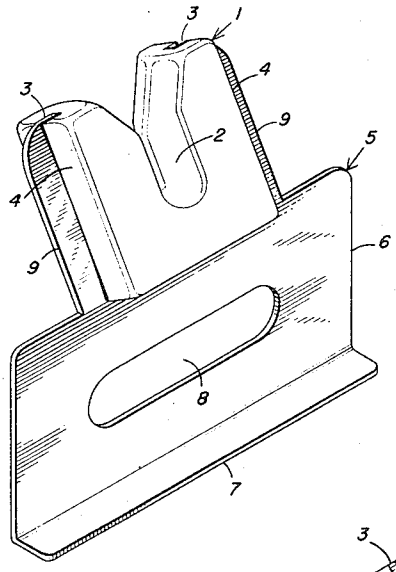
Sept. 14, 1954 J. B. SHACKLETT ET AL 2,689,098

THREAD GUIDE ASSEMBLY

Filed June 20, 1949

FIG. 1



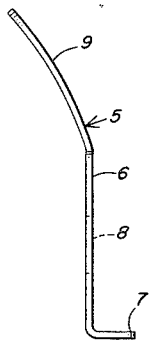
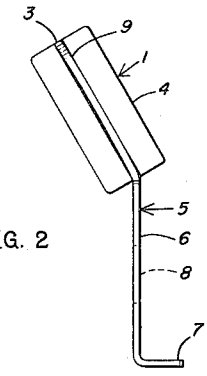


FIG. 3

FIG. 2



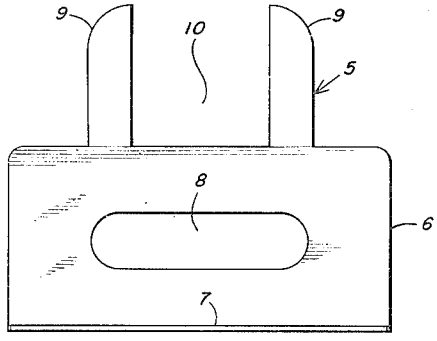


FIG. 4

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THREAD GUIDE ASSEMBLY

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4 Claims. (Cl. 242—157)

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This invention relates generally to thread guides and more particularly to thread guide assemblies of the removable guide type.

The primary object of the invention is to provide an improved thread guide assembly whereby a removable thread guide may be clamped to its mounting without screws or other attaching means.

Another object of the invention is to provide an improved thread guide assembly wherein the guide-holding means of the mounting are arched or bowed to resiliently clamp the guide in operative position.

An additional object of the invention is to provide an improved thread guide assembly whereby a thread guide may be adjusted relative to the support to which its mounting is attached and the guide, while firmly held in operative position, may be slid on and off the mounting as desired.

A further object of the invention is to provide a thread guide mounting having improved means for removably clamping a guide in operative position.

A further object of the invention is to provide an improved thread guide assembly, having a removable thread guide, which is simple and rugged in construction and extremely efficient in operation.

Other objects and advantages of the invention will appear hereinafter in the detailed description, be particularly pointed out in the appended claims and illustrated in the accompanying drawings in which:

Figure 1 is a perspective view of a preferred embodiment of the thread guide assembly of the present invention;

Figure 2 is an end elevational view of the assembly of Figure 1;

Figure 3 is an end elevational view of the mounting alone; and

Figure 4 is a front elevational view of the mounting.

Referring now in detail to the drawings in which like reference characters designate like parts, the improved thread guide assembly of the present invention is particularly designed for use by the textile industry in applications where thread guides are subjected to such wear that periodic removal and replacement is required. For illustrative purposes, the assembly has been shown as comprising a thread guide or guide element 1 which will usually be made of ceramic or like material having the requisite hardness and wearing properties. Depending on its application, this guide may be of the block type and have a V-shaped or other suitable thread-receiving opening 2, the corners of which will usually be rounded or smoothed to prevent abrasion of the thread.

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For attachment purposes, the guide 1 is grooved or channeled outwardly of the opening 2 to provide spaced grooves or channels 3. While these grooves may be spaced portions of a continuous groove, a pair of separate grooves are employed in the illustrated embodiment, the grooves being formed in and extending longitudinally of opposite sides 4 of the guide and for a block-type guide are preferably substantially parallel. The confronting walls, sides or faces of each of the grooves are spaced throughout their length, the grooves for this purpose being preferably U-shaped.

