Sept. 30, 1924. 1,510,035

F. J. BRADLEY

PULLING DEVICE

Filed Aug. 6, 1923

Fig. 1.

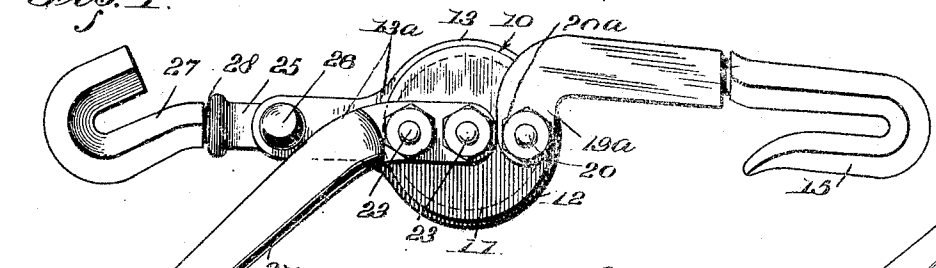


Fig. 3.

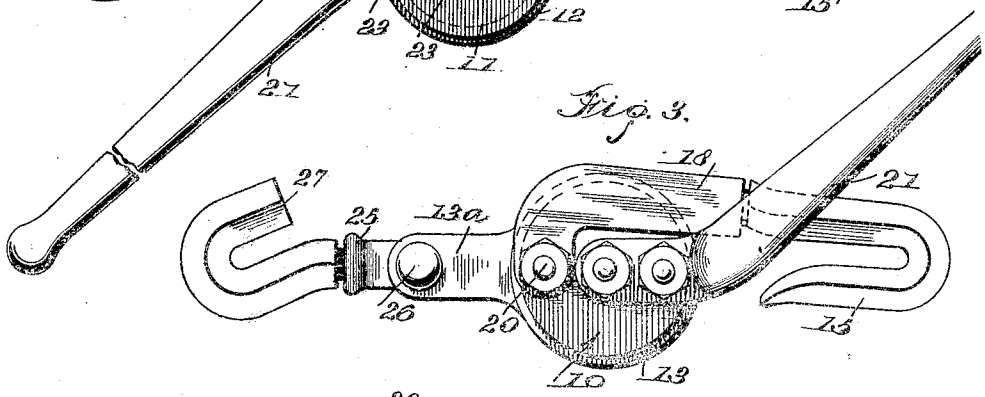


Fig. 2.

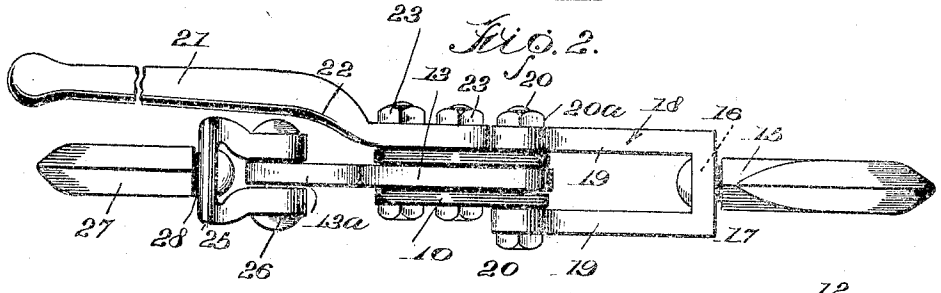
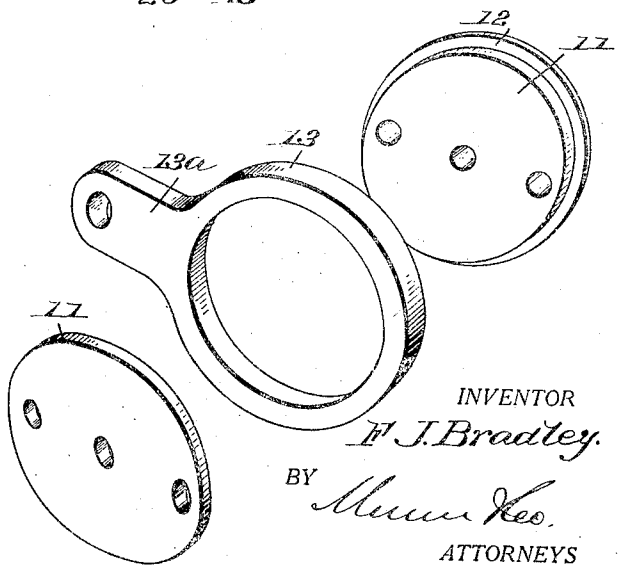


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

FREEMAN J. BRADLEY, OF FOSTORIA, OHIO.

PULLING DEVICE.

Application filed August 6, 1923. Serial No. 655,972.

To all whom it may concern:

Be it known that I, FREEMAN J. BRADLEY, a citizen of the United States, and a resident of Fostoria, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Pulling Devices, of which the following is a specification.

This invention relates to a pulling device, and the object of the invention is to provide a device of this character which is adapted for use in pulling heavy machinery or for hoisting purposes, and which is equally well adapted for use as a load binder for securing pipes or similar articles to the vehicle upon which they are carried.

A further object is to provide a device of this character having the foregoing capacities and which is also so constructed and organized as to exert a powerful pulling or lifting force or a powerful securing action according to the use to which the device is put without requiring the expenditure of unusual and laborious efforts in setting or releasing the device.

