June 17, 1958 J. L. MILLER 2,838,823

ADJUSTABLE SPREADER BAR

Filed Nov. 20, 1956

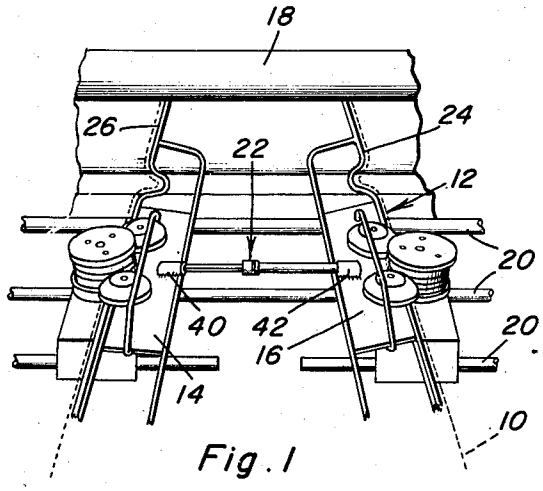


Fig. 1

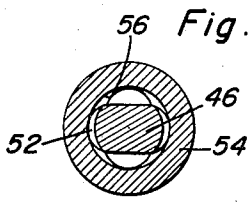


Fig. 5

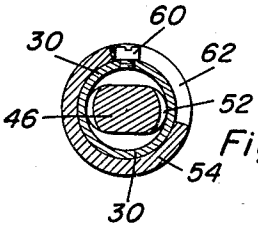


Fig. 6

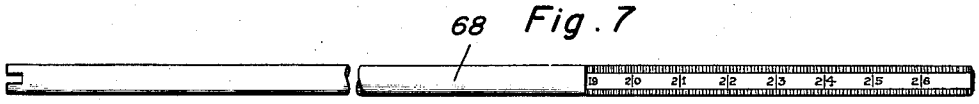


Fig. 7

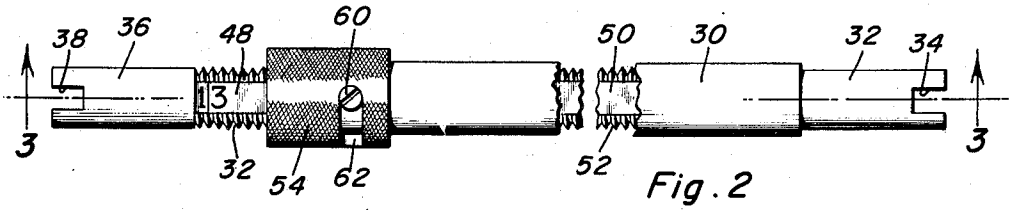


Fig. 2

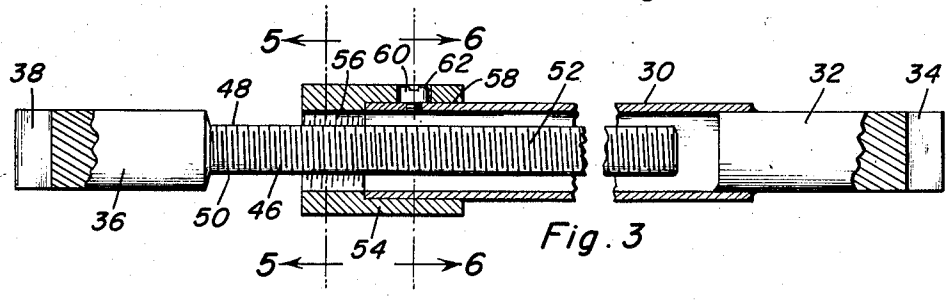


Fig. 3

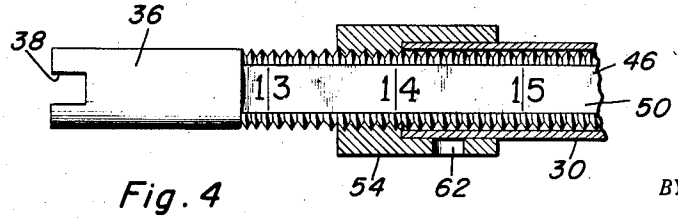


Fig. 4

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United States Patent Office 2,838,823 Patented June 17, 1958

2,838,823

ADJUSTABLE SPREADER BAR

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Application November 20, 1956, Serial No. 623,480

3 Claims. (Cl. 26—55)

This invention relates to an adjustable spreader bar which is adapted to be combined with cloth guides in order to maintain the precise width at which the guides are set during winding of the cloth.

In preparing to finish, for example, bleach or dye, cloth, the cloth is first rolled onto a bar which is adjusted to the width that is required. These bars accidentally slip which alters the size of the cloth and accordingly, requires rewinding. An object of this invention is to provide a spreader bar to prevent any slipping in the finishing of the cloth. The bar that is constructed in accordance with the invention is also useful in connection with any of the adjustable spreaders that are now commercially available and in use.

