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CARPET STRETCHER FOR FREE STANDING AND OTHER STAIRWAYS AND HALLWAYS

Filed June 1, 1965

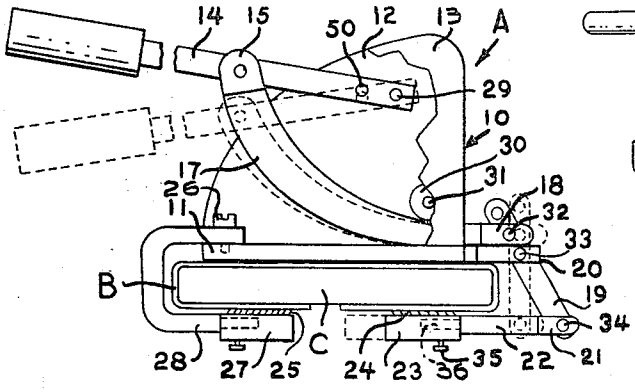


FIG. 2

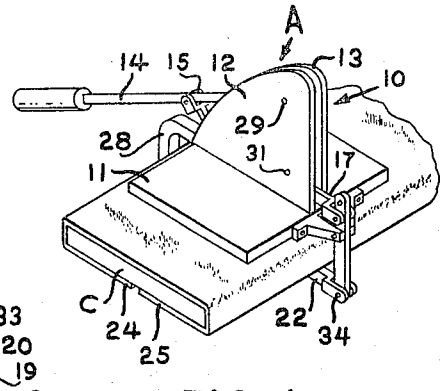


FIG. 1

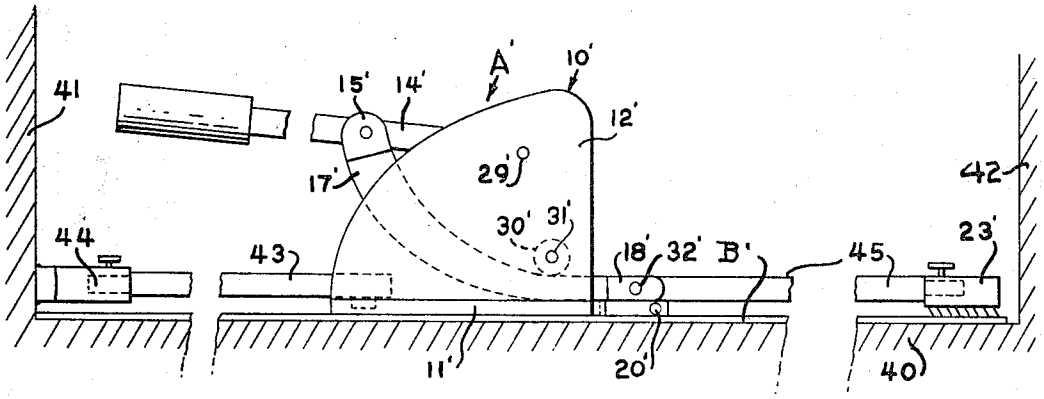


FIG. 3

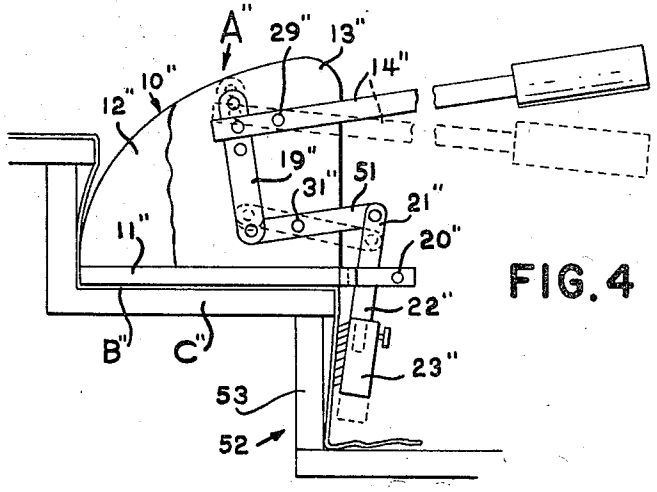


FIG. 4

INVENTOR.
LEWIS J. WEAVER
BY
Hansen and Lowe
ATTORNEYS

United States Patent Office

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CARPET STRETCHER FOR FREE STANDING AND OTHER STAIRWAYS AND HALLWAYS

Lewis J. Weaver, 2403 Pebble Beach Drive, San Jose, Calif.

