Jan. 2, 1951 K. F. MICKAM 2,536,561

RUG AND LINOLEUM TRANSFER CAR

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Fig. 1.

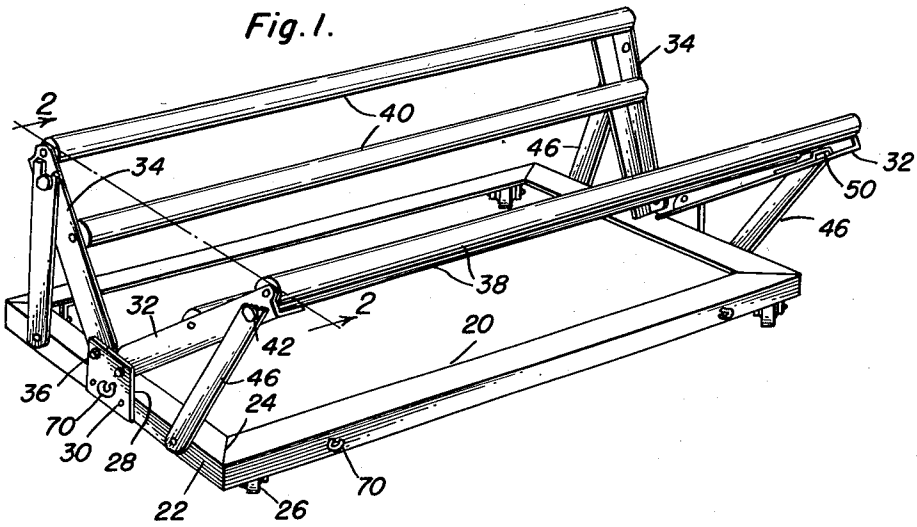
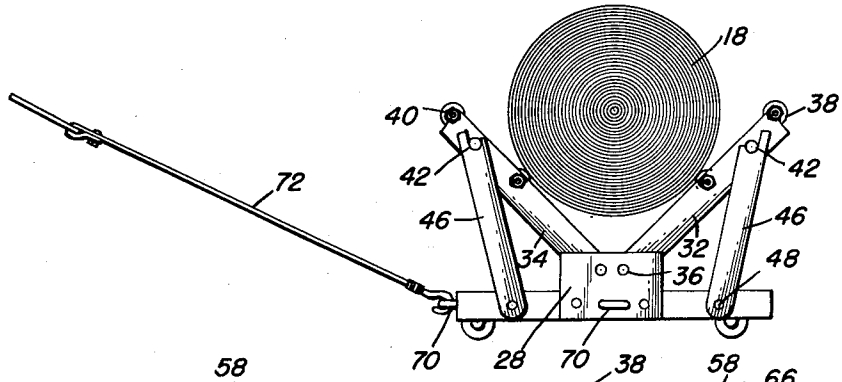


Fig. 3.



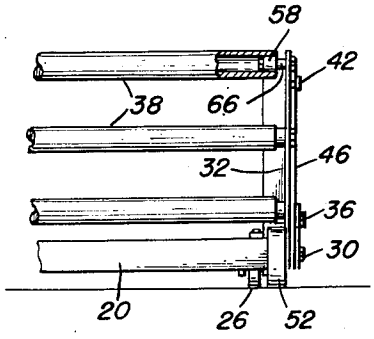


Fig. 5.

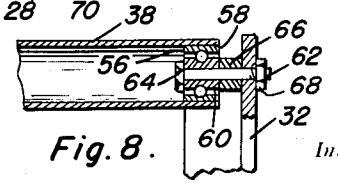


Fig. 8.

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RUG AND LINOLEUM TRANSFER CAR

