No. 756,751. PATENTED APR. 5, 1904.

S. J. WALLACE.

WELL BRAKE.

APPLICATION FILED AUG. 21, 1901.

NO MODEL.

Fig. 1.

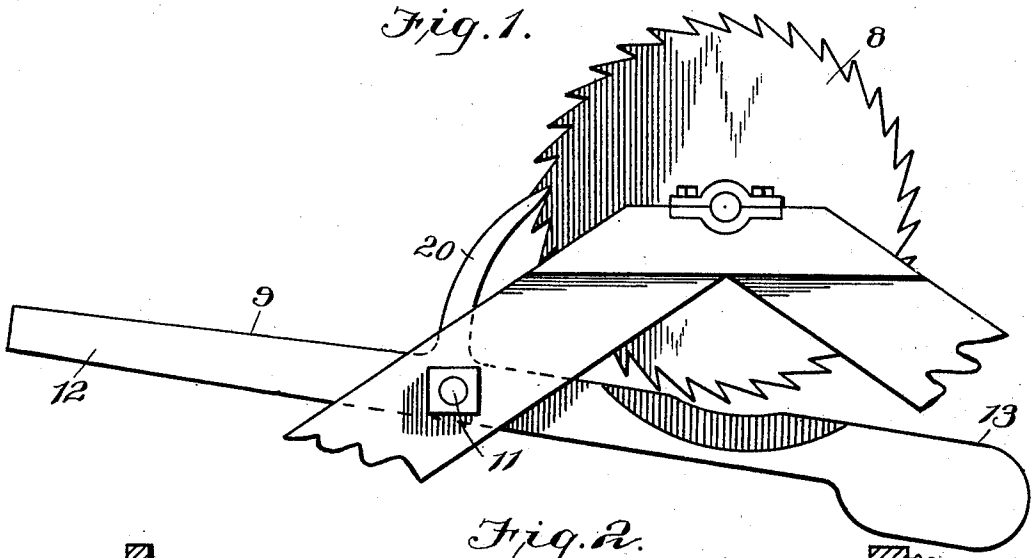


Fig. 2.

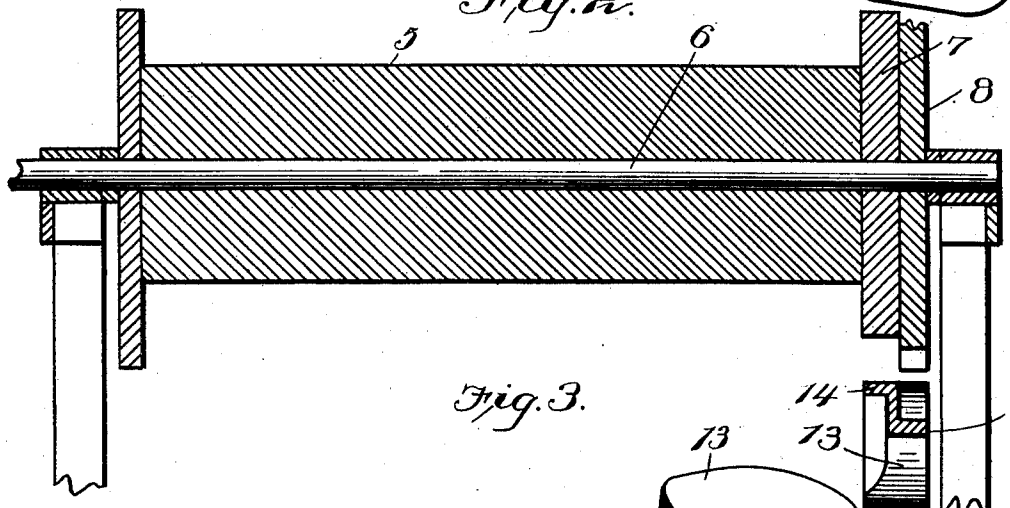
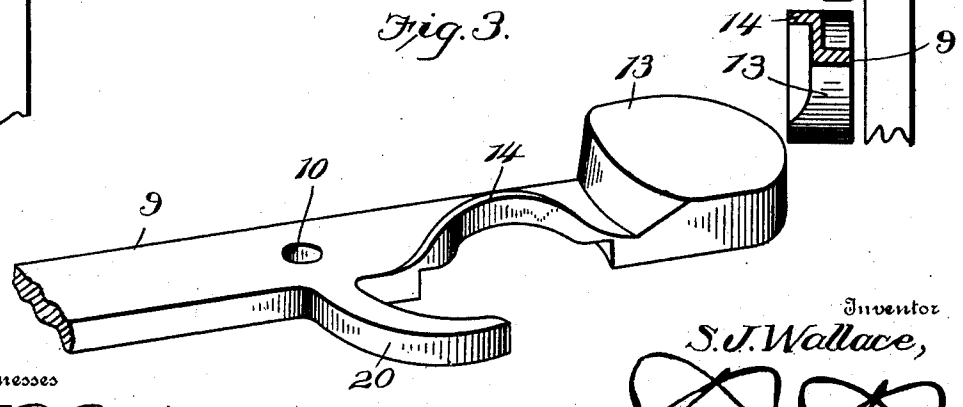


Fig. 3.



