

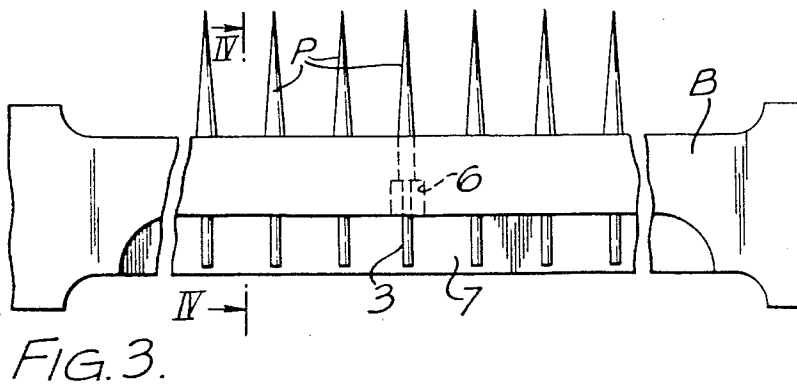
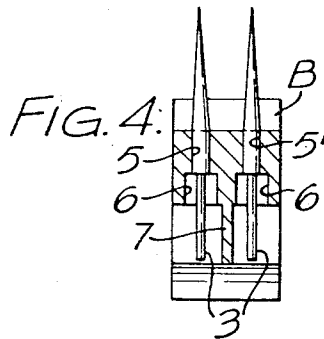
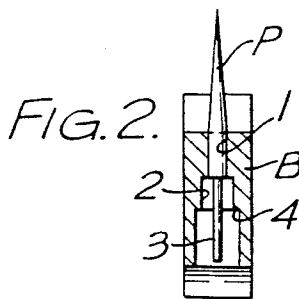
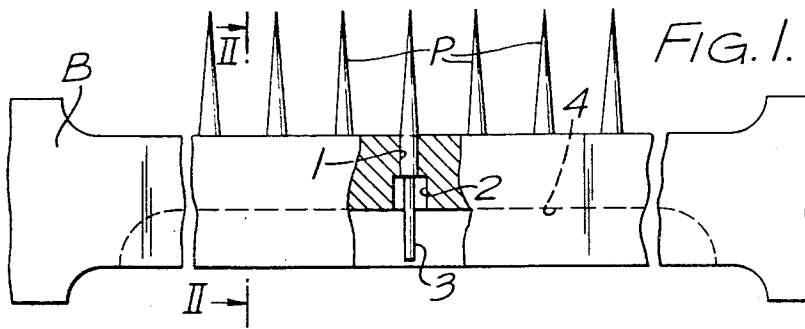
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3,398,437

FALLER BAR FOR FIBRE PREPARATION MACHINE

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3,398,437

FALLER BAR FOR FIBRE PREPARATION MACHINE

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3 Claims. (Cl. 19—129)

ABSTRACT OF THE DISCLOSURE

A faller bar having pin holes of a length less than the depth of the faller bar extending from the upper surface of the bar and terminating in a longitudinal recess within the bar short of the underside thereof, and pins mounted in said holes and having shank end portions exposed by extending into the longitudinal recess. Each pin hole has a lower counterbore portion which registers with the longitudinal recess in the underside of the faller bar.

This invention relates to fibre preparation machines by which the fibres are subjected to a combing action preparatory to spinning.

More particularly the invention is concerned with the fallers, generally known as faller bars, which consist of steel bars and having upright pins that comb the sliver of fibre undergoing treatment in a faller gill machine, the faller bars at the end of their traverse falling down preparatory to starting a new traverse.

In existing faller gill machines, one of the problems experienced is that of repairing or replacing a damaged or worn pin, since the pin being a force fit in its hole in the faller bar, is extremely difficult to extract.

According to the present invention, the depth of the pin holes in a faller bar is less than the normal thickness of the bar, each hole merging with an enlarged bore or a longitudinal cut-away section or slot or recess in the bar so that part of the shank of the pin is exposed, or combination of the above.

