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F. HASCHEK ETAL

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COVERING DEVICE FOR GUIDING TRACKS, ESPECIALLY ON MACHINE TOOLS

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Fig.1

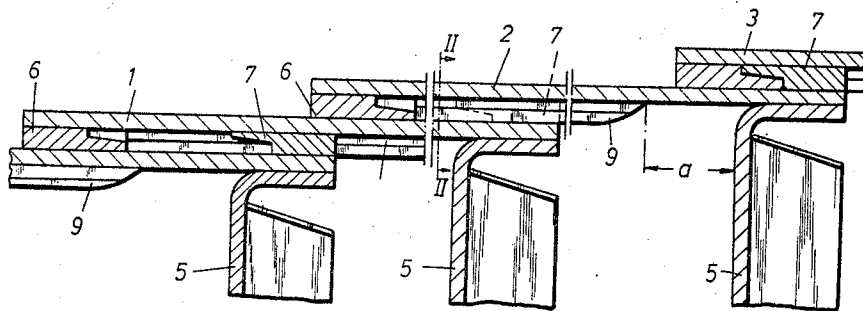


Fig.2

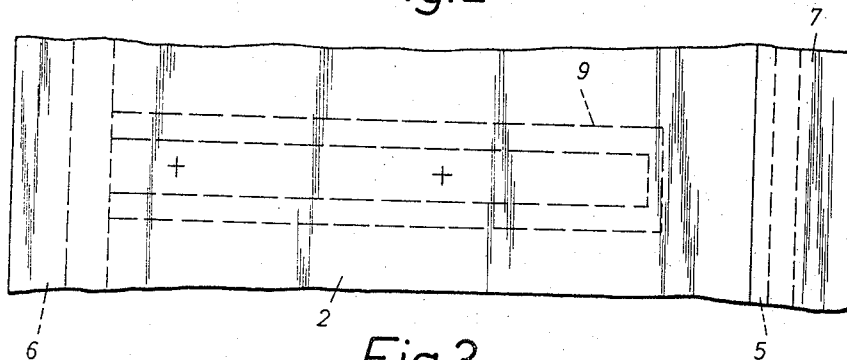


Fig.3

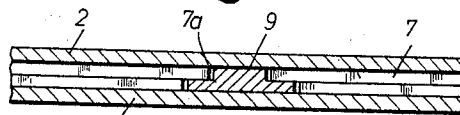


Fig.4

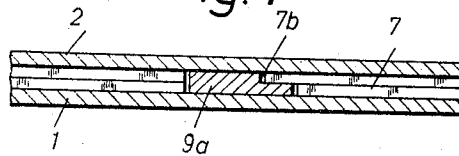
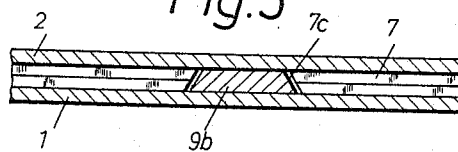


Fig.5



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## COVERING DEVICE FOR GUIDING TRACKS, ESPECIALLY ON MACHINE TOOLS

Friedrich Haschek, Weidenau (Sieg), and Kurt Loos,  
Dreis, Tiefenbach (Sieg), Germany, assignors to Kabel-  
schlepp G.m.b.H., Siegen, Westphalia, Germany

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5 Claims

### ABSTRACT OF THE DISCLOSURE

The present invention concerns a covering device for guiding tracks, especially on machine tools, which includes a plurality of overlapping cover plates which are adapted to be displaced one above the other and in which for purposes of preventing the lifting off or bucking of the cover plates there are guiding strips connected to the bottom of each cover strip while the respective next lower cover strip has connected thereto means with a passage there-through through which the guiding strip of the next higher plate extends thereby displaceably interlocking each cover plate with the respective next lower cover plate.

The present invention relates to a covering device for guiding tracks, especially on machine tools, with a plurality of overlapping cover plates or strips adapted to be moved one above the other.

The present invention utilizes a plurality of panels arranged in overlapping relationship and having abutments at their opposite ends to abut corresponding abutments on adjacent panels when the panels are fully extended.

Each panel has a support extending downwardly from beneath one end thereof.

The panels each have a guide strip extending longitudinally along the lower side in about the middle and each such guide strip interlocks with the next plate therebeneath and the plates are, thus, held together as they move from superimposed position to extended position where they are overlapping only at their adjacent ends.

In connection with devices of the above mentioned type it has been suggested at the joints or butts of two cover plates to arrange blocking strips of the same profile which partially engage each other from below and are provided with conical sealing lips. With covering devices of this type there exists the danger that when the blocking strips are disengaged, the cover plates will lift up or buck under the influence of outer forces.

It is, therefore, an object of the present invention to overcome these drawbacks.

It is another object of this invention to provide a covering device for guiding tracks, especially on machine tools, which will always assure a substantially parallel location of the cover plates or strips.

These and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawing, in which:

FIG. 1 illustrates in section a plurality of overlapping blocking plates or strips with their supports.

FIG. 2 shows a top view of a blocking plate.

FIGS. 3 to 5 represent different cross sections for guiding strips.

