Dec. 21, 1937. W. E. SHOEMAKER ET AL 2,102,977

DISPLAY RACK

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Fig. 1.

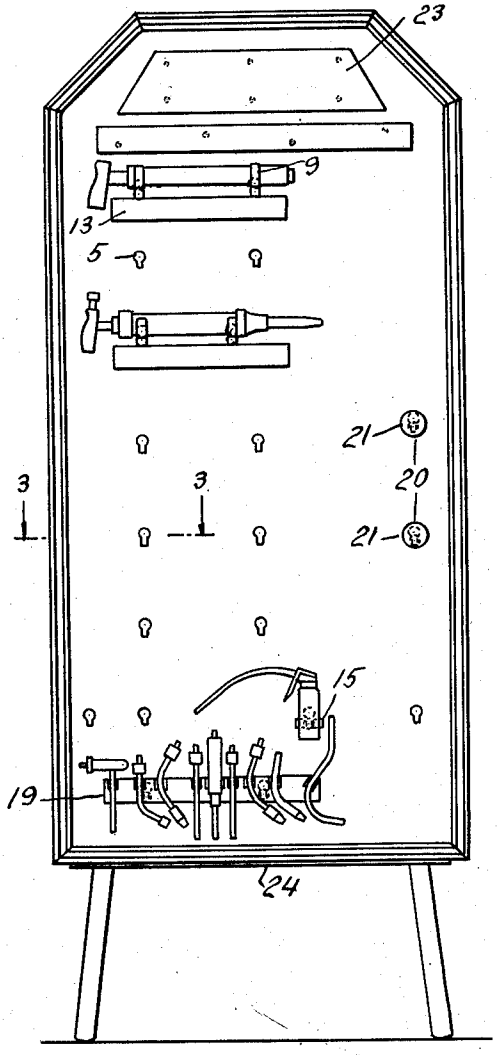


Fig. 2.

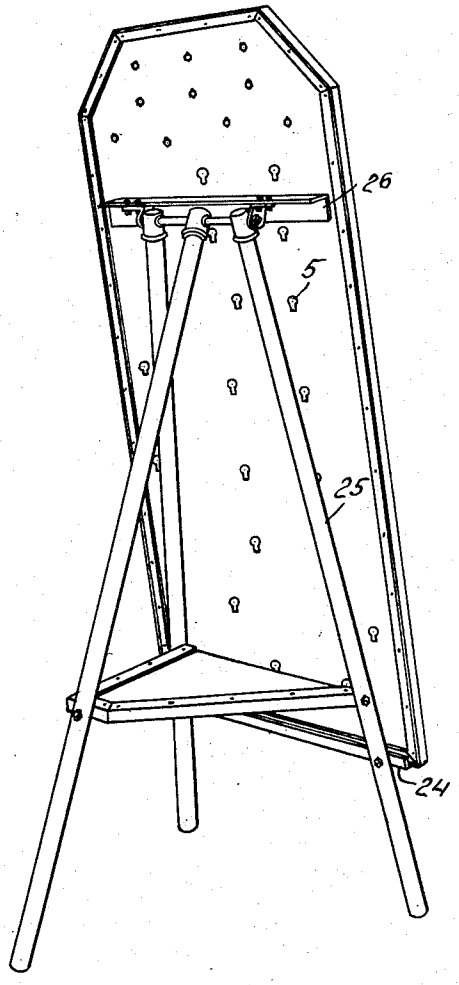
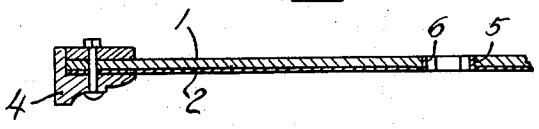


Fig. 3.



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Fig. 4.

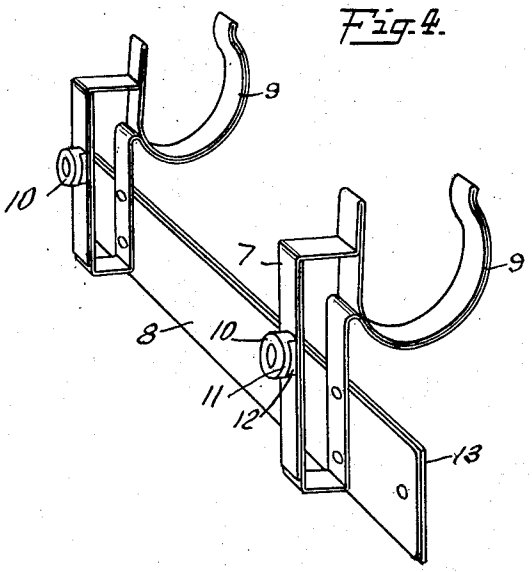


Fig. 5.

