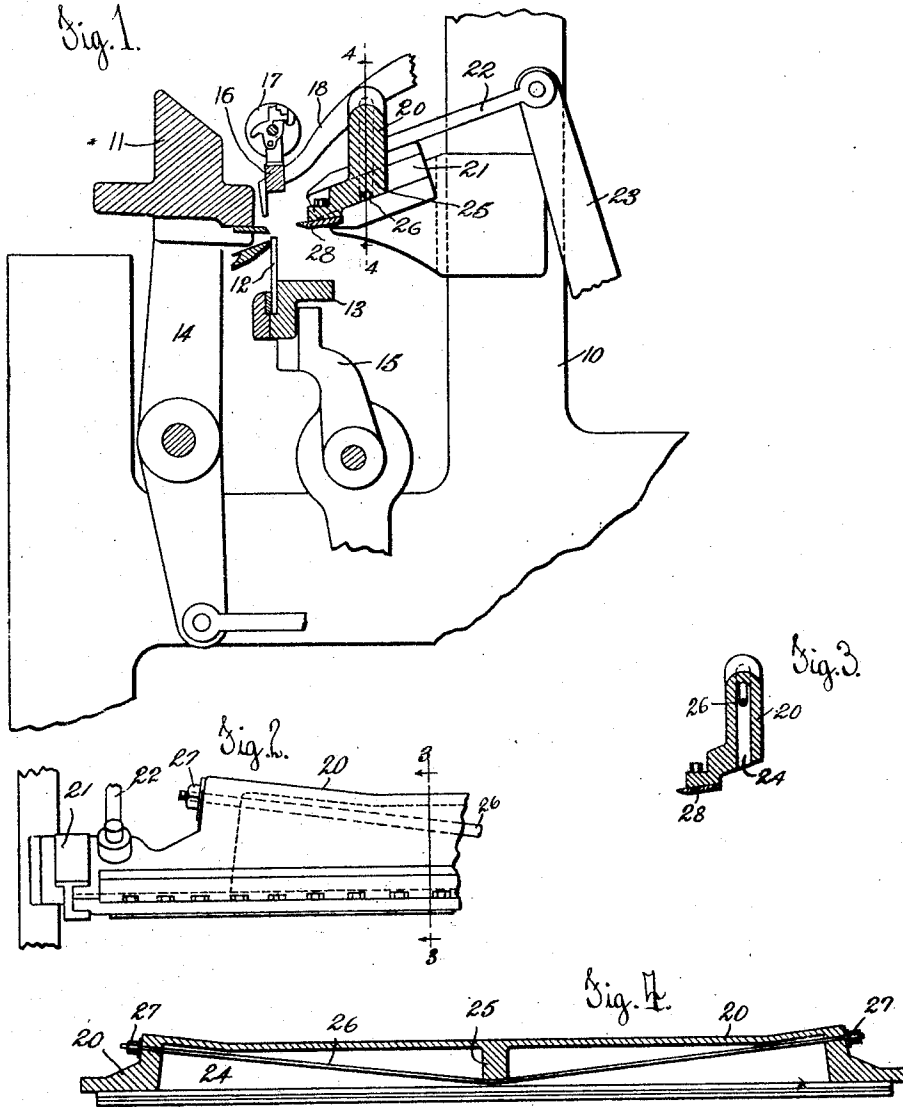


Sept. 1, 1925.

1,551,699

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KNIFE BAR FOR CARPET LOOMS

Filed April 11, 1923



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Patented Sept. 1, 1925.

1,551,699

UNITED STATES PATENT OFFICE.

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KNIFE BAR FOR CARPET LOOMS.

Application filed April 11, 1923. Serial No. 631,435.

To all whom it may concern:

Be it known that I, WILLIAM W. ROBERTSON, a subject of the King of Great Britain, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Knife Bar for Carpet Looms, of which the following is a specification.

This invention relates to carpet looms and particularly to an improved form of knife bar for use in such looms.

Carpet looms of the Axminster type are now built of much increased width and the stresses upon the parts are correspondingly increased. It is essential that the knife bars be kept in accurate alignment in order that a uniform pile may be produced.

It is the object of my invention to provide an improved form of knife bar for such looms, having provision for effectively preventing sagging or bending of the knife bar between its supporting ends.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawings, in which

Fig. 1 is a sectional transverse elevation of certain parts of an Axminster loom;

Fig. 2 is a partial front elevation of my improved knife bar;

Fig. 3 is a transverse sectional elevation of the bar, taken along the line 3—3 in Fig. 2, and

Fig. 4 is a longitudinal sectional elevation of the bar, taken along the line 4—4 in Fig. 1.

Referring to the drawings, I have shown a portion of a loom side 10, a front knife bar 11, and a reed or comb 12 supported on a lay 13. The front knife bar 11 is movably mounted upon levers 14 and the lay 13 is mounted for forward and rearward movement upon supporting members 15. Tube frames 16 and spools 17 are presented to the fabric by supporting arms or levers 18 movable by actuating mechanism not shown.

The parts thus far described are of the usual type and form no part of my present invention, which relates particularly to the construction of the back knife bar 20. The bar 20 is slidably mounted in the usual guide-ways or blocks 21 at the ends thereof

and is moved in the guide-ways by links 22 which connect the bar 20 to actuating levers 23.

It has been heretofore customary to form the bar 20 as a single solid casting having as large a cross-section as the limited available space would permit. In my improved bar, however, I form the casting with a recess 24 preferably cored therein and I also provide a projection or partial partition 25 at the center of the length of the recess 24. A tension or tie rod 26 extends lengthwise through the bar 20 in the recess 24. The tie rod passes under the projection 25 and the ends of the rod project through openings in the ends of the bar 20 and are provided with nuts 27 threaded thereon. The parts of the tie rod on opposite sides of the partition 25 are angularly disposed and out of alignment with each other, thus producing the effect of a truss. The ends of the bar 20 are raised slightly so as to permit a straight pull at each end of the tie rod 26.

By tightening the nuts 27, any desired tension may be placed upon the bar 20 and the back knife 28 mounted thereon may be held in accurate alignment. While this improvement involves a relatively simple change in construction, the advantages attained thereby are exceedingly important, as the production of a satisfactory and uniform fabric is absolutely dependent upon accurate alignment of the pile cutting knives.

Having thus described my invention, I do not wish to be limited to the details herein disclosed otherwise than as set forth in the claims but what I claim is:—

1. A knife bar for carpet looms formed as a single recessed casting and having a tension tie rod extending within the recess from end to end of said bar and secured to the bar near each end thereof, said tie rod having its end portions inclined to each other, and said securing means being effective to tension said tie rod against an intermediate portion of said casting within said recess to exert transverse upward pressure on said knife bar between the ends thereof.

2. A knife bar for carpet looms formed as a single casting and having a tension tie rod extending between the ends thereof, said tie rod engaging a projection of said casting at an intermediate portion thereof and being secured to said bar near each end

thereof and the parts of said tie rod on opposite sides of said projection being angularly disposed relatively to each other and exerting transverse upward pressure on said projection. 10

3. In a loom, in combination, a knife bar formed as a single casting, a tension tie rod

secured to and forming a truss between the ends of said bar, and means to adjust the tension of said tie rod.

In testimony whereof I have hereunto affixed my signature.

WILLIAM W. ROBERTSON.