May 1, 1951 H. L. COLE 2,551,097

LOAD TRANSPORTING DOLLY

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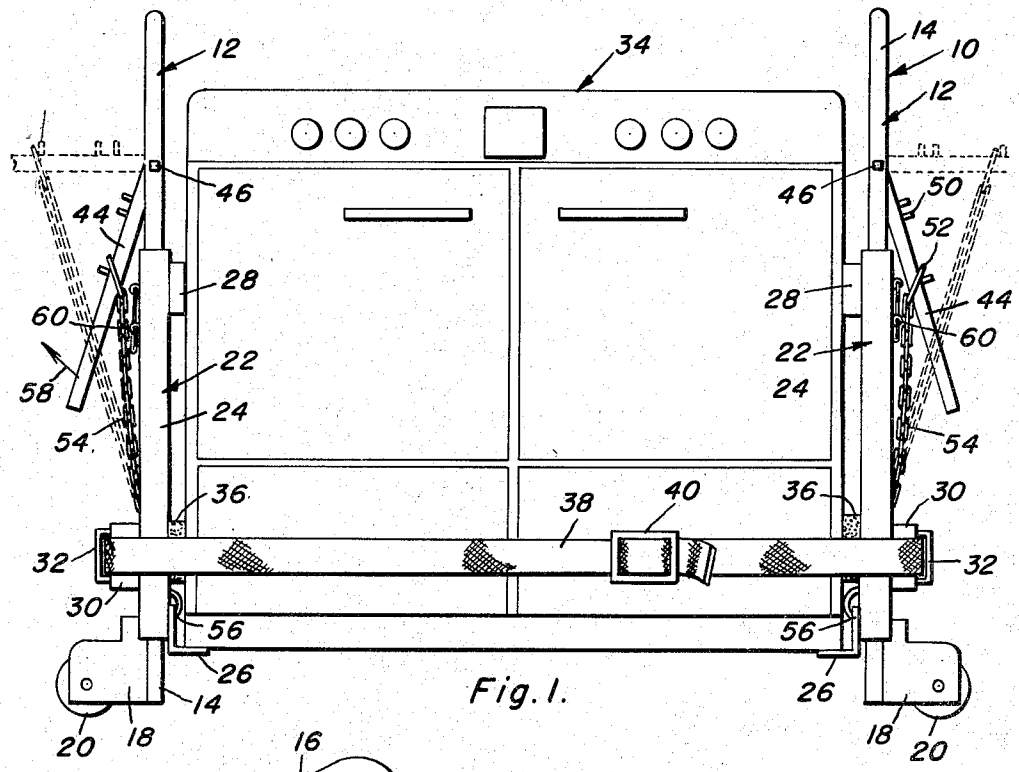


Fig. 1.

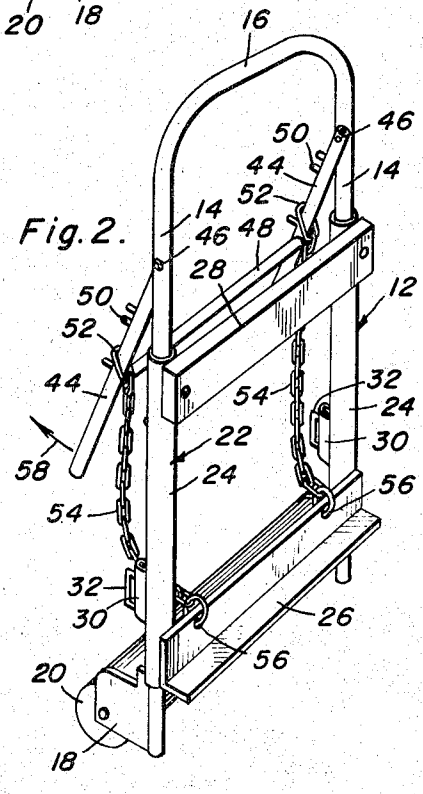
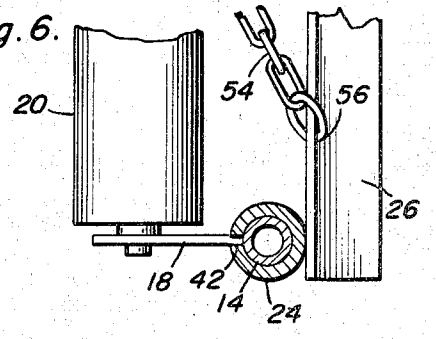


Fig. 2.

