

(No Model.)

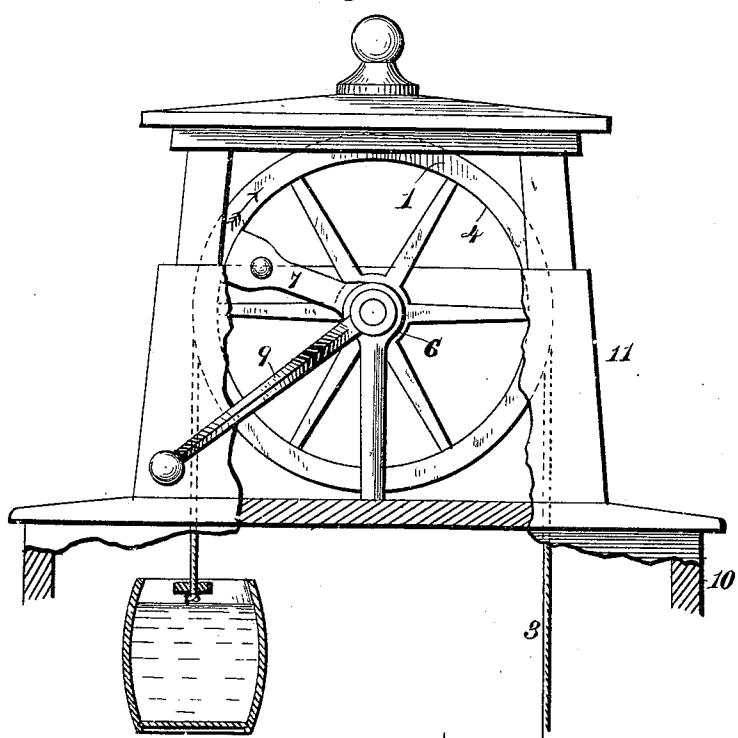
J. C. & C. H. TISE.

FRICITION BRAKE FOR PULLEYS, &c.

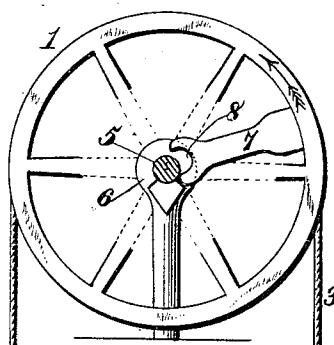
No. 273,914.

Patented Mar. 13, 1883.

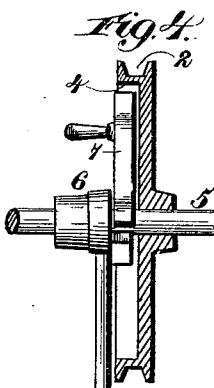
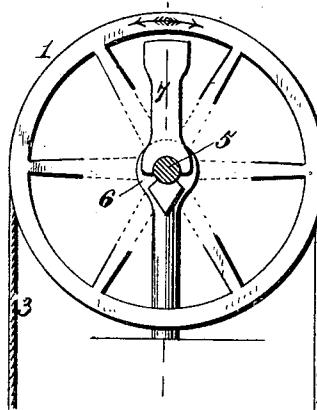
*Fig. 1.*



*Fig. 2.*



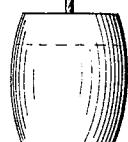
*Fig. 3.*



Witnesses.

Robert Garrett,

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Inventors.

Jacob C. Tise and Charles H. Tise.

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# UNITED STATES PATENT OFFICE.

JACOB C. TISE AND CHARLES H. TISE, OF WINSTON, NORTH CAROLINA.

## FRICITION-BRAKE FOR PULLEYS, &c.

SPECIFICATION forming part of Letters Patent No. 273,914, dated March 13, 1883.

Application filed September 19, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, JACOB C. TISE and CHARLES H. TISE, citizens of the United States, residing at Winston, Forsyth county, North Carolina, have invented new and useful Improvements in Friction-Brakes for Pulleys, &c., of which the following is a specification.