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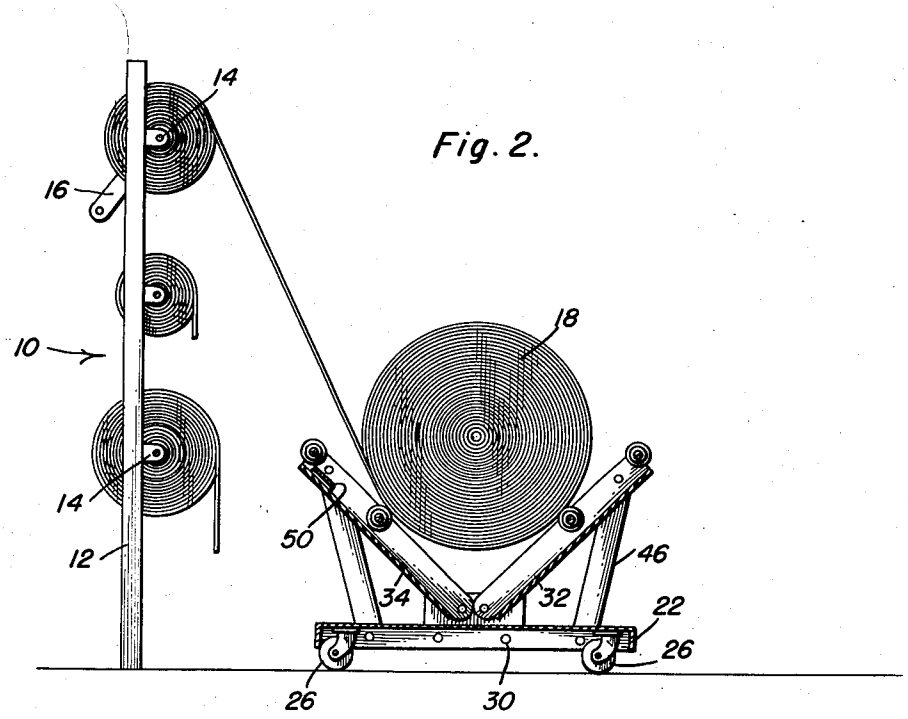


Fig. 2.

Fig. 4.

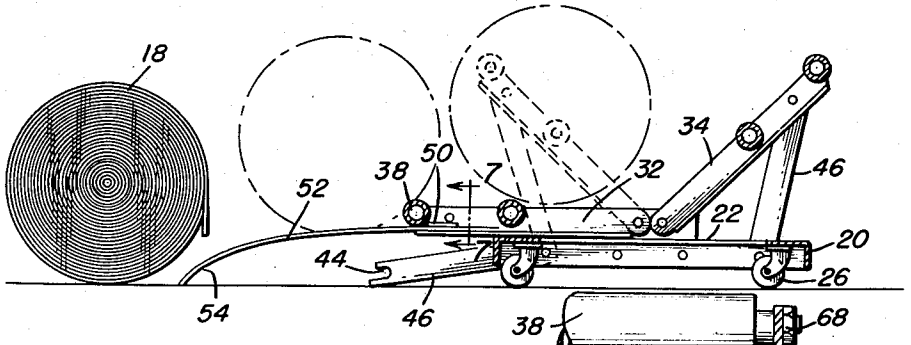


Fig. 6.

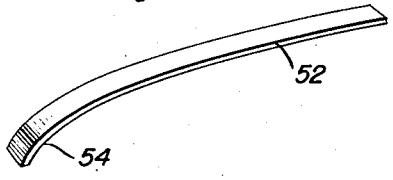


Fig. 7.

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RUG AND LINOLEUM TRANSFER CAR

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7 Claims. (Cl. 214—85)

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This invention relates generally to equipment for handling rugs and linoleum, and more particularly to a transfer car comprising an elongated wheeled frame with elongated roller mechanisms mounted thereon and adapted to receive rolls, the car including means for facilitating the loading of the rolls thereon and specially designed bearings for the rolls.

A further object of this invention is to provide a transfer car which may be conveniently used to transport rugs and linoleum, the device being particularly adapted for use by furnture dealers in transferring carpets, rugs and linoleums to and from wall racks or moving the same toward and awy from a cutting table.

Another object of this invention is to provide a transfer car of this character, by means of which one or two men may conveniently handle heavy rolls of material, a special ramp structure being provided to facilitate the rolling of the rolls onto the frame, and the same ramp structure being adapted for pivoting one set of rolls upwardly, whereafter the car may be pushed or pulled to move the material as desired.

Still another object of this invention is to provide a device of this character which can be conveniently stored, as under a cutting table.

Another object of this invention is to provide a car of this character which may be used to transport rolls of lengths shorter and longer than the car per se.

A further object of this invention is to provide a novel bearing construction for the rollers, this special bearing means being adapted to provide anti-frictional terminal support for the rollers and to overcome end thrust of these rollers in a very simple manner.

And a last object to be specifically mentioned is to provide a device of this character which is relatively inexpensive and practicable to manufacture, extremely simple to use under varied conditions, and which will give generally efficient and durable service.

