No. 846,690. PATENTED MAR. 12, 1907.

S. NEWMAN & H. R. BOTHWELL.

DISPLAY OUTFIT.

APPLICATION FILED MAY 1, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

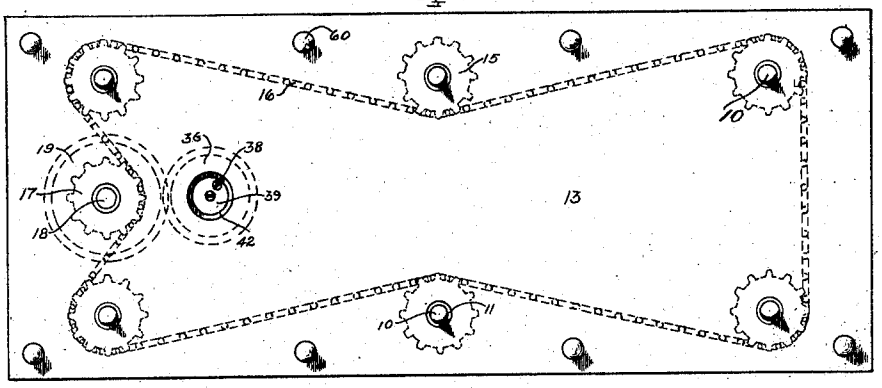


Fig. 2.

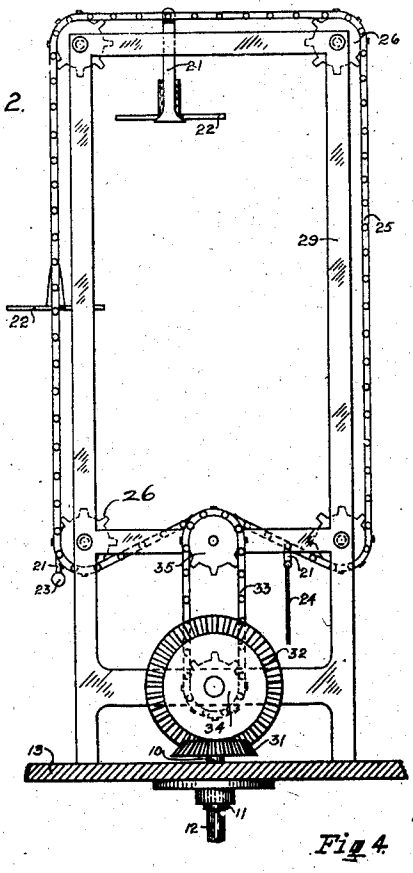


Fig. 3.

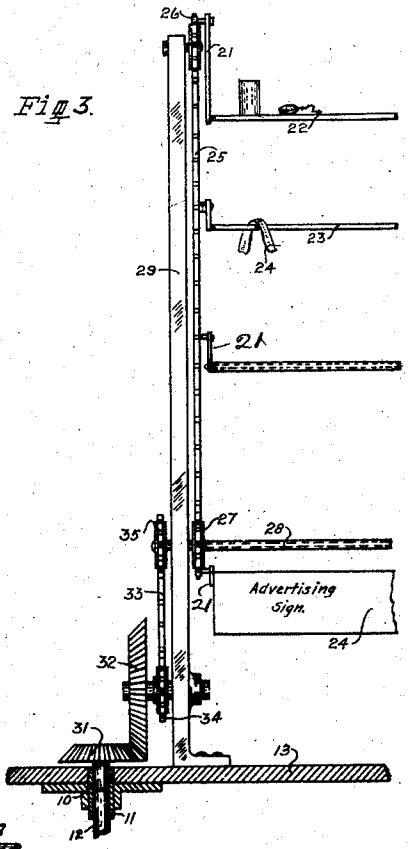
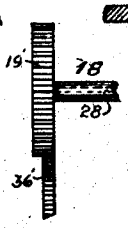


Fig. 4.



