Sept. 24, 1929. R. S. DART 1,729,330

GRAPPLING DEVICE FOR MERCHANDISE

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Fig. 2.

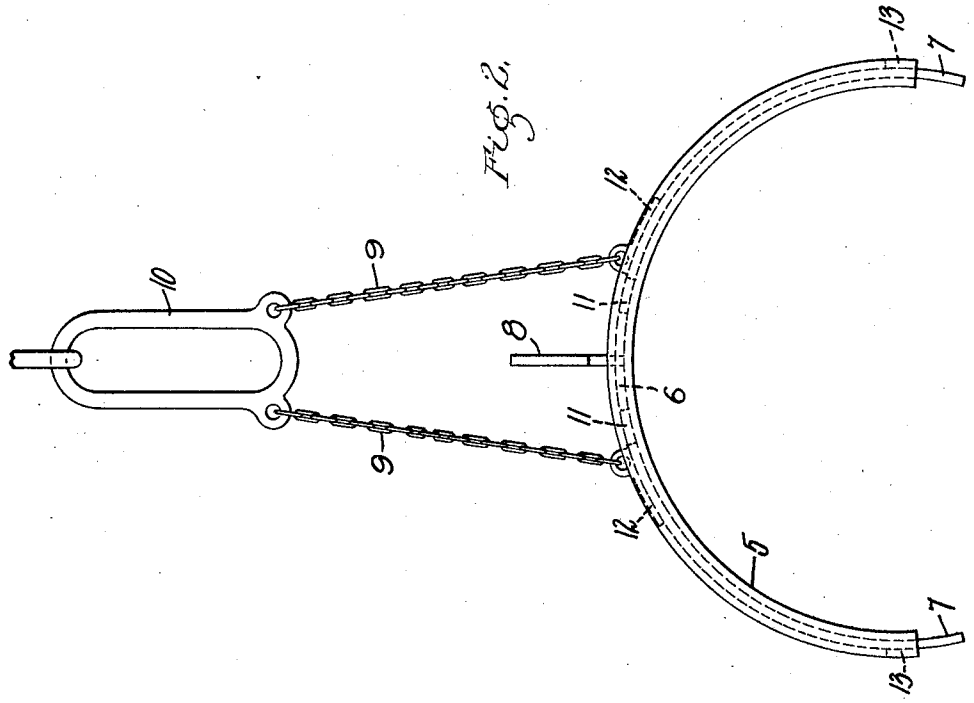
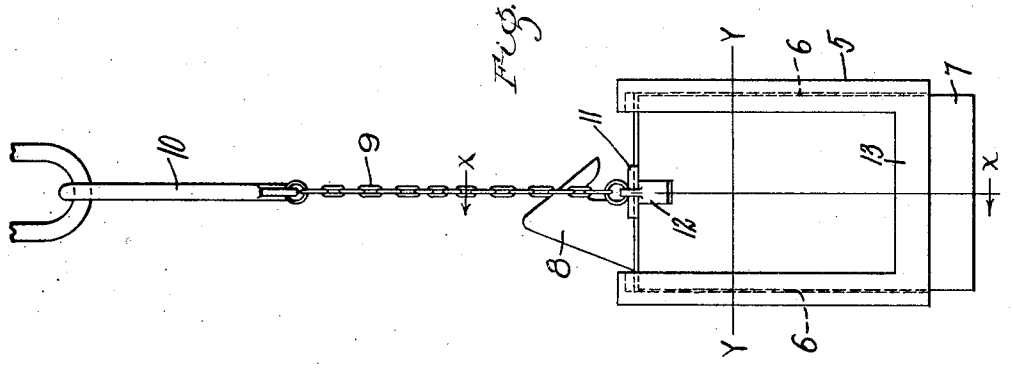


Fig. 1.



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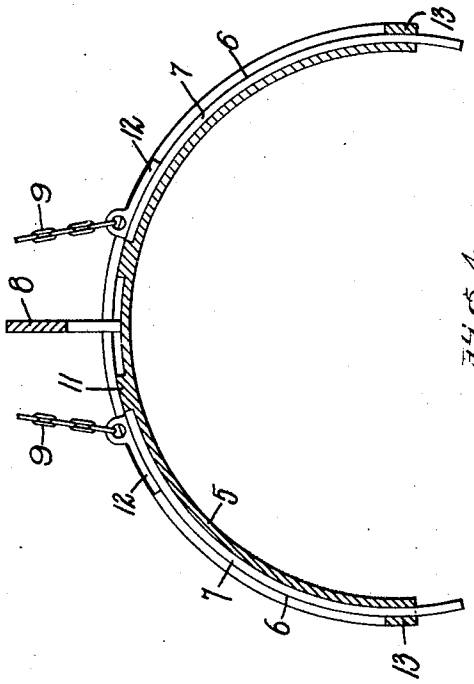


Fig. 4.

