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TAIL BLOCK FOR CARPET STRETCHER

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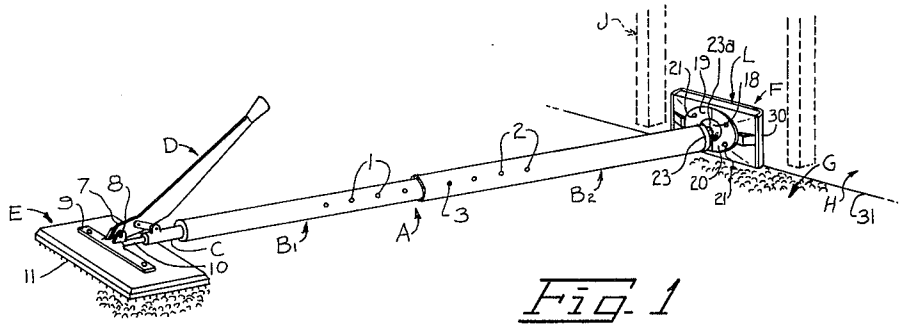


Fig. 1

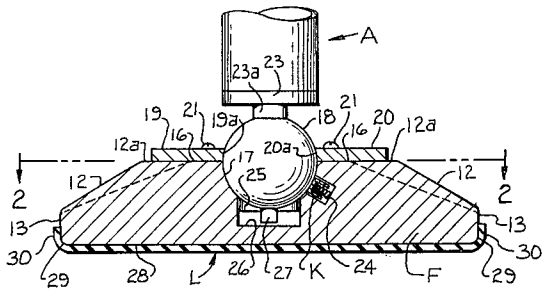


Fig. 3

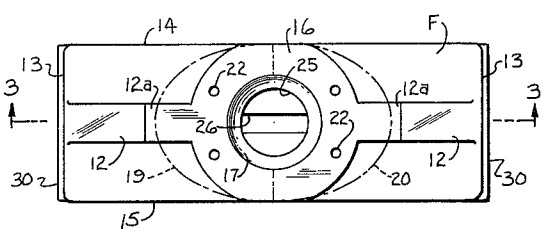


Fig. 2

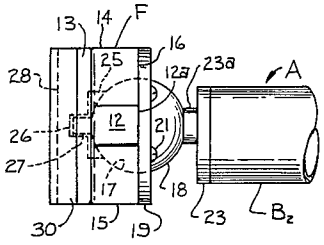


Fig. 4

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TAIL BLOCK FOR CARPET STRETCHER

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The present invention relates to improvements in a tail block for carpet stretcher and it consists in the combination, construction, and arrangement of parts as hereinafter described and claimed.

The present tail block or butt plate for a carpet stretcher is made of wood and it has a cylindrical metal insert that is received in a cylindrical bore provided in the wooden body. In order to prevent the metal insert from rotating in the bore, the outer cylindrical surface of the insert is provided with longitudinally extending teeth. These teeth mesh with matching longitudinally extending teeth provided in the bore. The end of the metal insert is provided with a horizontal groove and a metal pin that projects from the spherical head of a ballpoint is slidably received in the groove. The pin riding in the groove permits a swinging of the tail block or butt plate in a horizontal plane, but prevents any other type of angular swinging of the block.

During the laying of a wall-to-wall carpet in a room, the carpet stretcher is used and the wooden tail block or butt plate is placed against one wall of the room and the other end of the carpet stretcher has a carpet-engaging head provided with pins or fingers that engage with the carpet. A toggle-type mechanism is used for moving the head away from the tail block after the head has been brought into engagement with the carpet and this movement will stretch the carpet just prior to securing the carpet to the floor.

The tail block will have a tendency to rotate about the ball joint that connects it to the carpet stretcher in directions other than in a horizontal plane. The pin on the spherical head riding in the groove in the metal insert only permits swinging movement of the tail block in a horizontal plane. The tendency of the block to swing in other directions will tend to rotate the metal insert in the wooden block. It is not long until the wooden teeth in the block are broken and the metal insert will rotate freely in the block. This necessitates the substitution of a new tail block.

The principal object of my invention to provide a tail block made of metal rather than wood. No metal insert is needed, but instead the metal block has a hemi-spherical recess for receiving the ball joint and it has a groove for slidably receiving the pin that extends from the spherical portion of the ball joint. The tail block will have a long life and the pin riding in the horizontal groove will allow the block to swing only in a horizontal plane.

The tail block is simple in construction and is durable and efficient for the purpose intended.

Other objects and advantages will appear as the specification continues. The novel features of the invention will be set forth in the appended claims.

For a better understanding of my invention, reference should be made to the accompanying drawing, forming part of this specification, in which:

FIGURE 1 is an isometric view of a carpet stretcher and shows my improved tail block operatively applied thereto.

FIGURE 2 is an enlarged elevation of the tail block when looking in the direction of the arrows 2—2 in FIGURE 3. The two plates that retain the ball joint in the ball-receiving recess in the tail block body, have been removed in this figure.