With these objects definitely in view, together with other objects which will appear as this description proceeds, this invention resides in certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail in the specification, particularly pointed out in the appended claims, and illustrated in the accompanying drawings which form a material part of this application, and in which:

Figure 1 is a perspective view of the car, the roller assemblies being in position as when a roll of material is being carried thereby;

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Figure 2 is a transverse cross-sectional view, taken on the line 2—2 in Figure 1 and including an end elevational view of a wall rack, the figure also including a plurality of carpet rolls, one of which is being unloaded from the car onto the wall rack;

Figure 3 is an end elevational view of this transfer car, the figure including a carpet roll mounted on the car and cable means used to pull the car;

Figure 4 is a central transverse vertical sectional view of the car with one of the roller assemblies in lowered position as when a carpet roll is being loaded thereon, the figure showing how rigid ramp members are used for guiding the roll onto the car, the carpet roll being shown in dash lines in partially loaded position and the said roller assembly being shown in dash lines in the position assumed after such loading has been completed;

Figure 5 is an enlarged detailed fragmentary view showing a front elevation of the car with one of the ramps in place as when the car is being loaded, and a portion of one of the rollers being broken away and the underlying parts being shown in section and in elevation;

Figure 6 is a perspective view of one of the ramp members;

Figure 7 is an enlarged detailed fragmentary view, taken on the line 7—7 of Figure 4; and,

Figure 8 is an enlarged sectional view showing the detail of construction of one of the bearings used to support the rollers.

Similar characters designate similar or identical parts and portions throughout the specification and throughout the several views of the drawings.

Referring now to the drawings in detail, it will be observed that this invention is adapted to be used with an environment including a wall rack, generally indicated by the numeral 10 and comprised of uprights 12 with rollers 14 supported in suitable bearings, not shown, and designed for operation by a crank 16, the wall rack being designed to receive rolls of carpet, rugs and linoleum illustrated at 18, Figure 2 illustrating how a roll is transferred from the car which forms the subject matter of this invention to one of the rollers 14.

The transfer car includes a frame constructed of elongated side members 20 and end members 22, both of which are preferably constructed of angle iron welded together at the corners, as in-

dicated at 24. This frame is provided with casters 26 so that the car may be conveniently pushed or pulled along the floor of the store or other establishment.

A pair of end plates 28 are rigidly secured, as by bolts 30, to the end frame members 22. The roller assemblies are pivotally secured to the plates 28 and each assembly includes a pair of similar arms 32 and 34, pivoted at one end to the plates 28 by bolts or rivets 36 and carrying rollers 38 and 40 terminally mounted thereon by means of special bearing members to be hereinafter described more fully. Each roller assembly also includes headed pin members 42 rigidly secured near the upper ends of the arms 32 and 34, these members 42 being adapted to be received in recesses 44 in the braces 46 which are pivotally secured to the end frame members 22, as indicated at 48. It will be readily understood that these braces 46 are used to support the roller assemblies in the positions illustrated in Figure 1.

One of the pairs of arms, that indicated at 32, is provided with U-shaped brackets 50 and a pair of ramps 52 are insertable in these bracket members 50, after a manner indicated in Figure 4, it being understood that these ramps 52 may be slid within the brackets, when it is desired to shorten the effective length thereof, or when it is desired to merely store the ramps in these brackets when the device is not being used. The outer ends of these ramps are curved downwardly to contact the floor, as indicated at 54, and it should be particularly noted that these ramps 52 also function as hand levers, whereby the arms 32 may be raised or pivoted about the pivot points 36, in order to lock a roll 18 in the car, that is, in order to raise the arms 32 sufficiently to allow the corresponding braces 46 to be inserted so as to support the said arms 32 in elevated positions.

The special bearings for the rollers, illustrated in Figures 5, 7 and 8, are illustrated as adapted for use with rollers 38 and 40 which are tubular. Each bearing assembly includes an outer bearing member 56 which is welded to the roller, as indicated at 58, and an inner bearing member 60 carried by a bolt 62 which is rigidly secured to the arm 32 or 34. In the preferred form, the head of this bolt 64 is welded to the said inner bearing member 60, and a spacer 66 is provided between the inner bearing member 60 and the member 32 or 34, while a nut 68 is used to tighten the assembly on the said arm 32 or 34.

Finally, the plates 28 and the side frame members 20 are supplied with eye members 70, to facilitate the securement thereto of cables 72 whereby the car may be pulled in order to transport the rolls 18 as desired.

