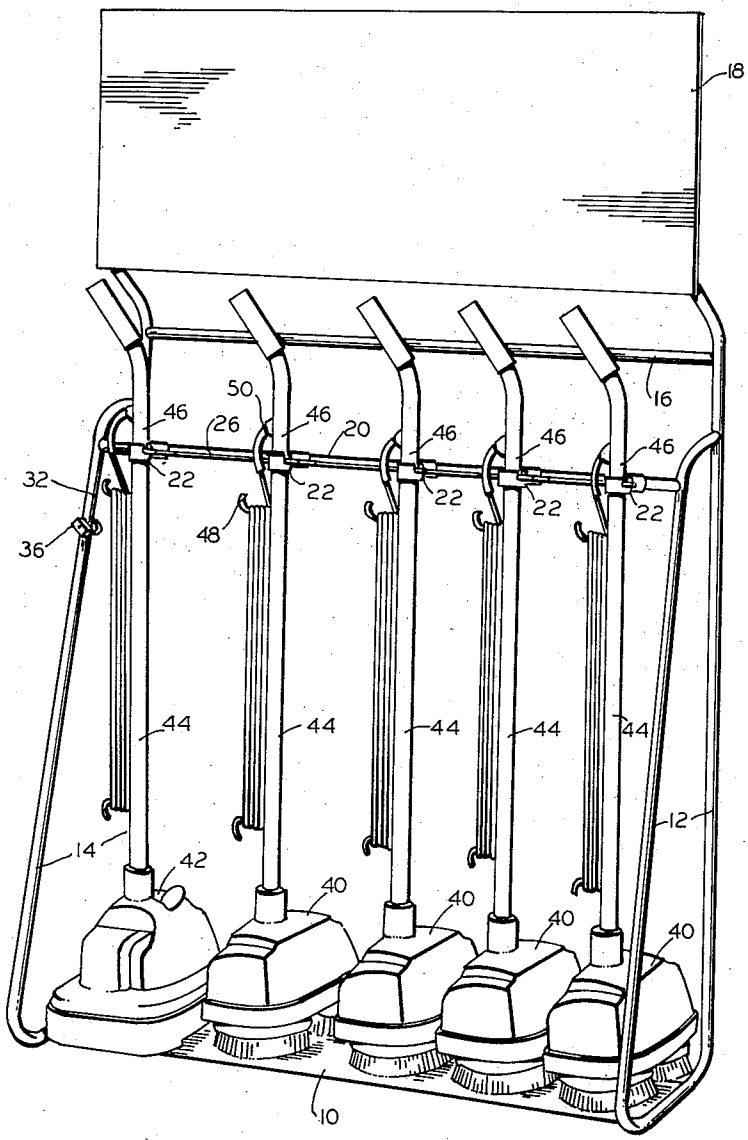
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DISPLAY RACK WITH LOCKING FEATURE