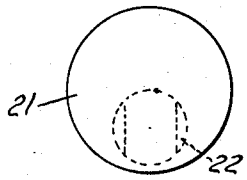


Fig. 6.

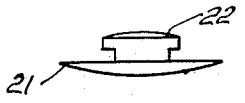


Fig. 7.

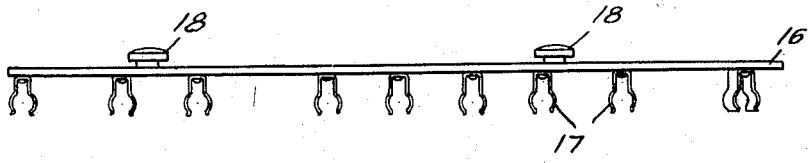
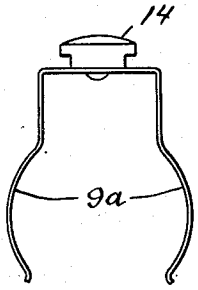


Fig. 8.



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UNITED STATES PATENT OFFICE

2,102,977

DISPLAY RACK

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Application December 14, 1933, Serial No. 702,300

4 Claims. (Cl. 248—223)

This invention relates to an improved display rack and tool or instrument support. The improved display rack of the present invention is of especial utility as a display rack and support for currently used lubricating equipment in service stations where the service requires the frequent usage of a variety of different oil and grease guns and connecting devices. Such equipment is usually mounted or displayed at service stations in full view of the public so that a pleasing appearance at all times is desirable even though the very nature of the work to which such equipment regularly is subjected involves frequent handling of the equipment and touching of the display rack with soiled hands. For this reason frequent and thorough cleaning is required if a pleasing appearance is to be preserved. However, frequent thorough cleaning becomes a time-consuming and expensive item unless the cleaning operation is made as simple as possible. For example with a display rack bearing numerous supports for a variety of different equipment, cleaning of the face of the display rack around the base of the instrument supports is a tedious and time-consuming undertaking.

It is an object of the present invention to provide a display rack and instrument support which although of relative cheap and rugged construction, presents a very pleasing appearance, provides a large number of substantial and conveniently arranged supporting members accommodating all of the instruments usually required for this type of service, and at the same time provides for the convenient removal from the face of the display rack of either the instruments themselves or the instruments and the supporting members so as to facilitate cleaning.

The invention will be further described in connection with the accompanying drawings which illustrate a preferred form of the display rack of the invention.

Referring to the drawings,

Fig. 1 is an elevation of a partly assembled display rack, several of the instrument supports being in place and others removed;

Fig. 2 is an isometric view from the rear of the display rack shown in Fig. 1 with all of the instrument supports removed;

Fig. 3 is a fragmentary sectional plan view showing in detail the manner in which the backing sheet and the facing sheet are held together. This section is taken along the line of 3—3 of Fig. 1;

Fig. 4 is an isometric sketch of one form of support particularly adapted to hold a bulky grease gun. It is similar in construction to that shown in the upper left-hand corner of Fig. 1;

Figs. 5 and 6 are an elevation and a plan, respectively, of a blanking disc adapted to cover such of the apertures in the display rack as may not be required for regular usage; and

Figs. 7 and 8 are plan views of modified forms of instrument supporting members.

The display rack proper as illustrated in Fig. 1 comprises a heavy rigid backing sheet, preferably of sheet steel, and a thin polished facing sheet selected to present the desired appearance. For example, the facing sheet may consist of a sheet of light gage copper or porcelain-coated sheet metal.

