July 27, 1965 H. R. SANDLER 3,197,166

JEWELRY DISPLAY APPARATUS HAVING MAGNETIC RETAINERS

Filed April 27, 1964

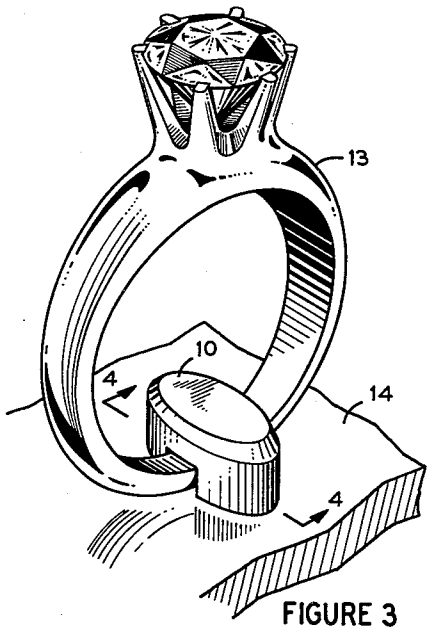


FIGURE 3

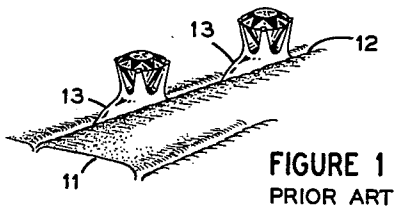


FIGURE 1
PRIOR ART

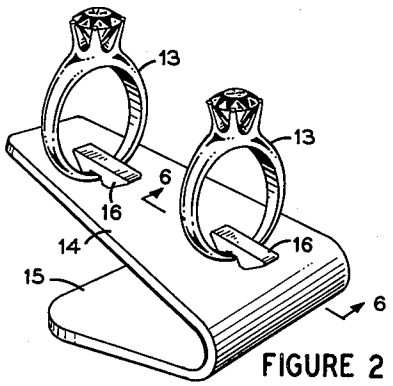


FIGURE 2

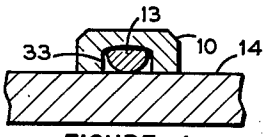


FIGURE 4

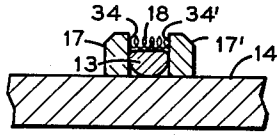


FIGURE 4-A

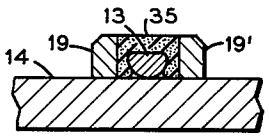


FIGURE 4-B

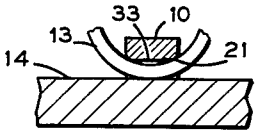


FIGURE 5

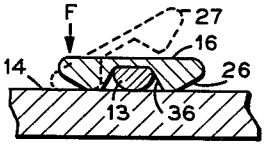


FIGURE 6

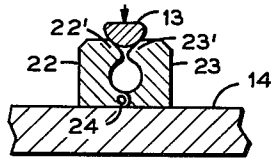


FIGURE 7

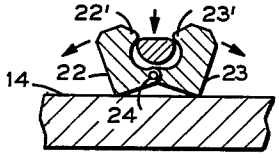


FIGURE 7-A

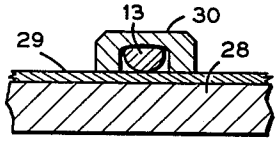


FIGURE 8

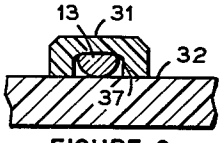


FIGURE 9

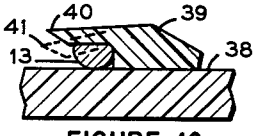


FIGURE 10

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United States Patent Office 3,197,166 Patented July 27, 1965

3,197,166
JEWELRY DISPLAY APPARATUS HAVING MAGNETIC RETAINERS

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Filed Apr. 27, 1964, Ser. No. 362,586
10 Claims. (Cl. 248—206)

The present invention relates in general to a jewelry display apparatus and in particular to apparatus which displays rings or the like in a manner enabling ease of attachment and detachment of the rings, the display of large portions of their surfaces, and flexibility of positioning.

Prior art devices for displaying rings may be broadly divided into three classes: (1) those having a series of slots into which the rings are inserted, (2) those which resemble a finger, usually covered with an attractive fabric, and (3) those which use a clamp to grasp a portion of the ring.

