

E. H. LINDSLEY.
HYDRAULIC MOTOR.
APPLICATION FILED APR. 15, 1912.

1,043,849.

Patented Nov. 12, 1912.

2 SHEETS—SHEET 1.

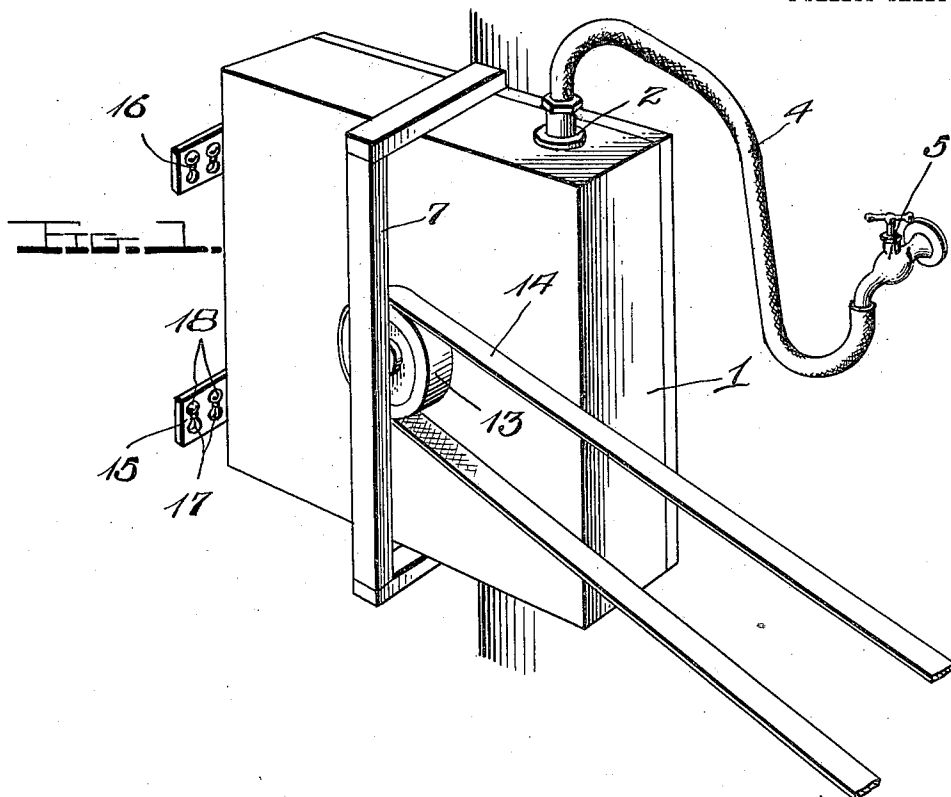
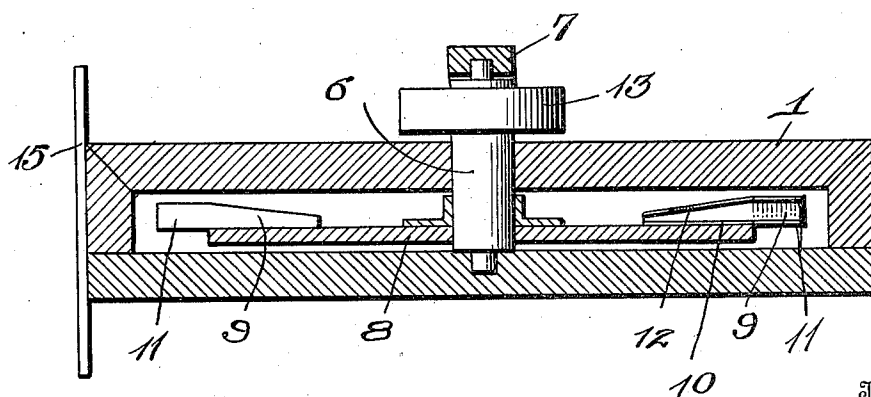


FIG. 3.



Inventor

E. H. Lindsley,

Witnesses

Chas. L. Griebner.

