

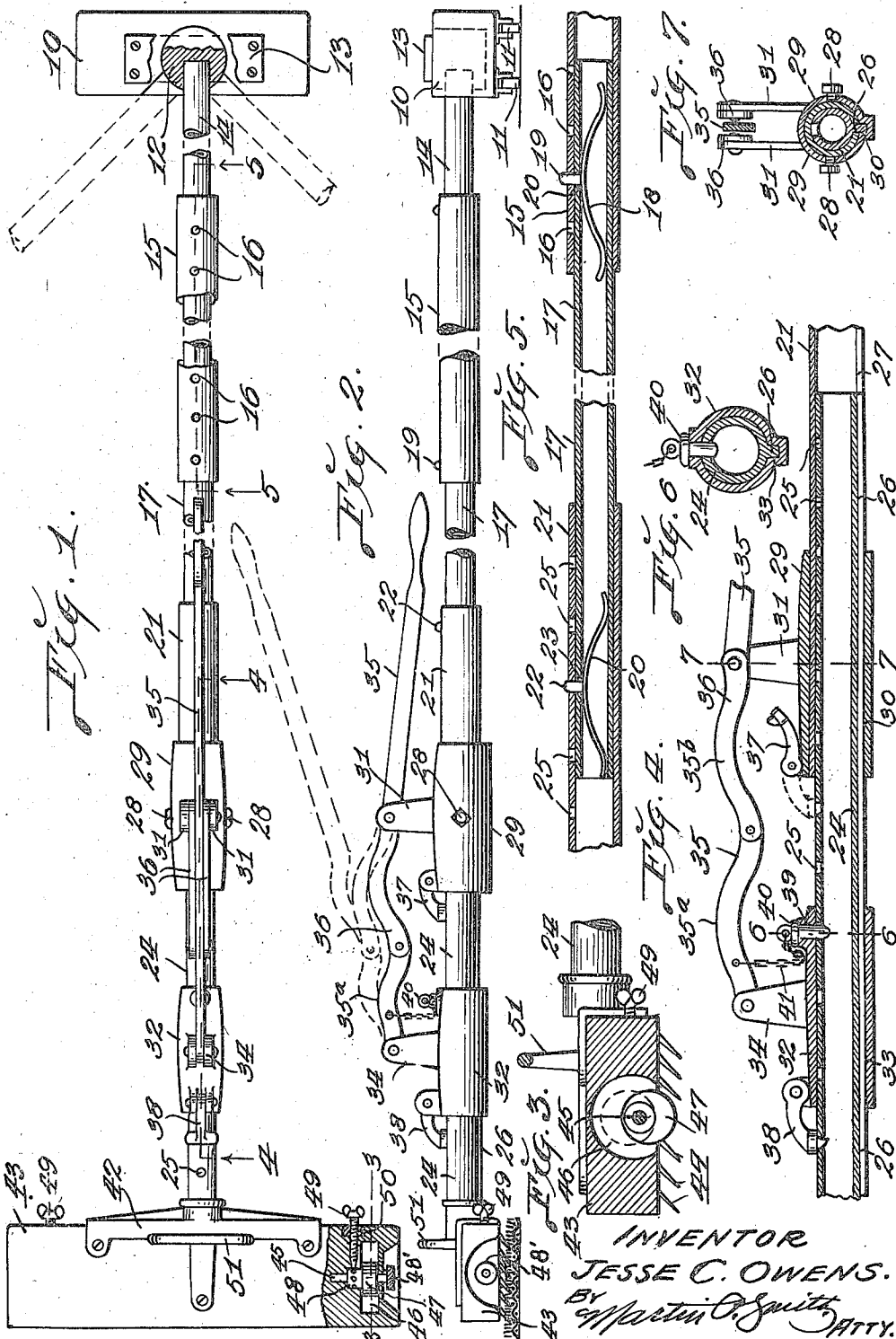
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CARPET STRETCHER

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CARPET STRETCHER

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My invention relates to a carpet stretcher of the type wherein an extensible member is formed of a plurality of telescoping rods or tubes, one end of said extensible member being pivotally mounted on a mobile baseboard engaging block, and the opposite end carrying a pronged member for engaging the carpet that is to be stretched.

