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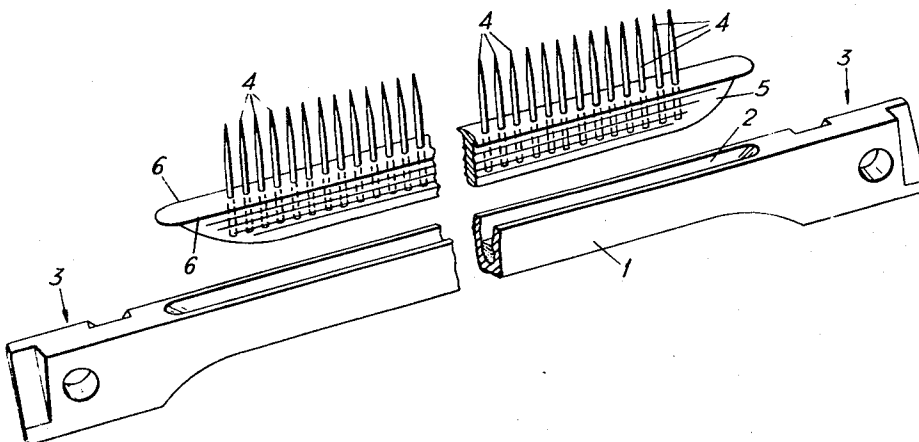
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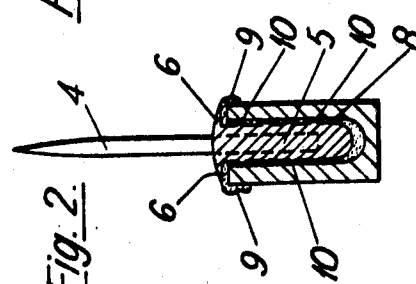
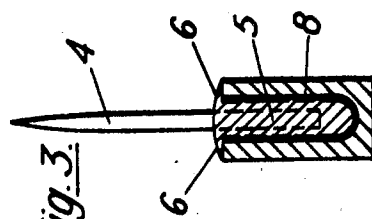
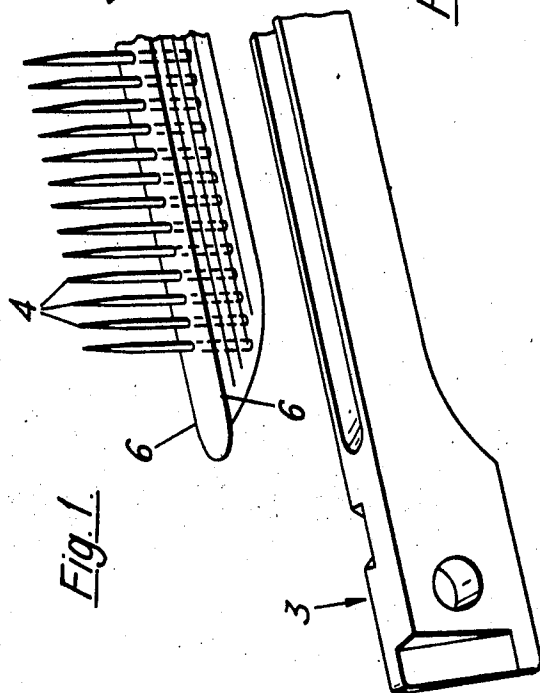
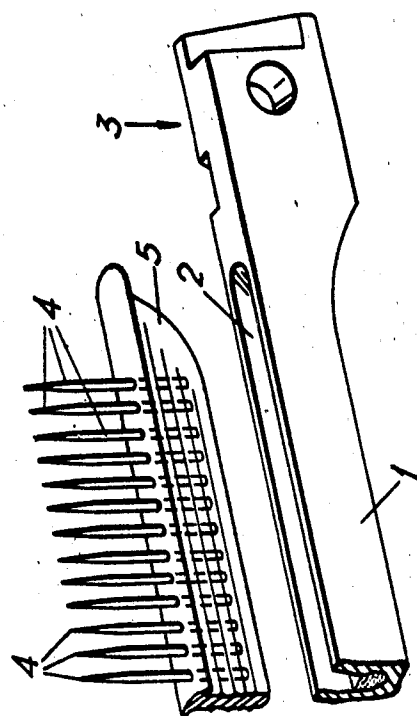
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[54] **FALLERS FOR TEXTILE MACHINES**
5 Claims, 3 Drawing Figs.