For years the most popular display devices have been those which use a series of slots. Such a device is illustrated in FIGURE 1 where the numeral 13 designates a plurality of rings disposed in a slot 12 formed in soft material 11. One of the more prominent disadvantages of this type device is the inflexibility in the positioning of the rings. All the rings are placed in the slots in straight rows, a feature which restricts experimentation with imaginative or artistic arrangements of the rings wtih respect to each other. Furthermore, the slots 12 are frequently very deep so that only the very top portions of the rings 13 are displayed. This feature is detrimental, especially when rings with decorative and beautiful sides are being displayed. Since rings are designed with the idea of creating an appeal to aesthetes, the burying of a majority of surfaces of the rings is inconsistent with the basic purpose. Moreover, when a ring is removed from the slot, a conspicuous and distracting gap is left in the display.

Those display devices which resemble a finger also have the disadvantage of inflexibility in the positioning of the rings. More specifically, rings are usually aligned in a row on one finger or else a number of stubby fingers are arranged on a base and thus there is little opportunity for imaginative experimentation with arrangements.

Those devices which use a movable clamp to grasp a portion of the ring are generally bulky in that if a single ring is to be displayed, a large base is required to support it. When a large number of rings are displayed with such devices, the clamps are generally immovably secured to a base and thus, like the device of FIGURE 1, it is difficult to create imaginative or artistic arrangements of the rings with respect to each other.

The object of this invention is to overcome many of the disadvantages of prior art display devices. More specifically, it is an object of this invention to provide a device which displays almost the entirety of rings or the like. Moreover, the device enables great flexibility in the positioning of the rings with respect to each other on the surface of a base or support member. In addition, it is an object of this invention to provide a display device wherein the rings are easily attached to or detached from the support member.

In accordance with the foregoing objects the present invention may be broadly described as an apparatus for supporting and displaying rings or the like by the use of a magnetic base member upon which is positioned at least one magnetic retainer member. The retainer member has a groove or some other means for engaging the lower portions of a ring to support it in an upright position. Surprisingly, a very small retainer having a groove on its lower surface to engage the ring has been found sufficient to support a relatively large ring. This is the result of the fact

that most rings are generally well balanced and if placed in a vertical position, for example, the force of gravity has little initial tendency to topple them. It is only after the ring begins to topple from the vertical position that the force of gravity begins to create large moments which further topple the ring and eventually pull the magnet from the base member. Thus, if the ring is initially placed in a vertical position, a very small magnet is sufficient to retain it in that position. For other positions, increases in the size or strength of the magnet are required to resist the increased forces. The shape and size of the magnet depend also on the type ring or the like which is to be displayed. A great variety of materials may be used, and neither the retainer nor the base member need be a permanent magnet but merely be fabricated so as to include a magnetic material, as will be explained later.

The invention will be better understood with reference to the following detailed description and the accompanying drawing. Specific terminology is used in the detailed description for the sake of clarity, but it should be understood that the invention is not limited to such terminology or to the particular embodiments shown and described. Rather, the invention encompasses all equivalent devices which operate in a similar manner to accomplish a similar result.

Referring now to the drawing to describe the various views, it will be seen that FIGURE 1 is a perspective view of a common slot type prior art display device, which has already been described.

FIGURE 2 illustrates in perspective a number of rings secured to a base member by magnetic retainers in accordance with the inventive concept.

FIGURE 3 is an enlarged perspective view showing in better detail one of the rings, a retainer, and a fragment of the base member of FIGURE 2.

FIGURE 4 is a sectional view as seen looking along the lines and arrows 4—4 of FIGURE 3, and is included to show the constructional details of a preferred embodiment of the invention.

FIGURES 4–A and 4–B illustrate a few of the alternate forms that the retainer may take.

FIGURE 5 is a sectional view similar to that seen looking along the lines and arrows 4—4 of FIGURE 4 and shows more details of a preferred groove configuration.

FIGURE 6 is a sectional view as seen looking along the lines and arrows 6—6 of FIGURE 2, showing a retainer having a geometry enabling more convenience in the attachment and detachment of a ring.

FIGURES 7 and 7–A are other sectional views showing a retainer formed of two hinged pieces having a groove and overlying lips for grasping a ring or the like.

FIGURE 8 illustrates in fragmentary section a retainer placed on a fabric covered metallic base member.

