Nov. 6, 1962 N. FLEISIG 3,061,962

COMBINED JEWELRY ITEM AND RETRACTABLE ROLL OF PHOTOS

Filed April 13, 1961

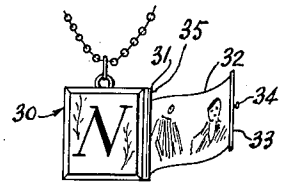


FIG. 4.

FIG. 1.

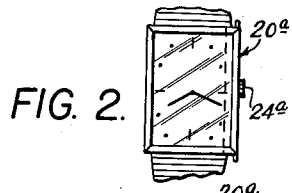


FIG. 2.

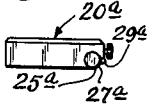


FIG. 3.

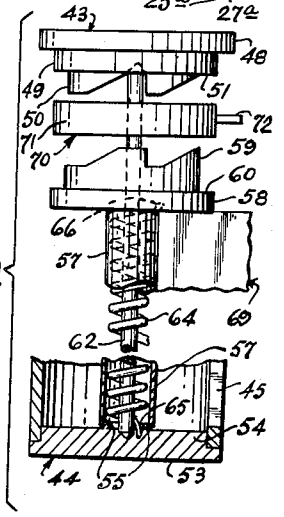


FIG. 9.

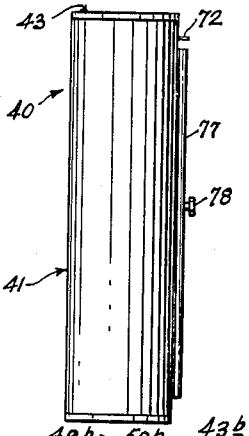


FIG. 5.

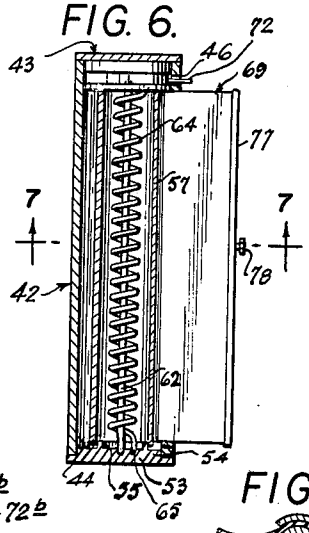


FIG. 6.

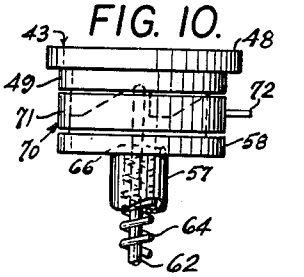


FIG. 10.

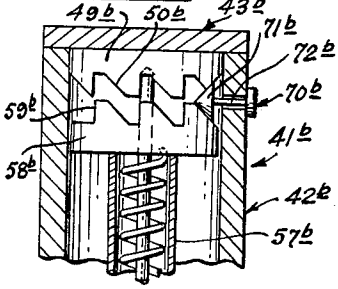


FIG. 12.

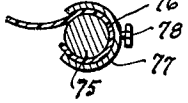


FIG. 8.

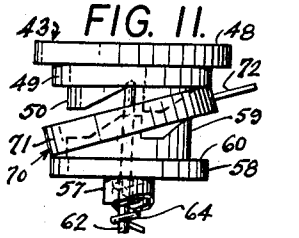


FIG. 11.

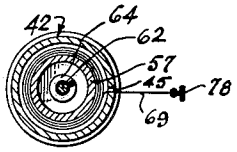


FIG. 7.

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COMBINED JEWELRY ITEM AND RETRACTABLE ROLL OF PHOTOS

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4 Claims. (Cl. 40—85)

This invention relates to improvements in articles of jewelry and personal accoutrements, and is especially concerned with a unique scroll construction for displaying photographs and the like.

It is one object of the present invention to provide a display scroll of the type described which may be readily incorporated in articles of jewelry, such as a pendant, wrist watch, or other article, as desired.

It is another object of the present invention to provide a display scroll including a web for carrying photographs or other articles, wherein the web is quickly, easily and conveniently extensible for viewing, adapted to be held in any selected position of its extension, and automatically retractable with a minimum of effort.

It is still another object of the present invention to provide a display scroll having the advantageous characteristics mentioned in the preceding paragraphs which is extremely simple in structure, durable and entirely reliable in operation throughout a long useful life, capable of manufacture in a wide variety of sizes, including very miniature sizes for inconspicuous incorporation in conventional articles of jewelry.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

In the drawings:

FIG. 1 is an exploded, perspective view showing a device of the present invention and a wrist watch adapted to incorporate the instant device.