The operation of this invention will be clearly understood from the foregoing description of the mechanical details thereof, taken in connection with the recitation of the objects sought to be achieved by this invention. In recapitulation, it may be added that the special bearing construction has been found to provide maximum freedom of rotation for the rollers 38 and 40, while satisfactorily preventing binding of these rollers due to transverse movement of the arms 32 and 34 relative to the frame of the car, all without unduly complicating the structure of these bearings. The dual functions of the ramps 52 and the general simplicity of construction of the whole device will be now seen to be important features of this invention.

Many minor variations may be made in the exact construction and proportionment of various parts of this invention and the accompanying drawings should be considered as illustrative rather than limiting when considered in connection with the specification. Accordingly, this invention should be limited only in accordance with a proper interpretation of the terminology of the appended claims.

Having described this invention, what is claimed as new is:

1. A rug and linoleum transfer car comprising an elongated wheeled frame, arms terminally pivoted to a pair of opposite sides of the frame, means for releasably supporting said arms at an acute angle with the horizontal, and rollers rotatably mounted on and between said arms, certain of said arms having rigid straps securable thereto and adapted to function as ramps and as levers for pivoting the arms and rollers.

2. A rug and linoleum transfer car comprising an elongated wheeled frame, arms terminally pivoted to a pair of opposite sides of the frame, means for releasably supporting said arms at an acute angle with the horizontal, and rollers rotatably mounted on and between said arms, said rollers having bearing means adapted to provide anti-frictional terminal support for the rollers and to overcome end thrust of said rollers, said bearing means including inner bearing members secured to bolts carried by said arms, outer bearing members secured to said rollers, and ball bearings operatively mounted between said bearing members.

3. A display dolly comprising: a truck including a frame and rotatable, floor engaging, supporting means; roller equipped material supports pivoted at one end to said truck and in one position inclined upwardly and outwardly from said truck and away from each other, and in the other position at least one of them positioned parallel to said truck frame; detachable means selectably holding said supports in said one position; handles on one of said supports extensible for forming inclined ramps.

4. A material display dolly comprising: a truck including a frame and rotatable, floor engaging, supporting means; material supporting rollers; mounts for said rollers pivotally attached on one end to said frame to form of said mounts in one position a V open at each of its ends and having its point of convergence at the frame and in another position to form a substantially horizontal loading platform; detachable means selectably holding said mounts in V forming position; handles slidably attached to one of said mounts adapted for forming a ramp when one side of said V is rotated downwardly.

5. A display dolly comprising: a truck including a rectangular, elongated, base frame and supporting casters; a pair of roller mounting frames therefor, which mounting frames are pivotally attached on their respective one ends to the short sides of said base frame on each side of the longitudinal centerline of said dolly and in loaded position the respective other ends are spaced further apart than the pivotally mounted ends; freely rotating rollers mounted to said roller mounting frames; selectably operable supports for said roller mounting frames; partially curved handles selectably and extendably attached to one of said roller mounting frames; said roller mounting frames and handles so arranged and constructed that in loading position said one roller mounting frames and associated rollers may

be rotated downwardly to rest on said base frame, whereby to form a substantially horizontal ramp, and said handles extended to form an inclined ramp.

6. A display dolly comprising: a truck including an elongated, rectangular base frame and supporting casters; a pair of normally upstanding roller mounting frames pivotally affixed to each end thereof at points on each side of the longitudinal centerline thereof; detachable supports for said roller mounting frames positioned for normally holding same in a V position but permitting either of same upon detachment of one of said supports to lie flat on the upper surface of said base frame; freely rotatable rollers affixed to and extending beyond the upper sides of said roller mounting frames; a plurality of partially curved handles and means affixing a pair of them extensibly to one of said roller mounting frames; whereby said one roller mounting frame may be dropped onto the base frame and the handles extended to form a loading ramp.

7. A display dolly comprising: a truck including an elongated, rectangular base frame and supporting casters; a pair of normally upstanding and diverging roller mounting frames affixed to each end thereof at points on each side of the longitudinal centerline thereof, the said frames on one side of said centerline being pivotally so affixed; detachable supports for said pivotally

affixed roller mounting frames positioned for normally holding same in a V position with respect to the other roller mounting frames but permitting them upon detachment of said supports to lie flat on the upper surface of said base frame; freely rotatable rollers affixed to and extending beyond the upper sides of said roller mounting frames; a pair of partially curved handles and means affixing them extensibly to one of said pivotally mounted roller mounting frames; whereby said one roller mounting frame may be dropped onto the base frame and the handles extended to form a loading ramp.

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