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2 Sheets-Sheet 1

FIG_1



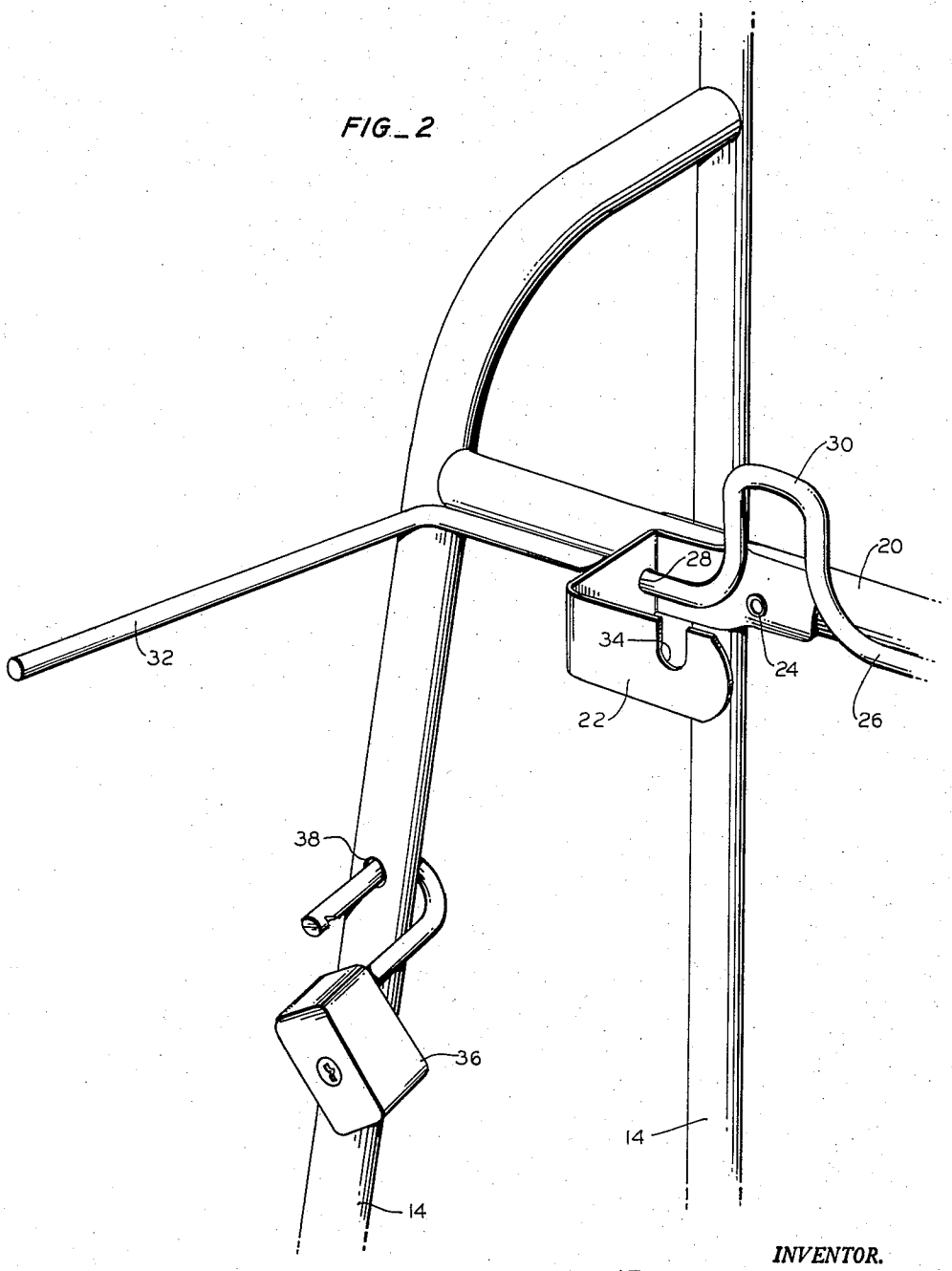
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FIG_2



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DISPLAY RACK WITH LOCKING FEATURE

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7 Claims. (Cl. 211—4)

This invention relates to means for locking together a plurality of valuable articles and more particularly to a display rack for supporting and displaying a plurality of units of household rental equipment and the like in which all of the display units may be locked together efficiently to discourage thef thereof.

It is a principal object of the invention to provide efficient means for locking together a group of valuable articles to prevent the removal of any one of the articles from the group.

It is another object of the invention to provide such locking means which is particularly suited for locking together a plurality of relatively heavy units of household rental equipment such as floor polishers, rug cleaners, etc., where each unit is itself portable and could be stolen but where the group of units when locked together is too heavy and bulky to be moved easily.

It is another object of the invention to provide such a locking device which is very simple to manipulate so that it may be locked and unlocked easily by personnel having charge of the device whereby such personnel will not hesitate to lock the device whenever it is to be left unattended.

It is another object of the invention to provide such a locking device which may be constructed easily and inexpensively.

It is another object of the invention to provide an attractive and compact display rack for supporting and displaying a plurality of units of household rental equipment such as floor polishers, rug cleaners, etc., which rack includes such locking means for locking the units together and to the rack when the rack is left unattended.

It is another object of the invention to provide such a display rack in which the locking means is attached to the rack both in its locked condition and in its unlocked condition and in which the locking means does not detract from the appearance of the rack to either condition.

Other objects and advantages of the invention will become apparent from the following description read in conjunction with the attached drawings in which:

FIG. 1 is a perspective view of a display rack constructed in accordance with the principles of the invention, and

FIG. 2 is a perspective view on a larger scale of a fragment of the apparatus of FIG. 1.