Fig. 6.



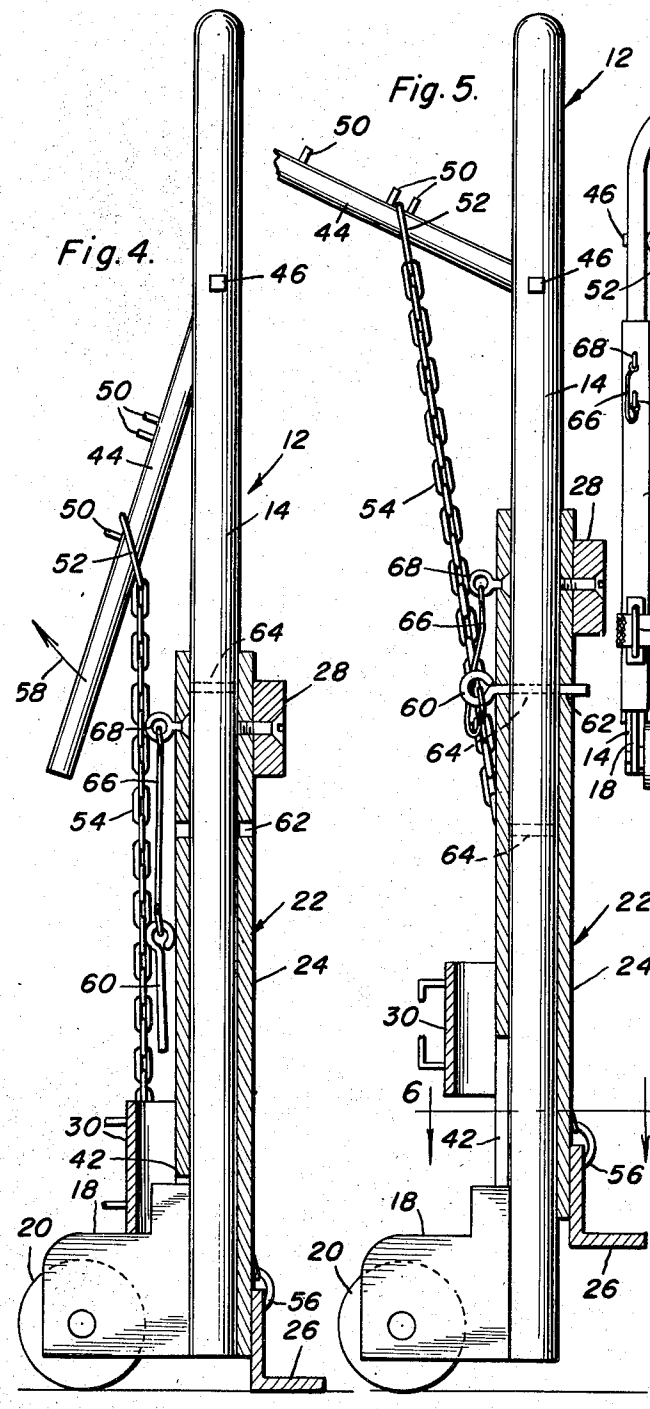
Harry L. Cole
INVENTOR.

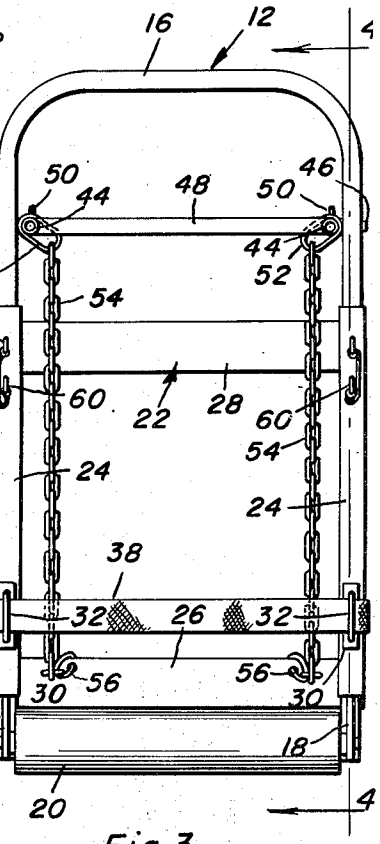
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Fig. 7.