The principal objects of my invention are, to generally improve upon and simplify the construction of the existing forms of carpet stretchers employing extensible members, further to provide simple and efficient means for imparting intermittent forward movement to the pronged carpet-engaging member that is carried by one end of the extensible member, and further, to provide means for automatically holding the pronged member against rearward movement at the termination of each of its forward movements, thus enabling the carpet to be easily and quickly stretched to the required degree and doing away with the necessity for stay-tacking the carpet between the stretching operations.

A further object of my invention is, to provide a relatively simple, practical and inexpensive carpet stretcher that may be telescoped so as to occupy comparatively little space when packed for storage and transportation, and further, to provide simple and effective means forming a part of the stretcher whereby that portion of the carpet that is stretched or taken up may be positively held while the manually operable means that is utilized for imparting movement to the extensible member is being manipulated or positioned so as to further extend or project the pronged carpet-engaging block or head.

A further object of my invention is, to mount the rear end of the extensible member of the carpet stretcher on a mobile baseboard-engaging block so that the extensible member may be swung laterally through an arc approximately 90° in length in order to facilitate the carpet stretching operations.

A further object of my invention is, to provide simple and efficient means for adjusting and controlling the position of the pronged carpet-engaging member relative to the upper face of the carpet so that the pronged head may be utilized to best advantage on carpets having short, medium or long nap.

With the foregoing and other objects in view my invention consists in certain novel features of construction and arrangements of parts that will be hereinafter more fully described and claimed and illustrated in the accompanying drawing in which:

Fig. 1 is a top plan view of a carpet stretcher constructed in accordance with my invention, with parts broken away and in section.

Fig. 2 is a side elevational view of the carpet stretcher.

Fig. 3 is an enlarged cross-section taken on the line 3-3 of Fig. 1.

Fig. 4 is an enlarged vertical longitudinal section taken on the line 4-4 of Fig. 1.

Fig. 5 is an enlarged vertical longitudinal section taken on the line 5-5 of Fig. 1.

Fig. 6 is an enlarged cross-section taken on the line 6-6 of Fig. 4.

Fig. 7 is a cross-section taken on the line 7-7 of Fig. 4.

Referring by numerals to the accompanying drawing which illustrates a preferred embodiment of my invention, 10 designates a block mounted on small wheels or casters 11, in order that it may readily roll upon the floor adjacent the baseboard, and formed in the center of said block is an opening in which is mounted to rotate freely, a disc 12. This disc is retained in the block 10 by a plate 13 that is secured to the upper face of the block and which passes across the upper face of the disc.

Removably seated in a socket or recess that is formed in disc 12, is one end of a tube 14 and the outer end of this tube projects into a slightly larger tube 15, the latter being provided with a row of apertures 16.

Arranged for sliding movement in the forward portion of tube 15 is a slightly smaller tube 17, and positioned in the end thereof is a bow spring 18, the center of which carries a pin or stud 19 that projects through an aperture 20 formed in tube 17 and through any one of the apertures in tube 15.

The opposite end of tube 17 is arranged for sliding movement in a slightly larger tube 21, and seated in this end of said tube 17 is a bow spring 22, the center of which carries a stud 22 that projects through an aperture 23 in tube 17 and through any one of a row of apertures 24 that are formed in tube 21.

As a result of the construction just described, the tubes 15, 17 and 21 may be telescoped so as to increase or decrease the length of the tubular structure, and the engagement of the pins or studs 19 and 22 carried by the springs 18 and 20 secures the tubes in their differently adjusted positions.

Arranged to slide freely within the forward portion of tube 21, is a slightly smaller tube 24, in the upper portion of which is formed a longi-

tudinally disposed row of apertures 25, and formed integral with the under side of this tube is a longitudinally disposed rib 26.

The forward lower portion of tube 21 is provided with a longitudinally disposed slot 27 for the accommodation of rib 26, and thus the tube 24 is held against rotary movement within tube 21.