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7 Claims. (Cl. 254—63)

The present invention relates to a carpet stretcher, and pertains more particularly to a carpet stretcher for stretching carpet over the treads of free standing and other types of stairways, and in narrow hallways.

In many modern buildings stairways are provided in which the individual stair steps or tread members are supported only at one narrow portion thereof, the remainder of each tread member extending in cantilever fashion from this single zone of support. When carpeting such a stairway it is usual to wrap the carpet entirely around each tread member, but it is difficult, and frequently impossible by known means, to properly stretch the carpet around such free standing tread members.

An object of the present invention is to provide a simple and inexpensive carpet stretcher which is of particular utility in the stretching of carpet around a free standing tread member of a staircase.

Another object of the invention is to provide a carpet stretching mechanism wherein power multiplying means is arranged for mounting on the tread member of a free standing stairway, and is provided with portions extending around and beneath such stair tread, and having carpet engaging members positioned to engage edge portions of a length of carpet wrapped around such stair tread, to stretch the carpet tightly around such stair tread.

Another object of the invention is to provide an improved carpet stretcher which can be used not only for stretching a length of carpet tightly around a free standing stair tread member, but also for stretching carpet on ordinary riser type stairways and in narrow hallways.

The foregoing objects and advantages of the invention will be apparent from the following description and the accompanying drawing, wherein:

FIG. 1 is a small scale perspective view showing a carpet stretcher embodying the invention as it appears when stretching a length of carpeting around a free standing stair tread.

FIG. 2 is an enlarged, left hand, side elevational view of the stretcher shown in FIG. 1, portions being broken away, the solid lines showing the parts in unactuated condition and the broken lines showing them in actuated condition.

FIG. 3 is a similarly enlarged, side elevational view of the stretcher shown in FIG. 1 as it appears when modified for stretching carpet in a narrow hallway.

FIG. 4 is a similar view showing the stretcher of FIG. 1 modified for stretching carpet on a riser type stairway.

Brief description

Briefly, a carpet stretcher A (FIGS. 1 and 2) embodying the invention comprises a frame **10** having a base portion **11** and a pair of upright plate portions **12** and **13**, spaced apart and with an actuating lever **14** mounted pivotally therebetween. The actuating lever **14** is pivotally connected to one yoked end **15** of a curved thrust link **17**, the yoked other end **18** of which is pivotally connected to the upper end of a simple lever **19**. The latter is pivotally mounted in a bracket **20** mounted on the forward edge of the base portion **11**, and the lower end of the simple lever **19** is pivotally connected to the yoked end portion **21** of a thrust rod **22** having a carpet engaging pronged pad **23** on its inner

end for engaging one edge portion **24** of a length of carpeting B wrapped around a free standing stair tread C.

The other edge portion **25** of the carpeting C is engaged by a pronged anchor pad **27** mounted on the lower end of reversely bent anchor arm **28**, the upper end of which is secured to the frame **10**. With the pronged pads **23** and **27** engaging the opposite edge portions **24** and **25** of the carpet B, the actuating lever **14** is moved from its solid line position of FIG. 2 toward its dotted line position in the same figure, thereby stretching the carpet B snugly about the stair tread C, whereupon the adjoining free edges of the carpet can be sewed together in a conventional manner by a carpet layer performing the work.

Detailed description

Referring to the drawings in greater detail, with the illustrative stretcher arranged as shown at A (FIGS. 1 and 2) the frame **10** comprises a flat base portion **11** of a width approximating that of a narrow stair tread, for example, of the order of 9 inches, and of a length to provide kneeling spaced on both sides of the upstanding plate portions **12** and **13**. The latter are parallel to each other and are firmly mounted perpendicularly to the base portion **11**.