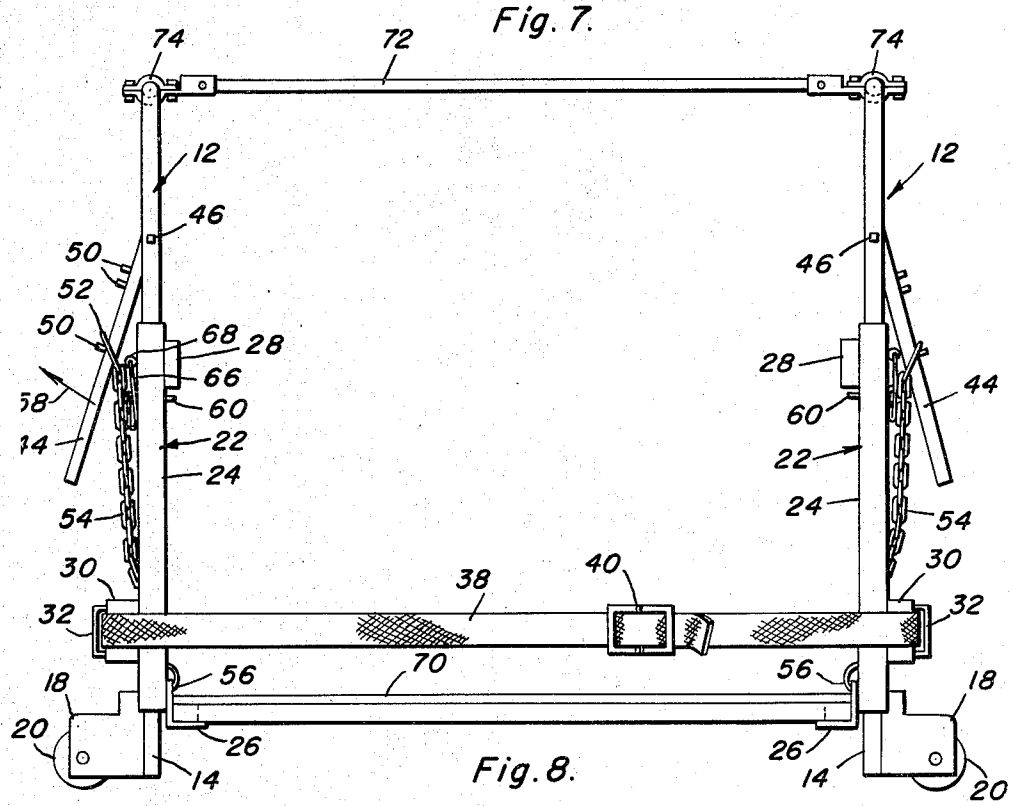
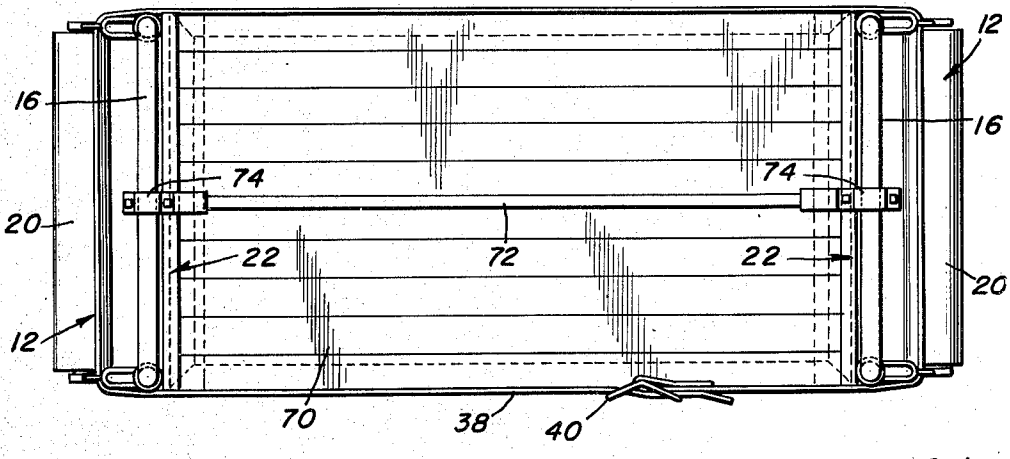