Mounted on the forward portion of tube 21, and secured thereto in any suitable manner preferably by means of set screws 28, is a sleeve 29, in the lower portion of which is formed a longitudinally disposed groove 30 for the reception of the rib 26, and projecting upwardly from the central portion of this sleeve is a pair of spaced standards 31.

Arranged for sliding movement on the forward portion of tube 24, is a sleeve 32 provided in its lower portion with a longitudinally disposed groove 33 for the accommodation of the rib 26, and projecting upwardly from the central portion of this sleeve is a pair of spaced standards 34.

The forward end of a hand lever 35 is pivotally connected to the upper ends of the standards 34, and said hand lever extends rearwardly and passes between the standards 31.

Pivotally connected to the upper ends of standards 31, are the rear ends of a pair of links 36, the forward ends of which are pivotally connected to lever 35 a short distance rearwardly from its forward end.

Under normal conditions, or when the hand lever 35 occupies its lowermost position with its rear end resting on tube 17 or tube 15, the point of pivotal connection between the forward ends of links 36 and said hand lever is positioned below the horizontal plane occupied by the pivots between the rear ends of links 36 and standards 31 and the pivot between the forward end of lever 35 and standards 34. Thus the pivot between the links 36 and lever 35 is "below center" so as to retain the associated parts in such position until the lever is manually engaged and swung upward on its fulcrum.

Pivotally mounted in the upward forward end of sleeve 29 is a gravity detent 37, the point of which is adapted to engage in the apertures 25 in tube 24, and a similar gravity detent 38 is pivotally mounted on the forward end of sleeve 32 and its point is adapted to enter the apertures 25.

Formed in the upper rear portion of sleeve 32, is an aperture 39 and adapted to be inserted therethrough and through any one of the apertures 25, is a pin 40 that is secured by a chain or flexible member 41 to the forward portion of lever 35.

In order that the pin 40 may be readily manipulated when inserted in or removed from aperture 39, that portion of lever 35 immediately above said pin is arched upwardly, as designated by 35a, and in like manner, the intermediate portions of the links 36 and the adjacent portion of lever 35 are arched upwardly, as designated by 35b, in order to permit detent 37 to be swung into and out of operative position.

Suitably secured to the forward end of tube 24 is a bracket 42 that is mounted upon the upper rear portion of a block or head 43. Seated in the underside of block 43 and projecting downwardly and forwardly therefrom, is a plurality of prongs 44 that are adapted to engage in the carpet that is stretched. In order to control the distance that the prongs 44 engage in carpets having short, medium or long nap, short longitudinally disposed shafts 45 are mounted for rotation in the end portions of block 43 and carried by each shaft

and occupying a cavity 46 in the block is an eccentric disc 47.

Mounted on the outer end of each shaft 45, is a disc 48 having a milled edge and which may be engaged between the thumb and fingers in order to rotate the shaft 45. Carried by each shaft 45, is a hub 49 in which is formed a circumferential row of apertures, and adapted to engage in any one of these apertures, is the point of a screw 49 that is seated in a nut 50, and the latter being positioned in the rear portion of block 43. The construction just described provides means for conveniently rotating the shafts 45 to raise or lower the eccentrics 47, and the screws 49 serve to lock the cams in their elevated or lowered positions.

It will be understood that the peripheral faces of the eccentric engage the surface of the carpet, and therefore regulate the distance to which the prongs enter the carpet.

Formed integral with and projecting upwardly from the central portion of bracket 42 is a handle 51, which may be conveniently engaged to lift the head or block 43 and the forward portion of the stretcher.

The operation of my improved carpet stretcher is as follows:

After the carpet has been laid on the floor and one edge secured to the floor by tacks, the block 10 is positioned above the tacked edge of the carpet against the baseboard with the telescopic body of the stretcher extending across the carpet.