The actuating lever **14** is pivotally mounted between the upright plate portions **12** and **13** on a pivot bolt **29**, which is inserted in aligned holes provided therefor in the plate portions **12** and **13**. The curved thrust link **17** passes beneath a roller **30**, which is journaled on a bolt **31** inserted in aligned holes provided therefor in the plate portions **12** and **13**.

The yoked lower end portion **18** of the curved thrust link **17** is pivotally connected by a pin **32** to the upper end of the simple lever **19**, which is fulcrumed on a pin **33** in the bracket **20** mounted to extend forwardly from the forward edge of the frame base portion **11**. The yoked end portion **21** of the lower thrust rod **22** is pivotally connected by a pin **34** to the lower end of the simple lever **19**.

The pronged pad **23**, mounted in FIGS. 1 and 2 on the lower thrust rod **22**, has a socket **36**, indicated in broken lines in FIG. 2, formed therein to receive the other end of the lower thrust rod **22** in fitted relation therein, a thumb screw **35** being provided to retain the thrust rod in its socket. All of the pads shown in the drawing are provided with similar sockets and thumb screws for interchangeable mounting on the various thrust rods employed.

The pronged anchor pad **27** is similar to the thrust pad **23**, and is similarly mounted on the lower end of the reversely bent anchor arm **28**. The upper end of the anchor arm **28** is removably attached to the frame base member **11** by a screw **26**, and is of a size and shape to extend approximately half way around the maximum width free standing stair tread C to be carpeted. If there is to be a large variation in size between stair treads to be carpeted, generally similar anchor arms of different sizes may be provided, since the arm **28** is easily removable.

In using the illustrative embodiment A of the invention shown in FIGS. 1 and 2 for stretching a length of carpeting B around a free standing stair tread C, a conventionally measured length of the carpeting to be used is cut, as is also, if desired, a usual length of padding material (not shown). Since the cutting of the carpet and padding material and its application to the stair tread prior to stretching the carpet are steps well known to any skilled carpet layer, and since the details thereof are not material to the present invention, they are omitted from the present description.

With the anchor pad **27** in pronged engagement with one edge portion of the carpeting B wrapped around the stair tread C, the actuating lever **14** is raised to approximately its solid line position shown in FIG. 1 and the pronged thrust pad **23** is swung upwardly to bring the prongs thereof into engagement with the other carpet edge portion **24**. The actuating lever **14** is then swung forcibly downwardly towards its broken line position in FIG. 2, thereby driving the prongs of the pads **23** and **27** into the carpeting and stretching the latter tightly about the stair tread C to thereby bring the opposing edges of the carpeting into closely adjacent relation with each other. Holding the actuating lever **14** down, the opposing edges of the carpeting are then sewed together in a customary manner, after which the actuating lever **14** is swung upwardly to free the prongs of the pads **23** and **27** from engagement with the carpet. The stretcher A is then moved to a new position and the foregoing operation is repeated as required.

In the modified arrangements shown in FIGS. 3 and 4 most of the parts are the same as those shown in FIGS. 1 and 2, and where these same parts are employed they are designated by the same reference numerals used in FIGS. 1 and 2 with a single prime (') added thereto in FIG. 3, and a double prime (") added thereto in FIG. 4.

In FIG. 3, the stretcher A of FIGS. 1 and 2 is modified to become the stretcher A' for use in stretching carpeting B' in a narrow hallway, indicated by a floor **40** and walls **41** and **42**. In the modification A' of FIG. 3 a straight thrust rod **43** has been substituted for the reversely bent anchor rod **28** of FIGS. 1 and 2, with a padded thrust pad **44** mounted on the outer end of this rod **43** in the same manner as that illustrated for the pronged pads **23** and **27** and described previously herein.

The simple lever **19** of FIG. 1 has been removed, taking with it the lower thrust rod **22**, and a second straight thrust rod **45** of suitable length has been connected by the pin **32'** to the yoked lower end **18'** of the curved thrust link **17'**. One of the pronged pads **23'** has also been mounted on the outer end of the second thrust rod **45**.

With the thrust pad **44** in thrust engagement with one wall **41** and the teeth of the pronged pad **23'** embedded in the carpet B', depression of the actuating lever **14'** will stretch the carpet into position for tacking.