The backing sheet 1 and the facing sheet 2 are held together around the periphery by a suitable molding 4 as shown in detail in Fig. 3. A series of apertures 5 are appropriately spaced in the backing sheet. Similarly formed but slightly smaller apertures are provided in the facing sheet and these apertures are so positioned as to register with the apertures in the backing sheet. The edge of the facing sheet around such apertures is drawn into the aperture in the backing sheet. The drawn edges surrounding the apertures in the facing sheet extend through to the rear surface of the backing sheet as shown in detail at 6 in Fig. 3 giving the appearance of a solid sheet of the material of which the facing sheet is made.

The apertures are shaped so as to provide an enlarged upper portion with a relatively narrow slot extending downwardly therefrom.

The supporting members may assume various forms depending on the service required. The form of instrument support shown in Fig. 4 is particularly adapted for grease guns or similar heavy bulky instruments. It consists of a pair of supporting members 7 formed from strap metal, rigidly secured to a connecting bar 8 as by riveting or welding or in any suitable manner. The supporting members 7 are formed so that the supporting arms 9 and an instrument mounted therein will be held well away from the surface of the facing sheet.

The supporting arms 9 preferably are extended to form slightly more than a semi-circle and are proportioned of such thickness relative to the elastic properties of the material employed as to permit a slight defection without permanent deformation. With this construction the cylindrical body of a grease gun or other instrument when inserted therein will be yieldingly retained as well as supported.

The supporting members 7 are provided with

projections 10 rigidly secured to the rear surface of the supporting members in any suitable manner, as, for example, by riveting. The projections 10 have at their outer extremity an enlarged section 11 of sufficient size just to permit their insertion through the enlarged upper portions of the apertures 5. At their base the projections are narrowed as shown at 12, the width of the narrow part being just sufficient to snugly fit the lower slotted portion of the apertures 5. The projections are spaced apart a distance equal to the distance between a pair of the horizontally spaced apertures. This spacing may be the same for several different supports or different for each support, so that each instrument support can be attached to the backing sheet only in one position.

The entire support is mounted on the display rack by inserting the projections 10 through the enlarged upper portions of the apertures 5 and then sliding the entire support downwardly until the narrowed portions 12 of the projections 10 rest within the lower slotted portion of the apertures. In this position the enlarged outer portion 11 of the projections 10 and the rear face of the supporting member 7 exert pressure on the rear of the backing sheet and on the front of the facing sheet, respectively, so that the supporting member serves the purpose of supporting and yieldingly retaining the instrument it is intended to support, and at the same time the further purpose of firmly holding together the backing sheet and the facing sheet, thereby preventing bulging of the latter. The appearance of the supports may be improved by providing facing strips 13 for the connecting bars 8. Such facing strips advantageously may bear a legend identifying the character of the lubricant for which the instrument mounted in each support is intended, by reason of its construction or the material with which the instrument is charged.

The form of instrument support illustrated in Fig. 8 is adapted for less bulky equipment and for equipment which it is desirable to hold in an upright position. It consists of a single pair of spring retaining arms 9a provided with a single supporting projection 14. The projection 14 is similar in construction and attachment to the projection 10. One supporting member of this type is shown in the assembly of Fig. 1 at 15.

The form of support shown in Fig. 7 is adapted to accommodate a plurality of relatively small and light pieces of equipment. It consists of a base bar 16 to one face of which a plurality of pairs of spring retaining arms 17 are rigidly attached. On the opposite face of the base bar a plurality of projections 18 are provided for removably attaching the support of the backing sheet. The projections 18 may be similar in construction to the projections 10 and they are spaced apart a distance equal to the horizontal distance between two of the apertures of the backing sheet. A support of this type is shown in the assembly of Fig. 1 at 19.

In the form of support shown in Fig. 7 the base portions of the supporting projections 18 advantageously may be narrowed to the width required to fit the lower slotted portions of the apertures of the backing sheet, along a line parallel to the principal axis of the base bar as well as perpendicular thereto so that the support may be secured to the backing sheet in a vertical position by inserting the projections 18 through apertures in the backing sheet appropriately spaced vertically, as at 20, if it is desired to accommodate additional bulky equipment near the lower end of the display rack.

