Sept. 5, 1967 A. GINSBERG 3,339,744

TIE RACK

Filed June 1, 1966

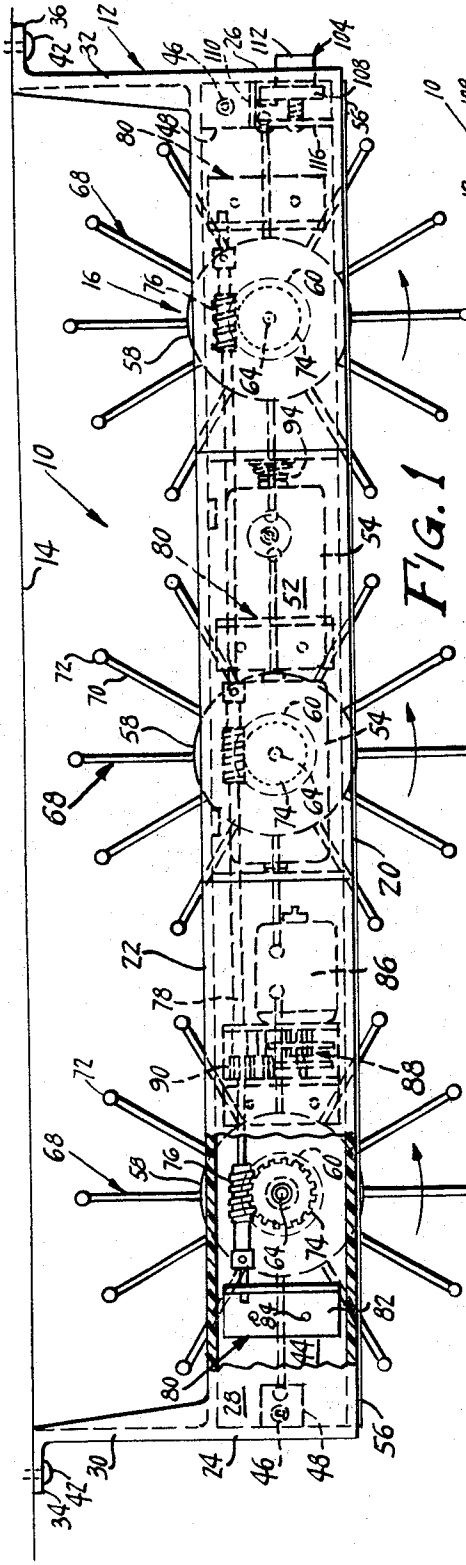


FIG. 1

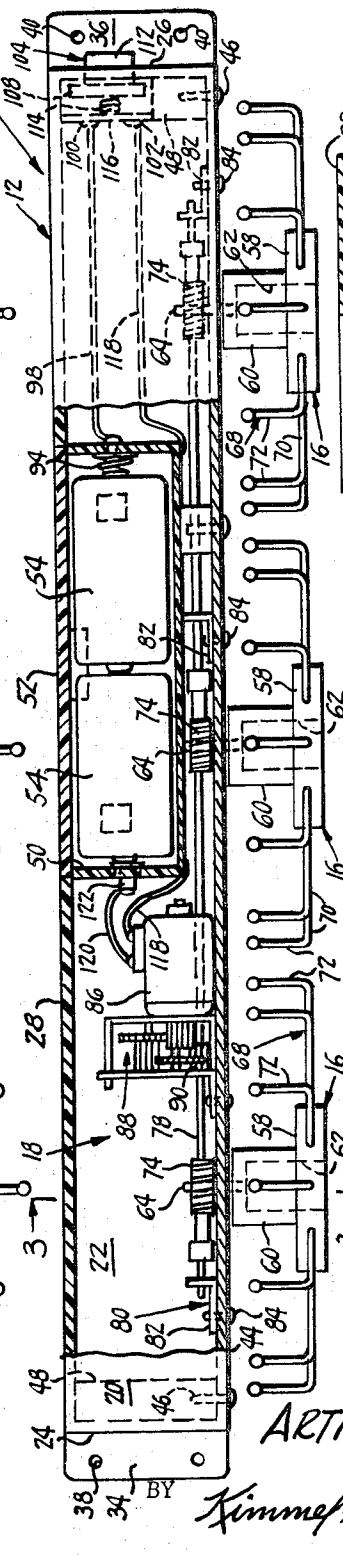


FIG. 2

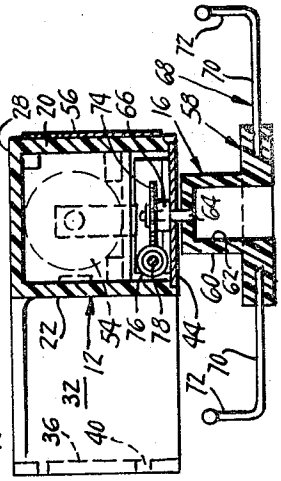


FIG. 3

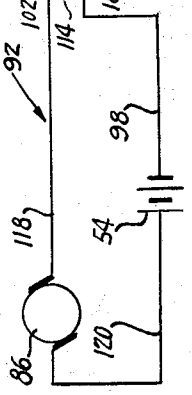


FIG. 4

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United States Patent Office

3,339,744
Patented Sept. 5, 1967

3,339,744

TIE RACK

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Filed June 1, 1966, Ser. No. 554,404
10 Claims. (Cl. 211—1.5)

ABSTRACT OF THE DISCLOSURE

A necktie rack comprising a casing adapted to be mounted horizontally, a plurality of shafts depending from the casing tie display heads carried by each shaft, each head including tie holding bars extending radially from a hub, a gear on each shaft in the casing, a horizontal shaft in the casing having a worm engaging each gear, a battery driven motor in the casing and push button means for energizing the motor to rotate the hub and hence the tie holding hooks.

This invention relates to a tie rack, and more particularly to a device for displaying a plurality of ties including means for selectively rotating the tie displaying head for sequentially exposing each individual tie.

It is an object of the instant invention to provide a new and novel tie rack having a tie displaying head rotatably mounted by a vertical axis carrying a plurality of horizontally extending tie supporting bars for carrying a plurality of ties which may be sequentially exposed by rotating the tie displaying head.

Another object of the instant invention is to provide a tie rack of the character described including power means for selectively rotating the tie displaying head to expose the ties thereon for selection by an individual.

Still another object of the instant invention is to provide a tie rack which may be inexpensively manufactured for carrying a large number of ties.

A further object of the instant invention is to provide a tie rack having means for attaching the rack to a substantially vertical wall with the tie displaying heads being spaced from the wall to accommodate the rotary movement of the horizontally extending tie supporting bars.