FIG. 2 is a plan view showing a slightly modified embodiment of wrist watch incorporating a display scroll of the instant invention.

FIG. 3 is an end view of the device of FIG. 2, with the wristband removed.

FIG. 4 is an elevational view showing a pendant or locket incorporating a display scroll of the present invention.

FIG. 5 is an elevational view, somewhat enlarged, showing a display-scroll unit apart from an article of jewelry.

FIG. 6 is a longitudinal sectional view of the device of FIG. 5.

FIG. 7 is a transverse sectional view taken substantially along the line 7—7 of FIG. 6.

FIG. 8 is a fragmentary enlarged detail of the device of FIG. 7.

FIG. 9 is an exploded elevational view showing the scroll device of FIGS. 5–6, partly in section and partly broken away for clarity of understanding.

FIG. 10 is an elevational view similar to FIG. 9, but showing the elements thereof in an assembled condition.

FIG. 11 is an elevational view similar to FIG. 10, but showing another operative condition.

FIG. 12 is a partial sectional elevational view showing another embodiment of scroll display constructed in accordance with the instant invention.

Referring now more particularly to the drawings, and specifically to FIG. 1 thereof, there is illustrated therein a watch case 20 having its opposite ends connected to end

portions 21 and 22, respectively, of a wristband. Interiorly of the case 20 is the watch face 23, and a winding stem 24 projects from one longitudinal side of the watch case. The longitudinal side of the watch case 20 opposite to or remote from the winding stem 24 may be formed with an undercut or recess 25 extending beneath the face 23. The undercut or recess 25 may be of a generally semi-cylindrical configuration, having its opposite ends open.

A display scroll is generally designated 26 and may include a generally cylindrical scroll case 27 adapted to comformably engage in a recess 25 and be fixedly secured therein, as by solder or other siutable securing means.

A flexible elongate sheet or carrier web 28 may be mounted in the scroll case 27 for extension therefrom and retraction therein. The carrier web 28 may include any desired display material, such as photographs or the like, and may be provided on its outer end with an end rod 29 extending laterally across the carrier web.

In FIGS. 2 and 3 are shown a slightly modified watch case 20*a* having a winding stem 24*a* protruding from one longitudinal side of the watch case. The watch case 20*a* may be formed with a generally cylindrical undercut or recess 25*a* along the longitudinal side of the watch case adjacent to the winding stem 24*a*.

A scroll case 27*a* is shown conformably secured in position within the recess 25*a* along the watchcase side adjacent to the winding stem 24*a*. The scroll case 27*a* may include an extensile and retractile carrier web having on its outer end an end rod 29*a* which remains exteriorly of the scroll case. As best seen in FIG. 2, opposite ends of the end rod 29*a* may project beyond opposite ends of the watchcase 20*a* for convenient manual grasping by a user.

In FIG. 4 is shown another application of the instant invention wherein a pendant or locket 30 may carry a scroll case 31. A carrier web 32 is extensible from and retractable into the case 31 and may have secured on its outer end an end rod 33 provided with a pull button 34.

In accordance with the instant invention, the carrier web of each embodiment is extensible to any selected length and there automatically retains itself in the desired position of extension. When it is desired to retract the carrier web, a finger-actuatable extension, such as 35 in the embodiment of FIG. 4, and 26 in the embodiment of FIG. 1, may be moved to effect automatic retraction of the carrier web, as will appear more fully hereinafter.

Referring now more particularly to FIGS. 5–11, there is shown therein in greater detail a display-scroll structure, generally designated 40, apart from an article of jewelry. The device 40 includes a generally cylindrical case 41 which may be composed of an open-ended tube 42 having its upper end closed by an end piece 43 fixedly secured to the tube, and having its lower end closed by an end piece 44, also fixedly secured to the tube. The tube 42 is formed with a longitudinal slot 45, and a through hole 46 beyond one end of the slot.

The upper end piece 43 is best seen in FIG. 9 as including a generally cylindrical or disc-like outer part 48 adapted to seat in end engagement with the upper end of tube 42, and a reduced, cylindrical, intermediate plug portion 49 snugly engaged in the upper end region of the tube. On the lower or inner side of the intermediate region 49 there may be provided an annular array of depending teeth 50, which may be of a sawtooth or ratchet-tooth configuration to permit sliding in one direction and retaining abutment in the other. The teeth 50 are located concentrically of and having an external diameter less than that of the intermediate portion 49. Thus, the intermediate portion 49, which may be considered as a plug engaged in the upper end of tube 42, is formed with an annular, downwardly or longitudinally inwardly facing shoulder 51.

