W. H. H. MORRIS.

SAND-PUMP REEL.

No. 193,418. Patented July 24, 1877.

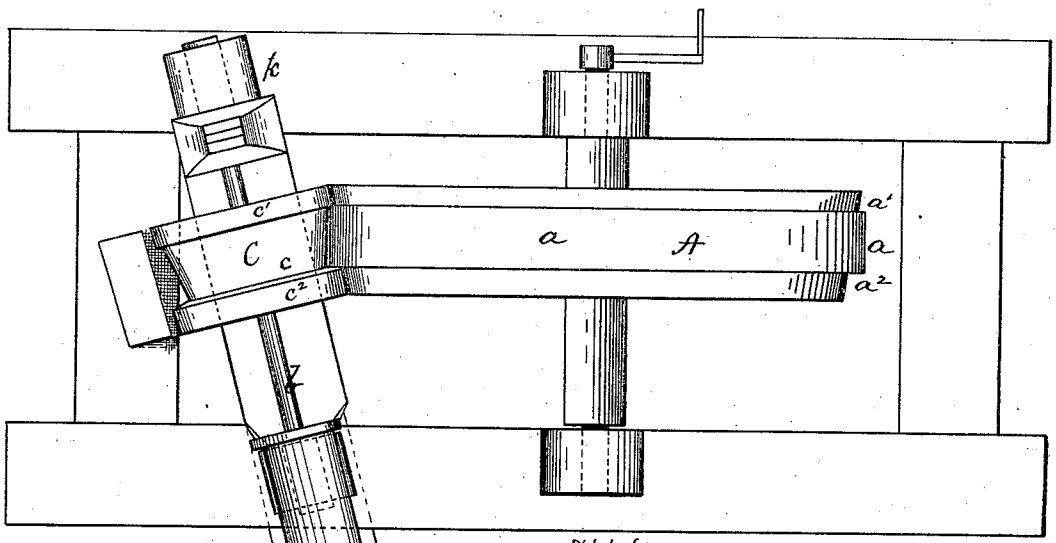


Fig. 1.

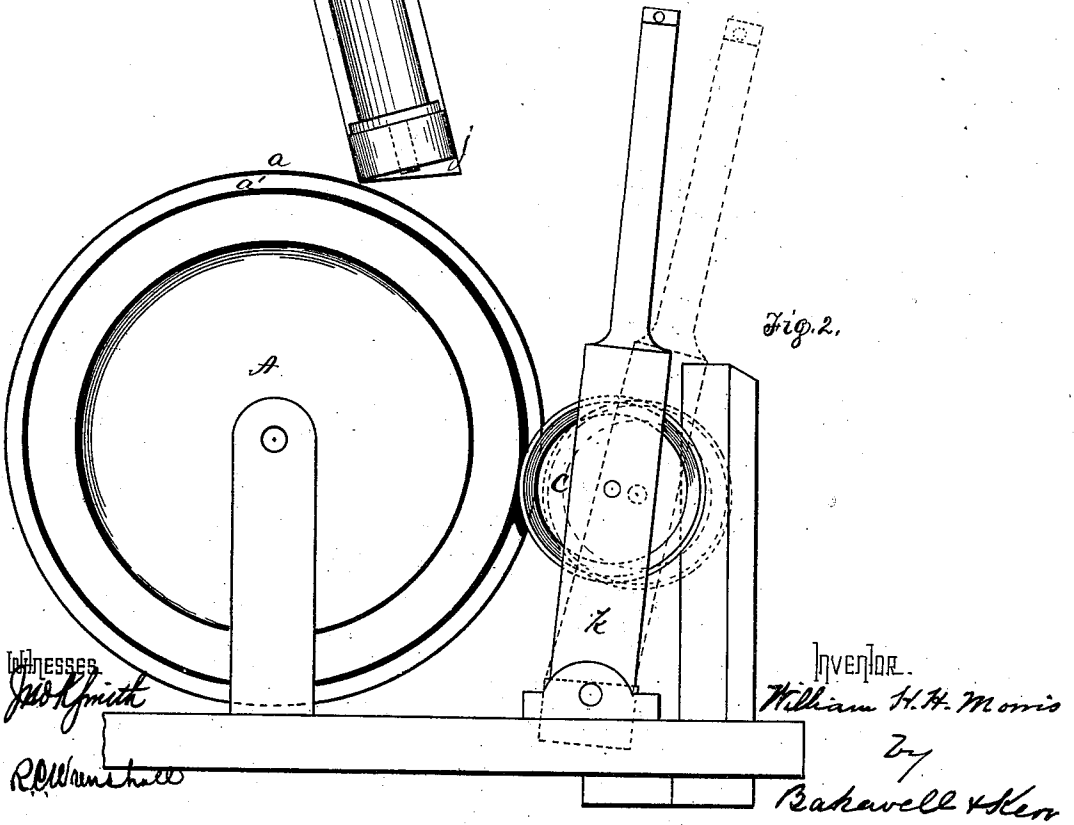


Fig. 2.