A still further object of the instant invention is to provide a tie rack of the character described including a housing encapsulating the selectively operable power means utilized to rotate the tie displaying head.

Other objects and advantages of the instant invention reside in the combinations of elements, arrangements of parts, and features of construction and operation, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawing wherein there is shown a preferred embodiment of this inventive concept.

In the drawing:

FIGURE 1 is a top plan view of a tie rack made in accordance with the principles of the instant invention, certain parts being broken away for clarity of illustrations;

FIGURE 2 is a front elevational view of the tie rack of FIGURE 1, certain parts being broken away to illustrate the interior mechanisms of the device;

FIGURE 3 is a transverse cross-sectional view of the tie rack of FIGURES 1 and 2, taken substantially along line 3—3 of FIGURE 2 as viewed in the direction indicated by the arrows; and

FIGURE 4 is a schematic view of the electrical circuit used to energize the electric motor that is operatively connected to the tie displaying head for sequentially exposing the individual ties.

Referring now to the drawing in detail, wherein like reference characters designate like elements throughout

the several views thereof, there is indicated generally at **10** the tie rack of the instant invention comprised of a frame shown generally at **12** affixed to a substantially vertical wall **14**, a plurality of tie displaying heads denominated generally at **16** mounted on frame **12** for rotation about a vertical axis and a power supplying means designated generally at **18** for selectively rotating tie displaying heads **16** about the vertical axis. As will be explained more fully hereinafter, a plurality of ties may be placed on each of heads **16** such that an individual may selectively operate power means **18** for sequentially exposing each of the mounted ties.

