

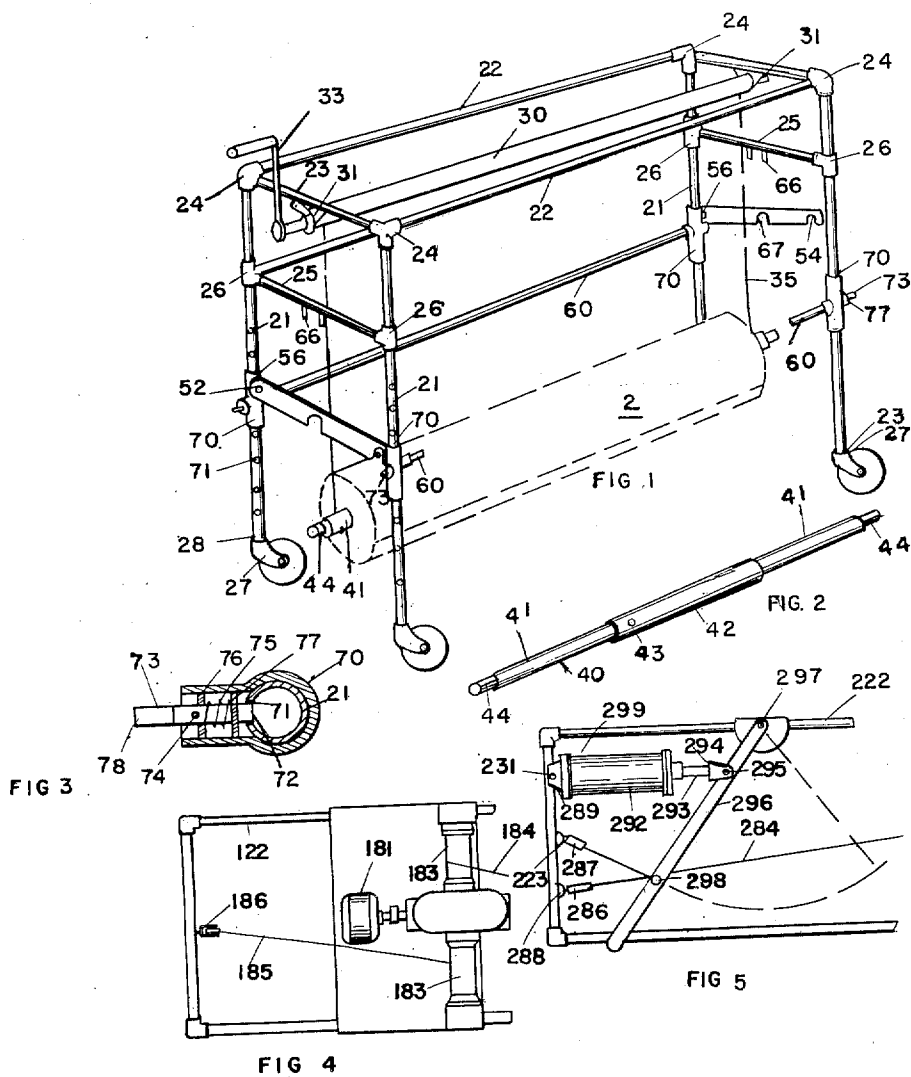
Feb. 15, 1955

V. D. FAUSTINE

2,702,139

CARPET HANDLING AND TRANSPORTING MEANS

Filed May 2, 1952



Inventor

Vernon D. Faustine

By

Charles L. Loverscheck

Attorney

1

2,702,139

CARPET HANDLING AND TRANSPORTING MEANS

Vernon D. Faustine, Erie, Pa.

Application May 2, 1952, Serial No. 285,812

3 Claims. (Cl. 214—396)

This invention relates generally to material handling means and more particularly to hoisting devices and devices for moving and unrolling carpets.

Moving carpets which are rolled in cylindrical rolls from one place to another has long been a problem because of their weight and size. These rolls of carpets are often stored in piles and it is difficult to get any of the presently known type of hoisting means over the top of the pile of carpets in order to lift any particular roll from the pile and to transport it to another location or to a truck or other conveyance.

It is, accordingly, an object of this invention to provide a means for lifting and moving carpets.

It is another object of this invention to provide a lifting and moving means for carpets with a substantial clearance between the hoisting means and the top of the pile of carpets and, further, to provide an adjustable bracing means which can be lowered into operative position when the hoisting device has passed over a pile of carpets.

It is another object of the invention to provide a hoisting means which can be moved over a pile of carpets or rugs and an individual rolled carpet or rug can be raised from the pile and transported to another position.

It is a further object of the invention to provide a novel type of device for attaching a hoisting device to a carpet or roll of sheet material.

Another object of the invention is to provide a novel bracing means for a hoisting device.

Another object of the invention is to provide a means on a hoisting device to hold a load supported thereon rigidly against moving.

