

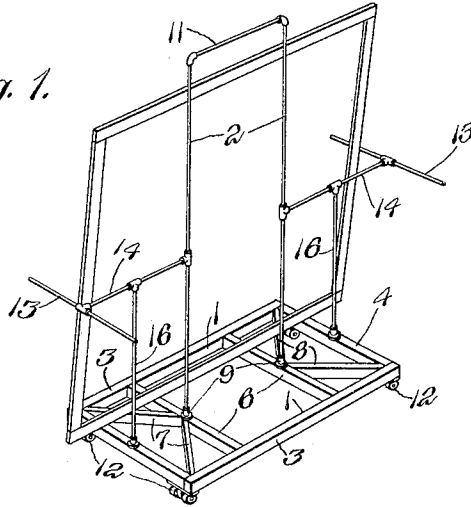
E. H. MERRILL.  
 TRUCK FOR TRANSPORTING LEATHER FRAMES AND THE LIKE.  
 APPLICATION FILED JULY 18, 1917.

1,330,891.

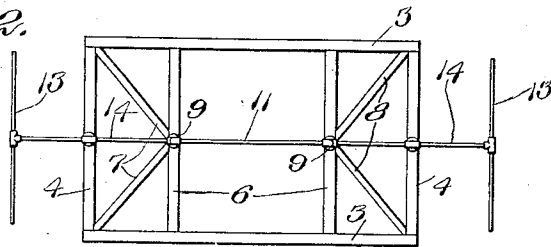
Patented Feb. 17, 1920.

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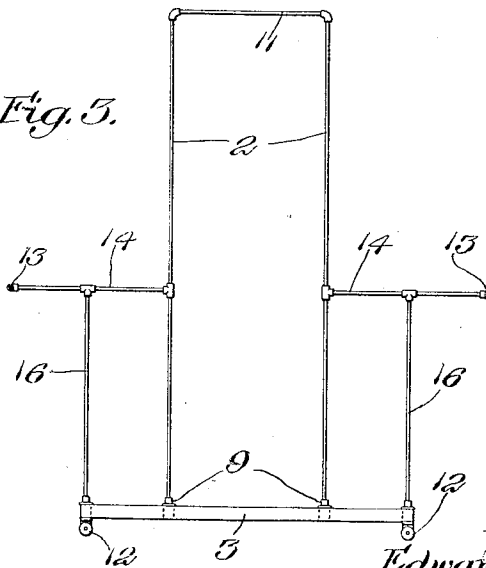
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