[52] U.S. Cl. **19/129**
 [51] Int. Cl. **D01g 19/00**
 [50] Field of Search **19/129**

ABSTRACT: A faller for a textile machine of the kind in which the pins are mounted in an insert of synthetic plastic held within a slot in the body of the faller by means of adhesive is improved by the formation of the insert with a laterally extending flange at each side so that when the insert is fitted in position the flanges extend over the upper surface of the faller and thus prevent excess adhesive flowing over the surface of the insert between the pins.





FALLERS FOR TEXTILE MACHINES

This invention relates to fallers for textile machines, particularly for screw gill boxes in which the fallers are fed along a main slide, are then transferred to a return slide and finally returned to the beginning of the main slide for the next cycle of operation. Such fallers are subjected to considerable shock for each cycle of operation and many proposals have been made, intended to lighten the construction and to overcome the difficulties arising from fatigue. In one form of construction the pins of the faller are mounted in an insert which in its turn is secured in a slot in the body of the faller. If one or more pins becomes damaged the insert as a whole may be removed and replaced by a new assembly. In the past such inserts have been made of metal, for example brass, which has been brazed or soldered into the slot in the body of the faller.

More recently inserts have been formed from synthetic plastic which has then been held in its slot by means of an adhesive such as a glue or cement which itself may be based on a synthetic resin. This form of construction has the advantage of increased lightness and it is, moreover, a relatively simple matter to produce the assembly of insert and pins since it is basically a question of holding a row of pins in a jig and then molding the insert around their butt ends. The major problem has been in the satisfactory securing of the insert in position in the body of the slot of the faller. For this purpose a quantity of adhesive is applied to the walls of the slot and to the insert which is then pressed into position in the slot. In so doing, some of the adhesive may be scraped upwardly off the sides of the insert so as to flow over the top and between the pins. If this adhesive is left around the pins it leads to unsatisfactory operation, but on the other hand it is a time-consuming operation to remove it.

Furthermore in order to allow the insert to be pressed sufficiently far into the slot for its top to be level with the top of the faller body the depth of slot is normally greater than that of the insert. If insufficient adhesive is used this has a tendency to drain downwardly and as a result may leave gaps along the length of the faller between the insert and the walls of the slot. If these gaps are left they will tend to collect dirt and lead to unsatisfactory operation of the faller but if an attempt is made to fill the gaps with more adhesive it is again extremely difficult to prevent the adhesive getting on top of the insert and around the pins. On the other hand if excess adhesive is used it will inevitably be squeezed out of the gap and on to the top of the insert.

According to the present invention an insert formed of synthetic plastic as just described is formed with a laterally extending flange at each side of the surface from which the pins extend so that when the insert is fitted in position in the body of the faller the two flanges together cover the width of the slot in the body and preferably extend over the whole of the width of the upper surface of the faller. When seen in cross section the insert itself is thus approximately T-shaped the cross limb of the T constituting the side flanges. An excess of adhesive is used and as the insert is pressed into position the excess is squeezed out so as to pass between the narrowing space between each flange and the top of the body of the faller. The excess then merely runs down the side of the faller where it subsequently hardens and from which it can easily be removed. The presence of the flanges prevents the adhesive from passing on to the upper surface of the insert and although a width of flange which just covers the width of the slot is adequate a width which extends over the whole of the upper surface of the faller provides an added insurance that the excess adhesive will be prevented from passing upwardly. In this way it is possible to overcome the disadvantages previously described while retaining the normal advantages of a plastic insert.

In order to increase the adhesion between the insert and the sides of the slot in the body of the faller irregularities may be formed on each of the two surfaces. For example, the side surfaces of the insert may be formed with a series of longitudinal

ridges while the walls of the slot may be roughened for example, by shot blasting. In addition to coating the sides or the slot itself with adhesive it is preferably painted onto the sides of the insert before the latter is fitted in position. As already mentioned any excess of adhesive can be removed from the sides of the faller without difficulty and similarly if the flanges of the insert project slightly beyond the sides of the faller the protruding portions can be removed at the same time.

