W. F. IRRGANG.

HAND TRUCK.

APPLICATION FILED SEPT. 17, 1921.

1,429,432.

Patented Sept. 19, 1922.

Fig. 1.

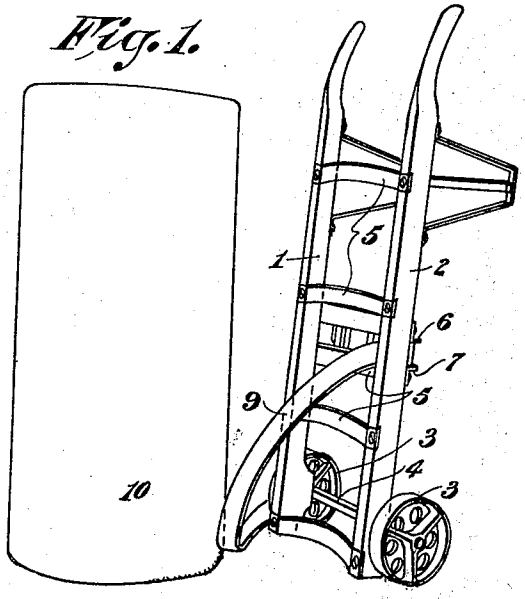


Fig. 2.

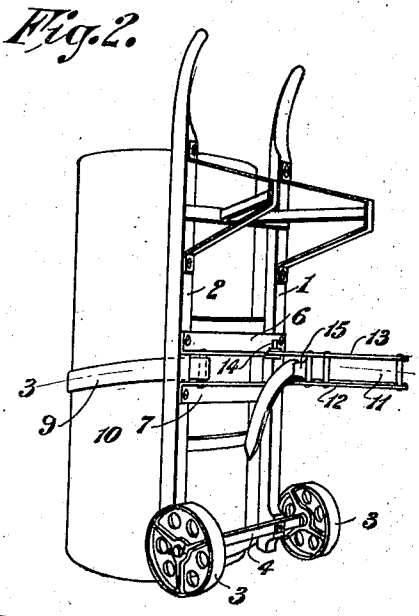


Fig. 3.

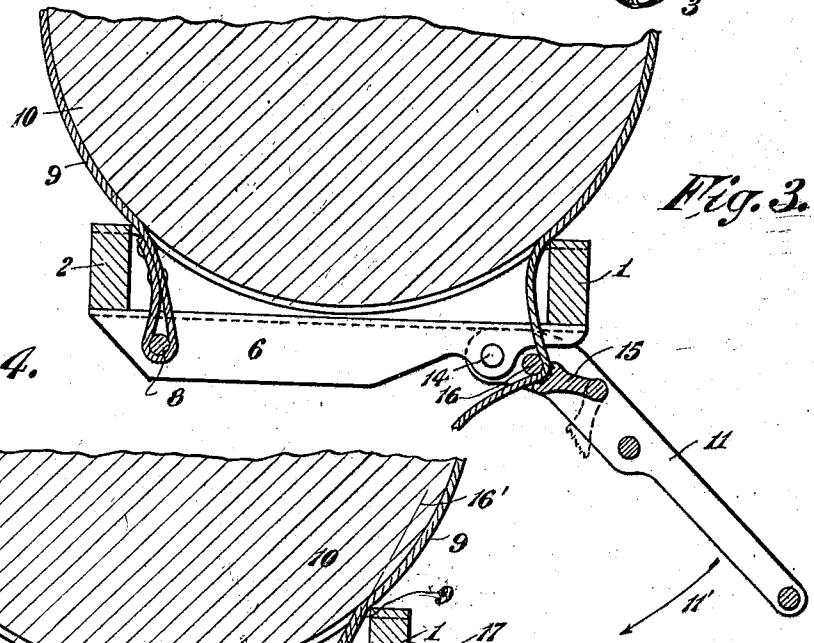
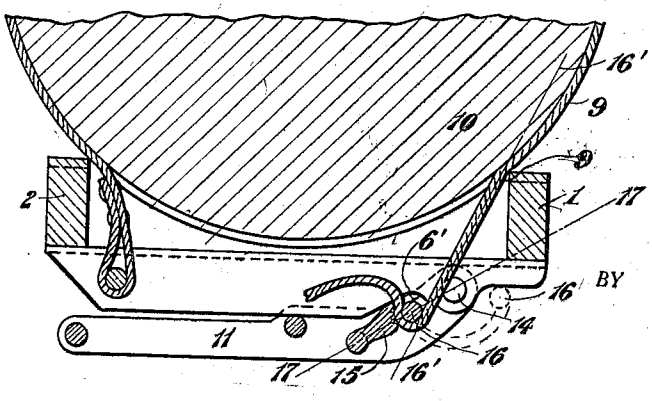


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM F. IRRGANG, OF SPRINGFIELD, MASSACHUSETTS.

HAND TRUCK.

Application filed September 17, 1921. Serial No. 501,365.

To all whom it may concern:

Be it known that I, WILLIAM F. IRRGANG, a citizen of the United States of America, residing at Springfield, in the county of Hampden and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Hand Trucks, of which the following is a specification.

