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MACHINE FOR HANDLING ROLLS OF FLOOR COVERING

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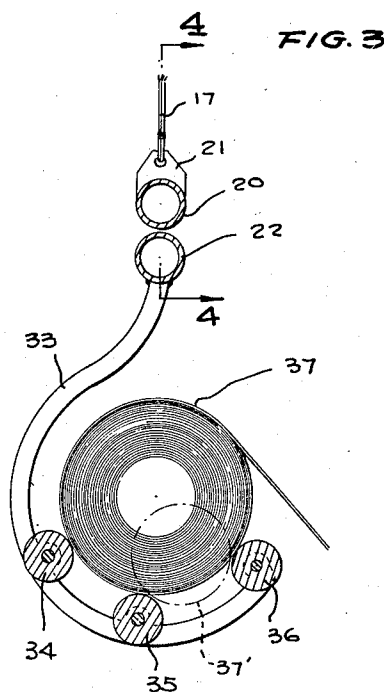
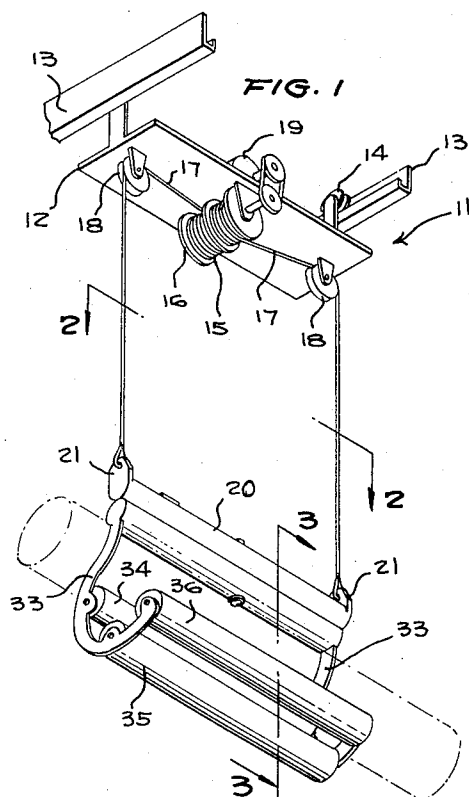


FIG. 2

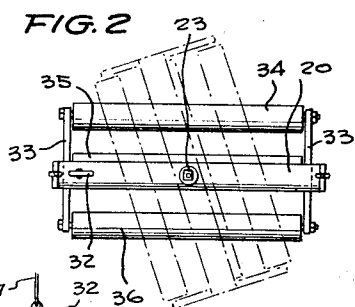


FIG. 4

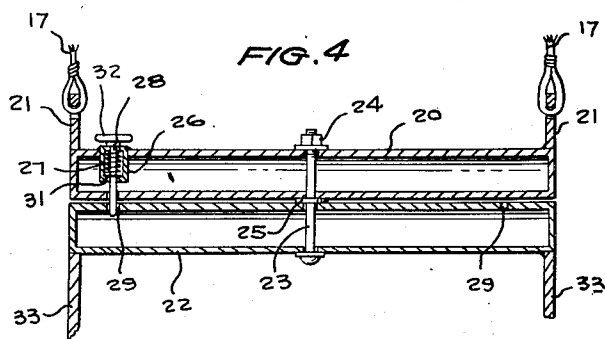
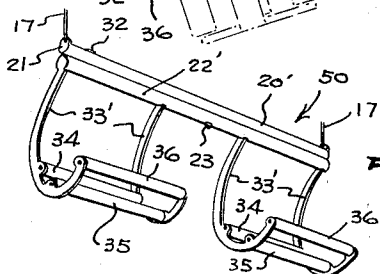


FIG. 5



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MACHINE FOR HANDLING ROLLS OF FLOOR COVERING

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2 Claims. (Cl. 242—58.6)

This invention relates to material handling devices, and more particularly to an improved machine for handling rolls of linoleum or other floor covering and for supporting said rolls while desired lengths of floor covering are unrolled therefrom and severed.