Witnesses

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No. 756,751. Patented April 5, 1904.

UNITED STATES PATENT OFFICE.

SAMUEL J. WALLACE, OF GOSHEN, NEW YORK, ASSIGNOR OF ONE-HALF TO WALTER F. CRANS, OF CIRCLEVILLE, NEW YORK.

WELL-BRAKE.

SPECIFICATION forming part of Letters Patent No. 756,751, dated April 5, 1904.

Application filed August 21, 1901. Serial No. 72,817. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. WALLACE, a citizen of the United States, residing at Goshen, in the county of Orange, State of New York, have invented certain new and useful Improvements in Well-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to brakes for well-windlasses; and it has for its object to provide a construction wherein when the brake is in inoperative position a retaining-pawl will be in operative relation to a ratchet-wheel carried by the windlass-drum, and when the brake is moved to operative position the pawl will be disengaged from the ratchet to permit the drum to rotate and unwind the well-rope therefrom.

A further object of the invention is to provide a construction which will be simple of construction, cheap of manufacture, and efficient in operation.

In the drawings forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views, Figure 1 is an end view of a windlass, showing the present invention applied thereto. Fig. 2 is a vertical section taken longitudinally through the drum of the windlass. Fig. 3 is a detail perspective view of the brake-lever detached.

Referring now to the drawings, there is shown a windlass such as is commonly used at wells and including a drum 5, having a shaft 6, mounted in suitable bearings, the drum 5, which is the winding-drum of the apparatus, having a brake-wheel 7 at one end and directly adjacent to which is the ratchet-wheel 8 for holding the drum from rotating to prevent unwinding of the well-rope therefrom. In connection with the brake-wheel there is employed a brake-lever 9, which is provided with a perforation 10, in which is engaged the bolt 11, also engaged with a portion of the frame of the windlass to form a fulcrum for the lever. At one end of the lever is a handle 12, while at the opposite end thereof and beyond the windlass-drum from the fulcrum of the lever there is a weight 13, which acts to hold the lever with the handle end thereof normally raised. The lever is pivoted in such position as to pass directly beneath the ratchet-wheel 8, and on one face of the lever is a flange 14, which projects to lie beneath the brake-wheel and is arcuate in form, so that when the handle end of the lever is depressed this flange, which forms the brake-shoe, will fit against the brake-wheel and by pressing downwardly upon the handle of the lever will be caused to impinge tightly against the brake-wheel to retard or prevent rotation of the winding-drum. It will be noted that the ratchet-wheel is of somewhat greater diameter than the brake-wheel, and to permit of movement of the lever to engage the shoe with the brake-wheel the upper face of the lever proper directly adjacent to the shoe is provided with an arcuate recess, through which the periphery of the ratchet-wheel may move. When the lever is rocked against the tendency of the weight, the brake-shoe is applied and the drum may be permitted to rotate at such speed to permit the bucket on the well-rope to descend at the proper rate of speed. When the rope is wound up, however, and, in fact, at all times of its winding means must be provided to prevent accidental unwinding of the rope, and for this purpose the lever is provided with a finger 20 at the point of its fulcrum, and which finger forms a pawl for engagement with the ratchet-wheel, the pawl being of such dimensions that when the lever is rocked by downward movement of the weight the pawl will swing into engagement with the ratchet-wheel, and thus prevent rotation of it and therewith the winding-drum.

It will thus be seen that with this construction when the bucket is to be lowered into the well the handle of the lever is moved downwardly, which act serves to release the ratchet-wheel and at the same time to apply the brake to ease the descent of the bucket. Conversely, when the lever is released to release the brake the pawl moves into coöperative relation to the ratchet for action to prevent accidental

return rotation of the drum when the rope is being wound or after it has been wound up.

In practice modifications of the specific construction shown may be made and any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

In a combination with a winding-drum having a brake-wheel and an adjacent ratchet-wheel, a lever pivoted at a point between its ends, having a laterally-extending arc-shaped flange for engagement with the brake-wheel and a recess to receive the ratchet-wheel, a pawl integral with said lever at a point between said recess and the handle of the lever, and a counterbalance integral with the end of the lever opposite to the handle.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL J. WALLACE.

Witnesses:

GEORGE JONES,

BENJ. SHAW.