The normal length of the carpet stretcher is controlled by telescoping the tubes 14, 15 and 17, which telescoping operation may be accomplished by forcing the pins or studs 19 and 22 downwardly a sufficient distance to free the tubes 15 and 21 and after the proper adjustment, the pins or studs are permitted to reengage in certain of the apertures 16 and 25 in the tubes 15 and 21, and which arrangement effectively secures the telescoping tubes against relative longitudinal movement. The head 43 provided on its underface with prongs 44 is positioned on top of the carpet adjacent the free edge thereof, and to render the stretcher operative for taking up the slack in the carpet, detent 37 is swung rearwardly out of engagement with tube 24, pin 40 is inserted through aperture 39 and one of the apertures 25 in tube 24 and detent 38 is swung into position so that its point will engage successively in the apertures 25.

The operator now engages and raises the rear end of lever 35, and due to the links 36 that are pivotally connected to said lever and to the standards 31 that are carried by the fixed sleeve 29, sleeve 32 to which the forward end of the lever 35 is pivotally connected will be drawn rearwardly a short distance and as tube 24 is connected to sleeve 32 by means of the pin 40, said tube will likewise be drawn rearwardly through tube 21.

The rear end of lever 35 is now moved downward, which action imparts forward movement to sleeve 32, and as tube 24 is secured to said sleeve by means of pin 40, said tube carrying the head 43 will be moved forward and the prongs 44 that engage the carpet will move the free edge and adjacent portion of said carpet forwardly a short distance.

These operations are repeated until all of the slack in the carpet is taken up, and to stretch the carpet in order to bring the edge that is engaged by head 43 up to the baseboard, or to the desired position, the operator withdraws pin

40 from aperture 39 in sleeve 32 and from the aperture 25 in tube 24 in which said pin has been seated, and swings detent 37 forwardly and downwardly so that its point will engage in the apertures 25 of tube 24.

Hand lever 35 is now engaged and elevated so as to draw sleeve 32 rearwardly on tube 24, and during such rearward movement of the sleeve, said tube will be held against rearward movement by the engagement of the point of detent 37 in one of the apertures 25, thus effectually holding the head 43 that engages the carpet, against rearward movement. On the succeeding downward movement of hand lever 35, sleeve 32 will be moved forward and the point of detent 38 carried by said sleeve engaging in one of the apertures 25 in tube 24 will move the latter forwardly the distance between two adjacent apertures 25 in tube 24, and during such movement, the point of detent 37 will ride out of the aperture in which it has been engaged, and as the tube 24 reaches the forward movement of limit, the point of said detent 37 will drop into the next adjacent aperture 25 to hold the tube 24 and head 43 against rearward movement.

Thus the edge of the carpet engaged by the prongs 44 that project from head 43 is stretched or moved forward to the desired position by a series of relatively short movements imparted to tube 24 that carries head 43, and that portion of the carpet that is taken up or stretched will be held against rearward movement without necessitating stay-tacking of the carpet to the rear of the head.

The points of the detents 37 and 38 are shaped so that they automatically engage in the holes 25 of tube 24, so as to hold the same against rearward movement, and on the forward movement of the tube or the rearward movement of sleeve 32 relative to said tube, the points of said pawls will automatically ride out of the apertures in which they have been engaged.

Thus it will be seen that I have provided a carpet stretcher that is relatively simple in construction, inexpensive of manufacture and very effective in performing the functions for which it is intended.

Among the particularly desirable features and advantages embodied in my improved carpet stretcher, are the telescopic construction which enables the complete stretcher to be collapsed so as to occupy comparatively little space when packed for storage or transportation, the pivotal mounting of the rear end of the telescopic body of the stretcher on a baseboard engaging block so that the stretcher may be shifted laterally in both directions to facilitate stretching operations, particularly of the corner portions of a carpet, the provision of adjustable means in the head that carried the carpet engaging prongs for controlling the distance that said prongs engage in carpets having naps of different lengths and the provision of relatively simple, and easily manipulated means whereby that portion of the carpet that is stretched or taken up is positively held by the stretcher without the necessity for stay-tacking the carpet.