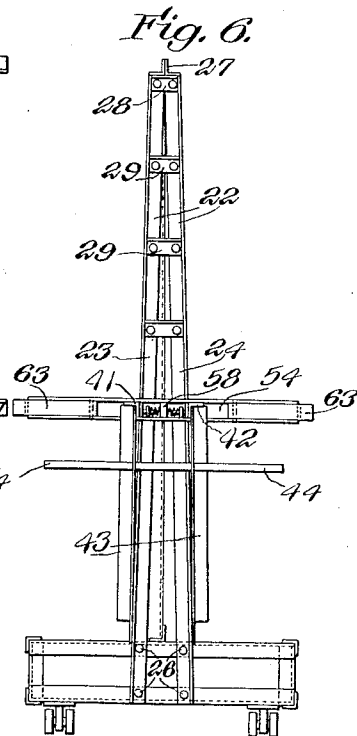
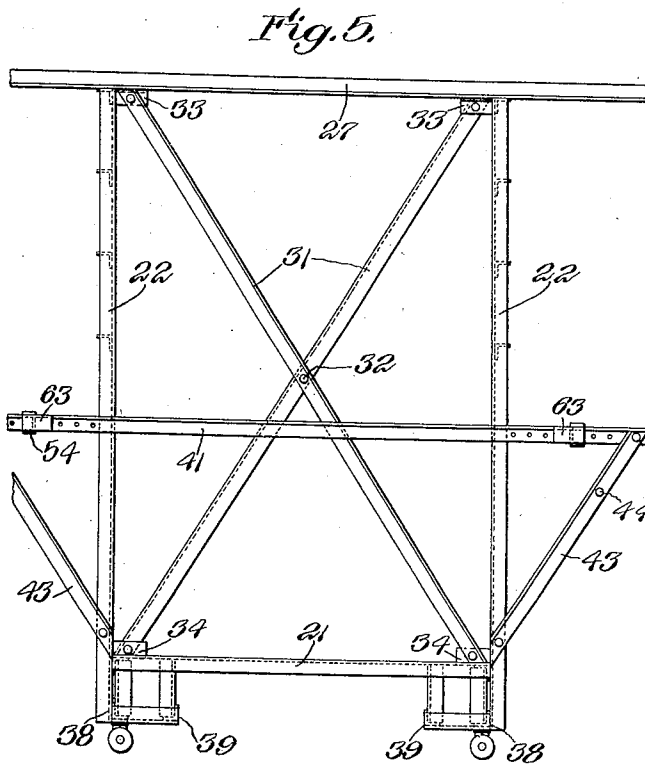
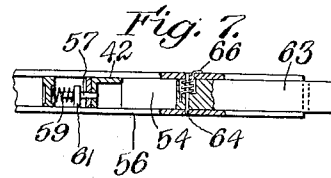
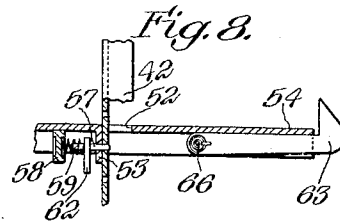
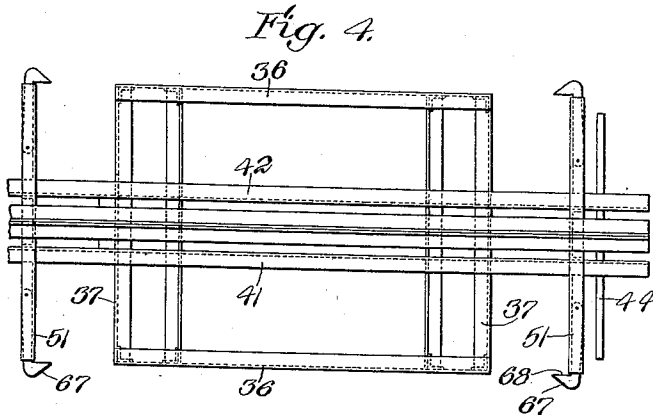
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 Edward H. Merrill,  
 by Robert Robert Rushman  
 His Attorneys.

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2 SHEETS—SHEET 2.



*Inventor:*  
 Edward H. Merrill,  
 by Robert Robert Kishman  
 his Attorneys.

# UNITED STATES PATENT OFFICE.

EDWARD HARRINGTON MERRILL, OF PEABODY, MASSACHUSETTS, ASSIGNOR TO A. C. LAWRENCE LEATHER COMPANY, OF PEABODY, MASSACHUSETTS, A CORPORATION OF MAINE.

## TRUCK FOR TRANSPORTING LEATHER-FRAMES AND THE LIKE.

1,330,891.

Specification of Letters Patent.

Patented Feb. 17, 1920.

Application filed July 18, 1917. Serial No. 181,229.

*To all whom it may concern:*

Be it known that I, EDWARD H. MERRILL, a citizen of the United States, and resident of Peabody, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Trucks for Transporting Leather-Frames and the like, of which the following is a specification.

This invention relates to a truck and more particularly to a truck for transporting leather frames and the like.