FIGURE 3 is a longitudinal section through the tail block and is taken along the line 3—3 of FIGURE 2.

FIGURE 4 is an end elevation of FIGURE 2 when looking at the left hand end of the tail block. The spherical head of the ball joint is shown operatively connected to the tail block and a portion of one of the telescoping rods is also shown.

While I have shown only the preferred form of my invention, it should be understood that various changes, or modifications, may be made within the scope of the annexed claims without departing from the spirit thereof.

Detailed description

In carrying out my invention I make use of a carpet stretcher indicated generally at A that may be of any standard construction, see FIGURE 1. The novelty of my invention lies in the improved tail block. I will first describe the carpet stretcher in general terms before describing the new tail block. The carpet stretcher includes an elongated tubular member made in telescoping sections B1 and B2. The tubing section B1 has a row of openings 1 therein and the tubing section B2 has a row of openings 2, therein. The tubing section B1, telescopes within the tubing section B2 and the two sections may be adjusted longitudinally with respect to each other to provide a carpet stretcher of the desired length. At least one of the openings 2 in the tubing section B2 is aligned with the desired opening 1 in the tubing section B1, and then a connecting pin 3 is moved into the aligned openings and prevents any further moving of the tubing section B1 within the tubing section B2.

An extension C, projects from the left hand end of the tubing section B1 in FIGURE 1 and is permanently secured thereto. A pair of links 4—4 are pivotally secured to the extension C, at 5, and have their other ends pivotally secured at 6 to a lever handle D, see FIGURE 1. The handle has its end 7, pivotally secured at 8, to a bracket 9 that is attached to the top of a carpet-gripping head E. A tubular section 10 has one end secured to the bracket 9 and has its other end slidably received in the tubular extension C. The head E has nap-gripping pins or fingers 11, and these tiny steel fingers penetrate the tufted pile of a carpet. The fingers or pins 11 could also penetrate a looped pile or a soft-backed carpet, etc.

When the carpet-gripping head engages with the carpet that is to be stretched, the handle D is swung from an upright or inoperative position into a downward or operative position where the handle cooperates with the links 4—4 to produce a toggle spreading effect on the tubular section 10 and will move this section from the extension C a distance sufficient to cause the head E to stretch the carpet. Of course the other end of the telescoping section B2 has a tail block F operatively secured thereto and this tail block will contact with the wall in the room.

My invention pertains to the improved tail block F. This tail block is shown in detail in FIGURES 2, 3 and 4. The front elevation of the tail block in FIGURE 2, shows that the metal block is rectangular in shape and the longitudinal sectional view of FIGURE 3 shows the block as having sloping ribs 12—12 that extend inwardly from the ends 13—13 of the block. The ribs are centrally disposed between the top and bottom edges 14 and 15 of the block and have flat surfaces 12*a* that lie flush with a central flat surface 16 that has a circular-shaped periphery.

The metal tail block F has a hemi-spherical recess 17 centrally disposed in the flat surface 16, and a ball joint 18 has one-half of its surface rockably received in the hemi-spherical recess. FIGURES 3 and 4 show the ball in place while FIGURE 2 shows the hemi-spherical recess without the ball 18. Plates 19 and 20 are mounted on the contiguous flat surfaces 12*a* and 16 and they have central recesses 19*a* and 20*a*, respectively for receiving the ball joint 18. The two plates 19 and 20 are secured to the metal body F by metal screws 21 that are received in

openings in the plates and in threaded bores **22** in the body. The plates prevent the ball **18** from becoming unseated in the hemi-spherical recess **17** while still permitting the ball to rock in the recess.

FIGURE 4 shows the free end of the tubing section B2 provided with a cap **23** that has a shank **23***a* which is eccentrically mounted with respect to the longitudinal axis of the tubing section B2. The axis of the shank **23***a* is disposed above the axis of the tubing section B2 when looking at FIGURE 4. The purpose of this is for the ball **18** to exert a downward force on the tail block F to tend to urge it toward the floor G in FIGURE 1, rather than urge the block upwardly. The block F is about six inches long and the operator when laying the carpet, places the block against the wall H so that it is positioned between adjacent studs J that are sixteen inches apart between stud centers. Pressure applied against the tail block F when stretching a carpet with the carpet stretcher will force the block against the wall H and the length of the block will spread this force over a wide enough wall area that the two joists J, disposed adjacent to the block, will absorb this force and prevent the block from being forced through the wall.

Returning to a further description of the block F, it will be noted from FIGURE 3, that a spring-pressed plunger indicated generally at K, is mounted in a cavity **24** in the block F, and this plunger yieldingly bears against the ball **18**, for frictionally holding the block in the position into which it has been swung. The hemi-spherical recess **17** has a second cylindrical cavity **25** communicating therewith and the bottom of this second cavity has a longitudinally extending groove **26** that parallels the top and bottom edges **14** and **15** respectively of the block F. The axis of the cylindrical axis is at right angles to the surface **16**. The ball **18** has a projection **27** whose axis is aligned with the axis of the shank **23***a*. The projection **27** rides in the groove **26** when the block F is swung in a horizontal plane. However the projection **27** will prevent the block F from swinging in a clockwise or counterclockwise direction about the ball **18** when looking at FIGURE 4. In other words the projection **27** will permit horizontal swinging of the block F about the ball **18**, but will prevent vertical swinging.

