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CARPET STRETCHER

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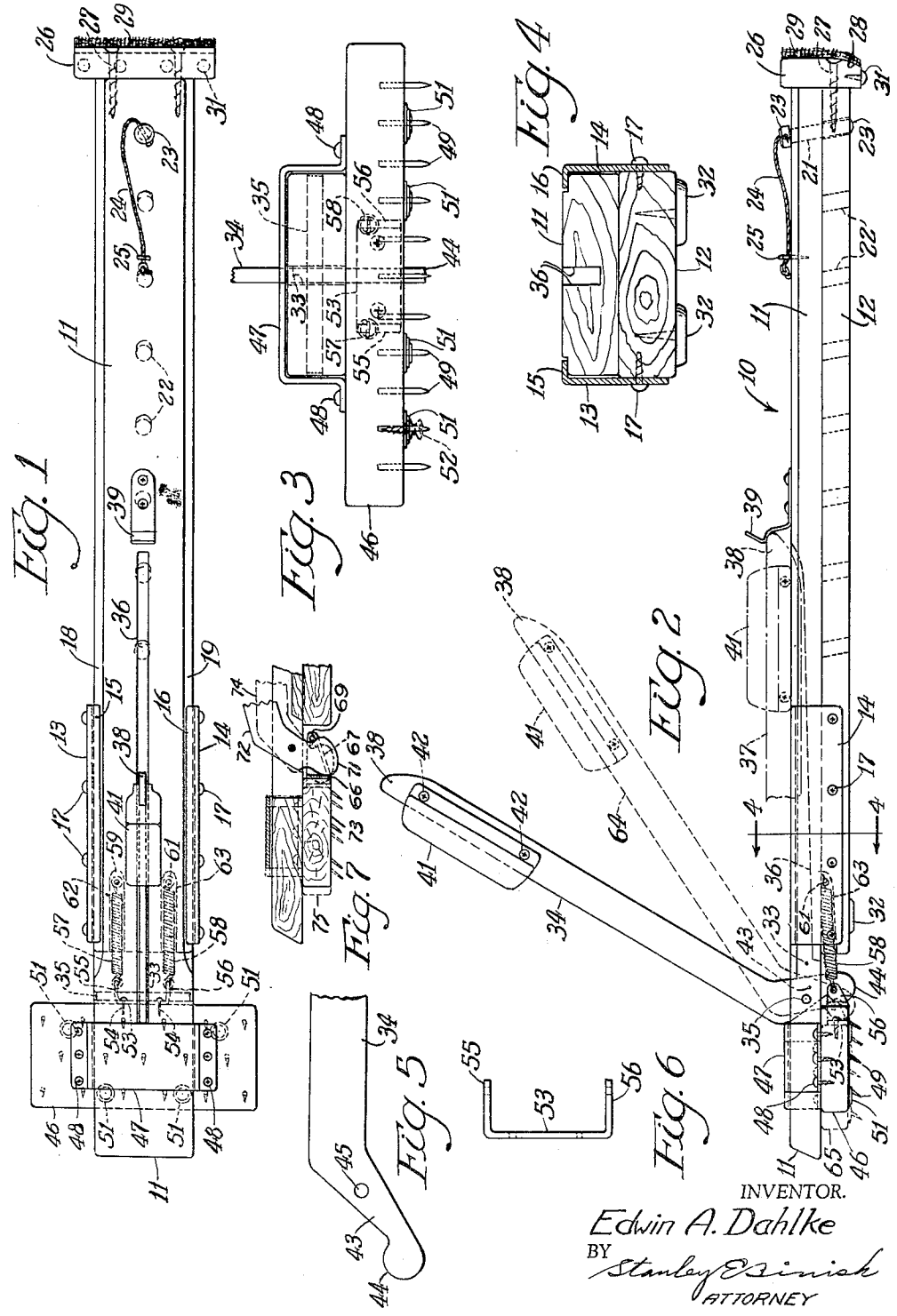


Fig. 1

Fig. 3

Fig. 4

Fig. 2

Fig. 7

Fig. 5

Fig. 6

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CARPET STRETCHER

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This invention relates to improvements in carpet stretchers, having a movable head drivable by the cam nose of a simple lever.