Referring now in detail to the drawings, the display rack illustrated therein comprises a frame having a base portion 10 and opposite side portions 12 and 14 extending upwardly from the base portion 10. Each of the side frame portions 12 and 14 is constructed of a loop of metal tubing as illustrated but may be constructed of a solid panel or any other convenient means. A cross bar 16 extends between the side frame members 12 and 14 adjacent the top thereof and may be used conveniently to support operating manuals and auxiliary articles which are sold or loaned with the units of household rental equipment which are supported on the rack. Above the cross bar 16, a display panel 18 is mounted on the side frame portions 12 and 14 and may be provided with suitable indicia for calling to the attention of potential customers the availability of household rental equipment.

An elongatd support member 20 extends between the side frame portions 12 and 14 slightly below the cross bar 16 and adjacent to the front of the display rack. The support member 20 is conveniently made of an elongated

piece of tubing connected to the side frame portions 12 and 14 by any conventional means. A plurality of generally U-shaped brackets 22 (best shown in FIG. 2) are attached to the support member 20 by means such as rivets 24 at spaced positions along the length of the support member 20. The brackets 22 define a plurality of generally U-shaped recessions having mouths facing in the direction of the length of the support member 20, that is, facing generally to the right as viewed in FIG. 1.

A latching member 26, formed from a length of steel rod extends through aligned apertures 28 in the brackets 22 with the central axis of the support member 26, that is, its axis of rotation in the apertures 28, extending generally parallel to the length of the support member 20. The latching member 26 is bent to define a plurality of generally U-shaped loops 30 placed along its length with one loop 30 positioned adjacent to the mouth of each of the brackets 22. And a manipulating arm 32 is provided on the left-hand end of the latching member 26 whereby the latching member may be rotated with respect to the support member 20. A notch 34 is provided in each of the brackets 22 to receive a portion of the adjacent loop 30 on the latching member 26 when the manipulating handle 32 of the latching member is rotated downwardly as viewed in FIG. 2.

When the manipulating handle 32 is rotated downwardly from its position in FIG. 2 to its position shown in FIG. 1, the loops 30 of the latching member 26 move in unison into the notches 34 of the brackets 22 to thereby close the mouths of the recesses defined by the brackets 22. A padlock 36 is passed through apertures 38 in the side frame portion 14 at a position where the padlock 36 may be locked upon the manipulating handle 32 to retain the loops 30 in such mouth-closing positions.

A plurality of units of household rental equipment, here illustrated as four floor polishers 40 and a rug cleaner 42, are supported on the base portion 10 of the frame of the display rack. Each of the units of equipment 40 and 42 includes an operating portion at the base thereof and a manipulating handle 44 extending upwardly therefrom with a neck portion 46 of the handle adjacent to its top. The term "neck portion" is employed to denote an area of the handle 44 having a small dimension with larger dimensioned areas of the handle on either side thereof; thus the maximum dimension of the neck portion 46 is the diameter of the manipulating handle 44, while a bracket 48 and an electrical cord 50 on opposite sides of the neck portion 46 define enlarged portions of the handle at either end of the neck portion. The dimension of the U-shaped recess in bracket 22 is larger than the maximum dimension of the neck portion 46 but smaller than the dimensions of the handles 42 adjacent to the elements 48 and 50 whereby the neck portion 46 of each handle may be received in the recess in a bracket 22 but may be removed therefrom only through the mouth of the recess.

The area of the base portion 10 of the frame, which is immediately under and supports each of the units of equipment 40 and 42, is suitably positioned from the support member 20 that the neck portion 46 of the manipulating handle of that unit may be received in one of the brackets 22 when the unit is resting on the base portion 10. In a particular display rack where the units of equipment displayed have unequal heights, the base portion 10 may be provided with steps thereon so that all of the neck portions 46 of the handles of the units lie adjacent to the support member 20.

The display rack and units of equipment 40 and 42 are illustrated in FIG. 1 in a condition in which they would be maintained when the rack was left unattended as when the store in which the rack was placed was closed for the night. In this situation the padlock 36 maintains the

latching member 26 in locked position with the neck portions 46 of all of the units of equipment locked to the support member 20. When it is desirable to remove one of the units of equipment 40 and 42 from the rack, the padlock 36 is unlocked and the arm 32 is moved to the position shown in FIG. 2 thereby simultaneously opening the mouths of the recesses in all of the brackets 22. In like manner, the arm 32 may be moved back to its position of FIG. 1 and the padlock 36 locked to simultaneously lock all of the units 40 and 42 together.

