

F. T. GRACEY.

LEVER.

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Patented Dec. 15, 1908.

2 SHEETS—SHEET 1.

907,036.

Fig. 1.

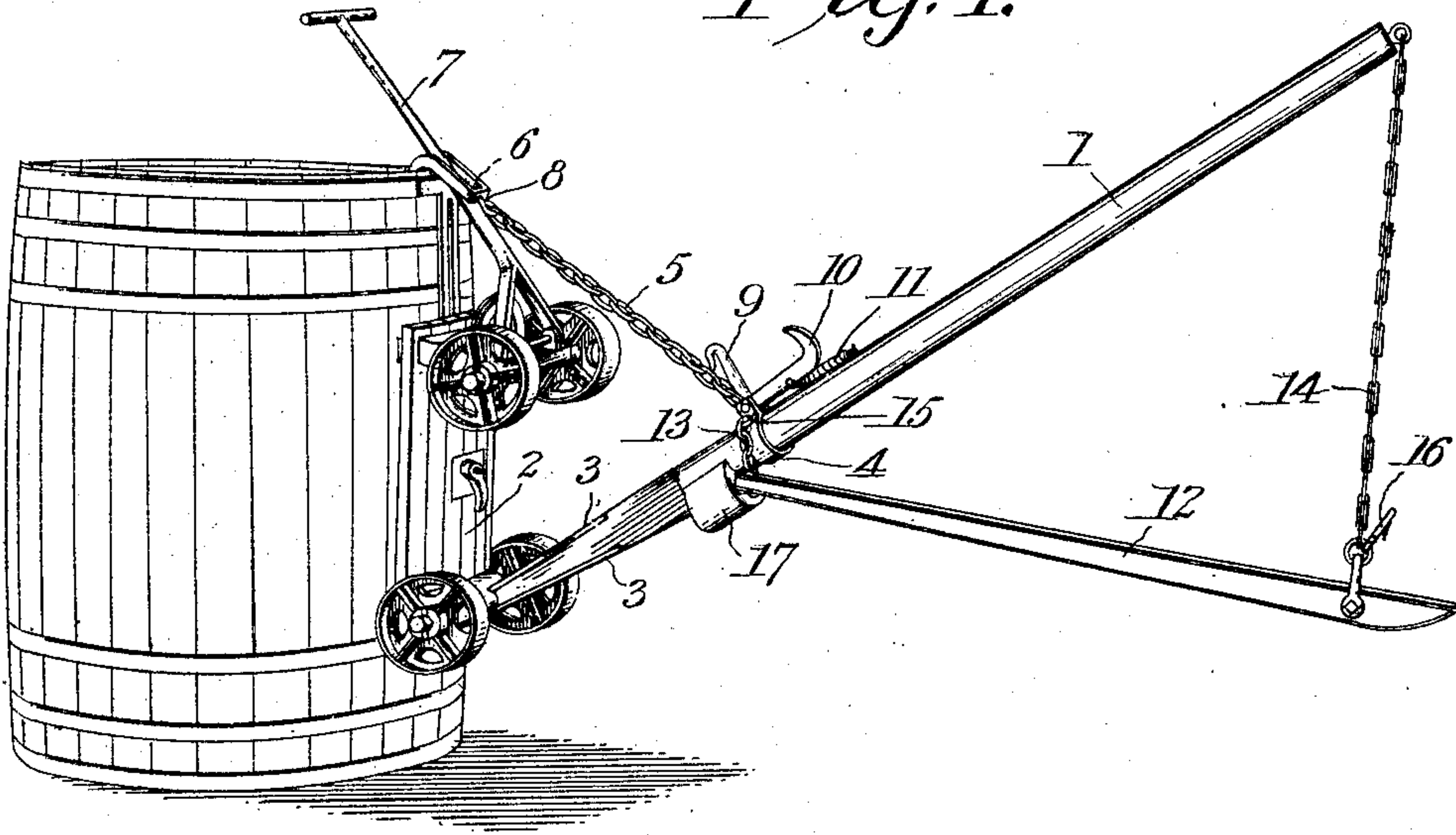
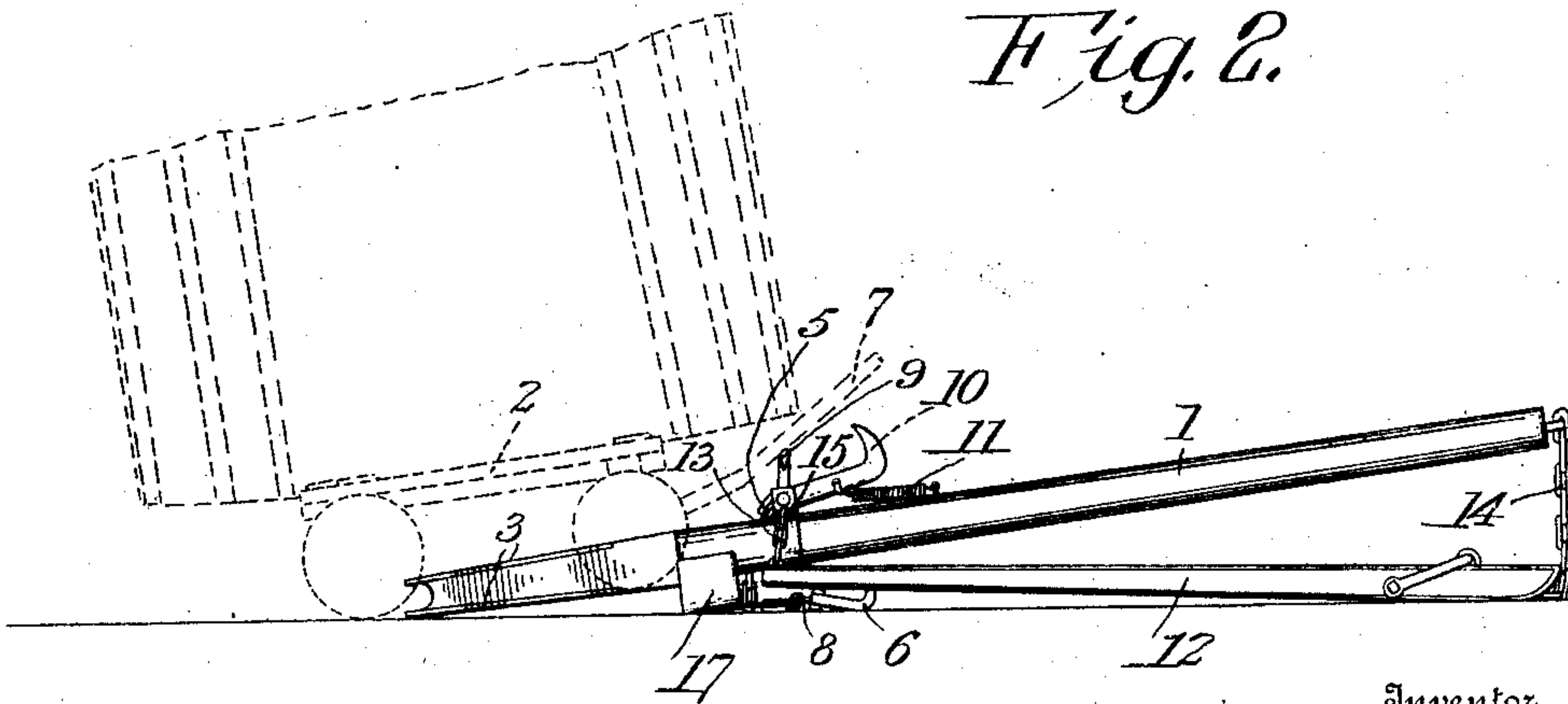