Another object of the invention is to provide a novel type of mandrel for use in supporting rolled and tubular objects.

Other objects and advantages reside in the detailed construction of the invention which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawings which form a part hereof. Like numerals refer to like parts in all views of the drawings and throughout the description.

In the drawings:

Fig. 1 is a perspective view of the hoisting, supporting, and transporting means shown according to the invention;

Fig. 2 is a detailed perspective view of a novel type of mandrel for supporting a carpet according to the invention;

Fig. 3 is a detailed cross sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is a plan view partly broken away showing another embodiment of the invention wherein an electric hoisting means is used with a hoisting device such as is shown in Fig. 1; and

Fig. 5 shows another embodiment of the invention wherein a fluid operated cylinder is used as a hoisting means.

With more particular reference to the drawings, Fig. 1 shows a hoisting means 1 for lifting a carpet or other roll of material such as shown at 2 and transporting the same. A hoisting frame 20 is provided with legs 21 joined at the top by longitudinal cross members 22. The legs 21 are joined to the lateral cross members 23 by corner securing members 24 and lateral members 25 are secured to the legs 21 at 26. A drum 30 is supported on cross mem-

2

bers 23 by bearing members 31. The ends 32 of drum 30 are provided with extensions to accommodate a crank 33. The crank 33 is used to rotate drum member 30.

When the drum 30 is rotated in bearing 31 by crank 33, the ropes or cables 35 are caused to wrap around drum 30, thereby raising hooks 36 from the floor. A mandrel member 40 is provided with ends 41 being adapted to be engaged by hooks 36. The mandrel 40 can be inserted through the center of a roll of carpet or paper or other material and the hooks 36 are engaged on the end of the mandrel 40 whereby a roll of material, such as 2, can be lifted upwardly and transported on the transporting device 1. The transporting device 1 is provided with casters 27 for transporting the entire hoisting mechanism 1. The casters 27 are pivoted on the legs 21 at 28.

The mandrel 40 is made in such a way that it can be used for rolls of material having different lengths. The ends 41 of the mandrel 40 are adapted to telescopically engage the central portion 42 and by loosening the screw members 43, the end members 41 can be moved inwardly or outwardly of the central member 42 to adjust the overall length of the mandrel 40. The mandrel 40 is further provided with square end portions 44 so that a crank such as shown at 33 may be fitted onto the ends of the mandrel 40 to rotate a roll of carpet such as 2 during a rolling or unrolling operation.

The lateral support members 50 are pivotally attached to telescopic bracket members 70 at 52 whereby the arms 53 can be swung upwardly to allow the mandrel 40 to be elevated by means of drum member 30 to a height of the member 25 so that the ends 41 of the mandrel 40 engage the brackets 66 to prevent the roll 2 from swinging when the transporting device 1 is moved across a floor on caster members 27. The arm members 50 can be swung downward along pivot point 52 so that notch 54 engages pintle 55. When the arm member 50 is in the aforesaid position, it acts as a brace to prevent the leg members 21 from separating. The lateral brace members 60 are provided with telescopic members 61 whereby the brace members 60 can be moved upwardly or downwardly on leg members 21. The mandrel 40 can be elevated with drum 30 and cables 35 to a height that the ends 41 of mandrel 40 will engage notches 67 to prevent the roll 2 from swinging.

Fig. 3 shows a detailed cross sectional view of the detent members 73. The detent members 73 are provided on sleeve members 70 to hold the brace members 50 and 60 in any desired vertical position on legs 21. Holes or notches 71 are provided in leg members 21 to accommodate the end 72 of the detent member 73. The detent member 73 has a transverse pin 74 which supports a spring 75, which spring bears against fixed members 76 and washer 77 whereby detent member 73 is urged toward leg member 21. When the knurled end 78 is grasped by an operator and the detent member 73 is pulled outwardly against the force of the spring 75, the point 72 is removed from the notch 71 and the handle 78 can be rotated in either direction so that the transverse pin 74 will rest on surface 79 to thereby hold the detent member 73 from engagement with the notch 71 so that the locking means 70 on either end of the brace 60 are disengaged from hole or notch members 71. The brace members 60 can be moved in an upward or downward direction on leg member 21. It will, therefore, be seen that when the brace members 60 are moved upwardly so that the telescoping members 70 nearly engage the bracket 26, considerable clearance will be provided so that the device 40 can be moved over piles of carpets or other materials with the casters 27 running on the floor on either side of the piles of material.

It will further be seen that the brace members 53 move upwardly and downwardly with the brace members 60 because they are attached to the telescoping members 70. When the brace members 60 and 53 are moved to their lowermost position on leg members 21, it will be seen that the braces hold the lower ends of the leg members 21 in position and prevent them from spreading, thereby making the members 1 considerably more rigid.

