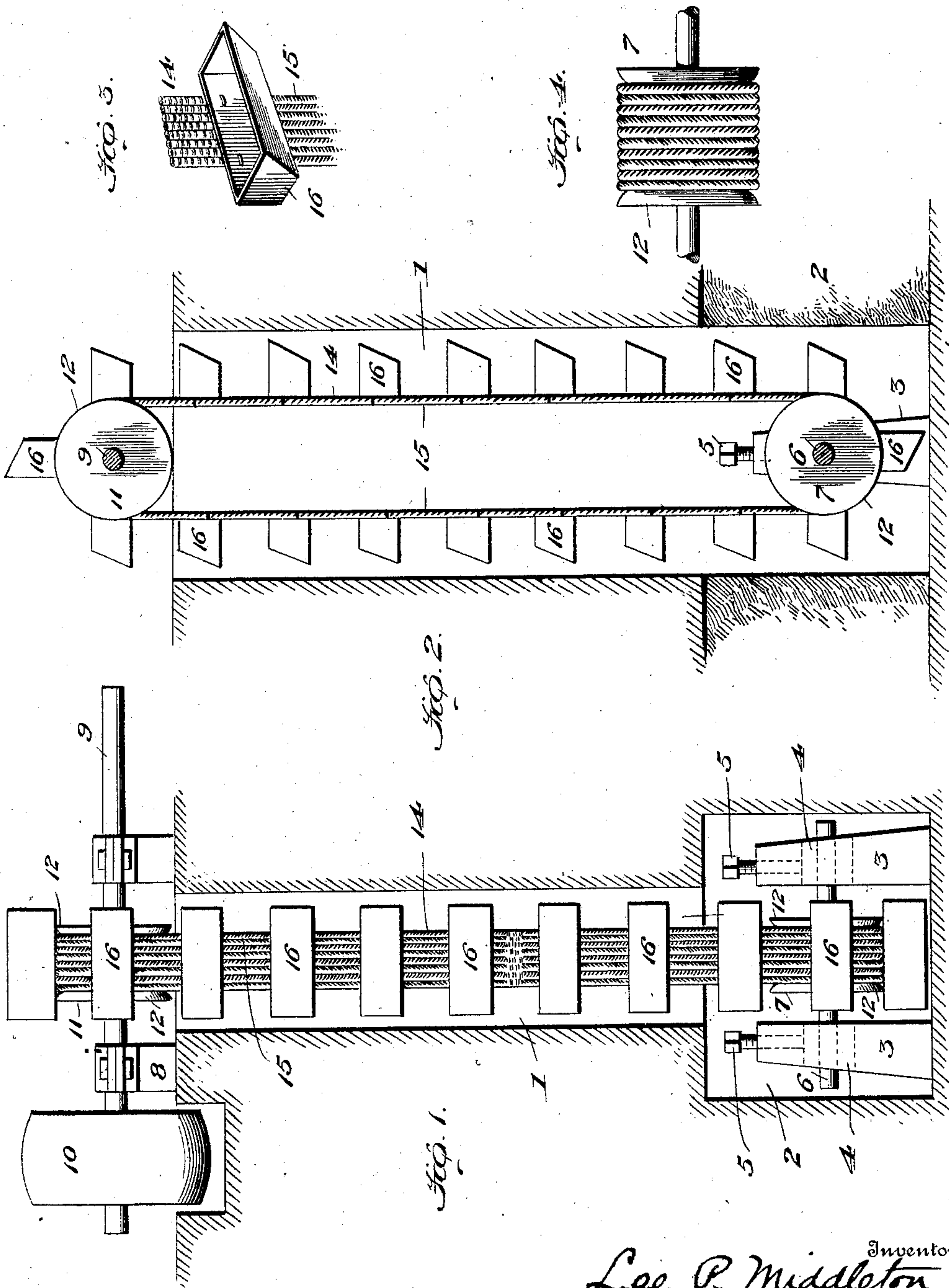


No. 859,402.