The purpose of this invention is to generally improve upon and simplify the construction of carpet stretchers, and particularly to provide a relatively short and simple carpet stretcher for use in narrow places such as hallways.

An object of this invention is the provision of an economical, simple, and strong carpet stretcher, that will perform its function with a minimum of moving parts.

Another object is to provide a carpet stretcher having positive lock means for positively locking against unwanted reverse movement of the carpet stretcher.

Still another object of this invention is the provision of a carpet stretcher operable through simple lever means.

Yet another object is to provide a carpet stretcher operable through simple lever means having a cam nose for driving a carpet engaging head.

Another object of this invention is the provision of a carpet stretcher having an independently movable carpet engaging head.

Still another object is to provide a carpet stretcher having a carpet engaging head, cam actuated in both extended and retracted operation.

Other specific objects and many of the attendant advantages of this invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings in which like reference numerals designate like parts throughout the figures thereof and wherein:

FIG. 1 is a plan view of the carpet stretcher invention;

FIG. 2 is a side elevation view of FIG. 1, showing the carpet stretcher in extensile and retractile positions;

FIG. 3 is a front elevation view of FIG. 1;

FIG. 4 is a section view taken on line 4—4 of FIG. 2;

FIG. 5 is an enlarged fragmentary view of the working end of a lever embodied inn the carpet stretcher;

FIG. 6 is an enlarged plan view of a U-shaped bearing plate embodied in the carpet stretcher; and

FIG. 7 is a fractional section view showing a modification of the invention.

Referring now to the drawings, wherein like reference characters designate like or corresponding parts throughout the several views, there is shown in FIG. 2 an extensible body member, generally indicated at 10, comprising a pair of elongated wood bars 11 and 12, superimposed one upon the other, for sliding engagement of the upper over the lower bar, in a longitudinal direction. Elongated L-shaped guide bars 13 and 14 are provided to guide said wood bars, relatively longitudinally, and retain them together. Said L-shaped guides are invertedly disposed, with their short leg portions or flanges 15 and 16 projecting inwardly toward each other, and secured to the bottom bar 12 by means of screws such as indicated at 17. The upper side edge portions of top bar 11 are rabbeted at 18 and 19 to receive the guide flanges 15

and 16, respectively, therein, flush with the top surface of top bar 11.

The top bar 11 is provided with a backwardly slanted bore 21, and the bottom bar 12 is provided a plurality of suitably spaced lower bores, such as indicated at 22, each aligned with said upper bore 21. When the bores of the lower bar are in register with the bore 21 of the upper bar, at any selected degree of extension of the body member 10, the bars may be temporarily locked in such extended position by means of headed pin 23 which may be removably inserted in the bores from above. The pin 23 is of a length to extend through both of such registered bores. The slanted character of the bores and the pin therein, tends to force the top bar more tightly onto the bottom bar as compressive stresses are progressively induced in the body 10, as when the carpet stretcher is functionally applied in a carpet stretching operation.

A cord 24, secured to the pin 23 and fastened to top bar 11 through means of eyebolt 25, secures the pin against accidental loss.

A rectangular wall-abutting block 26 is secured transversely to the end of lower bar 12 by means of screws such as indicated at 27. The lower edge of said block is chamfered at 28 to provide clearance for floor molding. The wall-abutting block 26 includes a pad or surfacing of soft material 29 secured to the outer face of said block to provide a cushioned abutment to a wall surface or base board to avoid scratching or denting of the latter.

Upholsterer's round headed nails such as at 31 are driven into the lower edge of the block 26, to raise the block for additional floor molding clearance, and which are adapted to contact a carpet and slide freely thereon.

The forward end of lower bar 12 is likewise provided with round headed upholsterer's nails, such as indicated at 32, for ease of sliding on a carpet.