Preferably the slot in the faller is closed at the bottom in which case the depth of the insert needs to be slightly less than that of the slot so that when the insert is pressed into position the flanges fit closely against the upper surface of the faller without any appreciable intervening adhesive. It is also possible, however, for the slot to pass right through the body of the faller and thus to be open at the bottom. With such a construction similar advantages are obtained but the securing of the insert in position is slightly more complicated.

A construction in accordance with the invention will now be described by way of example with reference to the accompanying drawings in which:

FIG. 1 is an exploded perspective view with a central portion broken away of a faller in accordance with the invention for use in a screw gill box; and,

FIGS. 2 and 3 are sectional views showing successive stages in the fitting in position of an insert carrying the pins of the faller.

The body of the faller shown in FIG. 1 is of normal construction comprising a steel bar 1 formed with a longitudinal slot 2 and heads 3 at each end for engagement with the feed mechanism of the gill box. Pins 4 are held in an insert 5 molded from plastic such as nylon. Most conveniently the insert itself is molded round the butt ends of the pins 4 but it is also possible to fit the pins individually into holes drilled or molded in the insert.

The novel feature in accordance with the invention is that the insert 5 is formed with a laterally extending flange 6 on each side so that when seen in section as in FIGS. 2 and 3 it is approximately T-shaped, with the flanges 6 forming the cross limb of the T. The insert 5 is held within the slot 2 by means of an adhesive such as one of the epoxy resin type. FIGS. 2 and 3 show successive stages in the fitting of the insert 5 in the slot 2.

The slot 2 is provided with an excess of adhesive shown as 8 and the insert 5 together with the pins 4 is then pressed downwardly as shown in FIG. 2. If desired the sides of the insert may first be painted with a quantity of adhesive. Just before reaching the position of FIG. 2 adhesive is squeezed upwardly and starts to ooze out through the gap between the upper surface of the bar 1 and the lower surface of the two flanges. The excess then starts to run down the sides of the body as indicated at 9 in FIG. 2 and this process continues until the insert reaches the final position of FIG. 3 in which the flanges 6 are pressed tightly against the upper surface of the body 1 without any appreciable intervening adhesive. As shown in FIG. 3 the excessive adhesive which has been allowed to set has been removed to leave the finished product.

Since the gap between the upper surface of the body and the lower surfaces of the flanges 6 extends horizontally the adhesive is extruded in this direction and there is no tendency for it to run back over the upper surface of the flanges and between the pins 4. The insert is held firmly in position by the presence of the adhesive 8 and the gripping action is enhanced by forming the sides of the insert with longitudinal ribs 10 and also if required by roughening the walls of the slot for example by shot blasting.

I claim:

1. A faller for a textile machine comprising an elongated faller body formed with a generally rectangular longitudinal slot in one of its surfaces; and an insert of synthetic plastic mounted in said slot and held therein by means of an adhesive, said insert comprising an elongate insert body of generally rectangular cross section extending downwardly in said slot, pins mounted in said insert, said pins extending downwardly into said insert body so as to be held firmly thereby and pro-

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jecting from the upper surface thereof, laterally extending flanges projecting from the upper portion of said insert along each lateral side thereof for diverting excess adhesive away from said pins as said insert is pressed into position in said slot and adhesive is squeezed therefrom during assembly, said two flanges together with the insert body therebetween at least substantially covering the width of said slot, whereby an excess of adhesive can be applied relative to the amount which can be accommodated when the insert is fully inserted into said slot, and said flanges prevent excess adhesive from getting to the pins as it is squeezed from said slot during insertion of said insert.

2. A faller according to claim 1 in which said flanges extend over the whole of the width of the surface of said faller in which said slot is formed.

3. A faller according to claim 1 in which said slot is closed at its bottom and the depth of said insert is slightly less than the depth of said slot.

4. A faller according to claim 1 in which the sides of said insert are formed with longitudinal ribs.

5. A faller according to claim 1 in which the sides of said slot are formed with surface irregularities.

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