods 37, described below. The shaft 3 will be held non-rotatably in hangers 34 by set-screws 36. An endless frame, comprising horizontal rods 37, connected by two chains of links 38, will be hung from the wheels 9 and 19, said rod entering the notches of said wheels. When said wheels are turned by means of the worm 29, gear 6, &c., the endless frame 37 38 will be carried around said wheels. Any articles to be displayed may be suspended from the rods 37. The disks 16 and 17 will not be required, and they may be removed from their shafts, as shown.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of a non-rotatable shaft, a pair of plates mounted rotatably upon said shaft, bolts connecting said plates together, a gear-wheel secured upon said shaft between said plates, a planetary pinion carried by said plates and meshing with said gear-wheel, the shaft of said pinion projecting through one of said plates, and a disk adapted to be rotated by the projecting end of said pinion-shaft, substantially as described.

2. The combination of a non-rotatable shaft, a pair of rigidly-connected plates mounted rotatably upon said shaft, a gear-wheel secured upon said shaft between said plates, planetary pinions carried by said plates and meshing with said gear-wheel, the shafts of said pinions projecting through one of said plates, a second pair of rigidly-connected plates mounted rotatably upon another portion of said non-rotatable shaft, a gear-wheel secured upon said shaft between said plates, planetary pinions carried by said plates and meshing with said gear-wheel, the shafts of said pinions projecting through one of said plates, a tubular shaft surrounding a portion of said non-rotatable shaft and rigidly connecting said two pairs of rotatable plates, and means for rotating all of said plates simultaneously, substantially as described.

3. In the herein-described display-stand, the combination of the upper rotating and revolving disks, the sockets on the lower faces of said disks, the lower rotating and revolving disks, the sockets on the upper faces of said lower disks, and the detachable rods having their ends adapted to be inserted in the said sockets of said upper and lower disks respectively whereby said rods will be rotated and revolved and held vertically, substantially as described.

4. The combination of a non-rotatable shaft, two pairs of plates mounted rotatably thereon at a suitable distance apart, a tubular shaft rigidly connecting said pairs of plates together and embracing said non-rotatable shaft, two gear-wheels secured upon said non-rotatable shaft adjacent to said respective pairs of plates, two sets of planetary pinions carried by said pairs of plates respectively and meshing with said respective gear-wheels, means for rotating both pairs of said plates, and disks mounted upon the projecting ends of the shafts of said pinions, substantially as described.

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

IRA A. NASH.

Witnesses:
M. N. HIGDON,
A. W. HIRSEL.