The lower end piece 44, see FIGS. 6 and 9, also includes an outer, generally cylindrical or disc-shaped portion 53 in abutting engagement with the lower end of the tube 42. Inward of the portion 53, the lower end piece 44 is formed with a reduced intermediate, plug portion 44 engaged in the lower end of the tube 42. An annular wall or boss 55 may upstand from the inner side of intermediate portion 54, being concentric therewith and of an external diameter less than that of the intermediate plug portion. Any suitable means may be employed to firmly secure the upper and lower end pieces 43 and 44 in closing relation with opposite ends of the cylindrical tube 42, such as solder, force fit, or other.

A hollow tubular spindle, generally designated 57, is arranged in spaced relation concentrically within the cylindrical tube 42, between the end pieces 43 and 44. The tubular spindle 57 may have its lower end open and slidably circumposed about the upstanding wall 55 of the lower end piece 44. Fixedly secured on the upper end of the hollow tubular spindle 57, generally concentric therewith, is a cylindrical part or disc 58. The cylindrical part 58 may be provided on its upper surface with an annular array of upstanding teeth 59, the array being concentric with and having an external diameter less than that of the cylindrical part 58 so as to define an annular upwardly facing shoulder 60 on the cylindrical part. The teeth 59, see FIG. 9, are located in facing relation beneath the teeth 50, and are formed of similar sawtooth or ratchet-like configuration permitting of one-way relative rotation between engaging teeth 50 and 59. The spindle 57, disc 58 and teeth 59 are of a unitary construction and of an over-all length to permit their vertical shifting movement within the scroll case 41.

An axially extending pin or shaft 62 is located in the cylindrical tube 42, having its lower and upper ends respectively secured centrally of the lower and upper end pieces 44 and 43. The shaft or rod 62 extends spacedly through the tubular spindle 57 and slidably through its secured disc 58. The spindle unit 57, 58 is thereby mounted at its upper end for axial rotation and longitudinal shifting movement, being similarly mounted at its lower end for axial rotation and longitudinal shifting movement by the annular wall or boss 55 engaged in the lower end of the spindle.

A resilient element or coil spring 64 may be helically coiled about the shaft or pin 62, within the spindle 57, having its lower end anchored at 65 to the lower end piece 44, and having its upper end anchored at 66 to the disc 58 of the spindle unit. The coil spring 64 is of a size and shape to resiliently urge the spindle 57 longitudinally upward to engage the teeth 50 and 59. Further, the resilient element or spring 64, being connected between the relatively fixed end piece 44 and the relatively rotatable spindle 57 biases the latter in the angular direction of rotation in which the teeth 59 and 50 lock and prevent rotation.

A flexible elongate sheet or carrier web 69 has one end secured to the spindle 57 and is coiled or helically wrapped about the spindle with its outer end extending outward through the slot 45 of tube 42. The direction in which the carrier web 69 is coiled about the spindle 57 is such that upon extension of the web or withdrawal through the slot 45 outward of the tube 42, the spindle 57 is caused to rotate in the angular direction permitted by relative riding of the teeth 59 and 50 over each other, against the coiling force of the spring 64. Of course, during such extension of the web 69, it is necessary for the spindle 57 to shift longitudinally downward, also against the force of spring 64, to permit the teeth 59 and 50 to ride over each other. At a selected position of extension or withdrawal of the carrier web 69, upon release thereof, the spring 64 tends to rotate the spindle 57 in a direction to rewind the carrier web, but is held against rotation by locking interengagement of the teeth 50 and 59.

Thus, it will now be appreciated that the teeth 50 and 59 provided on the parts 49 and 60 combine to define a one-way clutch. In order to disengage or release the holding action of the clutch elements 50 and 59, a disengaging member 70 is provided to selectively separate the clutch elements and permit rotation of the spindle 57 and retraction of the carrier web 69 under the force of spring 64.

The disengaging element 70 may include an annular portion 71 loosely circumposed about the teeth 50 and 59 and located between the facing shoulders 51 and 60. An actuating extension 72 projects radially from the annular member 71 through the hole 46 and out of the tube 42. When it is desired to disengage the toothed clutch elements 50 and 59, the disengaging member 70 is swung by actuation of its extension 72 and in the manner of a lever bears against diametrically opposed regions of shoulders 51 and 60, see FIG. 11, to separate the toothed elements and permit relative rotation therebetween to wind up the carrier web on the spindle.