It will be understood that minor changes in the size, form and construction of the various parts of my improved carpet stretcher may be made and substituted for those herein shown and described without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. In a carpet stretcher, a tube, a smaller tube having its rear portion telescopically mounted in said first mentioned tube, said smaller tube being provided with a longitudinally disposed row of apertures, a carpet engaging head carried by the forward end of the smaller tube, a sleeve mounted for sliding movement on said smaller tube, means carried by said sleeve for engaging in the apertures in said smaller tube, a hand lever fulcrumed on said sleeve, a sleeve mounted on the first mentioned tube, links pivotally connected to said second mentioned sleeve and to said hand lever and a detent carried by said last mentioned sleeve and adapted to engage in the apertures in the smaller tube.

2. In a carpet stretcher, a tube, a smaller tube having its rear portion telescopically mounted in said first mentioned tube, said smaller tube being provided with a longitudinally disposed row of apertures, a carpet engaging head carried by the forward end of the smaller tube, a sleeve mounted for sliding movement on said smaller tube, means carried by said sleeve for engaging in the apertures in said smaller tube, a hand lever fulcrumed on said sleeve, a sleeve mounted on said first mentioned tube, links pivotally connected to said second mentioned sleeve and to said hand lever, a detent carried by said last mentioned sleeve and adapted to engage in the apertures in the smaller tube and means whereby said first mentioned sleeve is held against rotary movement on the tube on which it is mounted.

3. In a carpet stretcher, a tube, a smaller tube having its rear portion telescopically mounted in said first mentioned tube, said smaller tube being provided with a longitudinally disposed row of apertures, a carpet engaging head carried by the forward end of the smaller tube, a sleeve mounted for sliding movement on said smaller tube, means carried by said sleeve for engaging in the apertures in said smaller tube, a hand lever fulcrumed on said sleeve, a sleeve mounted on said first mentioned tube, links pivotally connected to said second mentioned sleeve and to said hand lever, a detent carried by said last mentioned sleeve and adapted to engage in the apertures in the smaller tube and means whereby the smaller tube is held against rotary movement relative to the tube in which it is telescopically mounted.

4. In a carpet stretcher, a pair of telescopically connected tubes, a head carried by one of said tubes, carpet engaging prongs projecting from the underface of said head, means including a sleeve, mounted on the larger one of said tubes and connected to the smaller tube for imparting longitudinal movement thereto and a detent carried by said sleeve for engaging and holding the smaller tube against rearward movement.

5. In a carpet stretcher, a pair of telescopically connected tubes, a head carried by one of said tubes, carpet engaging prongs projecting from the underface of said head, means including a sleeve, mounted on the larger one of said tubes and connected to the smaller tube for imparting longitudinal movement thereto, a detent carried by said sleeve for engaging and holding the smaller tube against rearward movement and means for holding the tubes against relative rotary movement.

6. In a carpet stretcher, a pair of telescopically connected tubes, a carpet engaging head carried by one of said tubes, a sleeve mounted for sliding movement on the tube that carries the carpet engaging head, the tube on which said sleeve is

mounted being provided with a longitudinally disposed row of apertures, a detent carried by said sleeve and adapted to engage in said apertures and means mounted on the other one of said tubes and connected to said sleeve for imparting movement thereto.

7. In a carpet stretcher, a pair of telescopically connected tubes, a carpet engaging head carried by one of said tubes, a sleeve mounted for sliding movement on the tube that carries the carpet engaging head, the tube on which said sleeve is mounted being provided with a longitudinally disposed row of apertures, a detent carried by said sleeve and adapted to engage in said apertures, means mounted on the other one of said tubes and connected to said sleeve for imparting movement thereto and means for securing said sleeve to the tube on which it is mounted.

8. In a carpet stretcher, a pair of telescopically connected tubes, a carpet engaging head carried by one of said tubes, a sleeve mounted for sliding movement on the tube that carries the carpet engaging head, the tube on which said sleeve is mounted being provided with a longitudinally disposed row of apertures, a detent carried by said sleeve and adapted to engage in said apertures, means mounted on the other one of said tubes and connected to said sleeve for imparting movement thereto, means for securing said sleeve to the tube on which it is mounted and controllable means carried by the larger one of said tubes for holding the smaller one of the tubes against rearward movement.

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