The invention is illustrated in the accompanying drawings, in which,

FIGURE 1 is an elevation, partly in section, of a faller bar in accordance with a preferred embodiment of the invention,

FIGURE 2 is a section on the line II—II of FIGURE 1,

FIGURE 3 is an elevation,

FIGURE 4 is a transfer section, on the line IV—IV of FIGURE 3, of an alternative design of faller bar. Referring to the drawings, B indicates the faller bar in which are pin holes to receive the pins P for combing the fibres undergoing treatment.

In the faller bar of this invention the problem of repairing or replacing a damaged or worn pin is overcome by providing in the bar a pin hole 1 the depth of which is less than the normal thickness of the bar, the hole 1 merging with a counterbore 2 of enlarged diameter through which the shank 3 of the pin projects. By reason of the counterbore 2 the operation of removing a damaged pin is facilitated since it is possible by means of a suitable punch tool to have access to the pin in order to dislodge the pin from the hole 1. It will be seen that the shank 3 has a cross-section less than that of the cylindrical portion or stem of the pin so that on removal of a pin it is sufficient to advance the pin by a limited amount, i.e., until the stem is clear of the hole. In addition by providing a counterbore it enables a relatively large sized punch to be used on the end of the shank and the punch will not become burred.

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In the preferred embodiment shown in FIGURE 1, the counterbores 2 merge with a longitudinally extending slot 4 formed on the underside of the bar which provides further clearance and enables a number of pins to be removed at once by using a punch with an elongated rectangular head.

Considering the relationship of the parts as shown in FIGURES 1 and 2, the pin holes extend from the upper side to the underside of the faller bar B, each hole comprising an upper portion, such as a bore of relatively small cross-sectional size extending from the bar upper side toward the underside thereof but terminating within the bar short of the underside, and a lower portion such as a counterbore of enlarged cross-sectional size extending downwardly from the lower terminus of the upper portion.

Each pin P comprises a tapered upper or front portion, a central portion of uniform cross-section, and a rear or lower portion of reduced cross-section.

Referring now to FIGURES 3 and 4, there is shown a bar having two rows of holes 5 and 5' and corresponding countersunk holes 6. Instead of slotting the rear face of the bar the metal is cut away so as to leave a central web 7 providing edge recesses or slots giving free access to the shanks 3 of the respective rows of pins as clearly shown in FIGURE 4.

The faller or stave bar of this invention is more especially intended for use with pins comprising a cylindrical middle portion which is a friction fit within the hole in the bar and having a pointed front portion and a rear portion which becomes thinner towards its rear end which is blunt. One form of such pin is the subject of our prior Patent No. 3,123,866.

What is claimed is:

1. In a fibre preparation machine, the combination of a faller bar having pin holes of length less than the depth of the faller bar, said pin holes being counterbored and said faller bar having a longitudinal recess in its rear face registering with the counterbores; and pins mounted in said holes and having shank ends extending into said counterbores and recess.

2. The combination according to claim 1 in which said faller bar has two rows of counterbored pin holes and has longitudinal slots registering with the counterbores of the pin holes of each row, and in which said pins are mounted in the pin holes of said two rows.

3. In a fibre preparation machine, the combination of a faller bar having two rows of pin holes extending from the upper side to the underside of the bar, said holes respectively comprising an upper bore portion of relatively small cross-sectional size extending from the bar upper side toward the underside thereof but terminating within the bar short of said underside and a lower counterbore portion of enlarged cross-sectional size extending downwardly from the lower terminus of said upper portion, the underside of said bar having edge recesses into which the respective rows of hole counterbore portions extend; and pins respectively mounted in said hole upper bore portions and extending into said lower counterbore portions.

References Cited

UNITED STATES PATENTS

1,673,408 6/1928 Holdsworth ----- 19—129

FOREIGN PATENTS

645,935 9/1962 Italy.
988,965 4/1965 Great Britain.

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