According to well-known methods of leather manufacture, hides, sides, skins, and other forms of unfinished leather are stretched in wooden frames so as conveniently to be treated. The frames differ in size, depending upon the size of the hides or skins to be treated, but they are commonly of the order of nine by ten feet. Each hide is usually mounted in a frame by means of cords secured to the edge of the hide with toggles, clips or the like and extending outwardly in all directions to the frame, where they are tacked or otherwise secured to the frame, the cords being sufficiently tensioned tightly to stretch the hide. During the process of treating the leather these frames are moved from place to place. For example, according to one method of treatment the unfinished leather in the frame is covered on one side with a coating adapted to convert the leather into so-called patent leather, this coating usually being applied indoors. After the application of the coating the frames are usually carried outdoors and left for a stated period to allow the coating to dry, the frames being disposed in substantially a horizontal position with the coated surface uppermost. After the coating has dried the frames are returned indoors where the leather is again coated, and the frames are again transported outdoors to permit the new coating to dry. This process is continued until the desired number of coatings has been applied and the leather is then removed from the frames. Heretofore it has been the practice in transporting these frames from place to place to have them carried by laborers. However, owing to their size they are awkward to handle and when distributing them outdoors in a substantially horizontal position they occupy such a large area that the distances

through which they must be carried to and from the buildings is considerable.

The principal object of my invention is to provide a truck which is adapted to transport frames of the character described or other similar articles, which is adapted to transport the frames in a substantially upright position so that they can be moved along comparatively narrow passageways and through comparatively narrow doors, which is adapted to support frames or the like on both sides in such manner that the overturning moments produced by the frames on the opposite sides tend to balance each other, which is constructed in such manner that the upright supporting means against which the frames lean when placed upon the truck are rigidly braced laterally so that the lateral forces applied to the upright supporting means at a considerable distance above the base of a truck, if unbalanced, do not unduly stress the supporting means, which is provided with means for preventing the frames from tipping off the truck, this means preferably being automatic and adjustable, which is rigidly and simply constructed and which is provided with a number of minor improvements which will be apparent from the following description and the accompanying drawings, in which—

Figure 1 is a perspective view of one embodiment of my invention showing one leather frame in position;

Fig. 2 is a plan view of the truck shown in Fig. 1;

Fig. 3 is a side elevation of the truck shown in Fig. 1;

Fig. 4 is a plan view of another embodiment of my invention;

Fig. 5 is a side elevation of the apparatus shown in Fig. 4;

Fig. 6 is an end elevation of the apparatus shown in Fig. 4;

Fig. 7 is a detail view of means for automatically retaining the frames on the truck, this view being in end elevation with parts broken away; and

Fig. 8 is a plan view of the means shown in Fig. 7, parts being shown in cross-section.

The particular embodiment of my invention shown in Fig. 1 comprises a horizon-

tally disposed base 1 and upright supporting means 2. The base 1 is formed of wood and comprises longitudinal side members 3, transverse end members 4, and intermediate transverse members 6, the base being braced by means of members 7 and 8 disposed between the members 4 and 6. The upright supporting means 2 comprises hollow iron bars threaded into flange members 9 which are bolted or otherwise secured to the intermediate transverse members 6, the upright members 2 being connected together at their upper ends by means of a longitudinal member 11. The base is preferably mounted on casters or rollers 12, and in order more conveniently to move the truck about, handles 13 are preferably mounted at each end of the truck. In the embodiment shown in Figs. 1, 2 and 3, these handles are connected to the uprights 2 at a suitable distance above the base 1 by means of horizontal members 14, the members 14 preferably being supported intermediate their ends by means of uprights 16 mounted on the end members 4.

When employing the truck for transporting leather frames the frames are rested on the base so as to lean against the upright supporting means 2, as indicated for example in Fig. 1. The supporting means 2 is disposed along the longitudinal center of the truck so that frames can be carried on either side thereof. This not only renders the apparatus more convenient, inasmuch as frames can be loaded thereupon from opposite sides, but the overturning moments produced by the frames bearing against the upright supporting means 2 near its upper end, may be substantially balanced by placing the same number of frames on each side of the supporting means, a suitable number for each side being twelve, although it is to be understood that the truck may be constructed of any size.