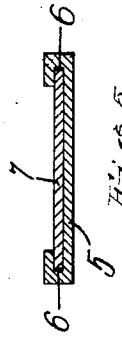


Fig. 5.

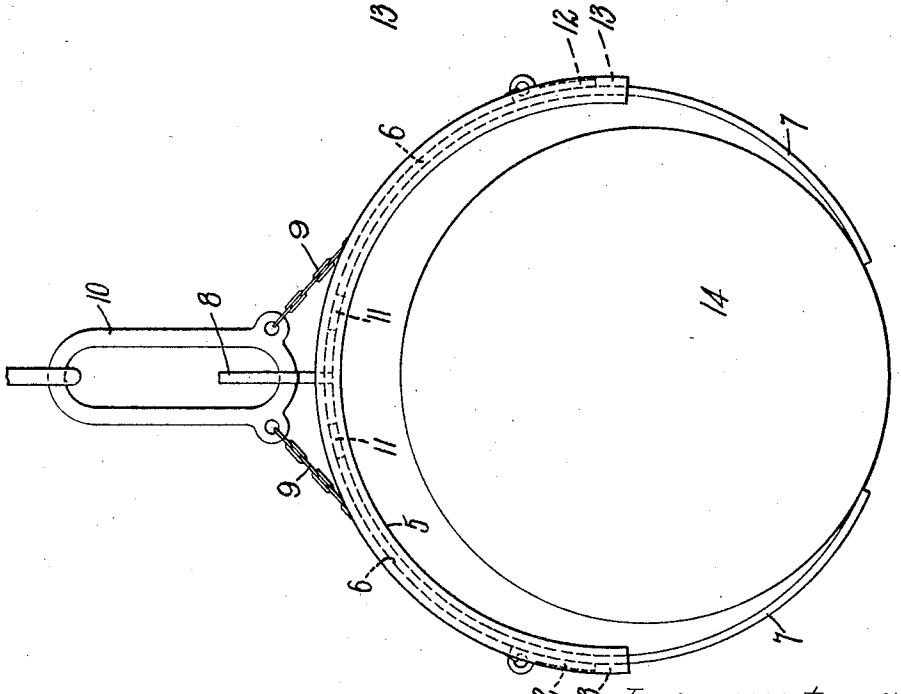


Fig. 3.

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Patented Sept. 24, 1929 1,729,330

UNITED STATES PATENT OFFICE

RUSSEL S. DART, OF BOSTON, MASSACHUSETTS

GRAPPLING DEVICE FOR MERCHANDISE

Application filed June 25, 1928. Serial No. 287,978.

My invention is designed for hoisting and moving heavy bodies and especially those of cylindrical form such as large metal pipe, reels of wire or metal tubing, baled goods, and the like.

My invention consists of a curved frame forming an arc approximately the same as that of the body to be hoisted or moved and adapted to open and close without spreading laterally.

It is important that a device for this purpose should be compact and that in grappling or releasing a given body in a group the adjacent bodies should not interfere with its operation. It is obvious that a device which is caused to spread in order to grasp or release the body to be hoisted or moved may be obstructed in its operation by contact with adjacent bodies, and would also require additional space for such operation.

In the accompanying drawing illustrating my invention, Fig. 1 is a side elevation of my device in position for grasping a cylindrical body. Fig. 2 is a front elevation of my device in the same position as in Fig. 1. Fig. 3 is a front elevation showing an object grasped by the device and suspended from the ground. Fig. 4 is a sectional view on the line X—X in Fig. 1. Fig. 5 is a sectional view on the line Y—Y in Fig. 1.