WITNESSES.
C. Myer.
C. Shaw

INVENTORS
Samuel Newman
Henry R. Bothwell
by C. Spengel atty
ATTORNEY.

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 846,690. PATENTED MAR. 12, 1907.

S. NEWMAN & H. R. BOTHWELL.

DISPLAY OUTFIT.

APPLICATION FILED MAY 1, 1906.

2 SHEETS—SHEET 2

Fig 5.

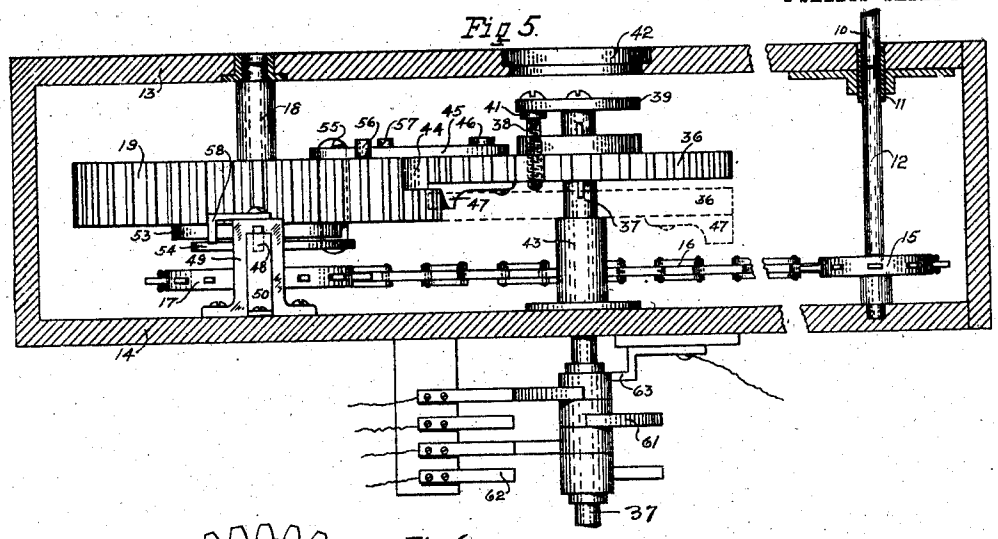


Fig 6.

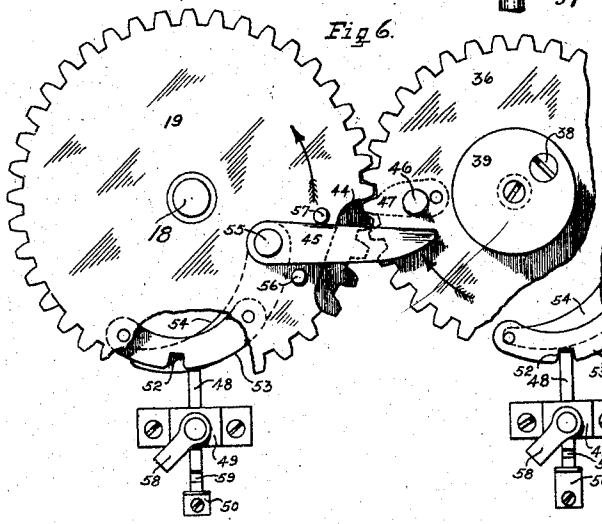


Fig 7.

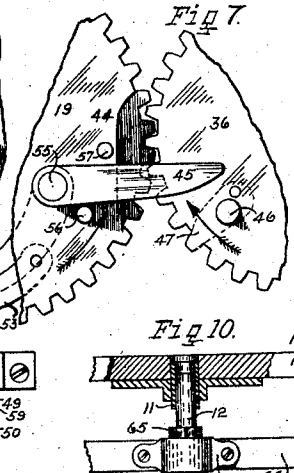


Fig 10.

Fig 8.