FIGURE 9 is another fragmentary sectional view showing a retainer placed on a nonmetallic base member.

FIGURE 10 represents another form of retainer which has a retaining groove or a resilient prong protruding from its side surface.

By referring to FIGURE 2 it will be noted that a plurality of rings 13 are secured in a vertical position by retainers 16 to a base member 14, which is supported by a leg 15. The retainers 16 are attracted to the base 14 since magnetic (capable of being magnetized) and at least one of them is permanently magnetized or some other means is provided for supplying a magnetic field. For example, the base 14 may be formed of steel, which is a magnetic material, and the retainers may be formed of a permanently magnetized material such as a high carbon steel. Looking at the enlarged perspective view of FIGURE 3, it will be seen that the alternate type retainer 10 is quite small and covers only a small portion of the

lower part of ring **13**. As was mentioned previously, this is possible since the forces exerted on the retainer are surprisingly small, especially when the ring **13** is in a vertical position. Thus, only a small amount of magnetic attraction between the retainer **10** or **16** and the base member **14** is required to keep the ring in the vertical position shown in FIGURES 2 and 3.

Means are provided on the retainer **10** for engaging the ring **13**, and in FIGURE 4 it may be seen that a groove **33** is formed in the lower surface of retainer **10** for this purpose. The groove must be configured so that a part of its surfaces engage the ring **13**. As may be seen in the sectional view of FIGURE 5, the groove **33** preferably has contoured surfaces **21** to better match the curvature of the ring and provide greater surface contact therewith. Actually, this has been found unnecessary in most instances but is nevertheless an easy way to add increased rigidity to the device.

FIGURE 4–A shows an alternate retainer which is formed of two pieces **17** and **17'** joined near their upper and inner surfaces **34** and **34'** by a biasing means **18** (here a spring) which urges the pieces **17** and **17'** against the ring **13**. This is a convenient way to fabricate a retainer that can accommodate rings having a great variety of widths and thicknesses.

When a metallic retainer is used, it is often expedient to use a nonmetallic coating inside the retainer to protect the ring. Thus, in FIGURE 4–B a nonmetallic center section **35** connects the metallic members **19** and **19'** and engages the ring **13** to protect its surfaces.

To facilitate easier handling of the retainers, those having a configuration as shown in FIGURE 6 are provided. There, the retainer **16** has beveled lower surfaces **26** on each end so that a downward force F causes the retainer to pivot to position **27** (shown in phantom). While in this position, the ring **13** is easily inserted into groove **36** and similarly, is easily removed therefrom. This is very convenient since the retainer **16** need not be pulled completely from the base member **14**, a feature which simplifies handling of the retainers.

The retainer illustrated in FIGURE 7 has two pieces designated by the numerals **22** and **23** which are pivotally connected by means of a hinge **24**. When the ring **13** is to be inserted, it is forced against the lips **22'** and **23'** and pieces **22** and **23** pivot apart to permit the ring to pass as is shown in FIGURE 7–A. When it is desired to remove the ring, pieces **22** and **23** are pivoted apart by an upward movement of the ring **13**, separating the lips **22'** and **23'**. As in the other embodiments, members **22**, **23** and **14** are fabricated so that magnetism forces them together. Furthermore, pieces **22** and **23** are normally drawn toward each other by magnetism, which in effect is a biasing means.

A wide variety of materials are used in making the retainers since the basic requirement that they both be magnetic is easily met. As has been mentioned previously, the retainers may be formed of a metallic and magnetic material and the retainer **30** of FIGURE 8 is of this type. Also, the base member **28** is a magnetic material such as steel. Commonly, a fabric **29** is used to cover the base member **28** to increase the attractiveness of the display.

Nonmetallic magnetic materials have recently become commercially available and such materials are illustrated in general in FIGURE 9. In this embodiment the base member **32** is formed of a nonmetallic material having magnetic particles dispersed therein and similarly, the retainer **31** includes magnetic particles. Usually, particles of the retainer **31** or of the base member **32** are permanently magnetized so that the two are attracted to one another, but this is not essential since a magnetic field may be supplied by an outside source to magnetize both pieces when desired. As in the other embodiments, the retainer **31** has a means for grasping the ring **13** such as the groove **37**.