In order to attach the guide 1 to a suitable support, there is provided a mounting, bracket or holder 5 having a main or body portion 6. For guiding or aligning the mount relative to its support, there may be joined to the body along one edge an integral down-turned lip or flange 7, which is adapted to abut against an edge of the support. Interrupting the body and disposed parallel to the lip is an elongated slot 8 through which are inserted one or more screws or like means, not shown, for affixing the mounting to its support. By making this slot of greater length than the corresponding overall dimension of the affixing means, the mounting may be adjusted laterally relative to its support merely by loosening and retightening the affixing means.

From the edge of the mounting or bracket 5 opposite that terminating in the lip 7, extend or project a pair of spaced arms, fingers or gripping members 9 which include therebetween a guide-receiving or seating aperture or opening 10. These fingers may be disposed angularly relative to the face of the body 6, depending on the position which the guide is to assume. When used with the illustrated block-type guide, the arms are not only spaced but substantially parallel and the guide-receiving or seating aperture is of rectangular U-shape, its third edge being defined by the edge of the body included between the arms.

A particular feature of the present invention is the correlation of the arms 9 and the grooves 3 in the thread guide by which the guide is both readily removable and enabled to be firmly seated in operative position without use of adhesives, screws or prongs associated with the arms. This is accomplished by employing flexible or resilient

arms of metal or equivalent material. These arms or spaced members are bowed, arched or sinuous along their longitudinal axes and, normally are uncompressed, have a free height or transverse spread such that when inserted in their respective grooves **3** in the guide, the arms will be flattened, compressed or deflected between the confronting or opposite walls or sides of the grooves. Being resilient, the arms when so compressed or stressed will bear against or grip the confronting walls of their grooves at a plurality of points, the resultant force serving to clamp the thread guide to the mounting and prevent its undesired removal. While the space between the confronting walls of the grooves may be uneven to permit the bowing of the arms to be partially or completely restored when the guide is fully seated, the walls shown are equally spaced throughout the lengths of the grooves, causing the arms to be compressed or deflected when the guide is fully seated, the consequent force exerted against the walls of the grooves having been found adequate to maintain the guide securely in seated or operative position. With the guide so clamped, it is only necessary to apply sufficient force to overcome the frictional grip of the arms to slide the guide off its mounting for replacement or other purposes.

From the above detailed description it will be apparent that there has been provided an improved thread guide assembly in which, by the provision of spaced longitudinally bowed arms on a mounting and a groove or grooves of slightly greater width than the thickness of the arms in a guide portion to engage the arms, the guide will be held rigidly in operative position and when worn or otherwise requiring removal, may be readily replaced. It should be understood that the described and disclosed embodiment is merely exemplary of the invention and that all modifications are intended to be included which do not depart either from the spirit of the invention or the scope of the appended claims.

Having described our invention we claim:

1. A thread guide assembly comprising a mounting, a pair of spaced arms on said mounting including therebetween a seat, and a thread guide seatable in said seat, said guide having a groove on each side thereof for slidably receiving one of said arms, each of said arms being arched in the direction of the width of the associated groove, and said arms when received in their associated grooves being compressed between confronting sides thereof.

2. A thread guide assembly comprising a mounting having gripping members, and a thread guide having grooves for slidably receiving said gripping members, said gripping members being arched in a direction substantially normal to confronting walls of said grooves and being compressed by said walls when received therebetween for releasably clamping said guide to said mounting.

3. A thread guide assembly comprising a mounting having a pair of spaced gripping members, a thread guide seatable between said members and having spaced groove portions each slidably receiving one of said members, said members having ends insertible without compression into said grooved portions, each of said members having a portion intermediate its ends arched in the direction of the width of the associated of said groove portions, and said arched portions each engaging and being compressed between the confronting sides of the associated of said groove portions on insertion therewithin for releasably clamping said guide to said mounting.

4. In a thread guide assembly, the combination of a mounting having a gripping member, and a wear element seatable in said mounting, said element having a groove for slidably receiving said member, said member having a portion arched in the direction of the width of said groove, and said arched portion engaging and being compressed between confronting sides of said groove on insertion of said element in said mounting.

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