In order to prevent retraction of the outer end of the carrier web 69 into the tube 42 through the slot 45, an end rod 75 is secured across the outer end portion of the carrier web. More particularly, see FIG. 8, the outer end portion 76 of the carrier web 69 is curled about the end rod 75, and a clip or snap 77 engaged over the curled web portion and enveloped rod. This end-rod assembly 75, 76, and 77 is of a dimension incapable of passing through the slot 45, to thereby limit retraction of the carrier web. A finger pull button or knob 78 may be carried by the clip 77 to facilitate manual extension or withdrawal of the carrier web. The end-rod assembly 75—77 may be of a width or thickness incapable of passing through the slot 45; or, the rod assembly may extend beyond opposite ends of the slot 45 to prevent passage through the latter, as in the embodiment of FIGS. 2 and 3.

A slightly modified embodiment is shown in FIG. 12, a scroll case 41*b* including a generally cylindrical tubular part 42*b* having its upper end closed by an upper end piece 43*b*. The upper end piece includes a plug part 49*b* engaged in the upper end of tube 42*b* and formed with an annular depending array of one-way teeth, such as ratchet teeth or sawteeth 50*b*. A vertically shiftable and axially rotatable hollow tubular spindle 57*b* is concentrically located within the tube 42*b* and provided on its upper end with a clutch element 58*b* having an annular array of upstanding teeth 59*b* for interfitting engagement with and disengagement from the teeth 50*b*, in the same manner as the teeth 50 and 59 of FIG. 9, so that the elements 49*b* and 58*b* combine to define one-way-clutch elements releasable upon separation thereof.

Disengagement of the clutch elements 49*b* and 58*b* is illustrated in FIG. 12 as being accomplished by a disengaging member 70*b*. The disengaging member includes a tapered part or wedge 71*b* movable radially inward against the clutch elements 49*b* and 58*b* to separate the latter, and a stem 72*b* extending radially through the tube 42*b* for effecting radially inward and outward movement of the wedge 71*b*. The wedge 71*b* may be generally conical and is movable radially inward to displace the element 58*b* downward for disengaging the teeth 50*b* and 59*b* so as to permit relative rotation therebetween.

From the foregoing, it is seen that the present invention provides a display scroll which fully accomplishes its intended objects and is well adapted to meet practical conditions of manufacture and use.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. The combination with an article of jewelry of a display scroll comprising a case carried by said article of jewelry, a spindle mounted in said case for axial rotation

and longitudinal shifting, resilient means internally of said spindle and connected to said case and spindle for urging the latter in one longitudinal direction and one direction of angular rotation relative to said case, a carrier web spirally coiled about said spindle having it inner end connected to said spindle and its outer end extending outward through said case, said web being coiled for effecting angular spindle movement in the opposite direction upon carrier extension from said case, a pair of interengaging toothed clutch members respectively carried by said case and spindle and resiliently biased into engagement by urgence of said spindle in said one longitudinal direction for permitting angular spindle movement in said other direction and holding said spindle against angular movement in said one direction, manually actuable disengaging means for urging said clutch members apart to permit angular spindle movement in said one direction under the force of said resilient means, and an end rod extending laterally across and connected to the outer end of said carrier web and of a size incapable of entry into said case, said clutch-disengaging means comprising a wedge member for separating said toothed members and movable into separating position between said toothed members to urge the latter apart, and normally urged out of said separating position.

2. The combination with an article of jewelry of a display scroll comprising a case carried by said article of jewelry, a spindle mounted in said case for axial rotation and longitudinal shifting, resilient means internally of said spindle and connected to said case and spindle for urging the latter in one longitudinal direction and one direction of angular rotation relative to said case, a carrier web spirally coiled about said spindle having its

inner end connected to said spindle and its outer end extending outward through said case, said web being coiled for effecting angular spindle movement in the opposite direction upon carrier extension from said case, a pair of interengaging toothed clutch members respectively carried by said case and spindle and resiliently biased into engagement by urgence of said spindle in said one longitudinal direction for permitting angular spindle movement in said other direction and holding said spindle against angular movement in said one direction, manually actuable disengaging means for urging said clutch members apart to permit angular spindle movement in said one direction under the force of said resilient means, and an end rod extending laterally across and connected to the outer end of said carrier web and of a size incapable of entry into said case, said disengaging means comprising an annular element loosely circumposed about said toothed clutch members and swingable about a diametral axis to separate said clutch members.

3. A display scroll according to claim 2, said article of jewelry comprising a wrist watch having an undercut recess, said case being engaged in said recess.

4. A display scroll according to claim 2, the outer end of said carrier web being curled about said rod, a clip frictionally engaged about the curled web portion and rod, and a pull button on said clip.

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