Fig. 2.



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2 SHEETS—SHEET 2.

*Fig. 3.*

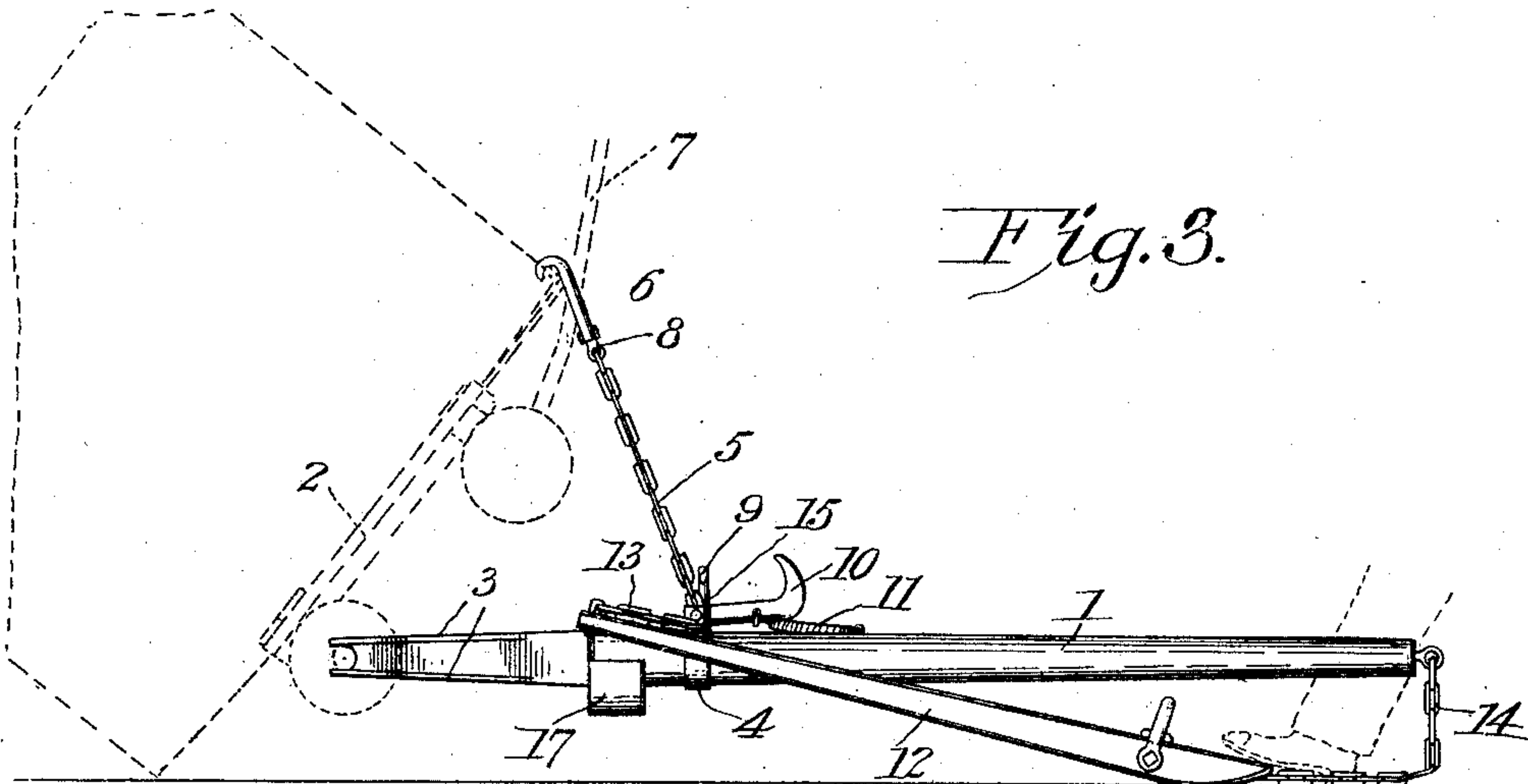


Fig. 4.