The groove **26** is formed in the metal from which the tail block F is made. It is not formed in a metal insert that is mounted in a wooden tail block which is the present general practice. Therefore there is no part in the metal tail block F that can wear out and the life of the block will be as long as the life of the carpet stretcher. The block F has a flat substantially rectangular face **28** against which a layer of rubber L is cemented. The corners where the sides **13—13** of the tail block F meet the ends of the rectangular surface **28** are rounded as at **29**, see FIGURE 3. The ends **30** of the rubber strip L extend around the rounded corners **29** and are cemented to the ends **13** of the block E.

Operation

From the foregoing description of the various parts of the device the operation thereof will be readily understood. The complete carpet stretcher with my improved tail block attached thereto is shown in FIGURE 1. The wall to wall carpet G has already had one edge **31** secured to the floor and adjacent to the wall H. The operator places the tail block against the wall H and between two adjacent studs J. My improved metal tail block is about six inches long whereas the wooden tail block which is presently being used is only four inches long. This difference in length between the two tail blocks results in my improved metal block covering a much greater wall area than does the wooden tail block.

The operator then adjusts the effective length of the telescoping sections B1 and B2 to place the carpet-gripping head E near to the opposite wall, not shown. He inserts the pin **3** through aligned openings **1** and **2** in the

telescoping sections. Other means may be used for securing the two tubing sections B1 and B2, together after the proper adjustment as to their effective length is determined. The carpet-gripping head E is now moved toward the carpet for causing the fingers or pins **11** to enter the carpet for gripping it. The lever handle D is swung from inoperative to operative position and the links **4** will function like a toggle for moving the head E toward the adjacent wall for stretching the carpet.

If the telescoped tubings B1, and B2 have to be moved into a angular position with respect to the tail block F during the operation of the carpet stretcher, the ball joint **18** will permit this. The projection **27** only permits a horizontal swinging of the tail block and prevents any vertical swinging. The projection **27** slides in the horizontal groove **26** to permit the horizontal swinging of the tail block on the ball joint **18**.

I claim:

1. A tail block for a carpet stretcher comprising:

(a) a solid metal body having a first flat rectangular vertical surface with top and bottom parallel and horizontal sides that extend at right angles to said surface;

(b) said solid metal body having a second vertical surface parallelling the first surface and being spaced therefrom;

(c) said solid metal body having a hemi-spherical recess therein opening onto said second surface for rockably receiving a ball joint therein of the carpet stretcher;

(d) said solid metal body having a cylindrical cavity therein communicating with said hemi-spherical recess, the axis of said cavity extending at right angles to said second surface; and

(e) said solid metal body having an elongated groove opening into said cavity, said groove paralleling said top and bottom sides and being adapted to slidably receive a projection extending from said ball joint, said projection permitting the swinging of said tail block about said ball joint in a horizontal plane as the projection slides in the groove, and said projection when its axis is perpendicular to said first and second surfaces permitting said tail block to rotate through 360° about the projection axis as a pivot.

2. The combination as set forth in claim **1**: and in which

(a) a pair of plates are secured to said tail block and lie against said second surface, said plates having aligned recesses for receiving the ball joint and holding it in said hemi-spherical recess; and

(b) a rubber layer covering said flat rectangular surface and adapted to contact with a wall surface when the carpet stretcher is used.

3. The combination as set forth in claim **2**: and in which

(a) a cavity is provided in said solid metal body that opens into said hemi-spherical recess; and

(b) a spring-biased plunger mounted in said last named cavity and bearing against said ball joint for holding said tail block on the ball joint in the position into which the block has been swung.

4. The combination with a rod and a spherical member in a carpet stretcher, the spherical member having a projection extending radially thereform whose projected axis extends through the center of said spherical member and is aligned with the axis of said rod; of

(a) a tail block having a solid metal body with a first flat rectangular vertical surface and top and bottom parallel and horizontal sides that extend at right angles to said surface;

(b) said body having a second vertical surface paralleling said first surface and being spaced therefrom;

(c) said body having a hemi-spherical recess opening onto said second surface for rockably receiving said spherical member, and having a cylindrical cavity communicating with said recess, the axis of said

cavity extending perpendicular to said first and second surfaces; and

(d) means for connecting said body to said spherical member;

(e) said body having an elongated groove communicating with said cavity, the length of said groove paralleling said top and bottom sides and slidably receiving said projection, said projection permitting the swinging of said body about said spherical member in a horizontal plane when the top and bottom sides lie in horizontal planes, the projection sliding in said groove during this movement; and said projection permitting said body to rotate through 360° about

the axis of said projection as a pivot when said first surface is perpendicular to the projection axis.

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