Frame **12** includes a front and back wall **20**, **22** joined together by a pair of end walls **24**, **26** and a top wall **28**. A pair of legs **30**, **32** extend rearwardly in a substantially planar fashion with respect to end walls **24**, **26** and form laterally extending feet **34**, **36** having openings **38**, **40** through which a suitable frictional fastener **42**, illustrated as a nail, passes for engagement with wall **14**. A bottom wall **44** completes frame **12** and provides a compartment receiving power means **18** thereby presenting a neat and trim appearance. Bottom wall **44** is preferably releasably secured to the remainder of frame **12** by a plurality of conventional fasteners **46**, illustrated as screws or the like, extending into a threaded block **48** in the compartment formed by housing **12**.

It should be apparent that housing **12** is opened from the bottom by removing bottom wall **44** to gain access to power means **18**. Frame **12** also forms a battery receiving compartment **50** having an openable top wall **52** removably mounted on frame **12** to gain access into compartment **50** to replace batteries **54** therein. As an additional feature, front wall **20** of frame **12** is preferably provided with a lamina **56** on which a color chart is printed to correlate the desirable color of accessories to wear with differently colored suits.

Each of tie displaying heads **16** includes a horizontal annular plate **58** and a central upstanding boss **60** cooperating to form a blind opening **62** for purposes of lessening the weight of head **16**. A shaft **64** is affixed to the upper surface of boss **60** and extends through bottom wall **44** into the interior of frame **12**. A suitable boss **66** is affixed to shaft **64** interiorly of frame **12** to mount head **16** for rotation about the vertical axis of shaft **64**. A plurality of tie supporting bars shown generally at **68** extend outwardly from the periphery of plate **58** and include a substantially horizontal tie supporting portion **70** and a terminal upstanding portion **72** acting to preclude slippage of a tie off the end of horizontal portion **70**.

As previously mentioned, power means **18** is operatively connected to each of tie displaying heads **16** for rotating each of heads **16** about a vertical axis. Power means **18** includes a spur gear **74** affixed to shaft **64** for rotation therewith and a worm gear **76** meshingly engaged with each of spur gears **74**. Each of spur gears **74** is fixedly mounted on a single drive shaft **78** journaled by a plurality of bearings shown generally at **80**. Each of bearings **80** includes an L-shaped arm **82** having the horizontal leg affixed to bottom wall **44** by a suitable frictional fastener **84**. The upstanding portion of L-shaped arm **82** forms an opening rotatably receiving drive shaft **78**.

An electric motor **86** is affixed to bottom wall **44**, as by glue or the like, and is operatively connected with the drive shaft **78** by a gear train shown generally at **88**. Electric motor **86** includes a customary drive shaft carrying a spur gear for driving gear train **88** which terminates in a spur gear **90** fixedly mounted on drive shaft **78**. It will be readily apparent that the energization of electric motor **86** drives gear train **88** and consequently drive shaft **78** to rotate each of tie displaying heads **16**.

Referring now to FIGURE 4, an electric circuit shown generally at **92** is arranged to selectively deliver electrical

energy to motor **86** thereby selectively rotating each of display heads **16**. Electric circuit **92** includes batteries **54**, which are illustrated as conventional flashlight batteries, but which may be of any suitable type, disposed in compartment **50**. A first battery contact **94** is positioned against the terminus of one of batteries **54** and includes a connection **96** extending through the wall of compartment **50**. A lead wire **98** provides electrical communication from connection **96** to a first switch terminal **100**. A second switch terminal **102** is disposed slightly away from first terminal **100** with a normally open switch shown generally at **104** arranged to complete an electrical path between terminals **100**, **102** upon the actuation of the switch.

Switch **102** includes an electrically conductive strip **106** affixed to a dielectric plate **108** mounted for movement between a pair of guides **110**. Switch **104** includes a push-to-close button **112** extending outwardly of frame **12** through a suitable opening. The conventional separating spring **114** biases plate **108** away from a dielectric plate **116** to which terminals **100**, **102** are attached. As will be more fully explained hereinafter, the depression of button **112** acts to close circuit **92** thereby delivering electrical energy to motor **86** to drive display heads **16**.

A suitable lead wire **118** connects terminal **102** to one side of motor **86** as shown best in FIGURE 2. Another lead wire **120** connects the other side of motor **86** to an electrical connection **122** extending through the side wall of battery compartment **50** to place the other of batteries **54** into electrical contact with wire **120**.