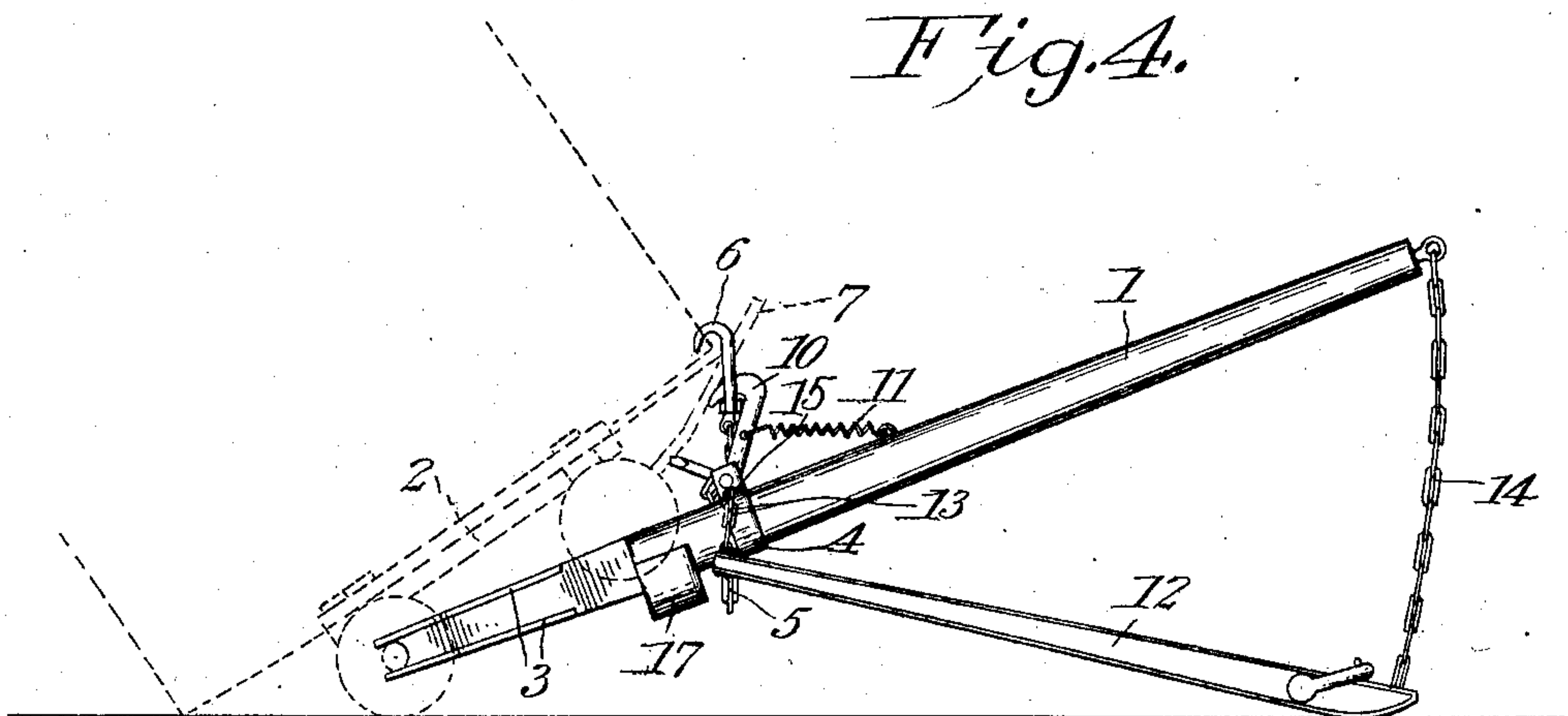
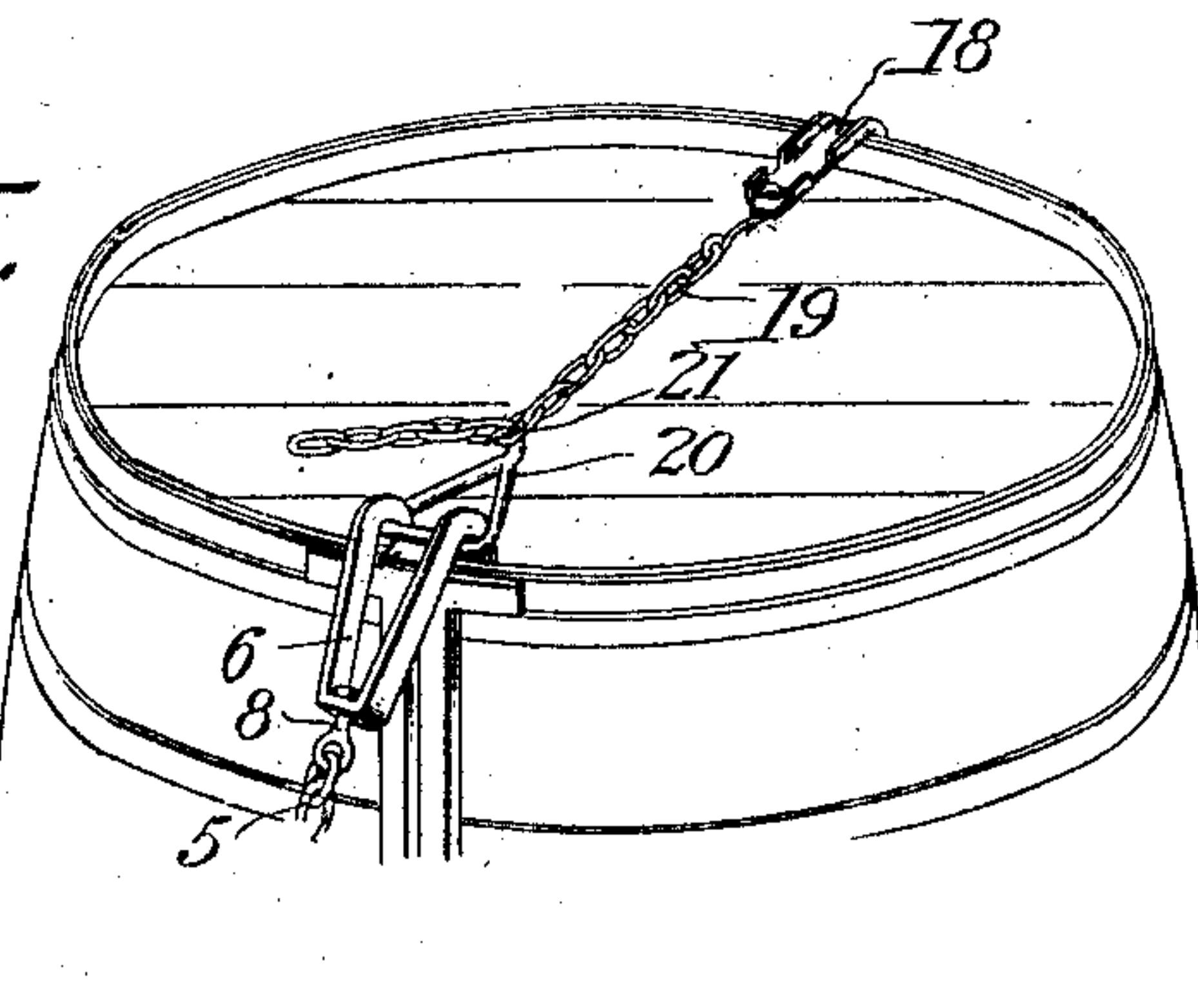