This invention relates to improvements in friction-brakes for rotary wheels, drums, or windlasses, and has for its object to provide a simple device, by the adjustment of which the wheel, drum, or windlass is permitted to freely revolve in one direction, but not in the opposite direction. This object we accomplish by the means and in the manner illustrated in the accompanying drawings, in which—

Figure 1 represents our invention embodied in an apparatus for raising water from wells, the brake being in position to permit the drum or windlass to revolve to the right, but held from revolving in the opposite direction; Fig. 2, a detached side view of the drum or windlass with the brake in position to permit the former to revolve to the left, but held from revolving in the opposite direction; Fig. 3, a detached side view of the drum or windlass with the brake out of operative position, so that the former can revolve in either direction; and Fig. 4, a vertical section on the line  $xx$  of Fig. 3.

The wheel, drum, or windlass 1 is provided in its periphery with an annular groove or channel, 2, to receive the hoisting rope or cable 3, and at one side is formed or otherwise provided with a lateral annular flange, 4, the inner surface of which is a true circle. The wheel is provided with a hub which is fixed to a shaft, 5, arranged to revolve in suitable bearings, one only of which, 6, is represented. The rope or cable is provided at each end with a bucket, and when the wheel is revolved one bucket descends as the other ascends.

The improved brake device consists of an arm, 7, which is provided at one end with a semicircular recess, 8, seating on the revolving shaft 5, at one side of the wheel, so that its outer free end is in line with the flange 4. The outer end of the arm is curved to a degree corresponding to the circular form of the inner surface of the flange, and the outer side of the arm is provided with a suitable handle or other device, by which it can be swung from

one side of the shaft to the other or to a position in a vertical plane with the shaft, as in Fig. 3. When the brake-arm is swung to the left, so as to bring its outer end in contact with the left-hand side of the flange 4, with respect to a vertical line through the center of the wheel, the latter can freely revolve toward the right, as indicated by the arrow, Fig. 1; but said wheel is held from revolving toward the left, or in the opposite direction, by reason of the friction between the opposing faces of the flange 4 and the end of the arm, incident to the binding or cramping action of the arm between the revolving shaft and the flange. When the brake-arm is adjusted to the position above set forth the left-hand bucket can be raised, and when in the proper position for discharging its contents will be prevented from descending back into the well, if the crank-handle, which turns the wheel, be released. To permit the left-hand bucket to descend, the brake-arm is swung to the opposite side of the shaft 5, as shown in Fig. 2, and when in this position the right-hand bucket can be raised, and when not in proper position to discharge the contents it will be prevented from descending back into the well, should the crank-handle be released. By this means the necessity of a person holding the crank-handle to prevent one or the other bucket descending before the proper time is entirely avoided.

The well-curbing 9 and housing 10 are of the usual construction, one side of the latter bent open, so that free access to the brake-arm can be had for swinging it from side to side.

While the invention has been shown and described as applied to the hoisting-wheel of a water-elevator, it is obvious that it is applicable to any wheel which it is desirable to provide with a brake to prevent it from revolving in one direction, but permitting it to revolve in the other direction.

What we claim is—

1. A friction-brake for revolving wheels, consisting of a swinging-arm capable of being swung from one side of the wheel to the other and permit the wheel to revolve in one direction, but prevent its revolving in the other direction.

2. The combination, with the wheel havin

an annular flange and fixed to a shaft capable of revolving in bearings, of a brake-arm seated on said shaft at one side of the wheel and capable of being swung to rest against the flange of the wheel at either side of the shaft, substantially as described.

In testimony whereof we have hereunto set

our hands in the presence of two subscribing witnesses.

JACOB C. TISE.  
CHARLES H. TISE.

Witnesses:

JOS. JACOBS,  
N. W. NADING.