Referring to the drawing, 5 is a curved metal frame having a longitudinal groove 6 formed in each edge thereof. The groove 6 is shown continuous; it is obvious that it would function substantially the same if it consisted of a series of short grooves in the same arc as the continuous groove shown. 7, 7 are curved plates adapted to slide freely in the grooves 6, 6. 8 is a hook secured to the frame and adapted to engage the connection with a crane or other machinery for hoisting or moving heavy objects. 9, 9 are chains or cables connecting the curved plates 7, 7 with the ring 10. 11, 11 are stops to limit the upward movement of the curved plates 7, 7.

The operation of my invention is as follows:—Preparatory to grasping a cylindrical or other form of object for which it is adapted, my device is suspended by means of the ring 10 upon the load hook of a crane or other machinery employed for that purpose. It is apparent that when the device is thus suspended the weight of the frame would cause the curved plates 7, 7 to rest in contact with the stops 11, 11. At the upper end of each curved plate 7 is a stop 12 which contacts with the rib 13 at the lower end of the frame 5 and thereby limits the downward movement of each curved plate 7. The arm of the crane is lowered until the device first rests upon the cylindrical object 14, and then continues to lower and to permit the curved plates 7, 7 to slide in an inwardly curved path and to grasp the object so that it may be securely held while being hoisted or moved. The operator then engages the ring 10 with the hook 8 and the device is ready to be raised and to hoist or otherwise move the object in its grasp.

The fundamental feature of my invention consists of the curved frame combined with a pair of curved members slidably mounted thereon. It is obvious that many variations from the details of the structures described and shown to illustrate my invention may be made without departing from its essential features and it is understood that such variations are within the scope of my invention so long as said fundamental feature is embodied therein.

What I claim and desire to secure by Letters Patent is:

1. In a grappling device a semi-circular shell combined with means for hoisting it, and suspended therefrom with its axis lying in approximately a horizontal plane, combined with a pair of curved members mounted in guides upon the surface of said shell and adapted to slide downwardly therein and to extend beyond the edges of said shell.

2. In a grappling device a semi-circular shell combined with means for hoisting it, and suspended therefrom with its axis lying in approximately a horizontal plane, combined with a pair of curved members mounted in guides upon the surface of said shell, having substantially the same arc as the surface of said shell, and adapted to slide downwardly therein and to extend beyond the edges of said shell.

3. In a grappling device a semi-circular

shell combined with means for hoisting it, and suspended therefrom with its axis lying in approximately a horizontal plane, combined with a pair of curved members mounted in guides upon the surface of said shell, having substantially the same arc as the surface of said shell, and adapted to slide downwardly therein and to extend beyond the edges of said shell, and means to limit the downward movement of said curved members.

4. In a grappling device a semi-circular shell combined with means for hoisting it, and suspended therefrom with its axis lying in approximately a horizontal plane, combined with a pair of curved members mounted in guides upon the surface of said shell, having substantially the same arc as the surface of said shell, and adapted to slide downwardly therein and to extend beyond the edges of said shell, and means to limit the upward movement of said curved members.

5. In a grappling device a semi-circular shell combined with means for hoisting it, and suspended therefrom with its axis lying in approximately a horizontal plane, combined with a pair of curved members mounted in guides upon the surface of said shell, having substantially the same arc as the surface of said shell, said curved members being adapted to slide freely in said guides and normally extending beyond the lower edges of said shell, and stops to limit the upward and downward movements of said curved members.

6. In a grappling device a semi-circular shell combined with means for hoisting it, and suspended therefrom with its axis lying in approximately a horizontal plane, combined with a pair of curved members mounted and confined in guides upon the surface of said shell, having substantially the same arc as the surface of said shell, and adapted to slide downwardly therein and to extend beyond the edges of said shell.

7. In a grappling device a semi-circular shell combined with means for hoisting it, and suspended therefrom with its axis lying in approximately a horizontal plane, combined with a pair of curved members mounted in guides upon the surface of said shell and adapted to slide downwardly therein and to extend beyond the edges of said shell, and means for suspending said shell connected with the upper ends of said curved members.

8. In a grappling device a semi-circular shell combined with means for hoisting it, and suspended therefrom with its axis lying in approximately a horizontal plane, combined with a pair of curved members mounted in guides upon the surface of said shell and adapted to slide downwardly therein and to extend beyond the edges of said shell, and flexible means for suspending said shell connected with the upper ends of said curved members.

In testimony whereof I have hereunto set my hand this 11th day of June, 1928.

RUSSEL S. DART.