It will be apparent that the depression of button **112** closes circuit **92** to deliver electrical energy to motor **86**. The actuation of motor **86** drives gear train **88** resulting in the rotation of drive shaft **78** and worm gear **76**. The rotation of worm gear **76** drives gear **74** and consequently rotates each of display heads **16** in the direction indicated by the arrows in FIGURE 1. It is preferred that each of the heads rotate in the same direction to avoid physical contact between the ties on supporting bars **68** which may tend to swing somewhat. It should be noted that supporting legs **30**, **32** affixing frame **12** to vertical wall **14** are of a sufficient length to allow the free rotation of tie supporting bars **68**.

It should be readily apparent that tie rack **10** may advantageously be used as a display in stores as well as providing a novelty device for use in a home.

It is now seen that there is herein provided an improved tie rack which accomplishes all of the objects and advantages of the instant invention and others, including many advantages of great practical utility and commercial importance.

Since many embodiments may be made of the instant inventive concept, and since many modifications may be made in the embodiments hereinbefore shown and described, it is to be understood that the foregoing is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. A rack for displaying ties comprising

a frame including a casing;

at least one tie displaying head, dependingly mounted on the frame for rotation about a vertical axis, having a plurality of tie supporting bars extending outwardly from the head substantially in a plane generally perpendicular to the axis of rotation, the outermost end of the supporting bars extending upwardly preventing slippage from the bars;

means for attaching the frame to a substantially vertical wall for positioning the axis of rotation substantially parallel to the wall including at least one leg extending away from the frame a distance sufficient to prevent interference between the wall and the tie supporting bars;

battery driven motor means, in the casing, for selectively drivingly rotating the tie displaying head for sequentially exposing the tie supporting bars on one side of the frame, and

switch means for selectively energizing and deenergizing said motor.

2. A rack for displaying ties comprising

a frame;

at least one tie displaying head, dependingly mounted on the frame for rotation about a vertical axis, having a plurality of tie supporting bars extending outwardly from the head substantially in a plane generally perpendicular to the axis of rotation, the outermost end of the supporting bars extending upwardly preventing slippage from the bars;

means for attaching the frame to a substantially vertical wall for positioning the axis of rotation substantially parallel to the wall including at least one leg extending away from the frame a distance sufficient to prevent interference between the wall and the tie supporting bars; and

means, on the frame, for selectively drivingly rotating the tie displaying head for sequentially exposing the tie supporting bars on one side of the frame,

a shaft integral with the tie displaying head;

a gear on the shaft for rotation therewith;

a worm gear meshingly engaged with the spur gear;

an electric motor on the frame; and

means drivingly connecting the worm gear and the electric motor for rotating the tie displaying head upon actuation of the electric motor.

3. The rack of claim **2** further including a housing encapsulating the rotating means.

4. The rack of claim **3** further including a lamina on the housing away from the attaching means carrying indicia correlating the color of men's suits with the desired colors of accessories to be worn with the suit.

5. The rack of claim **3** wherein there are at least three aligned tie displaying heads spaced apart to prevent interference between the tie supporting bars.

6. The rack of claim **4** wherein the rotating means rotates all of the heads in the same direction.

7. The rack of claim **2** wherein the driving means includes a DC motor and wherein the rotating means further includes

at least one removable DC battery on the frame;

an electric circuit connecting the battery to the motor; and

an off-on switch in the circuit for selectively opening and closing the electric circuit for selectively energizing the motor.

8. The rack of claim **7** wherein the switch includes a spring normally biasing the switch into the circuit open position and a push-to-operate button for selectively closing the circuit.

9. The rack of claim **8** further including a housing, enclosing the rotating means, having an opening through which the operating button extends.

10. The rack of claim **9** wherein the housing forms a battery compartment an an openable lid closing the compartment providing ready ingress to replace the battery.

References Cited

UNITED STATES PATENTS

1,637,988	8/1927	Egan	40—33
2,010,572	8/1935	Waterman	211—95
2,506,467	5/1950	Ragland	211—95
2,640,601	6/1953	Van Wie	211—115
2,736,628	2/1956	Fadden	312—305

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