A further object of the invention is to provide a spreader bar for holding adjustable spreaders spaced apart a precise distance, the spreader bar being exceedingly simple in construction yet, adjustable through a wide range and very safe in its operation, and being virtually impossible to slip or become mal-adjusted.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of a pair of spreaders in a cloth winding machine; the spreaders being used in the precise adjustment for the particular cloth that is being handled, the adjustment being held by means of a spreader constructed in accordance with the invention;

Figure 2 is an elevational view of the spreader bar in Figure 1 with parts in section to illustrate internal details;

Figure 3 is a longitudinal sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a fragmentary sectional view of a part of the structure in Figure 3 and taken at right angles thereto and on a longitudinal center line;

Figure 5 is a transverse sectional view taken on the line 5—5 of Figure 3;

Figure 6 is a transverse sectional view taken on the line 6—6 of Figure 3, and;

Figure 7 is an elevational view of one of the interchangeable parts in the spreader bar, there being a group of such parts which are fitted in the spreader bar depending on the width range within which the invention is being used.

In the accompanying drawings a cloth **10** in tubular formation is shown in dotted lines in order to expose the spreader **12**, the latter having two parts **14** and **16**. The cloth is led to a device **18** on which it is wound. Spreader **12** is adjustably mounted on ways **20**. Yet, with existing spreaders a difficulty encountered is that the spreader loses its proper adjustment. To prevent this a non-slipping spreader bar **22** is operatively connected between the parts **14** and **16** of the spreader **12**.

In preparing to finish, for example by bleaching or dying, cloth, the cloth is rolled onto the device **18** and in so doing passes operatively through the spreader **12**. In order to make certain that the parts **14** and **16** do not slip which will require rewinding the cloth, the adjustable spreader bar **22** is applied as shown in Figure 1. The spreader **12** has right and left groups of rollers carried by the frames of the two parts of the spreader. In addition, there are guides **24** and **26** for the tube of cloth **10**.

Adjustable spreader bar **22** consists of a sleeve **30** with a rod **32** at one end. Notch **34** is at the outer extremity of rod **32**. A similarly shaped rod **36** having a notch **38** protrudes from the opopsite end of the spreader. Sockets **40** and **42** are welded or otherwise secured to the frames of the spreader parts **14** and **16** and keys are carried within the sockets to be received in the notches **34** and **38** respectively. These prevent the spreader bar from being rotated while in the sockets **40** and **42**.

Bar **46** extends from rod **38** and is coaxial therewith. The bar has flats **48** and **50** that are parallel to each other and a thread **52** is applied to the two arcuate surfaces at opposite sides of the flats **48** and **50**. Collar **54** is mounted for oscillation on the inner end of sleeve **30** and has an internally threaded oval-shaped bore **56** at one end. The opposite end **58** of the bore is cylindrical and is freely oscillatable on sleeve **30**. A stop **60**, for example a screw or the like, is attached to sleeve **30** and fits in slot **62** that is formed in the collar **54**. Stop **60** limits the extent of oscillation of the collar **54** on sleeve **30**, the limit being such that the oval-shaped internally threaded bore **56** becomes engaged and disengaged respectively with thread **52** at the opposite end of the travel of the collar **54** on sleeve **30**.

For different materials **10** and more particularly, for different sizes of materials, the effective length of the adjustable spreader bar will have to be altered. As shown in Figures 2 and 4 bar **46** is of limited length. For the convenience of the user one or both surfaces of the flats **48** and **50** are provided with scales that are graduated in inches which designate with an edge of the collar **54**, the effective length of the bar **22**. Therefore, a group of bars such as those at **46** are supplied, all the bars including the bar **46** being of the same construction with the exception that the bars are of dissimilar length. For example, see Figure 7 wherein bar **68** is considerably longer than the bar **46** and is appropriately graduated to reflect this additional length. The bars of a size intermediate the bars **46** and **68** may be provided in the group, bars smaller than bar **46** and bars larger than bar **68** may also be included within this group. As will be seen, the collar **54** is a locking and unlocking device for the bar **46**, siad collar **54** upon turning in one direction unlocking the bar **46** to free the same to be pulled out or pushed into the desired length, whereas, upon turning of said collar **54** in the opposite direction, the bar **46** is locked in place.

The use of the invention has been described previously. Among the advantages of the invention, such as the simplicity with which it may be applied to ordinary spreader parts **14** and **16**, there are others. Once the spreader bar is applied it is virtually impossible to slip. For the adjustable spreader bar to slip out of place there would have to be a substantial distortion of the spreader **12**.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In a cloth handling equipment that has a spreader provided with two parts that are spaced from each other, an adjustable spreader bar comprising a sleeve and a bar member, said bar member and said sleeve having means at opposite ends thereof to connect to said parts, said member being extensibly connected with said sleeve and movable therein, said member being oval-shaped and having a thread thereon, a collar oscillatably mounted on said sleeve, said collar having an oval-shaped internally threaded bore so that said member may be freely slipped into and out of said sleeve in one position of adjustment of said collar and threadedly connected to said collar in another position of adjustment of said collar.

2. The combination of claim 1 wherein said means at the ends of said member and said sleeve comprise rods that have slots, sockets attached to said parts, and said rods being adapted to fit into said sockets, and keys carried in said sockets to fit in said slots.

3. An adjustable spreader bar for the spaced parts of a spreader with which to handle cloth, said adjustable spreader bar including a sleeve, a member extensibly connected to said sleeve, means carried by said sleeve and engageable with said member for adjusting the position of said member within said sleeve, means at the ends of said sleeve and said member respectively for attachment to said parts of said spreader, said member having a flat surface which is graduated to a form of the effective length of the spreader bar, said member being formed with a thread and said adjusting means comprising an internally threaded collar which is mounted for oscillation on said sleeve.

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