Fig. 8.



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Patented May 1, 1951

2,551,097

UNITED STATES PATENT OFFICE

2,551,097

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Harry L. Cole, Chillicothe, Mo.

Application August 29, 1949, Serial No. 112,931

1 Claim. (Cl. 214—65.4)

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This invention relates to new and useful improvements in structural refinements in apparatus for transporting articles of different types, and the principal object of the invention is to facilitate convenient and expeditious transportation of relatively large and bulky articles such as stoves, refrigerators, etc., as well as groups of relatively smaller articles such as boxes, cans, and the like.

This object is achieved by the provision of the instant apparatus consisting of a pair of frames which are adapted to be clamped against opposite ends of the article which is to be transported and which are provided with ground engaging wheels or rollers, together with means for raising the article to an elevated position whereupon the entire unit, that is, the frames and the article therebetween, may be easily rolled along the ground.

The primary feature of the invention resides, therefore, in the particular structural arrangement of the aforementioned frames, while other features lie in the means which are employed for clamping the frames against the article and means for elevating the article after the frames have been applied thereto.

Some of the advantages of the invention reside in its simplicity of construction, in its convenient operation, and in its adaptability to economical manufacture.

With the above more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a side elevational view of the invention applied to an article which is to be transported;

Figure 2 is a perspective view of one of the frames used in the invention;

Figure 3 is an elevational view of the subject shown in Figure 2;

Figure 4 is a cross sectional view, taken substantially in the plane of the line 4—4 in Figure 3 and illustrating the article carrying member of the frame in its lowered position;

Figure 5 is a cross sectional view, similar to that shown in Figure 4, but illustrating the article carrying member in its elevated position;

Figure 6 is a cross sectional detail, taken substantially in the plane of the line 6—6 in Figure 5;

Figure 7 is a side elevational view, similar to

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that shown in Figure 1, but illustrating a modified use of the invention; and,

Figure 8 is a top plan view of the subject shown in Figure 7.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of an article transporting apparatus designated generally by the reference character 10, the same embodying in its construction a pair of vertically elongated frames designated generally by the reference character 12, these being identical in construction so that a description of one will suffice for both.

The frames 12 are of an inverted U-shaped configuration affording a pair of spaced uprights 14 and a connecting bight portion 16 at the upper end of the uprights, the lower end portions of the uprights being provided with suitable brackets 18 in which is rotatably mounted a ground engaging roller 20.

An article carrying member designated generally by the reference character 22 is slidable vertically on the uprights 14, this member consisting of a pair of sleeves 24 which are slidably positioned on the uprights 14 and are rigidly connected together by a horizontal angle bar 26 and by an additional cross-piece 28 which is spaced upwardly from the angle bar, as shown.

Substantially tubular spacers 30 are secured to lower end portions of the sleeves 24 and are provided with elongated eyes 32, and it should be explained that when the invention is placed in use, the two frame assemblies 12 are placed against opposite ends of the article which is to be carried, such as for example, a stove 34, so that the lower edges of the article rest upon the angles 26 while the cross-pieces 28 abut the end surfaces of the article, as is best shown in Figure 1. If desired, suitable resilient pads 36 may be interposed between the article and the sleeves 24 so as to maintain the lower end portions of the sleeves at a distance from the article to prevent possible scratching or marring of the latter. The frame assemblies 12 are clamped against the opposite ends of the article 34 by a flexible element in the form of a belt or strap 38 which is simply threaded through the eyes 32 and the ends thereof are connected together by a suitable buckle 40, so that the frame assemblies together with the article being transported assume the form of an integrally movable unit.