Fig. 5.



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# UNITED STATES PATENT OFFICE.

FRANK T. GRACEY, OF CLARKSVILLE, TENNESSEE.

## LEVER.

No. 907,036.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed June 15, 1908. Serial No. 438,626.

*To all whom it may concern:*

Be it known that I, FRANK T. GRACEY, a citizen of the United States of America, residing at Clarksville, in the county of Montgomery and State of Tennessee, have invented certain new and useful Improvements in Levers, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use the same.

My invention seeks to facilitate the handling of filled hogsheads and has special reference to the loading of filled tobacco hogsheads into or removing them from freight cars or warehouses and the present invention consists in a lever having certain peculiar features of novelty as will be hereinafter first fully described and then particularly pointed out in the claims.

In the accompanying drawings, which fully illustrate the invention, Figure 1 is a perspective view of the lever arranged to be used to pull over a hogshead; Fig. 2 is a side elevation of the lever as it appears when the hogshead has been pulled over, the position of the hogshead and truck being indicated by dotted lines; Fig. 3 is a view similar to Fig. 2 showing the position of the parts when a hogshead is held on balance; and Fig. 4 is a view showing the means employed to move a hogshead which has failed to come to the hauling level. Fig. 5 is a view of an attachment to be used when the chime of the hogshead is weak or defective.