Another embodiment of the invention which utilizes nonmetallic materials is illustrated in FIGURE 10 where a base member **38** is shown supporting a retainer **39**. Protruding from one side of retainer **39** is a prong **40** which extends over ring **13**. The retainer **39** is formed of a resilient material impregnated with magnetic particles and thus the prong **40** has resilient flexibility so that it securely grasps the ring **13**. This result is effectuated by forming the prong so that in its initial relaxed position **41** it extends toward the surface of base member **38**. When using this embodiment, the ring **13** may be attached and detached from the display without moving the retainer **39** from its normal position.

In view of the broad and detailed descriptions of the invention, its many advantages are readily apparent. Particularly noteworthy, however, is the fact that by using the invention, almost the entirety of the rings are displayed as was discussed and explained with reference to FIGURES 2 and 3. At the same time the invention gives the advantages of great flexibility in the positioning of the rings on the base member. Artistic and imaginative arrangements of the rings may be made by moving them to any desired position on the board **14** of FIGURE 2. Also, the rings are easily attached and detached from the base member since the retainers are quite easy to handle. Moreover, no distracting gaps need be left in the display base when some of the rings are removed since the remaining movable retainers and rings may be rearranged to regain the lost symmetry. Furthermore, the retainers may be used with trays to display a number of rings, in small boves for individual ring display or with a wide variety of containers too numerous to mention.

I claim:

1. An apparatus for supporting and displaying a ring or the like in a predetermined position enabling ease of attachment and detachment of the ring, the display of large portions of its surfaces, and flexibility in its positioning, said apparatus comprising:

(a) a base member having a composition which includes a magnetic material;

(b) a retainer member having a composition which also includes a magnetic material;

(c) means operatively associated with at least one of said members for supplying a magnetic field to magnetize said members and thus attract them to one another;

(d) said retainer member including means for engaging a lower portion of the ring to support said ring.

2. The apparatus of claim **1** in which the means for supplying a magnetic field comprises:

(a) forming at least one of said members of a material which includes a permanently magnetized material.

3. An apparatus for displaying rings or the like, said apparatus comprising:

(a) a magnetic base member;

(b) a permanently magnetized retainer member movably secured to the base member by the resulting magnetic attraction between said members; and

(c) means on said retainer member for engaging and supporting a ring.

4. An apparatus for displaying rings or the like, said apparatus comprising:

(a) a permanently magnetized base member;

(b) a magnetic retainer member removably secured to the base member by the resulting magnetic attraction between said members; and

(c) means on said retainer member for engaging and supporting a ring.

5. An apparatus for displaying rings or the like, said apparatus comprising:

(a) a magnetized base member;

(b) a magnetized retainer removably secured to the base member by the resulting magnetic attraction between said members; and

(c) means on said retainer for engaging and supporting a ring.

6. The apparatus of claim **1** in which the means on the retainer for engaging the lower portion of the ring further comprises:

a lower surface of the retainer having a grooved contour to engage the lower portion of the ring.

7. The apparatus of claim **1** in which the retainer member comprises:

two pieces secured to each other by biasing means which urge the pieces together to forcibly engage the ring between surfaces on said pieces beneath the biasing means and adjacent the base member.

8. The apparatus of claim **1** in which the retainer member comprises:

two magnetic pieces secured to each other by means of a strip of nonmetallic material which has a groove in its lower surface to engage the lower portion of the ring.

9. The apparatus of claim **1** in which the retainer member comprises:

(a) two magnetic pieces pivotally connected to each other at their lower edges;

(b) biasing means for urging the free ends of said pieces toward each other; and

(c) confronting grooves in each of said pieces for engaging and retaining the ring.

10. The apparatus of claim **1** in which the means on the retainer member for engaging the lower portion of the ring is a resilient prong which extends from the retainer in a generally horizontal manner and which is forced upwardly when the ring is inserted thereunder.

References Cited by the Examiner

UNITED STATES PATENTS

1,496,542	6/24	Jersemann	211—34
2,212,326	8/40	Piken	4—149
2,527,482	10/50	Kinzler	120—108
2,693,370	11/54	Wheatley	281—44
2,959,832	11/60	Baermann	24—201

CLAUDE A. LE ROY, *Primary Examiner.*

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,197,166 July 27, 1965

Henry R. Sandler

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 64, after "since" insert -- both members are --; column 4, line 31, for "boves" read -- boxes --.

Signed and sealed this 8th day of February 1966.

(SEAL)
Attest:

ERNEST W. SWIDER
Attesting Officer

EDWARD J. BRENNER
Commissioner of Patents