A. B. Norton.

By

Watson E. Coleman

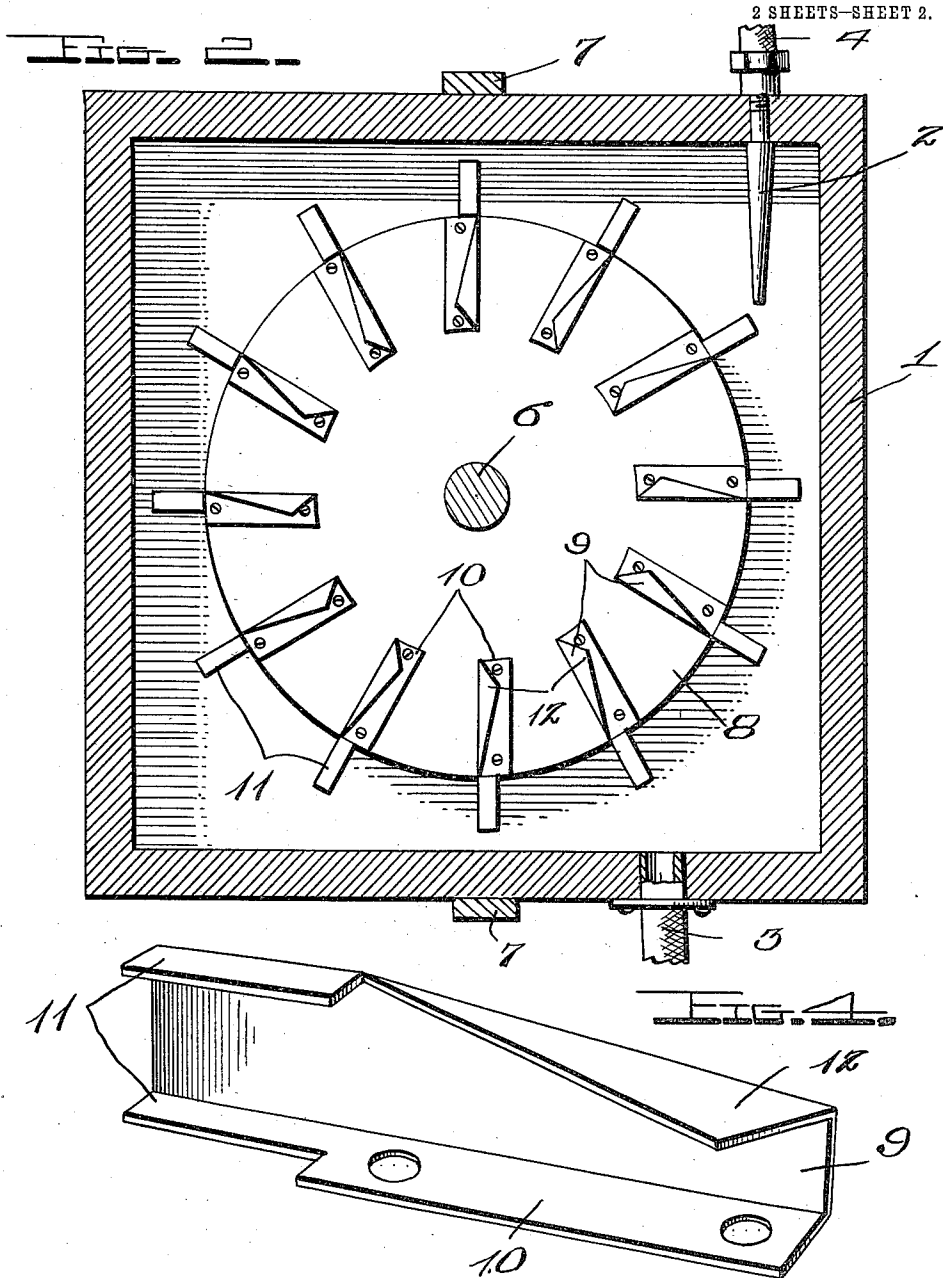
Attorney

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Witnesses

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UNITED STATES PATENT OFFICE.

EUGENE H. LINDSLEY, OF MILBANK, SOUTH DAKOTA.

HYDRAULIC MOTOR.

1,043,849.

Specification of Letters Patent.

Patented Nov. 12, 1912.

Application filed April 15, 1912. Serial No. 690,774.

To all whom it may concern:

Be it known that I, EUGENE H. LINDSLEY, a citizen of the United States, residing at Milbank, in the county of Grant and State of South Dakota, have invented certain new and useful Improvements in Hydraulic Motors, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in water turbines and more particularly to a motor adapted for light work and my object is to provide a device of this character wherein a maximum amount of power may be derived from the force of the flow of water from a hydrant.

A further object of the invention resides in providing a device of this character having an improved rotor or water wheel and a still further object resides in the provision of improved water vanes or wheel buckets.