Witnesses
Jas. R. Smith
R. C. Warnstaff

Inventor.
William H. H. Morris
by
Bakewell & Kerr
Atty's

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM H. H. MORRIS, OF FRANKLIN, PENNSYLVANIA.

IMPROVEMENT IN SAND-PUMP REELS.

Specification forming part of Letters Patent No. **193,418**, dated July 24, 1877; application filed July 2, 1877.

To all whom it may concern:

Be it known that I, WILLIAM H. H. MORRIS, of Franklin, in the county of Venango and State of Pennsylvania, have invented a new and useful Improvement in Sand-Pump Reels; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a plan view, and Fig. 2 is a side elevation, of a sand-pump reel and band-wheel embodying and illustrating my invention.

Like letters refer to like parts wherever they occur.

My invention relates to that class of sand-pump reels wherein the motion is obtained by means of a beveled friction-wheel upon the reel-shaft; and consists in so constructing the friction-wheel and band-wheel, or other driving-wheel, that a true miter is obtained between the two wheels at the surfaces in contact, whereby lateral motion and slipping of the friction reel and wheel, which tend to destroy both of the wheels, are avoided.

Heretofore sand-pump reels for oil, salt, and other wells of like character have been constructed with a long shaft, that constituted, or to which was secured, a reel for taking up the rope, and on which was also secured a beveled friction-wheel, which latter, when the pump was to be raised, was forced into frictional contact with the periphery of the band-wheel, or an equivalent wheel secured on the shaft of the band-wheel. The periphery of the band-wheel, or other power-wheel from which the bevel-wheel was operated, has heretofore been a plain or straight surface, the wheel being of equal diameter throughout, while the bevel-friction was of unequal diameters, which resulted in the slipping or rubbing at the lesser diameters of the bevel-wheel, and consequent wear and injury to the surfaces. The surface of the driving-wheel being even also permitted the driven or bevel wheel to play laterally across its face to some extent, thereby adding to the wear and early destruction of both wheels.

The object of the present invention is to overcome the objections specified.

I will now proceed to describe my invention, so that others skilled in the art to which it appertains may apply the same.

In the drawing, A indicates the driving-wheel, which is preferably the band-wheel, but may be an independent wheel secured to the shaft of the band-wheel or taking power therefrom. This wheel is formed with a central tongue, *a*, and beveled faces a^1 a^2 on both sides thereof. The face of the tongue is usually square, and always so when it is made on the band-wheel, in order to accommodate the driving-belt, while the surfaces a^1 a^2 are beveled to correspond to the bevel of the friction-wheel of the reel. B represents the reel, which may be of the usual or any approved form, and is secured to a shaft, *b*, on which is also secured the friction-pulley C, said shaft being provided with a fixed and a movable journal, *j k*, or otherwise so geared as to permit of the pulley C being forced into or withdrawn from contact with the band or other driving wheel at pleasure.

The beveled friction-pulley C, I form with a central groove, *c*, of sufficient width to receive the tongue *a* of the band or driving wheel A, but of greater depth, so that the face of the tongue and groove do not come in contact. Thus, while the relative position of the wheels is preserved during action, the band or belt surface of the driving-wheel is never worn or defaced. The rims c^1 c^2 of the friction-wheel are beveled to correspond with the beveled faces a^1 a^2 of the band or driving wheel, and work in frictional contact therewith.

The several parts of the sand-reel are constructed and arranged with relation to the band-wheel or like driver, as shown, and it will be readily perceived that the surfaces in contact will form a true miter and run at equal surface-speed, thus obviating any tendency to slip or wear; that the tongue and groove will prevent any lateral play and consequent wear; and that, where the band-wheel is the driver, the belt-surface will be protected against wear, the whole tending to prolong the life of and render sand-pump reel mechanism more efficient than that in present use.

Having thus described the nature and advantages of my invention, what I claim, and desire to secure by Letters Patent, is—

1. In sand-pump reels, the combination of

the tongued driving-wheel with the grooved bevel friction-wheel, substantially as and for the purpose specified.

2. The combination of a grooved bevel friction-wheel with a sand-pump reel, which is driven from a band-wheel, substantially as specified.

3. The beveled band-wheel having a tongue with square face, in combination with the grooved bevel-wheel of a sand-reel pump, substantially as specified.

4. The grooved beveled pulley for sand-pump reels, substantially as specified.

In testimony whereof I, the said WM. H. H. MORRIS, of Franklin, Venango county, and State of Pennsylvania, have hereunto set my hand.

W. H. H. MORRIS.

Witnesses:
F. W. RITTER, Jr.,
JAMES I. KAY.