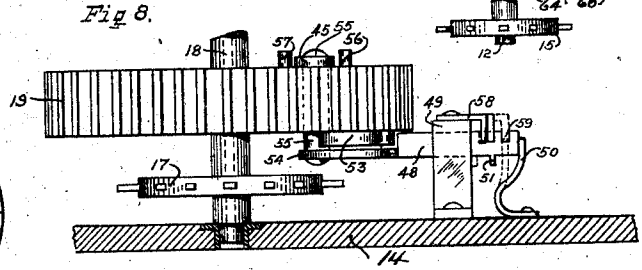
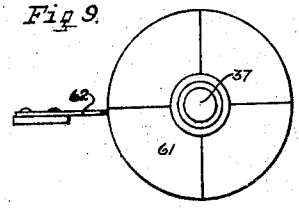


Fig 9.



WITNESSES.

C. Myer.

E. Shaw

INVENTORS

Samuel Newman

Henry R. Bothwell

by C. Spengel Atty

ATTORNEY.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL NEWMAN AND HENRY R. BOTHWELL, OF CINCINNATI, OHIO, ASSIGNORS TO THE NEWMAN MANUFACTURING CO., OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

DISPLAY OUTFIT.

No. 846,690. Specification of Letters Patent. Patented March 12, 1907.

Application filed May 1, 1905. Serial No. 258,178.

To all whom it may concern:

Be it known that we, SAMUEL NEWMAN, a citizen of the United States, and HENRY R. BOTHWELL, a citizen of Canada, both residing at Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Display Outfits; and we do declare the following to be a clear, full, and exact description thereof, attention being called to the accompanying two sheets of drawings, with the reference characters marked thereon, which form also a part of this specification.

This invention relates to devices intended to serve for displaying merchandise, goods offered for sale, advertisements, and for similar purposes where it is desirable to attract public attention to the matter exposed.

It may be used in connection with show-windows, show-cases, or as a special exhibit in an independent case. Rods arranged upright as well as horizontal, shelves, hangers, or other equivalent means are provided to support the articles to be displayed.

The general object of our invention is to provide mechanism constructed in a certain manner whereby these supporting means are given an intermittent movement to attract attention and to also afford opportunity to view the exhibits from various sides.

Our invention consists of certain mechanism and of its combination with the supporting devices mentioned, whereby they are given the intermittent motion referred to above. An incidental feature of this mechanism is also possibility of adjustment whereby this intermittent motion may be changed *ad libitum* into a constant one. Light-switches are added which are operated by the same mechanism and whereby, electrical illumination being presumed, different effects may be produced—as, for instance, changes in lights from one color to another one.

In the following specification, and particularly pointed out in the claims at the end thereof, is found a full description of our invention, together with its operation, parts, and construction, which latter is also illustrated in the accompanying drawings, in which—

Figure 1, in a top view, shows one form of using our invention. Fig. 2, in a side elevation, shows another form. Fig. 3 is part of a front elevation of Fig. 2. Fig. 4 shows a modified manner of operating the devices shown in Figs. 2 and 3. Fig. 5 is an enlarged side view, partly in section, of the mechanism whereby the movement of the supporting devices is obtained. Fig. 6 is a top view of this mechanism. Fig. 7 in parts of the preceding figure shows a different position of this mechanism. Fig. 8 is an end view of this mechanism. Fig. 9 is an under side view of certain parts of Fig. 5, it being particularly the mechanically-operating switches for changing the lights. Fig. 10, in a detail view, shows a modified construction for supporting the upright spindles shown in Figs. 1 and 5.

In Fig. 1 numeral 10 indicates uprights, posts, standards, or equivalent fixtures which may be provided with suitable cross-arms or other means to support articles to be exhibited. They are interchangeably inserted in sockets 11, (see also Fig. 5,) provided at the upper ends of upright spindles 12, suitably supported for rotation.

It may be preferable to construct the device complete in itself—that is, independent of adjacent parts, like walls, for instance, for support—and for such purpose these spindles may be contained in a frame or in a case of which 13 is the top and 14 the bottom.

