W. F. IRRGANG.

HOISTING MECHANISM.

APPLICATION FILED SEPT. 17, 1921.

1,430,655. Patented Oct. 3, 1922.

Fig. 1.

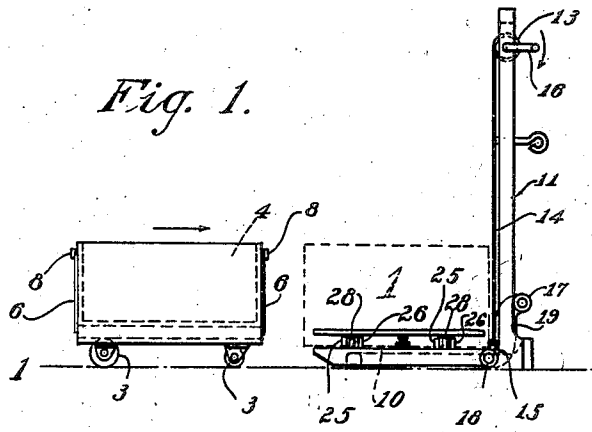

Fig. 2.

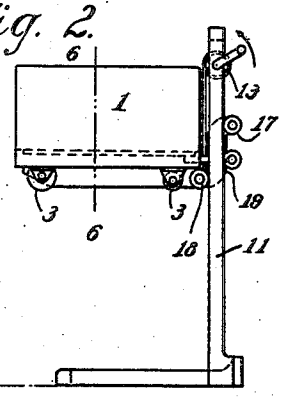

Fig. 3.

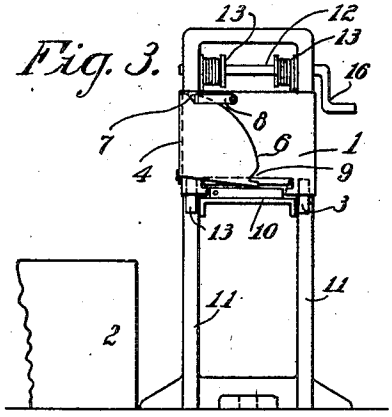

Fig. 4.

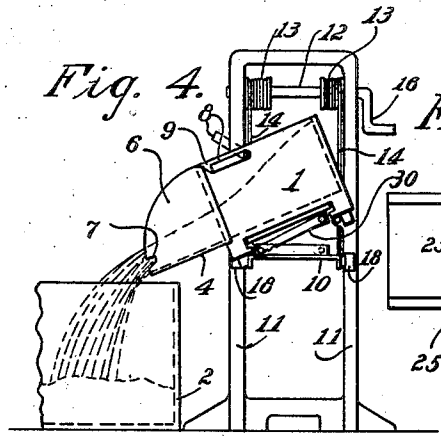

Fig. 5.

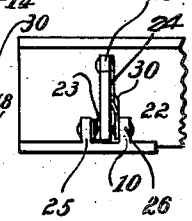

Fig. 6.

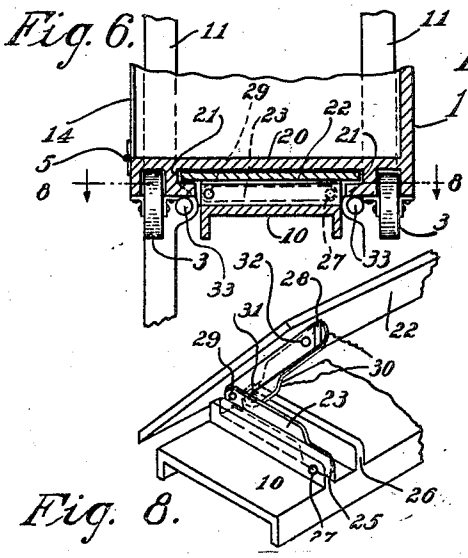

Fig. 7.

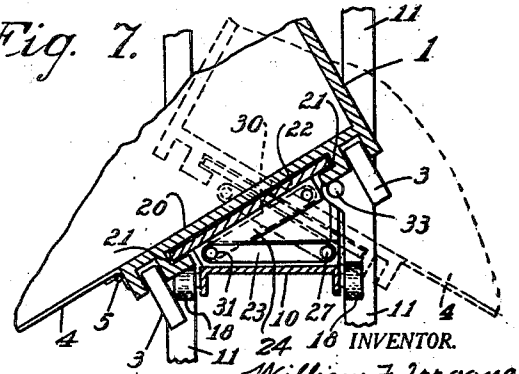

Fig. 8.