While the above described apparatus is fairly satisfactory for very light work, I have found that the embodiment of my invention illustrated in Figs. 4, 5 and 6 is much better adapted to heavier work. This embodiment comprises a horizontally disposed base 21 and upright supporting means 22 corresponding to the base 1 and uprights 2 in Figs. 1 to 3. However, instead of being formed in the shape of single upright pipes, the uprights 22 are formed in the shape of inverted V's, comprising two legs 23 and 24 meeting at the top and being spaced apart at the bottom. These legs 23 and 24 are preferably angle irons, and they are preferably secured to the ends of the base 21 by means of bolts 26 or other suitable means. At the top the uprights 22 are connected together by means of a longitudinal member 27, this member preferably being formed of two angle irons having juxtaposed flanges projecting upwardly and having their other

flanges extending outwardly so as to rest upon the top of the uprights 22. Angle irons 28 are preferably provided in the outside angles between the uprights 22 and the top member 27, the members 28 being bolted or otherwise secured both to the uprights and to the top member. Similar angle irons 29 are preferably distributed along the upright member in order to brace the structure. Braces 31 are preferably disposed in the longitudinal central plane of the truck, these braces comprising angle irons secured together in the middle by means of a bolt 32 and secured at their upper and lower ends to the top member 27 and base 21 by means of angle irons 33 and 34, respectively.

The base 21 is similar in plan to base 1 shown in Figs. 1, 2 and 3. However, it is built up of angle irons so as to form a very rigid construction. The base comprises longitudinal angle irons 36 with their flanges extending inwardly and downwardly, respectively, transverse angle irons 37 having their flanges extending inwardly and downwardly, respectively, transverse angle irons 38 having their flanges extending inwardly and upwardly, transverse angle irons 39 having their flanges extending upwardly and outwardly, and short sections of angle irons for connecting the respective ends of the aforesaid angle irons together as illustrated in the figures. The central portion of the base 21 is somewhat raised from the floor so as to permit an electric lift truck or similar apparatus to have its lifting platform moved under the raised central portion of the base so as bodily to lift the truck and transport it about.

The upright angle irons 23 and 24 have their flanges disposed inwardly and longitudinally, respectively, and to the longitudinal flanges of the angle irons at a distance of approximately three feet from the floor, are secured angle irons 41 and 42. The angle irons 41 and 42 have their respective flanges extending downwardly and outwardly, the downwardly extending flanges lying against and being secured to the longitudinal flanges of the uprights 23 and 24. The members 41 and 42 preferably extend somewhat beyond the uprights 22 as shown in Figs. 4 and 5, and braces 43 are preferably disposed between the ends of members 41 and 42 and the base 21. Handles 44 may be inserted through openings in the longitudinal flanges of the braces 43.

The frames resting on the base of the truck and leaning against the upright supporting means are preferably spaced apart at the base only a small amount so as not to extend outwardly too far and consequently there is liability of their tipping outwardly from the upright supporting means about their lower edges resting on the base in moving the truck over a rough surface. I there-

fore preferably provide restraining means for preventing the frames from tipping outwardly. The preferred form of the restraining means is that shown in Figs. 4 to 8, which comprises a channel member 51 transversely mounted on the longitudinal members 41 and 42. The channel member 51 is provided with openings 52, these openings preferably being formed by striking-up portions 53 of the web 54 which connects the two flanges 56 of the channel member together, as shown in Figs. 7 and 8. The openings 52 are of such rectangular shape and are so spaced apart as to fit over the members 41 and 42 so that the channel member 51 may be moved longitudinally along the members 41 and 42.