The top bar 11 is centrally slotted through at its forward end portion, as at 33, to receive a simple first class lever 34 pivotally mounted therein by means of fulcrum pin 35 fixed transversely in bar 11. An elongated slot 36 in communication with slot 33, is provided to partially receive lever 34 at its lowermost or working position 37. This slot receivably accommodates the lever in a substantially horizontal working position when the lever has been moved to its limit of downward movement. The lever end 38 is adapted to engage a spring latch 39 to hold down the lever, in its lowered position, against the stresses tending to raise the lever induced by a carpet stretching operation.

A hand grip 41 is fixed on the end of lever 34, as by means of screws 42, to protect an operator's hand from the sharp lever edge, and provide a large bearing area for the application of a manual force.

The working end of the lever 34, see FIG. 5, is provided with a turned down nose portion 43 having a rounded cam end portion 44. The fulcrum pin 35 is received in and through aperture 45.

A carpet engaging head 46 is movably carried under the forward end portion of upper bar 11 through means of a U-shaped guide member 47 mounted over the bar 11 and secured to said head 46 by means of screws such as indicated at 48, see FIG. 3.

Said carpet engaging head 46 includes a plurality of forwardly slanted prongs such as indicated at 49, see FIG. 2, for gripping a carpet.

To avoid scratching a floor or tearing the carpet padding often laid beneath a carpet, a plurality of gauge screws are

provided, such as indicated at 51, see FIG. 3, screwed into the bottom side of the carpet engaging head, between the prongs. The screws 51 may be adjustably backed out, as indicated by the dotted line position 52, to regulate the effective length of the operative prongs 49, that is, the length to which the prongs may efficiently penetrate a carpet.

A U-shaped bearing plate 53, see FIG. 6, is fixed on the inner edge of the carpet engaging head 46 as by means of screws 54. Said bearing plate is provided with a pair of spaced outstanding apertured ears 55 and 56 to which are secured tension springs 57 and 58, which are in turn anchored to screws 59 and 61, respectively, screwed in the underside of bar 11.

The top side of the forward end portion of bar 12 is provided with a pair of spaced slots 62 and 63, to receive tension springs 57 and 58 therein, for clearance when the extensible body member 10 is retracted to its limit, said limit occurring when the rear end of bar 11 abuts the wall abutting block 26.

Springs 57 and 58 are initially tensioned to urge and bias the carpet engaging head 46 against the cam nose 44 of lever 34. When so tensioned the head 46 follows the cam nose 44 when the head 46 is retracted. Except for the spring stress thereon, the head is independently movable, fore and aft, by manual operation if desired.

Operation.—This carpet stretcher is particularly designed for stretching carpets of relatively narrow hallways, but can be adapted for large room use if proportioned accordingly. At the outset the operator adjusts the gauge screws 51 of the carpet engaging head, according to the thickness of the carpet to be stretched, to permit suitable penetration of the prongs without endangering the floor or carpet pad.

When a carpet is to be stretched, it is laid on a floor and anchored along one wall by tacking down the carpet adjacent said wall and then stretching the carpet toward the opposite wall, using the carpet stretcher described herein, both for stretching the carpet and for holding it in a stretched position while it is being tacked along its other edges. In lieu of tacking the carpet to the floor, a carpet may be held secure by what is known in the trade as a tacking strip, that is, a special strip of tack retaining material, laid along the base or molding of the walls.

To accomplish the stretching, the carpet stretcher is adjusted to a suitable length by means of pin 23, and the padded end 29 thereof is abutted against the base board adjacent that edge of the carpet that is first tacked down. The carpet engaging head 46 is laid on the carpet adjacent the opposite carpet edge. The lever handle is raised to the solid line position 34 of FIG. 2, and the prongs pressed into the carpet. As the lever handle is lowered to the dotted line position 64, the nose cam 44 causes advancement of the carpet engaging head 46 to the dotted line position 65 thereby stretching the carpet. Upon lowering the lever handle to its lowermost position 37, the head 46 is additionally advanced, and the carpet additionally stretched, and the lever handle is then engaged with spring latch 39 to hold down the lever and maintain the carpet in a stretched condition ready for nailing. After the nailing down of the second carpet edge, the lever handle is released from engagement with latch 39, and the lever handle raised to allow the carpet engaging head 46 to retract and disengage from the carpet through means of the tension in springs 57 and 58.