Where the device is used in connection with a show-window or a show-case, the top 13 may constitute the floor of such show window or case. Each spindle carries a sprocket-wheel 15, so that all spindles may be simultaneously rotated by means of a sprocket-chain 16, the chain being driven by a sprocket-wheel 17 on a shaft 18, rotaten by a gear-wheel 19, mounted on it. By rotating this latter, either constantly or intermittently, all the supporting devices carried in sockets 11 will be given a similar motion. Wearing-apparels, dresses, cloaks, &c., may thus be advantageously exhibited, since they may be viewed from all sides.

The mechanism whereby gear-wheel 19 is given either one of the motions mentioned will be described later.

Instead of these upright rotating exhibiting devices, other supporting means may be used—as, for instance, horizontally-supporting shelves, rods, advertising-signs, &c.— which have a movement in a vertical plane

up on one side and down on the other. Hangers 21 are used (see Figs. 2 and 3) which support between them shelves 22 or rods 23 or advertisements 24 in form of signs or otherwise and which hangers are attached opposite to each other to the inner opposite sides of two carrier-chains 25, suitably supported on guide-rollers 26. These chains are moved by means of sprocket-wheels 27, mounted on a shaft 28, supported in opposite frames 29. This shaft 28 may be rotated, as shown in Fig. 4, being then the equivalent of shaft 18, and gear-wheel 19 of Fig. 1 may be mounted on it, the positions of these parts being merely changed at right angles, as shown at 19′ and 36′, or the device shown in Figs. 2 and 3 may be set on the floor (top) 13 of Fig. 1, and one of the sockets 11 may be used to receive the shaft of a bevel-wheel 31, (see Fig. 3,) which drives another bevel-wheel 32, by means of which bevel-wheel shaft 28 is driven by suitable intermediate means—as, for instance, by a sprocket-chain 33 and two sprocket-wheels 34 and 35. Where the show-space is sufficiently large, the exhibiting devices shown in Figs. 1, 2, and 3 may be simultaneously used and all driven from the same source 18 and 19, one of the sockets 11 (shown in Fig. 1) receiving the bevel-wheel 31. (Shown in Fig. 3.) Gear-wheel 19 is rotated by means of a gear-wheel 36, (see sheet 2 of the drawing,) which is mounted on a shaft 37, reaching into case 13 14. Its rotation may be derived from any source of power obtainable, and since electricity is most generally available in establishments where these devices are used an electric motor is suggested. This wheel 36 has a sliding adjustment on its shaft and vertically across the face of wheel 19. This movement is obtained by means of an adjusting-screw 38, seated on a flange 39, which latter is fixedly attached to the upper end of shaft 37. This screw is free to rotate, but is held against longitudinal movement by its head and by a collar 41, one on one side and the other on the other side of flange 39. It is tapped with its lower end into the hub of wheel 36, so that by rotating this screw wheel 36 may be adjusted so as to be either opposite the upper or the lower part of the face of gear-wheel 19. To permit access to this screw for such adjustment, top 13 is cut out, as shown at 42 in Figs. 1 and 5, which opening may be closed, if desired, by a cap removably fitted to it. The lower position of wheel 36 is shown in dotted lines in Fig. 5, the adjustment downwardly being limited by a shoulder 43, which determines this position. In this position the rotation of wheel 19 would be a constant one, and any exhibiting devices, whether those shown in Fig. 1 or those shown in Figs. 2 and 3, or both combined, would rotate and move correspondingly. If the intermittent movement is desired, gear-wheel 36 is adjusted to the position shown in Figs. 5 and 6. In this position rotation of wheel 19 stops as soon as a notch or blank space 44 in the upper part of its face comes opposite the face of wheel 36, a condition which is about to occur, as shown in Fig. 6. Toward the end of the joint movement and while joint rotation still continues an arm 45, carried by wheel 19, moves more fully into a position over the side of wheel 36, as shown in Fig. 7, in which position these parts are left when wheel 19 ceases to rotate. Wheel 36 continues to rotate now and performs one revolution alone until a pin 46 on its side comes around and moves against arm 45, whereby wheel 19 is taken along and its teeth are brought in mesh again, after which both wheels rotate once more together until notch 44 comes again opposite the face of wheel 36.