While one specific embodiment of the invention has been shown and described in detail herein, it is obvious that many modifications of the structure disclosed may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. Locking means for locking together a plurality of valuable articles, each of which has a neck portion which comprises: an elongated support member, a plurality of bracket portions mounted on said support member at spaced positions along said support member, each of said bracket portions defining, with said support member, a generally U-shaped recess for receipt of the neck portion of one of said articles with said recess having a mouth facing generally in the direction of said support member's length, an elongated latching member mounted on said support member for rotation about an axis generally parallel to said support member's length, said latching member having a plurality of protrusions thereon extending generally radially of said axis of rotation with one of said protrusions positioned adjacent to said mouth of each of said recesses whereby said protrusions move in unison into mouth closing positions extending across said mouths responsive to rotation of said latching member about said axis, and means for locking said latching member against rotation about said axis when said protrusions are in said mouth closing positions.

2. The locking means of claim 1 in which said latching member comprises an elongated rod having a central axis mounted on said support member for rotation about said central axis, and said protrusions comprise integral sections of said rod bent into generally U-shaped loops extending away from said central axis.

3. The locking means of claim 1 in which a slot is provided in each of said bracket portions positioned to receive one of said protrusions and prevent movement of said protrusion in a direction parallel to said axis when said protrusion is in said mouth closing position.

4. A display rack for a plurality of units of household rental equipment and the like in which each unit of equipment to be displayed has an operating portion and a manipulating handle extending upwardly therefrom which comprises: a frame having a base portion on which the operating portions of said units of equipment are adapted to rest and opposite generally vertical side portions with an elongated generally horizontal support portion mounted on said side portions and positioned above said base portion of said frame, a plurality of bracket portions mounted on said support portion at spaced positions along said support portion and defining with said support portion a plurality of generally U-shaped recesses for receipt of said manipulating handles of said units of equipment, each of said recesses having a mouth facing generally in the direction of said support portion's length, an elongated latching member mounted on said support portion for rotation about an axis generally parallel to said support portion's length, said latching member having a plurality of protrusions thereon extending generally radially of said axis of rotation with one of said protrusions positioned adjacent to said mouth of each of said recesses whereby said protrusions move in unison to mouth closing positions extending across said mouths responsive to rotation of said latching member about said axis, a manipulating arm on said latching member for effecting rotation of said protrusions to said mouth closing positions and locking means for locking said arm to one of said side frame portions when said protrusions are in said mouth closing positions to thereby lock all of said manipulating handles of said units of equipment in said recesses.

5. The display rack of claim 4 in which said latching member comprises an elongated rod having a central axis mounted on said support portion for rotation about said central axis, and said protrusions comprise integral sections of said rod bent into generally U-shaped loops extending away from said central axis.

6. The locking means of claim 4 in which a slot is provided in each of said bracket portions positioned to receive one of said protrusions and prevent movement of said protrusion in a direction parallel to said axis when said protrusion is in said mouth closing position.

7. A display of units of equipment which comprises a frame having a base portion and opposite generally vertical side portions with an elongated generally horizontal support portion mounted on and extending between said side portions and positioned above said base portion of said frame, a plurality of units of equipment each having an operating portion and a manipulating handle extending upwardly therefrom with said manipulating handle having a constricted neck portion intermediate of its ends with enlarged portions of said unit of equipment on both sides of said neck portion, said operating portions of said units of equipment resting upon said base portion of said frame with the area of said base portion of said frame under each unit of equipment spaced from said support portion to position said neck portion of the manipulating handle of that unit of equipment adjacent to said support portion, a plurality of bracket portions mounted on said support portion at spaced positions along said support portion and defining with said support portion a plurality of generally U-shaped constricted recesses with said neck portion of one of said handles received in each of said recesses, said recesses having mouths facing generally in the direction of said support portion's length through which said neck portions of said handles may be removed from said recesses, an elongated latching member mounted on said support portion for rotation about an axis generally parallel to said support portion's length, said latching member having a plurality of protrusions thereon extending generally radially of said axis of rotation with one of said protrusions positioned adjacent to said mouth of each of the recesses whereby said protrusions may be moved in unison to mouth closing positions extending across said mouths responsive to rotation of said latching member about said axis, a manipulating arm on said latching member for effecting rotation of said protrusions to said mouth closing positions and locking means for locking said arm to one of said side frame portions when said protrusions are in said mouth closing positions to thereby lock all of said manipulating handles of said units of equipment in said recesses.

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