Oct. 12, 1926. 1,603,195

W. E. CRAIN

FEELER BAR SECURING SCREW

Filed March 10. 1923

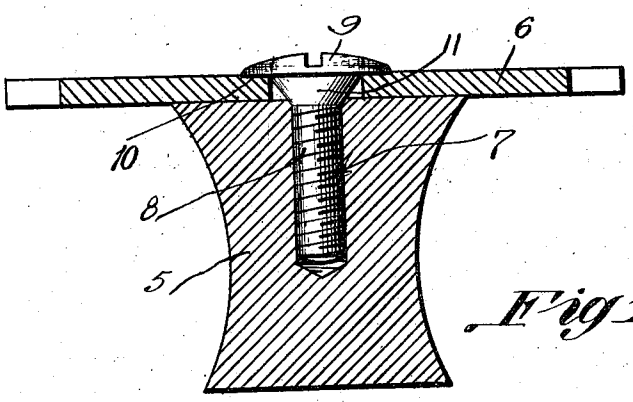


Fig 1.

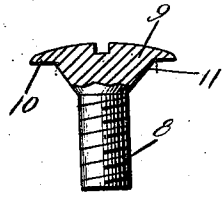


Fig. 2.

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Patented Oct. 12, 1926. 1,603,195

UNITED STATES PATENT OFFICE.

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FEELER-BAR-SECURING SCREW.

Application filed March 10, 1923. Serial No. 624,153.

This invention relates to feeler bar securing screws for looms.

It is a well known fact that feeler bars are secured to their stands by bolts having threaded shanks and conical heads, the bolts being fitted through a countersunk opening in the feeler bar which opening is occupied by the upper portion of the conical head of the bolt, the shank of the bolt being threaded into a threaded socket in the stand and the lower portion of the conical head of the bolt occupying the upper end of said socket which is flared to accommodate this portion of the said head, but this construction presents the disadvantage that after a relatively short period of use the walls of the openings in the feeler bars become so worn that the screw heads no longer serve their purpose of securing the bar in place upon the respective stands and, therefore, a greater or less portion of the length of the bar becomes distorted, necessitating shutting down of the loom and replacement of the bar, such replacement being necessitated by reason of the fact that it is the walls of the openings in the feeler bar and not the heads of the screws which become worn and, therefore, the mere replacement of the ordinary screw will serve no useful purpose. Therefore, the present invention has as its object to provide a screw designed primarily as a replacement for the ordinary screws when the openings in the feeler bar have become worn as stated above and which screw of the present invention will be so constructed that when it is substituted for the original screw, it will secure the feeler bar in place in a manner to effectually prevent any displacement thereof, notwithstanding the worn condition of the opening or openings in the feeler bar.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawing:—

Figure 1 is a sectional view through a feeler bar and stand to which the feeler bar is secured, the screw for securing the feeler bar being shown in elevation.

Figure 2 is an elevational view of the screw, the head thereof being shown in section.

Referring to the drawing in detail, the reference character 5 designates the usual supporting stand secured to the frame of a loom to which the feeler bar which in the present showing, is indicated at 6, is secured.

The support 5 is formed with a suitable threaded opening indicated at 7, which opening registers with an opening in the feeler bar through which the usual securing bolt passes to secure the feeler bar to its stand.

When the opening of the feeler bar becomes worn to such a degree as to render the feeler bar inoperative to accomplish its purpose, a bolt, such as indicated by Figure 2, and which forms the essence of the present invention, is employed in lieu of the usual securing bolt.

As shown, this bolt includes a body portion indicated at 8, which is threaded to cooperate with the threads of the stand 5 or walls of opening 7 formed therein for drawing the head 9 of the bolt towards the stand 5 and consequently move the feeler bar 6 into close engagement with its stand.

The head 9 is formed with a flange 10 the outer surface thereof being curved and provided with beveled edges, the under surface of the head being designed to contact with the upper surface of the feeler bar 6 as clearly shown by Figure 1 of the drawing to exert an even pressure on the feeler bar at a point adjacent to the bolt opening thereof and prevent splitting of the feeler bar at this point.

The head is formed with a tapered wall 11 merging into the body portion 8, whereby the bolt will occupy the usual worn bolt opening in such a manner as to restrict movement of the feeler bar with respect to the stand.

In practice, the threaded shank of the screw and the conical head portion 11 thereof will, of course, be made of the same dimensions as the shank and head of the standard or ordinary screw, and inasmuch as the maximum or major diameter of the conical head of the ordinary screw is of substantially the same diameter as the opening which is present in the feeler bar and which is initially tapered or countersunk, the said portion 11 of the screw of the present invention will have its major end of substantially

the same diameter as the maximum diameter of the worn opening in the feeler bar. In other words, when the opening in the feeler bar is worn, the bar pulls loose from the head of the ordinary screw and this wearing away reduces the opening to cylindrical form rather than the usual tapered or countersunk form. Therefore, when the screw of the present invention is employed, and as clearly shown in Figure 1 of the drawings, the upper end of the conical head portion 11 will engage in the opening in the feeler bar 6 in such a manner as to prevent any displacement of the feeler bar with respect to the axis of the screw, the head 9 of the screw bearing at its flat under side against the upper side of the feeler bar about the worn opening and serving to secure the bar in place as firmly as it was originally held by the ordinary screws.

What is claimed as new is:—

1. The combination with a loom feeler bar stand and a feeler bar supported thereon, the stand having a threaded socket the upper end of which is flared and the feeler bar having an opening therein, of a screw for securing the bar to the stand comprising a threaded shank fitting the said socket, a tapered head portion at the upper end of the shank fitting in the flared upper end of the socket and through the opening in the feeler bar, and a head at the major end of the said tapered head portion having its periphery projecting therebeyond and bearing against the upper side of the feeler bar about the said opening, the tapered portion of the screw having a major diameter substantially equal to the major diameter of the opening in the bar, whereby to prevent displacement of the bar with relation to the axis of the screw.

2. As a new article of manufacture, a screw for securing the feeler bar of a loom to its supporting stand, comprising a threaded shank and a substantially conical head portion at the end thereof of the same dimensions as the threaded shank and head of the standard screw so employed, and a head at the major end of the conical head portion projecting circumferentially therebeyond.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

WILLIAM E. CRAIN.