This invention relates to improvements in hand trucks which the operator moves or rolls along the floor by means of the usual handles and casters or rollers. In this class of trucks it has been a common practice to provide the lower end of the frame with a tongue or projecting portion for insertion under the article to be moved. This tongue is objectionable when handling various kinds of merchandise, as rolls of paper, burlap, carpets, etc., since the tongue or projection injures or tears the lower edge of the roll, either when loading it onto the truck, or during transportation.

One of the objects, therefore, is to avoid the use of this projecting tongue portion, and to firmly secure the roll of paper, or other merchandise to the truck by means of a flexible band which encircles the roll and which is provided with means for tightening the band for firmly clamping and holding the roll against the truck while it is moved from place to place. The tightening means is so constructed that it automatically remains in locking position, the construction involving the principle of the toggle joint.

Referring to the drawings:

Fig. 1 is a perspective view of the truck and the retaining means for holding the roll in place, and showing the roll before being mounted upon the truck.

Fig. 2 is a view similar to Fig. 1 showing the roll after being encircled by the band or strap, and before the clamping takes place.

Fig. 3 is an enlarged sectional view of Fig. 2, on the line 3—3, showing the position of the handle and band before the clamping action.

Fig. 4 is a view similar to Fig. 3, showing the lever in its locking position.

Referring to the drawings in detail: 1 and 2 designate the usual side bars of the truck, and the wheels and axles are indicated at 3 and 4 respectively. The bars 1 and 2 are connected together by the usual pieces of bent strap iron 5. Secured to the bars 1 and 2 and at the rear edges thereof, are the angle iron pieces 6 and 7, and attached to these pieces by means of the pin 8 is the band 9 which is used for retaining the roll of paper, indicated at 10, in place on the truck. The band is tightened or drawn firmly against the roll by the following mechanism:

A lever 11, formed with parallel bars 12 and 13, is pivoted to the angle iron bars 6 and 7 at the point 14. Pivotally mounted between the bars 12 and 13 is a latch or dog 15, and cooperating with this latch is the pin 16 over which passes the free end of the band 9 shown in Figs. 3 and 4. Figs. 2 and 3 show the holding band after it has been passed around the roll of paper 10, and just before the lever 11 is swung in the direction of the arrow 11′. After the band 9 is placed as shown in Figs. 2 and 3 and with slight pressure on the roll 10, the lever is then moved into the position shown in Fig. 4. This operation tightly draws the band 9 firmly against the roll. The lever 11 in its locking position passes by the line of stress indicated by the line 16′—16′. The line 17—17 indicates the line or position of the bearing or pivotal points 14 and 16 of the lever 11 when in its locking or holding position. In other words, the line 17—17 is within the line 16′—16′ and the lever 11 is therefore automatically locked as the line 17—17 swings over the line 16′—16′. It is understood that the lines 17—17 and 16′—16′ represent the different positions of the lever 11.

The band 9, it will be noticed, has a bearing on the side frame 1 and 9′, thereby serving as an additional means to prevent the band from slipping back or losing its hold. The roll is therefore very tightly drawn against the cross braces 5 and against the side bars 1 and 2. When the band is in its clamping position the roll 10 cannot slip or sag downward, since it assumes the somewhat inclined position, shown in Fig. 2. In other words it acts as a bight on the roll.

It will be seen that I have provided a very efficient means for retaining a roll of paper or other merchandise on the usual hand truck and without the use of the usual tongue or projection at its lower edge.

It will further be seen that I have provided a roll clamping or holding means that can be quickly operated to secure and re-

lease a roll of paper or other merchandise, on the usual wheel or caster truck.

The pin 16, it will be noticed, enters the recesses 6′ and 7′ in the bars 6 and 7 when the lever 11 is in its locking position.

What I claim is:

1. In a truck of the kind described, the combination with the upright side pieces of the same, of bars secured to said pieces and extending transversely of the uprights, a flexible band, having one end secured to said bars, lever means pivotally secured to said bars, a pin on the lever, a dog on the lever and spaced from the pin to receive the free or other end of the band therebetween, whereby when the lever is operated the band will be tightened, as described.

2. A clamping device for retaining a roll or the like on the upright pieces of a truck of the kind described, said device comprising a flexible band having one end secured to one of the upright pieces, a lever pivoted near the other upright, a clamping device on the lever to receive the free or other end of the band, the location of the pivotal connection of the lever and clamping device being such that the lever automatically assumes a toggle or locking position when in its roll holding position.

3. In a truck, a pair of side pieces, members arranged across the side pieces, a flexible band connected at one end to the members, a lever pivotally connected to the members, clamping means on the lever to receive the free or other end of the band, whereby when the band is tightened against a roll, or the like, said band will retain the roll in place on the truck by forming a bight against the same, as described.

4. In a truck of the type described, the combination, of means for securing an article thereto, said means including a flexible band for gripping the article and having one end permanently connected to one side of the frame of the truck and designed to be passed around the article, and means located at the other side of the frame for placing a tension on the band for drawing it firmly against the article and for retaining the article securely in place on the truck while being moved from place to place, said tension means including a lever that is automatically locked when in its holding position.

5. In a truck of the type described, the combination, with the frame thereof of flexible means designed to be passed around the article and devices for placing tension on the flexible means for retaining the article in place on the truck as described, said devices including a lever which is pivotally connected to the frame and is automatically retained in place when tension is applied to the flexible means.

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