Where a display rack is provided with a greater number of apertures than that required for the service for which it is immediately intended, its appearance is improved by covering the unused apertures with blanking discs preferably of the same material as the facing sheet. This may be accomplished conveniently by providing a number of blanking discs of the construction shown in Figs. 5 and 6. The blanking disc 21 shown in Figs. 5 and 6 is provided with a supporting projection 22, similar in construction to the supporting projection 10. It is secured to the blanking disc below the center. The projections 22 may be mounted concentrically with the blanking disc if desired, but if mounted concentrically a larger blanking disc is required to cover the upper extremity of the aperture when the projection 22 is moved downwardly into the lower slotted portion of the aperture. Two such blanking discs are shown in place at 20 in the assembly shown in Fig. 1.

A suitable name plate may be mounted at the upper extremity of the display rack as shown at 23, if desired, and such name plate advantageously may be bolted or otherwise semi-permanently secured to the backing sheet in view of the fact that it is not subject to frequent handling and soiling as are the instrument supports. However, the name plate, if provided, may be removably secured to the face of the display rack in the same manner as the instrument supports.

The display rack assembly may be mounted in any manner so long as sufficient space is provided in the rear to permit the insertion and movement of the projections 10. One suitable mounting is illustrated in Fig. 2 in which the display rack rests on the angle iron 24 which is supported by easel 25. The entire display rack assembly may however be supported near the upper end, for example by an angle 26 permanently attached to the rear of the surface of the backing sheet.

It is a further advantage of the novel construction embodied in the display rack of the present invention, that it permits quantity production of heavy backing sheets suitably punched to meet a large variety of requirements while the more expensive facing sheets, provided with registering apertures only where needed for a particular class of service may be used interchangeably therewith.

We claim:

1. In combination in apparatus of the class described, a rigid backing sheet having a plurality of spaced apertures disposed in the central portion thereof, a thin facing sheet separate from and detachably mounted on said backing sheet, said facing sheet being substantially co-extensive with said backing sheet and secured at its periphery to said backing sheet, a plurality of apertures in said facing sheet spaced to register with the apertures in said backing sheet, and a plurality of instrument-carrying means, said instrument-carrying means having supporting projections extending from the rear surface thereof adapted to be inserted through said apertures and to exert a pressure on the rear surface of the said backing sheet upon movement downwardly parallel to the surface of said backing sheet, whereby the instrument-carrying means are removably supported and the central por-

tion of said backing sheet and said facing sheet are held firmly together.

2. In combination in apparatus of the class described, a rigid backing sheet having a plurality of apertures spaced apart a substantial distance and disposed in the central portion thereof, and an integral instrument-carrying means, said instrument-carrying means having on one face a plurality of spring retaining arms spaced apart a substantial distance and adapted to support and yieldingly hold an instrument and on the opposite face a plurality of supporting projections spaced apart a substantial distance to register with said apertures, said supporting projections being proportioned to permit insertion through said apertures and to exert a pressure against the rear surface of said backing sheet upon movement downwardly parallel to the surface of said backing sheet, whereby said instrument-carrying means and an instrument yieldingly held in the spring retaining arms thereof are removably supported as a unit by said backing sheet.

3. In combination in apparatus of the class described, a rigid backing sheet having a plurality of spaced apertures disposed in the central portion thereof, a facing sheet bound around its periphery to said backing sheet and having apertures therein spaced to register with the apertures in said backing sheet, the edges of said facing sheet surrounding the apertures therein being drawn through the apertures in said backing sheet to a plane flush with the rear surface thereof, and an integral instrument-carrying means having on one face a plurality of supporting arms and on the opposite face a plurality of supporting projections proportioned to permit insertion through said apertures and to exert a pressure on the rear surface of said backing sheet when inserted through said apertures and moved downwardly parallel to the surface of the backing sheet, whereby said instrument-carrying means is removably supported by the backing sheet and the backing sheet and facing sheet are held firmly together.

4. In combination in apparatus of the class described, a rigid backing sheet having a plurality of apertures spaced horizontally therein and a plurality of apertures spaced vertically, the distance between centers of the vertically spaced apertures being the same as the distance between the centers of said horizontally spaced apertures, an integral instrument-carrying means having on one face a plurality of supporting arms and on the opposite face a plurality of supporting projections spaced apart a distance equal to the distance between said apertures, said supporting projections being proportioned so as to permit their insertion through said apertures and to exert a pressure on the rear of said backing sheet upon movement of the instrument-carrying means downwardly in a direction parallel to the surface of said backing sheet, whereby said instrument-carrying means may be movably supported by said backing sheet with its principal axis in either a horizontal or vertical position.

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