It is clear that wheels 19 and 36 must be of different size, and, by preference, wheel 36 is somewhat smaller than wheel 19, so that pin 46 reaches the position shown in Fig. 6 ahead of arm 45, which follows and moves in behind it during the last moment of the joint motion so as to be in operative reach of pin 46 when the same comes around again. It is desirable when the gear-wheels let go of each other that they clear each other fully to prevent the teeth of wheel 36 from scraping against those of wheel 19. This is accomplished by a single tooth 47 on the under side of wheel 36, which at that time is in a position about as shown in dotted lines in Fig. 6, (see also Fig. 5,) and which after the regular teeth of wheel 36 have ceased to move wheel 19 remains in mesh with the lower part of the teeth of this latter wheel, whereby the same is still moved a little further to bring notch 44 into a position, as shown in Fig. 7, so that the teeth on wheel 19 are entirely clear of those on wheel 36. This single tooth might also serve to perform the functions of arm 45 and pin 46—that is, to move the intact part of the face of wheel 19 again into operative contact with the teeth of wheel 36. These two members named are required, however, to perform an additional function, which is to operate a stop 48, whereby wheel 19 while inactive is positively held against accidental movement, or such which might be due to reaction of the weight moved when exhibiting devices, as shown in Figs. 2 and 3, are operated. This stop is carried so as to have a sliding movement in a post 49 and by means of a spring 50 is normally held and moved inwardly—that is, toward wheel 19—a pin 51 limiting this action of the spring. On the under side of wheel 19 there is a keeper 52, having a notch and a cam-surface 53, whereby when this latter comes opposite stop 48 it pushes this latter outwardly (see position in Fig. 6) until the notch in this keeper passes opposite the end of this stop,

when this latter, impelled by its spring, is moved out and shot into this notch, all as shown in Fig. 7. This occurs at the moment when wheel 36 has absolutely ceased to move wheel 19. While so passing into notch of keeper 52, stop 48 acts also against an arm 54, rigidly attached to a pin 55, mounted in wheel 19, and to the upper end of which pin arm 45 is also rigidly attached. This action causes a slight oscillation of arm 45, which comes, however, immediately to a stop against a pin 56 on the upper side of wheel 19, leaving arm 45 in a position shown in Fig. 7. The object of this movement at this time is merely an indirect one and is for the purpose of placing arm 45 in a position from which it may be used subsequently to disengage stop 48 to release wheel 19, when, operated by wheel 36, it starts to resume its interrupted rotation. This start, as explained before, is made by pin 46 when it moves against arm 45, and it will be noted now that the first effect of this impact will be to swing arm 45, and by it arm 54, sufficiently (the two arms forming substantially a continuous lever) to cause this latter arm to push stop 48 out of its keeper, thereby releasing wheel 19. This swinging movement of arm 45 is immediately stopped, however, by a pin 57 (see Fig. 6) to hold this arm rigid for the purpose of being acted upon by pin 46 on wheel 36 so as to move wheel 19 into mesh with wheel 36, thus in its function to restart rotation of wheel 19 by interaction with pin 46. This arm 45 may be considered as rigid on wheel 19, and its limited swinging movement between pins 56 and 57 is merely used to manipulate the wheel-locking stop 48, as described. Except for this restarting purpose arm 45 on one wheel and pin 46 on the other one might possibly be dispensed with and single tooth 47 relied upon for reëstablishing meshing contact. When this single tooth is omitted, the use of arm 45 and pin 46 is of course necessary unless the single tooth is provided in addition and used for the particular purpose described before.