It may be also explained at this point that in

order to facilitate lowering of the article carrying members 22 to a sufficient extent to permit the angles 26 to be inserted under the lower edges of the article 34, lower end portions of the sleeves 24 may be provided with upwardly extending slots 42 (see Figures 4, 5 and 6) whereby the sleeves 24 may slide downwardly on the uprights 14 beyond the upper edges of the brackets 18.

Means are provided for sliding the article carrying member 22 on the associated uprights 14, these means consisting of a pair of levers 44 which are pivoted to upper end portions of the uprights 14 as at 46 and are connected together for simultaneous swinging movement by a cross bar 48, the levers 44 being equipped with a plurality of upstanding pins 50 which are adapted to be engaged by suitable eyes 52 provided at one end of a pair of flexible elements or chains 54. The remaining ends of the chains 54 are suitably anchored to the angle bar 26 as at 56, it being apparent from the foregoing that when the levers 44 are swung upwardly as at 58, the carrying member 22 will be slid upwardly on the uprights 14, thus raising the article 34 therewith. Needless to say, by engaging the eyes 52 of the chains 54 with the different pins 50, the mechanical advantage of the levers 44 may be varied so as to suit articles of different weight.

In addition, means are provided for locking the carrier members 22 in their elevated position, these means involving the provision of locking pins 60 which are insertable in apertures 62 provided in the sleeves 24 and are selectively receivable in vertically spaced apertures or bores 64 with which the uprights 14 are equipped, so that when the carrier member 22 is raised to an appropriate height, the locking pins 60 may be inserted in appropriate apertures or bores for the purpose of supporting the carrier in its elevated position. If desired, the locking pins 60 may be provided with suitable cords 66 anchored as at 68 to the sleeves 24 so as to prevent their loss.

In any event, it is to be noted that after the carrying members 22 and the article 34 have been raised to an elevated position, the entire apparatus, together with the article, may be easily rolled along the ground until a destination is reached, after which the locking pins 60 may be withdrawn and the levers 44 actuated to lower the members 22 and the article 34 to the ground. It is to be also observed that while the transportation is being effected, the levers 44 will function as effective handles for pushing, pulling, steering and guiding the entire apparatus.

Moreover, when the handles are in their upwardly swung positions, the entire device may be lifted thereby from the ground and conveniently carried.

It may also be explained that the primary function of the spacers 30 is to provide clearance for the chains 54 without interfering with the belt or strap 38.

The foregoing disclosure describes the invention as used for transporting relatively large, bulky objects, such as stoves, refrigerators, etc., but attention is now directed to the accompanying Figures 7 and 8 which illustrate the invention being used for the transportation of groups of relatively small objects such as cans, boxes, etc. In such instances, a platform 70 is simply positioned on the angle bars 26 of the frame assemblies 12 while a tie rod 72, provided at the ends thereof with suitable clamps 74, is attached to the bight portions 16 of the frames, so that the frame assemblies are maintained in a spaced relation and are clamped against the opposite ends of the platform 70 by the strap or belt 38.

In this instance, the platform 70, in effect, constitutes a portion of the load which is to be transported and which is positioned on the platform, as will be clearly apparent.

It is believed that the advantages and use of the invention will be readily understood from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

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

In an article transporting apparatus, an inverted substantially U-shaped frame affording a pair of uprights and a connecting bight portion at the upper ends thereof, a ground engaging roller rotatably mounted at the lower end of each of said uprights, an article carrying member including a pair of spaced sleeves slidable on said uprights and an article engaging cross-piece rigidly secured to and between said sleeves, means on said sleeves for clamping said member against one end of an article to be transported, means on said frame for sliding said member relative thereto, further means for locking the member in an elevated position on the frame, said means for sliding said member including a vertically swingable lever pivoted on the frame adjacent to the bight portion of said frame, and a flexible element operatively connecting said lever to said cross-piece, said lever extending horizontally from one side of the frame and comprising a handle when the lever is in the position assumed when said member is raised.

HARRY L. COLE.

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