The carpet stretcher can now be carried to a suitable adjoining carpet zone and the above cycle of operations repeated until the carpet as a whole is stretched and secured.

FIG. 7 shows a modification of the above described carpet stretcher. In this modified construction the wear plate 66 is provided with a pair of elongated apertured spaced ears such as indicated at 67, with a pin 69 in said apertures. The cam end 71, of the lever, is received substantially confined between the pin 69 and the body of the wear plate, so that the cam simultaneously engages the wear plate 66 and the pin bearing member 69. Said simultaneous engagement arrangement provides a construction of no lost motion. Obviously, wearing of the associated member will eventually result in some wear and insignificant lost motion. The cam is dimensioned and configured so as to be operatively engaged substantially simultaneously with both the wear plate 66 and the pin 69, fore and aft, respectively, for best operational results. When the lever is raised to the solid line position 72, the rearward edge of the cam engages pin 69 and retracts the carpet engaging head 73; and when the lever is lowered to the dotted line position 74, the forward edge of the cam engages wear plate 66 and advances the carpet engaging head to dotted line position 75. This construction provides means for positively driving the carpet engaging head in both advance and retractile operation.

Some characteristic features of this invention are the provision of a carpet stretcher operable through simple lever means having a down turned cam nose for driving a carpet engaging head; the provision of a carpet stretcher design reduced to a simple lever mechanism; the provision of a carpet stretcher having an independently movable head; the provision of a carpet stretcher having a positively locking latch; the provision of a carpet stretcher having a minimum of moving parts; the provision of a carpet stretcher of simplified construction for use in narrow places such as hallways and the like; and the provision of cam actuated carpet engaging head, actuable fore and aft, positively.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is therefore to be understood, that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

What is claimed and desired to be protected by Letters Patent of the United States is:

1. A carpet stretcher, comprising: a fixedly adjustable extensible structure comprising two elongated members arranged for relative longitudinal movement; carpet engaging head means on one end portion of said extensible structure, mounted for longitudinal sliding movement relative thereto; a slot through the above said end portion, disposed rearwardly adjacent said carpet engaging head means; a lever having its working end extending through said slot and its handle end disposed longitudinally over said extensible structure, said working end comprising a down turned portion, relative to the lever handle, and having a curvilinear cam end slidably engageable with the adjacent edge of said carpet engaging head means, for camming said head means forward responsive to downward movement of the handle end of said lever; fulcrum pin means mounted across said slot for pivotally supporting said lever as a first class lever; spaced ear members mounted on said carpet engaging head means and projecting rearwardly thereof beyond said cam end; and a bearing member connected across said ear members, said bearing member being disposed adjacent the rearward edge of said cam end when the forward edge of said cam end is engaged with the carpet engaging head, for camming said head means rearward responsive to an upward movement of the handle end of said lever.

2. A carpet stretcher, comprising: a fixedly adjustable extensible structure comprising two members arranged for relative longitudinal movement; carpet engaging head means disposed under an outer end portion of a first of said elongated members and mounted thereon for longitudinal movement relative thereto; a longitudinal slot through the outer end portion of said first elongated member, disposed rearwardly adjacent said carpet engaging head means; a lever pivotally mounted as a first class lever in said slot, said lever having its working end slidably engageable with said carpet engaging head means for driving said head means forward responsive to a downward movement of the lever handle, and the lever han-

dle end disposed over and along said extensible structure; and a bearing member mounted on said carpet engaging head and engageable with the rearward edge of the working end of said lever for driving said head means rearward responsive to an upward movement of said lever handle.

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