PATENTED JULY 9, 1907.

L. P. MIDDLETON.
ENDLESS WATER WHEEL.
APPLICATION FILED AUG. 2, 1906.



Witnesses

Geo. R. Hamilton

By

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UNITED STATES PATENT OFFICE.

LEE P. MIDDLETON, OF TUSCARORA, NEVADA.

ENDLESS WATER-WHEEL.

No. 859,402.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed August 2, 1906. Serial No. 328,931.

To all whom it may concern:

Be it known that I, LEE P. MIDDLETON, a citizen of the United States, residing at Tuscarora, county of Elko and State of Nevada, have invented certain new and useful Improvements in Endless Water-Wheels, of which the following is a specification.

My invention relates to endless waterwheels.

The object of the present invention is the provision of a simple, durable, and comparatively inexpensive waterwheel of the endless type, which can be easily installed and will be especially adapted for use in a shaft or pit to be made at the foot of a flume or ditch in mining regions or other places and afford a convenient means for obtaining power.

The invention is designed to develop a high amount of efficiency, to be capable of desired adjustments, and to run with a minimum amount of wear on the parts.

In the accompanying drawings: Figure 1 is a front elevation; Fig. 2, a sectional side elevation; Fig. 3, a detail of a part of the rope or cable belt with one of the water buckets; and Fig. 4, a detail of one of the drums or sheaves.

The invention is most preferably located in a pit or shaft 1 from which leads a draining tunnel 2, said pit or shaft being located at the bottom of a suitable flume or ditch which may come down the hill side or have a suitable fall to give a proper head of water.

In the bottom of the pit or shaft there are located standards 3 having journal-boxes 4, which may be adjusted up and down by screws 5 to properly position the shaft 6 which carries the lower sheave or drum 7.

At the mouth of the pit or shaft are pillow blocks 8 which support the shaft 9, said shaft having a band pulley 10 which may be belted to any machinery which it is intended to drive from the waterwheel. Secured to the shaft 9 is a sheave or drum 11, which corresponds in structure with the sheave or drum 7 and is in alinement therewith. The sheaves or drums have flanges 12 and between these flanges said sheaves or drums are provided with a cushion and tractive periphery or face

which is formed by the provision of a rope or cable wound around each sheave and secured thereto, these cushioning ropes or cables being shown at 13 Fig. 4. A band or belt 14 is provided which may be made up of individual cables 15 connected together, said endless band or belt 14 running around the respective sheaves and being of a proper width to fit in between the flanges on said sheaves. The buckets are shown at 16, the same being connected to the band 14. The water passing down the pit or shaft fills all of the buckets, in succession, carried by one side of the belt or band and causes the shafts to rotate. The provision of the belt or band made of cables or strands, running around cushioning and tractive faces or peripheries of the sheaves, prevents the belt or band from slipping on the sheaves and gives a very strong contact between the belt or band and the sheaves so that a high efficiency is obtained, while the flanges on the sheaves prevent any lateral displacement of the belt or band. As the bearings 4 can be adjusted, the belt or band can be made properly taut at all times.

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

1. In an endless waterwheel, the combination with sheaves or pulleys having cables or ropes wound around their peripheries with the coils laid side by side and secured to the pulleys, of an endless belt or band passing around said sheaves and bearing against the cushioning and tractive cable or rope windings aforesaid, and buckets carried by said belt or band.

2. In an endless waterwheel, the combination with sheaves or pulleys having cables or ropes wound around their peripheries with the coils laid side by side and secured to the pulleys, of an endless belt or band composed of parallel cables connected together side by side and running around said sheaves or pulleys and bearing against the cushioning and tractive cable or rope windings aforesaid, and buckets carried by said belt or band.

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

LEE P. MIDDLETON.

Witnesses:

A. W. SEWELL,
C. C. BACH.