In carrying out my invention, I employ a bar or lever proper, 1, one end of which is adapted to engage an axle of a truck, 2, suspended on the hogshead to be pulled over. I provide, preferably, for this engagement of the truck axle by securing stout metal plates, 3, to opposite sides of the lever and having their ends project beyond the end of the bar, the truck axle being received between said projecting ends which serve to prevent the lever dropping from the truck-axle although the plates are not absolutely necessary and the desired result can be had by the workmen pushing on the lever sufficiently to hold its end in the angle formed by the bed and the axle of the truck. At an intermediate point of the bar, I clamp a band, 4, around the same and between the ears or upturned ends of said band, upon the clamping bolt, I attach one end of a chain or flexible connection, 5, carrying a grappling hook or other chime-engaging device, 6, at its free end. In

the drawings I have shown this chime-engaging device as consisting of a double or two-pronged hook arranged to straddle the handle, 7, of the truck and engage the chime of the hogshead at both sides of said handle. The hook is attached to the chain by a swivel, 8, so as to avoid twisting or doubling of the chain in the operation of the device. In order that the working length of the chain may be varied, I provide a small hook, 9, on the bar which may be engaged in one of the links of the chain and thereby practically shorten the chain as circumstances may render desirable. This hook, 9, is preferably formed integral with a larger hook, 10, disposed at a right angle thereto and the two hooks are pivotally held at their junction by the bolt which clamps the band 4 to the bar, the large hook 10 being normally held back to the bar by a spring, 11, secured to the hook and the bar, as shown.

In order that the work of starting the hogshead may be lightened, I have provided a supplemental lever or swinging step, 12, which is suspended from the main lever or bar by chains or other flexible connections, 13, 14. The shorter chain, 13, which supports the inner end of this swinging step or supplemental lever is preferably hung in an eye, 15, presented by a washer on the clamping bolt for the band 4 but it may, of course, be attached to the main lever or bar in some other manner or at some other point. The chain 14 extends between the outer ends of the main and supplemental levers and carries a hook or similar device, 16, which may be engaged in one of the upper links of the chain to shorten the working length of the chain as may at times be necessary or advisable.

In order to lessen the shock of contact with the floor of the car or warehouse when the hogshead falls, I provide an elastic cushion or buffer, 17, on the underside of the main lever at a point beyond the inner end of the supplemental lever, as shown.

Should the chime of the hogshead be imperfect or weak, it might be torn off under the strain of pulling over the hogshead if the grappling hook were engaged directly upon it. In order to avoid such an objectionable result, the attachment or extension shown in Fig. 5 may be employed. This extension or supplemental chime-engaging device consists of an angle-plate or hook, 18, arranged to fit over and engage the outer



surface of the far side of the chime, a chain, 19, having one end swiveled to the said angle-plate and adapted to extend across the head of the hogshead, and a loop or triangle, 20, having a hook, 21, formed on one end or corner to engage one or another link of the chain, according to the diameter of the hogshead, and bring the loop or triangle against the near side of the chime to be engaged by the grappling hook 6 thus causing the strain of pulling over the hogshead to be applied at the far side of the hogshead instead of the near side of the same, as will be understood.