In the further modified arrangement A" shown in FIG. 4, the stretcher A has been modified to become the stretcher A" for stretching carpeting B" on a riser type stairway **52**. In this modification A" of FIG. 4 the roller **30** of FIG. 1 has been removed, and the actuating lever **14"** is pivoted on the bolt **29"** in a secondary hole **50** provided in the actuating lever **14"**. The end hole of the actuating lever **14"** which received the pivot bolt **29** in the stretcher A of FIGS. 1 and 2 has been pivotally connected to one end of member **19"**, the other end of which has been pivotally connected to one end of an intermediate lever **51**. The latter is pivotally mounted on the bolt **31"**. The other end of the intermediate lever **51** is pivotally connected to the yoked end **21"** of the thrust rod **22"** having the pronged pad **23"** mounted on the lower end thereof.

In using the modified arrangement A" shown in FIG. 4 for laying the carpeting B" on the flight **52** of conventional, riser type stairs, the person laying the carpet proceeds from the top of the stairs on down. Thus, the carpeting B" is secured at the rear edge of each stair tread C" before stretching the carpet over the stair tread and the riser **53** directly beneath that stair tread.

The stretching is performed as shown in FIG. 4 by placing the stretcher base portion **11"** on the carpeting B" of a stair tread over which the carpeting is to be stretched. The actuating lever **14"** is then raised, and, with the operator (not shown) kneeling on the base **11"**, the pronged pad **23"** is manually swung into engagement with the portion of the carpeting covering the riser **53** beneath the stair tread C". The actuating lever **14"** is then urged

downwardly to stretch the carpeting overlying both the tread C" and the riser **53** therebeneath. The carpeting is then tacked below the pronged pad **23"** and the operation repeated as necessary.

The invention provides a simple and highly effective carpet stretcher for stretching carpet around free standing stair treads, and is easily adapted by the use of simple accessories for also stretching carpet in narrow hallways and on conventional, riser type stairways.

While I have illustrated and described a preferred embodiment of the present invention, it will be understood, however, that various changes and modifications may be made in the details thereof without departing from the scope of the invention as set forth in the appended claims.

Having thus described the invention, what I claim as new and desire to protect by Letters Patent is defined in the following claims:

1. A carpet stretcher for stretching a length of carpeting around a free standing stair tread comprising:

a frame for mounting on a free standing stair tread and comprising a base portion and a pair of upstanding plate portions secured in laterally spaced relation to the base portion,

anchor means connected at one end thereof to the frame and formed to extend around one edge of the frame base portion and along the under side of a free standing stair tread,

first carpet engaging means on the other end of the anchor means for engaging one edge portion of such carpeting,

an actuating lever pivotally connected to the frame between the upstanding plate portions in upwardly spaced relation to the base portion,

a first thrust link pivotally connected to the actuating lever and extending toward the other edge of the frame base portion,

a force transmitting lever pivotally mounted intermediate its ends on the frame base portion and pivotally connected at its upper end to the first thrust link,

a second thrust link pivotally connected at one end thereof to the lower end of the force transmitting lever at a point to clear the under side of a free standing stair tread upon which the frame is mounted, and

second carpet engaging means mounted on the other end of the second thrust link and movable into gripping engagement with the other edge portion of such length of carpeting.

2. A carpet stretcher for stretching a length of carpeting around a free standing stair tread comprising:

a frame for mounting on a free standing stair tread,

anchor means connected at one end thereof to the frame and formed to extend around one edge of the frame base portion and along the under side of a free standing stair tread,

first carpet engaging means on the other end of the anchor means for engaging one edge portion of such carpeting,

an actuating lever pivotally connected to the frame,

a first thrust link pivotally connected to the actuating lever and extending toward the other edge of the frame base portion,

a force transmitting lever pivotally mounted intermediate its ends on the frame and pivotally connected at its upper end to the first thrust link,

a second thrust link pivotally connected at one end thereof to the lower end of the force transmitting lever, and

second carpet engaging means mounted on the other end of the second thrust link and movable into gripping engagement with the other edge portion of such length of carpeting.