A still further object is to provide a device of this character and having the foregoing actions and capacities and which is at the same time of simple and durable construction, reliable and safe in operation and easy and comparatively inexpensive to manufacture.

Other objects and advantages of the invention reside in certain novel features of the construction, combination and arrangement of parts which will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawings forming part of this specification, and in which:

Figure 1 is a view in side elevation, showing the preferred embodiment of the invention and illustrating the parts in the position which they assume at the start fo the pulling, hoisting or tensioning operation;

Figure 2 is a view similar to Figure 1 but showing the parts in the position which they assume after the completion of the pulling, lifting or tensioning operation;

Figure 3 is a plan view of the device as shown in Figure 1; and

Figure 4 is a detail perspective view, showing the parts of the rotatable member and the loose ring prior to assembly.

Referring to the drawings wherein for the sake of illustration is shown the preferred embodiment of the invention, the numeral 10 designates generally a rotatable member which is made up of a pair of similar plates 11, each of which is formed around its outer marginal portion with a circumferentially extending flange 12. The plates 11 are assembled in face to face relation and are secured together as will hereinafter appear and when so assembled the flanges 12 define between them an annular or circumferentially extending groove in the periphery of the rotatable member. A ring 13 is loosely fitted in the peripheral groove of the body portion thus formed and is adapted to permit of free relative rotary movement on the part of the rotatable member 10 although the rotatable member and the ring are held together against linear movement.

A hook 15 is provided and is rotatably connected, as at 16, to the body portion 17 of a yoke 18. The yoke 18 includes a pair of arms 19, the outer ends of which are offset, as at 19^a to the main portion thereof, and these outer ends being then arranged to span the rotatable member 10, and are pivotally and eccentrically secured thereto by a bolt 20 and a nut 20^a. The bolt holes which receive the bolt 20 are disposed inwardly of the peripheral groove defined by the flanges 12 so that this bolt does not interfere with the free rotation of the ring 13. It is also to be noted that the bolt 20 and nut 20^a serve to secure the plates 11 together so as to aid in holding these parts in assembly. A hand lever 21 is provided and has one end sharply offset, as at 22, and then secured to the rotatable member 10 by bolts and nuts 23 which are also so arranged as not to interfere with the ring 13 and which supplements the action of the bolt 20 and nut 20^a in holding and securing the plates 11 of the rotatable member to each other.

The ring 13 is provided with an apertured lug 13^a which is preferably integrally formed with the annular portion of the ring although of course it may be otherwise suitably connected thereto. To this apertured lug 13^a a connection in the form of a clip 25 is pivotally secured, as at 26, and to the connection 25 a second hook 27 is rotatably connected, as at 28.

In using the device for pulling objects or for lifting them the hook 27 is connected to the stationary member or is suspended from a support by a chain or any other suitable means, and the hook 15 is connected to the

object to be drawn or lifted by a chain or other suitable means. The hand lever 21 is then grasped and is moved in a counter-clockwise direction, as viewed in Figure 1. This causes the rotatable member 10 to rotate thereby moving the bolt 20 in a counter-clockwise direction from the position shown in Figure 1 to the position shown in Figure 2 and thus exerting a drawing or lifting action. With this arrangement a very effective lifting or pulling action is had and yet the parts are so designed as to be strong and durable and not liable to be damaged or injured by long continued use. The ring 13 has a relatively large bearing on the rotatable member and the structure is adapted to have embodied therein anti-friction means if desired for obviously raceways may be provided in the peripheries of the plates 11 making up the rotatable members and ball bearings may be mounted in such raceways, the ball or roller bearings engaging the inner or side faces of the rings. It is also to be understood that these anti-friction means may be omitted, and preferably they are omitted as they are not required for most uses.

In using the device as a load binder the hooks 15 and 27 are engaged with the links of the chain used to secure the load in position and the lever 21 is manipulated as above described. It is to be understood that the handle 21 is moved to such an extent as to shift the rotatable member through an angular distance slightly in excess of 180° so as to bring the arms 19 of the yoke 18 into engagement with the offset end of the handle 21 and the bolts 23. With the parts so positioned the pull exerted on the hook 15 will tend to more firmly urge these parts into engagement and will thus tend to more securely lock the device or hold the same in set position. At the same time as soon as the handle 21 is shifted to such an extent that the body portion 17 is moved a slight distance in a clockwise direction as viewed in Figure 2, the relation of the pivot 20 to the line of pull of the chain will be changed and the parts will tend to automatically unlock or move from the position in Figure 2 to the position shown in Figure 1.

I claim:

1. In a device of the character described, a rotatable member having a peripheral groove, a hook eccentrically and pivotally connected to said rotatable member, a ring loosely mounted in the peripheral groove of the rotatable member, and a second hook connected to said ring.

2. In a device of the character described, a rotatable member having a peripheral groove, a hand lever secured to one side of the rotatable member, a hook eccentrically and pivotally connected to said rotatable member, a ring loosely mounted in the peripheral groove of the rotatable member, and a second hook connected to said ring.

3. In a device of the character described, a rotatable member comprising a pair of plates secured to each other in face to face relation and having marginal flanges defining a peripheral groove in said rotatable member, a hand lever secured to said rotatable members, a hook, a yoke having its body portion connected to the hook and having its arms offset at their ends and pivotally and eccentrically secured to said rotatable member, a ring loosely mounted in the peripheral groove of the rotatable member and having an apertured eye integral therewith, and a hook connected with the apertured eye of the ring.

FREEMAN J. BRADLEY.