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UNITED STATES PATENT OFFICE.

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HOISTING MECHANISM.

Application filed September 17, 1921. Serial No. 501,364.

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 Hoisting Mechanisms, of which the following is a specification.

This invention relates to improvements in hoisting devices or mechanisms for use in connection with the usual paper pulp beating engines, which are used at the present time in paper mills.

An object of the invention is to provide a hoisting mechanism by means of which pulp, or other material which is to be operated on in a beating engine, may be readily elevated to a suitable distance above the side of the vat of the engine and then quickly discharged into the same, by causing the elevated receptacle which contains the pulp to assume an inclined position, whereby the contents of the receptacle may be directly delivered into the beating engine.

Heretofore it has been a common practice for the operator to move the loaded receptacle along the floor by means of a truck, and into close relation to the side of the beating engine. The operator then conveys the pulp into the engine by means of a suitable tool, as a shovel. This unloading operation is not only slow, but an expensive one.

My hoisting device consists in providing mechanism by means of which the loaded truck and receptacle thereon, may be moved onto a platform which may be hoisted or elevated any suitable height above the upper edge of the vat or tub in which the beating mechanism is located. The platform is then tilted over the edge of the vat permitting the contents of the receptacle to be discharged into the same. Provision is also made, by means of which the receptacle may be tilted in opposite directions, as may be desired.

With these and other objects in view, reference is made to the accompanying drawings, in which—

Fig. 1 is a view in side elevation showing the relation of the receptacle and platform and before the hoisting operation takes place.

Fig. 2 is a similar view after the receptacle has been hoisted.

Fig. 3 is a view of Fig. 2 looking from the right.

Fig. 4 is a view similar to Fig. 3 showing the contents of the receptacle being discharged.

Fig. 5 is a detail view of the hinge or link connection between the normally horizontal and tiltable platform.

Fig. 6 is a transverse sectional view on the line 6—6 of Fig. 2, showing the receptacle after being hoisted and before it is tilted to discharge its contents.

Fig. 7 is a view similar to Fig. 6 after the receptacle is tilted, and on either side.

Fig. 8 is a detail perspective view of the under side of the tiltable receptacle receiving platform and the normally horizontal one.

Referring to the drawings in detail: 1 designates a box-like receptacle in which the paper pulp, or other substance to be ground, is placed. 2 is the vat or tub in which the usual beater machinery is located. The receptacle 1 is provided with rollers or wheels 3 to permit it to be readily moved from place to place. 4 designates one side of the receptacle 1 which is attached to the body part by the hinges indicated at 5. This side piece serves as a platform or shelf when lowered for discharging the contents of the receptacle into the vat of the beater engine. It is normally retained in an elevated or closed position, by means of the arc-shaped side or wing pieces 6 which are attached to the side piece 4, and which are formed with notches 7 in their upper edges to receive the pivoted latches 8. Notches 9 serve to retain the side piece 4 in its lowered position.

10 designates a platform that is normally in a horizontal position, and which is designed to be raised and lowered on the standards 11, in the upper ends of which is placed a shaft 12 having cable winding drums 13 thereon for attaching one end of the cables 14. The other or lower ends of the cables are connected to the inner ends of the platform 10 by means of the eyes 15. 16 is a crank by means of which the shaft 12 is operated to wind up the cables for raising the platform 10, and also for lowering the same. In order to maintain the platform 10 in a normally horizontal position rollers 17 and 18 engage the outer and inner sides, respectively, of the standards 11, as shown in Figs. 1 and 2. These rollers are mounted

on brackets 19, which are connected to the platform 10. The bottom of the receptacle 1 is indicated at 20, which is provided with grooves or channelways 21 at and below its opposite sides. These ways are for receiving the opposite edges of the tiltable platform 22 which is connected to the normally horizontally disposed platform 10, by means of the links 23 and 30. These links, it will be noticed, are so connected to the platform 10 that the platform 22 may be tilted in opposite directions, as shown in Fig. 7. This is accomplished by securing the two parallel arranged pieces 25 and 26 at opposite ends of the platform 10. One end of the link 23 is attached to the piece 25 with the pivot 27, and its other end is attached to the piece 28 on the underside of the platform 22 with the pivot 29. The link 30 has one of its ends attached to the end of piece 26 with the pivot 31 and its opposite end to the piece 28 with the pivot 32. This construction is, of course, duplicated at the opposite ends of the platforms 10 and 22. It permits the platform 22, which receives the receptacle 1, to tilt into oppositely inclined positions, as shown in Fig. 7.