3. A carpet stretcher for stretching a length of carpeting around a free standing stair tread comprising:

a frame for mounting on a free standing stair tread,

anchor means connected at one end thereof to the frame and formed to extend around one edge of the frame and along the under side of a free standing stair tread upon which the frame is mounted,

first carpet engaging means on the other end of the anchor means for engaging one edge portion of such carpeting,

an actuating lever pivotally connected to the frame,

force transmitting means operatively connected at one end thereof to the actuating lever and extending around the other edge of the frame and along the under side of such free standing stair tread, and

second carpet engaging means mounted on the other end of the force transmitting means and movable into gripping engagement with the other edge portion of such length of carpeting.

4. A carpet stretcher for stretching a length of carpeting either around a free standing stair tread or in a narrow hallway comprising:

a frame for mounting on a free standing stair tread or on the floor of a narrow hallway,

first anchor means connected at one end thereof to the frame and formed to extend around one edge of the frame and along the under side of a free standing stair tread upon which the frame is mounted,

second anchor means interchangeable with the first anchor means for extending straight out beyond the one edge of the frame,

first carpet engaging means on the other end of either the first or second anchor means for engaging one edge portion of a length of carpeting to be stretched,

an actuating lever pivotally connected to the frame,

first force transmitting means operatively connected at one end thereof to the actuating lever for extending around the other edge of the frame and along the under side of such free standing stair tread,

second force transmitting means interchangeably with the first force transmitting means for extending straight out beyond the other edge of the frame, and

second carpet engaging means mounted on the other end of either the first or second force transmitting means and movable into gripping engagement with the other edge portion of such length of carpeting.

5. A carpet stretcher for stretching a length of carpeting either around a free standing stair tread or in a narrow hallway comprising:

a frame for mounting selectively on a free standing stair tread or on the floor of a narrow hallway,

first anchor means connected at one end thereof to the frame and formed to extend around one edge of the frame and along the under side of a free standing stair tread upon which the frame is mounted,

second anchor means interchangeable with the first anchor means for extending straight out beyond the one edge of the frame,

first carpet engaging means interchangeably mounted on the other end of either the first or second anchor means for engaging one edge portion of a length of carpeting to be stretched,

an actuating lever pivotally connected to the frame,

a thrust link pivotally connected at one end thereof to the actuating lever and directed toward the other edge of the frame,

first force transmitting means pivotally connected at one end thereof to the other end of the thrust link and extending around the other edge of the frame and along the under side of such free standing stair tread,

second force transmitting means interchangeable with the first force transmitting means for extending straight out beyond the other edge of the frame, and

second carpet engaging means interchangeably mounted on the other end of either the first or second force transmitting means and movable into gripping engagement with the other edge portion of such length of carpeting.

6. An arrangement according to claim 3 wherein the force transmitting means includes a curved thrust link and a roller journaled on the frame and above the curved thrust link to restrain the curved thrust link from upward displacement during an operative movement of the actuating lever.

7. A carpet stretcher for stretching a length of carpeting around either a free standing or riser type stair tread,

a frame for mounting on a stair tread,

anchor means removably connected at one end thereof to the frame and formed to extend around one edge of the frame and along the under side of a free standing stair tread upon which the frame is mounted,

carpet engaging means mounted on the other end of the first anchor means for engaging one edge portion of a length of carpeting to be stretched around such free standing stair tread,

an actuating lever pivotally connected to the frame,

a thrust link removably connected at one end thereof to the actuating lever and directed toward the other edge of the frame,

first force transmitting means pivotally connected at one end thereof to the other end of the thrust link and extending around the other edge of the frame and along the under side of such free standing stair tread,

second force transmitting means interchangeably connected to the actuating lever, and extending downwardly to overlie the riser portion of a length of carpeting on which the frame is mounted, and

second carpet engaging means interchangeably mounted on the other end of either the first or second force transmitting means for stretching the length of carpet upon which the base is mounted.

References Cited by the Examiner

UNITED STATES PATENTS

373,595	11/1887	McFarland	254—63
876,817	1/1908	Logan	254—63
910,595	1/1909	Smith	254—63
3,178,155	4/1965	Bird	254—62

WILLIAM FELDMAN, *Primary Examiner.*

M. S. MEHR, *Assistant Examiner.*