A main object of the invention is to provide a novel and improved machine for handling rolls of linoleum or other floor covering and for supporting the rolls while desired lengths are cut therefrom, the improved machine being simple in construction, being easy to manipulate, and providing a great saving in time and labor in handling rolls of linoleum or the like.

A further object of the invention is to provide an improved machine of the traveling crane type especially arranged for handling rolls of linoleum and for supporting the rolls while desired lengths are removed therefrom, the machine involving relatively inexpensive components, being rugged in construction, eliminating laborious and hazardous lifting of bulk rolls of linoleum or other products with which the machine is employed, and being especially useful for warehouses or the like where rolls of linoleum or similar products are stored.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a perspective view showing an improved machine for handling rolls of linoleum or similar products, constructed in accordance with the present invention

Figure 2 is a horizontal cross sectional view taken on the line 2—2 of Figure 1.

Figure 3 is an enlarged transverse vertical cross sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a cross sectional detail view taken on the line 4—4 of Figure 3.

Figure 5 is a perspective view showing a modified form of cradle-like support for a roll of linoleum or similar rolled-up sheet material, as employed in a roll handling machine according to the present invention.

Referring to the drawings, 11 generally designates an improved machine for handling rolls of linoleum and similar products and for supporting such rolls while desired lengths thereof are removed therefrom, the machine comprising a carriage 12 forming part of a traveling crane having the horizontal supporting rails 13, 13 from which the carriage 12 is suspended, as by the use of suitable supporting rollers 14. The carriage 12 has mounted thereon a conventional winch arrangement designated generally at 15 and including a reel assembly 16 of the duplex type on which are wound the respective cables 17, 17 which travel over pulleys 18, 18 supported at the respective opposite ends of the carriage 12. The reel 16 is driven by a suitable motor 19 mounted on the carriage 12 and is controlled in a conventional manner.

Designated at 20 is a first beam member which is formed at its opposite ends with apertured lugs 21, 21 to which the ends of the respective cables 17, 17 are attached. As shown in Figure 4, the beam member 20 is of tubular construction and has pivotally connected to its intermedi-

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ate portion a second beam member 22, the beam member 22 being pivotally connected beneath the beam member 20 by a vertical pivot bolt 23 extending centrally through the tubular beam member 22 and through the tubular beam member 20, as is clearly shown in Figure 4, the bolt 23 being provided at its top end with a nut 24, and being provided at its intermediate portion between the tubular beam members 20 and 22 with a bearing washer 25.

The first beam member 20 is formed with a cup-like recess 26 which contains a coiled spring 27 surrounding a vertical locking pin 28, the recess 26 and pin 28 being located adjacent one end of the beam member 20, and the pin 28 extending through an aperture in the bottom wall portion of the beam member 20 and being engageable in an aperture 29 in the lower beam member 22 to lock the beam members in alignment. The recess or cup 26 is provided with a top wall against which the top end of the spring 27 bears, and the pin 28 has secured to its intermediate portion a collar or washer 31 against which the lower end of the spring 27 bears, biasing the pin 28 downwardly. The pin 28 is provided on its top end with the knob or head 32, whereby the pin may be lifted against the force of the spring 27, to release the lower beam 22, allowing said lower beam 22 to be swung around the pivot bolt 23, when desired.

Rigidly secured and depending from the opposite ends of the lower beam member 22 are the respective parallel, flat hook elements 33, 33, and journaled between said hook elements are three rollers 34, 35 and 36, spaced to define a cradle-like support to receive a roll of linoleum or similar rolled up sheet material. Thus, the three rollers 34, 35 and 36 may be spaced apart by equal distances, as shown in Figure 3, to define a cradle-like support to receive a roll of linoleum 37, and to support said roll of linoleum while a portion thereof is unrolled therefrom, whereby a desired length of linoleum may be cut from the roll. As the roll diminishes in diameter, eventually the diameter of the roll will become too small to be supported on all three of the rollers 34, 35 and 36, whereupon the roll will be supported on the two outside rollers 36 and 36 as material is unrolled therefrom, as shown in dotted view at 37' in Figure 3, representing a roll of much reduced diameter, as compared with the original roll 37.