The operation may be described as follows: The loaded receptacle 1 is moved along the floor onto the tiltable platform 22, the opposite edges of which enter the channels or grooves 21. The operator now elevates the receptacle, into the position shown in Fig. 2 by revolving the shaft 12. In order to discharge the contents of the receptacle it is caused to assume the inclined position shown. This is accomplished by inserting pins or other stop devices in one of the openings 33 in the standards 11, and below the bottom 20, whereby when the operator revolves the shaft 12 in the opposite direction the side of the receptacle opposite the stop pin 33 will fall, causing it to assume the inclined position. The hinged side 4 is now allowed to fall, by elevating the latches 8 and dropping them into notches 9, as shown in Fig. 4.

It is of course obvious that a hinged side may be placed on both sides of the receptacle.

What I claim is:

1. In a hoisting apparatus, the combination with a receptacle, a platform to receive the receptacle, a second and elevating platform, standards, a shaft therein, drums on the shaft, cables connected to the drums and the second and elevating platform for elevating the same, and means including link connections between the receptacle receiving platform and the second and elevating platform to permit the receptacle to assume an inclined position as the same is lowered.

2. In a hoisting apparatus, the combination with a receptacle, standards, a platform movable on the standards, a second platform to receive the load and having connecting means with the other platform, which is so constructed and arranged that the second or load platform may be tilted in opposite directions for discharging the load.

3. A hoisting apparatus, comprising in combination with uprights or standards, a platform movable thereon, a second or load platform having link connections with the first platform, a receptacle having channels or grooves to receive the second platform, whereby the receptacle may be tilted when the second platform is tilted.

4. In a hoisting apparatus, the combination with a platform designed to receive a receptacle in which the load, as paper pulp, is placed, said receptacle having one of its sides hinged thereto to form a discharge shelf for the receptacle, a second platform pivotally connected to the first or load receiving platform, and so constructed that the first mentioned platform and the receptacle thereon may be tilted so as to discharge the contents of the receptacle in opposite directions as desired, and, whereby when the hinged side of the receptacle is lowered the contents therein may be discharged.

5. A hoisting apparatus, comprising a platform, means for elevating the same, a load receiving platform, links connecting said platforms, a receptacle formed to receive the load receiving platform, said receptacle having one side hinged thereto, stop means for preventing one side of the receptacle from moving downward, whereby the load supporting platform and the receptacle thereon will assume an inclined position to permit its contents to be discharged when the hinged side is lowered, as described.

6. In a hoisting apparatus, the combination with suitable uprights, a shaft mounted therein, drums on the shaft, a platform, connecting means between the drums and platform, rollers on the platform engaging the opposite sides of the uprights for maintaining the platform in a horizontal position, a second or receptacle receiving platform, and links connecting the two platforms to permit the second platform and the receptacle to tilt relative to the first platform and in opposite directions, as described.

7. A hoisting apparatus, comprising in combination, a load receiving platform, a receptacle having channel devices on its under opposite edges to receive the platform, means for elevating the platform, means for tilting the same and the receptacle for discharging the contents of the receptacle, as described.

8. In a hoisting apparatus, the combination, a platform, means for elevating the same, a second platform, and link means for pivotally connecting the two platforms together to permit one to tilt relative to the other and in opposite directions.

9. A hoisting and dumping apparatus

comprising in combination, two spaced standards, a shaft mounted in the standards, drums thereon, a platform, connecting means between the drums and platform, means including rollers on the opposite side of the standard for maintaining the platform in a horizontal position, means to limit the downward movement of the platform for tilting the same as the platform is lowered, a second platform connecting means between the platforms for permitting the second platform to tilt in opposite directions relative to the first platform.

WILLIAM F. IRRGANG.