Inasmuch as it is frequently desirable to employ the truck for transporting frames of different sizes, I preferably provide means for maintaining the members 51 in any one of a number of adjusted positions longitudinally of the members 41 and 42, the preferred means comprising pins 57 adapted to be moved transversely through openings in the upturned lips 53 of the channel member 51 and through openings in the vertical flanges of members 41 and 42, these openings being so disposed as to register as the member 51 is moved longitudinally along the members 41 and 42. A partition member 58 is mounted in the channel of member 51 intermediate the pins 57 and springs 59 are disposed between the partition member 58 and stops 61 mounted on the pins 57, the springs being under compression so as to urge the pins outwardly into the openings in members 41 and 42. The stops 61 are preferably provided with extensions 62 extending outwardly from the channel in member 51 in such manner as to serve as handles for withdrawing the pins 57 from the openings in members 41 and 42 against the action of the springs 59 when it is desired to adjust the members 51 longitudinally of the members 41 and 42.

In order automatically to permit the insertion of frames between the transverse retaining means 51, I preferably mount hooks 53 within the ends of the channel members 51. These hooks are pivoted to spring outwardly about the vertical pivots 64, springs 66 preferably being provided normally to maintain the hooks 63 in advanced positions. The outer ends of the hooks 63 extend inwardly past the web portion 54 of the channel members 51 and the ends of the hooks 63 are tapered inwardly as indicated at 67 so that when frames are moved into position on the truck between the transverse end members 51, the ends of the frames will engage the tapered surfaces 67 of the hooks and thereby force the hooks outwardly from the path of the frames, it being understood that the springs 66 are comparatively weak,

their only function being to return the hooks 63 into the advanced position after a frame has been passed between the hooks. The inner surfaces 68 of the hooks are substantially perpendicular to the path of the frames so that in the event that the frames tend to tip outwardly they engage the surfaces 68 of the hooks and are thereby held in position. In unloading the frames the hooks may be fastened in retracted position by any suitable means.

The operation of the apparatus shown in Figs. 4 to 8 is slightly different from that shown in Figs. 1 to 3, inasmuch as the uprights 22 are not so high and inasmuch as the top member 27 is extended beyond the uprights 22. In the first embodiment of the invention the uprights extend above the leather frames, these uprights usually being about ten feet high, while in the second embodiment of the invention the frames are intended to extend upwardly beyond the top of the uprights 22 and to rest against the extended portions of the top member 27, the uprights 22 being only of the order of seven feet high. This reduces the vertical dimension of the apparatus and tends to make it less top-heavy. Moreover, in the second embodiment of the invention the inverted V-shaped supports 22 together with the longitudinal members 41 and 42 mounted thereon tend automatically to give the frames a suitable inclination when they are placed upon the truck. The preferred method of using the second embodiment of my invention is to move it about upon its own casters while indoors and while being loaded, and also when moving it short distances outdoors, and to transport it by means of an electric lifting truck or similar device when transporting frames over long distances, as for example from the treating room to the outdoor drying frames a considerable distance from the treating room.

What I claim is:

1. A truck for transporting leather frames or the like comprising a horizontally disposed base, and an upright support mounted on said base so that the frames may lean thereagainst when resting on the base, said support having portions extending from the upper ends thereof approximately in the longitudinal plane thereof, said portions being unobstructed so that the frames may lean thereagainst.

2. A truck for transporting leather frames or the like comprising a horizontally disposed base, and an upright support mounted on said base so that the frames may lean thereagainst when resting on the base, said support having portions extending from the upper ends thereof substantially horizontally in the longitudinal plane of the support, said portions being unobstructed so that the frames may lean thereagainst.

3. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the central region of the base so that the frames may lean against opposite sides thereof when resting on the base, and retaining means for restraining the frames from tipping off the truck.

4. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the central region of the base so that the frames may lean against opposite sides thereof when resting on the base, and retaining means mounted on the truck in the region of the ends of the frames resting on the base to restrain the frames from tipping off.

5. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the central region of the base so that the frames or the like may rest on the base and lean against the supporting means on each side thereof, and retaining means mounted on said supporting means to extend along the outside of the frames so as to prevent the frames from tipping outwardly.

6. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the central region of the base so that the frames or the like may rest on the base and lean against opposite sides of the supporting means, and retaining means extending laterally from the supporting means at a distance above the base for preventing the frame or the like from tipping off, the retaining means having portions longitudinally movable into and out of the path of the frames or the like.

7. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the central region of the base so that the frames or the like may rest on the base and lean against opposite sides of the supporting means, and retaining means laterally disposed at each end of the supporting means at a distance above the base for preventing the frames from tipping off, the retaining means having pivoted portions movable into and out of the path of the frame or the like.

8. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the base so that the frames or the like may rest on the base and lean against the supporting means, and retaining means laterally disposed at each end of the supporting means at a distance above the base for preventing the frames from tipping off, the retaining means having portions

movable into and out of the path of the frames or the like, the said portions being arranged so as to be forced out of the path of the frames when the frames are moved into position on the truck and having means for yieldingly urging them into retaining position so as automatically to move back into the said path when the frames have passed therebetween.

9. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the base so that the frames or the like may rest on the base and lean against the supporting means, and retaining means laterally disposed at each end of the supporting means at a distance above the base for preventing the frames from tipping off, the retaining means having pivoted portions movable into and out of the path of the frame or the like and having means for yieldingly urging said portions into retaining position, the pivoted portions being arranged so as to be forced out of the path of the frames when the frames are moved into position on the truck and so as automatically to move back into the said path in response to said yielding means when the frames have passed therebetween.

10. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the central region of the base so that the frames or the like may rest on the base and lean against opposite sides of the supporting means, and retaining means laterally disposed at the end of the supporting means at a distance above the base for preventing the frames from tipping off, the retaining means including a hook arranged to hook over the frames.

11. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the base so that the frames or the like may rest on the base and lean against the supporting means, retaining means laterally disposed at the end of the supporting means at a distance above the base for preventing the frames from tipping off, the retaining means including hooks arranged to move out of the path of the frames, and means for yieldingly urging the hooks into said path.

12. A truck for transporting leather frames or the like comprising a horizontally disposed base, supporting means extending upwardly from the base so that the frames or the like may rest on the base and lean against the supporting means, retaining means laterally disposed at the end of the supporting means at a distance above the base for preventing the frames from tipping off, the retaining means including hooks arranged to move out of the path of

the frames, and means for yieldingly urging the hooks into said path, the hooks having tapered ends arranged so that they are automatically retracted from the paths by the frames.

13. A truck for transporting leather frames and the like according to claim 3 further characterized by means whereby said retaining means may be moved longitudinally of the frames so as to accommodate frames of different lengths.

14. A truck for transporting leather frames and the like according to claim 5 further characterized by means whereby said retaining means may be moved longitudinally of the frames so as to accommodate frames of different lengths.

15. A truck for transporting leather frames and the like according to claim 6 further characterized by means whereby said retaining means may be moved longitudinally of the frames so as to accommodate frames of different lengths.

16. A truck for transporting leather frames and the like according to claim 8 further characterized by means whereby said retaining means may be moved longitudinally of the frames so as to accommodate frames of different lengths.

17. A truck for transporting leather frames and the like according to claim 12

further characterized by means whereby said retaining means may be moved longitudinally of the frame so as to accommodate frames of different lengths.

18. A truck for transporting leather frames and the like comprising a horizontally disposed base, spaced uprights extending upwardly from the base in the vertical central region of the truck, bars extending longitudinally of the truck in said vertical central region outwardly from said uprights intermediate their ends, and bars extending from said base and connecting with said bars at points spaced away from said uprights.

19. A truck for transporting leather frames and the like comprising a horizontally disposed base, spaced uprights extending upwardly from the base in the vertical central region of the truck, bars extending longitudinally of the truck in said vertical central region outwardly from said uprights intermediate their ends, bars extending from said base and connecting with said bars at points spaced away from said uprights, and elongate handles mounted horizontally on certain of said bars in spaced relationship to said uprights.

Signed by me at Peabody this ninth day of July, 1917.

EDWARD HARRINGTON MERRILL.