As will be readily apparent, the traveling crane may be employed to transport a roll from one location to another in a warehouse or similar establishment, and the roll, supported on the rollers 34, 35 and 36 may be pivoted to face a desired direction by releasing the locking pin 28 to allow the bottom beam member 22 to freely swivel, as required. After the desired length of material has been cut from the roll, the lower beam 22 may be again aligned with the upper beam 20 and locked in position by means of the pin 28, whereupon the traveling crane is utilized to return the roll to its storage location in the warehouse.

As shown in Figure 4, the locking apertures 29, 29 are provided adjacent the opposite ends of the lower beam member 22, located symmetrically with respect to the pivot pin 23, whereby the lower beam 22 may be rotated so that the hook elements 33, 33, face in either one of two opposite directions, allowing access to the roll of sheet material supported thereon from such two opposite directions.

The relatively elongated cradle-like support shown in Figure 5 and designated generally at 50 may be employed in place of the support illustrated in Figures 1 to 4.

The elongated cradle-like support 50 comprises the beam member 20', which is connected to supporting cables 17, 17 by means of apertured end lugs 21 thereon. A second beam member 22' is pivotally connected at its intermediate portion to the intermediate portion of beam member 20' by a vertical pivot bolt 23. A vertical spring-

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biased locking pin is provided in the main beam member 20', as in Figures 1 to 4, said locking pin being engageable in apertures in the lower beam member 22' and being provided with a head 32.

Rigidly secured to and depending from the lower beam member 22' are the symmetrically spaced pairs of flat hook elements 33', 33' provided with the respective sets of spaced rollers 34, 35 and 36, as in Figures 1 to 4, defining a split, cradle-like support adapted to carry a relatively elongated roll of linoleum or other rolled-up sheet material, whereby the roll may be handled by the machine in the same manner as previously described in connection with Figures 1 to 4.

While a specific embodiment of an improved machine for handling rolls of floor covering such as linoleum and the like and for supporting said rolls while desired lengths of material are unrolled therefrom, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A machine for handling rolls of sheet material and for supporting such rolls while desired lengths are unrolled therefrom comprising a traveling crane having a pair of spaced depending supporting cables, pulley means supporting said cables and holding said cables a substantial distance apart in substantially parallel relation, a horizontal beam member connected at its ends to the ends of said cables, a second horizontal beam member subjacent said first-named beam member, means pivotally connecting said second beam member at its intermediate portion to the intermediate portion of the first beam mem-

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ber, a pair of parallel vertical hook elements rigidly secured to the ends of said second beam member, and a plurality of parallel horizontal rollers journaled between said hook elements and arranged to define a cradle to rotatably support a roll of sheet material.

2. A machine for handling rolls of sheet material and for supporting such rolls while desired lengths are unrolled therefrom comprising a traveling crane having a pair of spaced depending supporting cables, pulley means supporting said cables and holding said cables a substantial distance apart in substantially parallel relation, a horizontal beam member connected at its ends to the ends of said cables, a second horizontal beam member subjacent said first-named beam member, a vertical pivot pin pivotally connecting said second beam member at its intermediate portion to the intermediate portion of the first beam member, a pair of parallel vertical hook elements rigidly secured to the ends of said second beam member, a plurality of parallel horizontal rollers journaled between said hook elements and arranged to define a cradle to rotatably support a roll of sheet material, releasable detent means mounted on said first beam member and being lockingly engageable with said second beam member, and spring means biasing said detent means toward locking position.

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