A covering device according to the present invention is characterized primarily in that on the bottom side of the cover plates or strips there are provided undercut guiding strips which are parallel to the direction of displacement thereof and which slide through passages of the respective inner blocking strips of the upper cover

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plate. In this way, the overlapping cover plates will additionally be held together so that a bucking or lifting of the cover plates or strips will be prevented.

According to a practical embodiment of the present invention, the guiding strips may engage the inner edges of the outer blocking strips of the cover plates and may at their other end maintain a spacing from the supports of the cover plates which spacing corresponds to the width of the inner blocking strips. Such an arrangement makes it possible to increase the number of cover plates if desired. The guiding strips may have any desired undercut cross section, as for instance, a T-shaped cross section, an angular cross section, a trapezoidal cross section, or the like. It has proved particularly advantageous to provide the guiding strips with the same cross section as that of the blocking strips so that only one strip profile will be employed.

Referring now to the drawing in detail, the covering device according to the present invention comprises a plurality of cover plates or strips 1, 2 and 3 which are shown in longitudinal cross section in FIG. 1. These cover plates are made of sheet metal, synthetic material, or the like, and have one end thereof provided with a support 5 the foot point (not shown) of which is provided with sliding members or rollers for moving on the guiding track to be covered or on additional tracks. At the left-hand side of each plate there is provided a blocking strip 6 which is slidable on the plate therebelow. The other end has arranged thereon a blocking strip 7 of similar profile, which strip 7 is turned by 180° with regard to the blocking strip 6. The respective upper cover plate will during a movement thereof slide over said profile strip 7.

In conformity with the present invention, the cover plates 1, 2 and 3 have those sides thereof which face the guiding track provided with guiding strips 9 which may be riveted, screwed, cemented, or in any other way connected to the cover plates 1, 2 and 3. The said guiding strips have an undercut T-shaped cross section as illustrated in FIG. 3. The guiding strip 9a according to FIG. 4 has an angular cross section but could also be of the profile of the blocking strips 6 and 7. FIG. 5 shows a guiding strip 9b with trapezoidal cross section. Any other suitable undercut profile may be employed for those guiding strips.

The blocking strips 7 are provided with a number of passages 7a, 7b, 7c which correspond in number and shape to the guiding strips. The guiding strips 9 are slidable in said passages 7a, 7b, 7c. In view of the undercut shape, these guiding strips cannot be pushed out in upward direction from the passages of the blocking strips.

The guiding strips 9 extend approximately over the entire length of the cover plates 1, 2 or 3 and firmly abut against the inner blocking strips 6. Between the other end of the guiding strip 9 and the supports 5 there is left free a space a which as to width corresponds to the width of the blocking strips 7. This space a permits guiding strip 9 to be pushed out from the corresponding passage 7a so that the cover plates can be lifted off each other.

It is, of course, to be understood that the present invention is, by no means, limited to the particular embodiments of the invention as set forth above, but also comprises any modifications within the scope of the appended claims.

What we claim is:

1. A covering device for guiding tracks, especially in machine tools, which includes: a plurality of overlapping substantially flat parallel cover plates adapted to be displaced one above the other in two opposite directions substantially parallel to the planes of the cover plates, a plurality of first abutment means respectively connected to the bottom side of said cover plates and located at one end portion thereof and extending transversely to the di-

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rection of movement of said cover plates, a plurality of second abutment means respectively arranged at the other end portion of said cover plates and connected to the top surface thereof for respective stopping engagement with said first abutment means in response to a maximum relative displacement between the respective adjacent pairs of cover plates in a direction to extend said covering device, said second abutment means also extending transversely to the direction of movement of said cover plates, said second abutment means being provided with passage means extending in the direction of movement of adjacent cover plates relative to each other, and guiding strip means extending in the direction of movement of said cover plates and respectively connected to the bottom side of said cover plates and slidably extending through said passage means in the direction of movement of said cover plates, said guiding strip means being undercut along at least one lateral side, and said passage means being contoured in conformity with the undercut portion of said guiding strip means so as to lock each cover plate to the cover plate next beneath, supporting means respectively connected to the bottom side of each said cover plate and depending therefrom and arranged at that end thereof which is opposite to the end to which said first abutment means is connected, those ends of said guiding strip means which face said first abutment means of the respective cover plate engaging the same, and the other ends of said guiding strip means being spaced from the respective supporting means a distance at least equal to the axial length of said second abutment means.

2. A device according to claim 1, in which said guiding strip means have an inverted T-shaped cross section with the end of the vertical leg thereof opposite the cross bar

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portion connected to the underside of the respective cover plate and with the cross bar portion thereof spaced from said cover plate.

3. A device according to claim 1, in which said guiding strip means have a trapezoidal cross section with the shorter one of the parallel sides thereof connected to the underside of the respective cover plate.

4. A device according to claim 1, in which said guiding strip means have an L-shaped cross section with the outer end of one leg connected to the underside of the respective cover plate and the other leg spaced from the cover plate.

5. A device according to claim 1, in which each said abutment means is a bar-like member with a lip spaced from the respective cover plate and projecting toward the respective other abutment means with which it cooperates, each said guiding strip means having the same cross sectional shape as said abutment means and being connected to its respective cover plate with the said lip in spaced relation thereto.

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PETER M. CAUN, *Primary Examiner*.

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