From the foregoing description, taken in connection with the accompanying drawings, the usefulness of my invention will be readily understood. At the present time, owing to the great weight of the hogsheads filled with tobacco, it is the general practice to place them on their sides in warehouses and cars in order to avoid the severe labor necessary to pull them over when they are stood on end. This practice, however, entails a great loss of floor space which can be overcome as a result of my invention which makes the pulling over of the hogshead a very simple matter and overcomes the liability of injury to the workmen. Even under the practice existing prior to my invention, it is not very difficult to stand a hogshead on end as the hogshead is supported on the truck in a tilted position but the ease with which the hogshead may be rolled has heretofore outweighed the economy to be effected by standing them on end and they have, therefore, usually been stored on their sides. Where my invention is in use, however, the hogsheads are stored on end. When it is desired to move a hogshead, a truck is suspended thereon and my lever then brought into play, as indicated in Fig. 1, the grappling hook straddling the truck handle and the end of the main lever or bar engaging the lower or rear truck axle. The workmen then grasp the outer free end of the main lever or bar and by pulling downward on the same cause the hogshead to swing over and fall on the truck or on its side if the truck be not used. Should the hogshead be very heavy, the workmen may stand on the swinging step or supplemental lever and thereby bring their entire weight to bear on the lever so that the hogshead will be quickly pulled over. As the hogshead swings over and passes the falling point, the chain attached to the grappling hook will slacken so that the hook will not be held in such close engagement with the chime of the hogshead and may easily slip therefrom as the lever is withdrawn from under the truck. As the falling movement proceeds, the swinging step will strike the floor, of course, and the chains suspending the same will slacken but if a workman then places his foot against or on the end of the step, he will

force it inward to draw upon the short chain at its inner end whereupon it will act as a brace to hold the lever against the truck and the truck against the hogshead. When the hogshead completes its fall, the buffer on the under side of the lever will be brought forcibly against the floor and its elasticity will produce a slight rebound sufficient to permit the lever to be withdrawn without any strain. Should the hogshead fail to drop to the hauling level but bind with its end against the floor, the wall or another hogshead, and remain balanced in that partly-tilted position, the hook 10 is engaged in the grappling hook against the tension of the spring 11 and a downward pull then again exerted on the lever. This pull will be transmitted directly to the hogshead which will then be quickly brought to the desired position. As the hogshead falls, the spring 11 will pull the hook back against the lever out of the way of the falling object as soon as the resistance of the hogshead against the grappling hook lessens. It will be observed that the hook 10 cannot be carried upward and inward so far as to interfere with its ready release by the spring for the reason that when this hook is at a right angle to the lever the smaller hook 9 will be against the lever. As the lever swings downward and the hogshead tilts, the lever will act as a brace to hold the truck against the hogshead and this result is aided by the grappling hook straddling the truck handle. The outer end of the swinging step is slightly beveled so that it may slide easily over the floor when being withdrawn from under the hogshead and the suspending chain is attached to the step by a stirrup which passes over the upper side of the step so as not to interfere with that movement.

Having thus described my invention, what I claim and desire to secure by Letters-Patent is:—

1. The combination with a lever, of a swinging step suspended therefrom at both ends. 110
2. The combination with a lever, of a swinging step, and flexible connections between both ends of the step and the lever. 115
3. The combination of the lever, a grappling hook, a chain permanently attached to the lever and connecting the grappling hook with the lever, and means on the lever for reducing the working length of the chain. 120
4. The combination with a truck having an axle and a forwardly extending swinging handle; of a lever having one end shaped to engage the axle of the truck when the same is placed against the object to be moved, a hook adapted to straddle the handle of the said truck and engage the said object, and a flexible connection between the said hook and the lever. 125
5. The combination of a lever, an object- 130



engaging hook attached to the lever, a hook mounted on the lever and adapted to engage the said object-engaging hook, and means for withdrawing the latter hook from the object-engaging hook as the object falls.

6. The combination of a lever having one end adapted to bear against an object, an object-engaging hook attached to the lever, a hook mounted on the lever and arranged to engage the object-engaging hook, and a spring connected to the lever and to the hook mounted thereon.

7. The combination of a lever, a chain attached thereto and having an object-engaging hook at its end, a pair of hooks integrally connected and pivotally mounted on the lever, the smaller of said hooks being adapted to engage the chain to vary the working length of the same and the larger of said

hooks being adapted to engage the object-engaging hook in emergencies, and means for drawing said integrally connected hooks normally toward the lever.

8. The combination of an angle-plate arranged to engage the side of a hogshead, a triangle or loop, a connection between the loop and the angle-plate to extend across the end of the hogshead, and a lever arranged to be fulcrumed on the side of the hogshead and carrying means for engaging the said loop.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

FRANK T. GRACEY.

Witnesses:

W. B. KINCANNON,  
ROBT. O'NEAL.