In Fig. 4, another embodiment of the invention is shown whereby an electric motor 181 is mounted on plate 182 which is supported on lateral brace members 122

3

which correspond to brace members 22 in Fig. 1. The motor 181 drives drum members 182 and 183, thereby causing them to rotate to wind or unwind the ropes 184 and 185. The rope 185 is shown to travel over pulley 186 and then extending downwardly to a load comprising a carpet or other roll of material in a manner similar to the manner in which ropes 35 extend downwardly in Fig. 1. It will be readily seen that when the motor 181 rotates in one direction, it will tend to roll ropes 184 and 185 on drums 182 and 183 and when the motor 181 is reversed, it will tend to unroll ropes 184 and 185 whereby the ropes 184 and 185 when attached to a load such as of a mandrel shown in Fig. 2, the load could be raised or lowered.

Fig. 5 shows a further embodiment of the invention whereby a fluid operated cylinder 292 is mounted on a frame such as the frames 22 and 23 in Fig. 1. The cylinder 292 is in the form of any well known operated cylinder and is pivoted to the frame member 223 at 231. The cylinder 292 is provided with a piston rod 293 and bracket 294. The bracket 294 carries pin 295 which is pivotally connected to arm member 296. The arm member 296 is pivotally connected to brace member 222 at 297 and ropes 284 and 285 are attached to arm member 296 at 298. The ropes 284 and 285 extend over pulleys 286 and 287. The pulleys 286 and 287 are attached to brace member 223 at 288 and 289.

It will be readily seen that when a load such as a mandrel 40 as shown in Fig. 2 is attached to the end of ropes 284 and 285 opposite the point of attachment 298, the load and the piston rod 293 are moved by applying fluid to the piston through inlet 299. The load attached to ropes 284 and 285 will be moved depending on the direction that piston rod 293 is moved.

Referring again to Fig. 1, it will be seen that notches 67 are provided in brace members 53 whereby the mandrel 40 and load thereon will be prevented from swinging when the ends 41 of mandrel 40 engage notches 67.

It will be obvious that a carpet could be rolled on a mandrel and the mandrel supported on a different type of supporting means or the carpet could be rolled on a mandrel while supporting the ends of it manually. It is, therefore, clear that the novel method recited in certain of the claims can be carried out by other apparatus than the one disclosed or by hand.

While several specific embodiments of my invention have been shown here, it will be understood that the same embodiments may be varied within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and designed to be protected by Letters Patent is:

1. A device for hoisting and moving carpets comprising a frame supported on casters, a drum mounted on said frame, a cable attached to said drum at each end thereof, a crank for attachment to said drum to rotate the drum and thereby roll the cables on said drum where-

4

by a load attached to said cables may be raised, hooks on the lower ends of said cables, a mandrel to be engaged by said hooks, cross members pivotally attached to said frame, a ratchet means on said drum to hold said drum in predetermined position, notches in said cross member whereby when said mandrel is raised by said cables, the ends of said mandrel will be held in said notches to hold said mandrel against swinging, and a vertical adjusting means to adjust the height of said pivoted cross bar above the casters.

2. A hoisting mechanism comprising a supporting frame, a mandrel pivotally supported on said frame, said frame being supported by four spaced legs, brace members attached between two longitudinally spaced legs, said brace members being vertically adjustable on said legs, one brace member being pivotally attached to a telescopic member and swingable in a position to attach to another telescopic member whereby a brace member is provided between two leg members, and means on said pivotally attached brace member to engage a mandrel supported by said hoisting mechanism to keep it from swinging.

3. A hoisting mechanism for supporting and conveying rolled carpets and the like comprising laterally spaced legs comprising two spaced pairs of longitudinally spaced generally vertically extending legs, said laterally spaced legs being attached together at the upper ends thereof by laterally extending braces intermediate the upper and lower ends of said leg members, said laterally extending braces being connected by longitudinally extending arms, one end of each said arm being vertically and swingably connected to one said brace member and the other end of each said arm having means thereon to attach said arm to the other said brace member, a hoisting mechanism attached to said mechanism, means on each said arm to engage a roll of carpet supported by said hoisting mechanism whereby said roll is prevented from swinging, and a wheel attached to the lower end of each said leg.

References Cited in the file of this patent

UNITED STATES PATENTS

1,874,904	Crafts	Aug. 30, 1932
2,193,047	Truitt et al.	Mar. 12, 1940
2,259,558	Evans	Oct. 21, 1941
2,427,667	Gilbert	Sept. 23, 1947
2,446,972	Wyen	Aug. 10, 1948
2,491,967	Ghant	Dec. 20, 1949
2,525,346	Gilbert	Oct. 10, 1950
2,533,999	Colley	Dec. 12, 1950
2,551,174	Shipman et al.	May 1, 1951
2,575,461	North	Nov. 20, 1951
2,646,180	Schlough et al.	July 21, 1953

FOREIGN PATENTS

470,114	Great Britain	Aug. 10, 1937
---------	---------------	---------------