When all the operating parts are intended to move constantly and wheel 36 is in the dotted position shown in Fig. 5, then the use of a stop 48 becomes unnecessary. It is held inoperative at such time by any suitable means. We provide a swinging latch 58, supported on top of post 49, which at such time is turned into a notch 59 in stop 48, thereby holding the same out of the notch in keeper 52. The requirement of adjustability for wheel 36 becomes unnecessary where no change in the method of rotation is contemplated. The means for illumination of such devices consist usually of incandescent lamps arranged, for instance, as shown at 60 in Fig. 1. Circuits of various colors may be used, which are alternately turned on and off by switches operated automatically by any of the moving parts. We mount these switches for such purpose on shaft 37, they consisting of sector 61 of a circle or disk, as best shown in Fig. 9, there being a sector for each color and as many as it is desired to use different colors. They are each provided with a hub for mounting on shaft 37, and so set, horizontally considered, as to form a complete circle, as shown in Fig. 9, but spaced vertically, as shown in Fig. 5, to meet the position of brush-contact pieces 62, one for each sector. A wire leads from each brush to the lamps 60 (shown in Fig. 1) of a light-circuit of a particular color, the general current being supplied to all sectors from a line-wire through a brush-contact 63. As one sector moves out of contact with its brush another sector moves into contact, the lights being switched accordingly from one color to another one, and no interruption in illumination occurs.

The means (frame or inclosing case) which support the mechanical parts shown in Fig. 1 may of course be varied to suit circumstances. An independent framework may be constructed ready for attachment, and which frame would support all the spindles 12. A separate box 64 would be provided for each spindle, they being held in their boxes by means of nuts 65. Frame-bars 66 would be arranged to which these boxes would be detachably attached in position wherever needed and all as shown in Fig. 10.

Single tooth 47 does not necessarily have to be in shape of a tooth, and any equivalent projection coacting with a complementary projection on the other wheel will answer the purpose.

Having described our invention, we claim as new—

1. In a display outfit, embracing exhibiting devices supported for rotation, the combination therewith by intervenient, operatively-connected mechanism, of two shafts, a gear-wheel on each, the face of one gear-wheel being of larger width than the face of the other and provided with a blank space extending across part of its face, one gear-wheel being slidably mounted to permit adjustment to a position whereby either the continuous or the blank part of the face of the one wheel is caused to come opposite the face of the other wheel, changing accordingly the rotation from a constant to an intermittent one, and means to throw the wheels in mesh after every intermission.

2. In a display outfit, embracing exhibiting devices supported for motion, the combination therewith by intervenient, operatively-connecting mechanism, of two shafts, a gear-wheel on each, the face of one of which is wider than the face of the other and provided with a blank space in its face opposite the face of the narrow wheel, and a single

tooth on the narrower wheel adapted to engage at intervals the continuous part of the face of the broader wheel.

3. In a display outfit, embracing exhibiting devices supported for motion, the combination therewith by intervenient, operatively-connecting mechanism, of two shafts, a gear-wheel on each, one of which is provided with a blank space in part of its face whereby, when said space arrives opposite the face of the other wheel, the operation of this particular wheel is interrupted, a notched keeper provided on this wheel, a spring-actuated stop to positively lock the same by engaging this keeper, lever-arms carried by this wheel and a projection on the other wheel adapted to act upon these arms for the purpose of moving thereby the stop out of the keeper on the locked wheel, to release the same and to start it again into mesh with the acting wheel.

4. In a display outfit, embracing exhibiting devices supported in an upright position for rotary motion, the combination therewith by intervenient, operatively-connecting mechanism, of two shafts, a gear-wheel on each, the face of one of which is wider than the face of the other and has a blank space in part of its face opposite the face of the narrow wheel whereby, when said space arrives opposite this latter wheel, the meshing contact between the two opposite faces of the wheels is interrupted, a single tooth on the wheel with the narrower face which at that time remains in contact with the face of the broader wheel and projections, one or each wheel, adapted to engage each other intermittently to move the idle wheel again into mesh.

In testimony whereof we affix our signatures in the presence of two witnesses.

SAMUEL NEWMAN.
HENRY R. BOTHWELL.

Witnesses:
C. SPENGEL,
C. MEYER.