Another object of the invention resides in providing a device which is extremely simple and durable in construction, inexpensive to manufacture and one which will be very efficient and useful in operation.

With these and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings forming a part of this application, Figure 1 is a perspective view showing the device applied to the wall of a structure. Fig. 2 is a vertical longitudinal section therethrough. Fig. 3 is a horizontal section through the device. Fig. 4 is a perspective view of one of the water vanes or wheel buckets removed.

In describing my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which—
1 indicates a casing or housing formed of any desired material and designed waterproof, said housing or casing having extended in the upper wall thereof an inlet spout 2, while the lower or bottom wall of the same is provided with an outlet spout 3. This inlet spout 2 has a portion thereof threaded to be readily engaged with the end of a flexible tubular connection 4, the opposite end of which is connected to a hydrant or other water supply 5, whereby water may be readily entered in the housing.

Extending transversely of the center of the housing or casing and rotatably mounted in the walls thereof, is a hub member 6, the one end of which is extended beyond the one wall of said housing and is finally journaled in the one wall of an extension frame or the like 7 formed on the housing and mounted on said hub 6 within the housing 1 in any desired manner, is a metallic disk 8 designed to form a rotor or water wheel. This disk 8 carries thereon a plurality of radially disposed water vanes or wheel buckets 9, the latter comprising a single piece of metal, the one side edge of which is bent to form a securing flange 10 extending for the greater portion of the length thereof. This securing flange 10 is bent at substantially right angles to the base portion of the vanes or buckets and is secured in any desired manner, such as riveting, to the one face of the disk 8, allowing a small portion of said base to project beyond the peripheral edge of the disk and this projecting portion of the base of each of the members 9 has the side edges thereof also bent upwardly at right angles thereto as shown at 11, whereby a substantially channel-shaped bucket or vane is provided. As stated, the flanges 11 are only formed on the portions of the side edges of the members 9 which extend beyond the periphery of the disk 8, these flanges being less in height than the securing flanges 10 and the side edges of the base of each of these members 9 opposite that carrying the flange 10 and within the peripheral edge of the disk 8, is also bent to form a substantially water directing flange 12. This flange 12 is increased in width from the point at which the adjacent flange 11 terminates to the extreme rear end of the vane or bucket, whereby it will be appreciated that the base or body portion of each of said member will be substantially tapered on this edge, from the periphery of the disk 8 to the extreme rear edge of the member and as said flange 12 is bent upwardly at substantially a right angle with respect to the body of the member carrying the same, it will be appreciated that the same will direct an inward flow of the water received on the projecting or channel portions of the device.

As stated above, the one end of the hub member 6 projects beyond the one wall of the housing or casing proper to allow the extreme end of the same to be journaled

in the one wall of the frame 7 and this projecting portion of the hub carries thereon a pulley 13 over which extends a belt 14, said belt being adapted to extend to any desired apparatus for the operation of the latter upon the rotation of the pulley 13. In order to secure the device to a stationary object, the one end wall of the housing 1 has secured adjacent the upper and lower ends thereof the metallic strips 15 which are provided with the slots 16 therein, the one end of each of said slots terminating in an enlarged opening 17. The slots of these plates or strips 15 are adapted to be engaged with headed studs or the like 18 carried on a stationary object, whereby it will be appreciated that the device will be securely held thereto.

It must be here stated that the inlet spout 2 is positioned toward the one end wall of the housing 1 so that the water passed there-through will be directed on to the projecting portions of the vanes or buckets 9 and in practice, after the device has been properly set up for use, and it is desired to operate the same, it is only necessary to open the valve of the hydrant to allow the water to pass therefrom into the housing 1. The water passing through the inlet spout 2 will be directed with considerable force against the projecting channel portions of the members 9, thereby causing the disk 8 and correspondingly the hub 6 to be revolved in said housing. As the water is received in the channel portions of the members 9, the flow will be directed somewhat inwardly through the medium of the directing flange 12, the result of which will obviously aid in the revolution of the disk 8 and give greater power thereto. The water dropping from the vanes or buckets 9, as the disk is rotated, passes to the bottom of the housing where it may readily pass through the exhaust or outlet spout 3. The revolving of the disk 8 will, of course, cause the pulley 13 to be revolved on the hub 6, and power therefrom may be readily transmitted through the belt 14 to any desired apparatus.

From the foregoing it will be seen that I have provided a simple, inexpensive and efficient means for carrying out the objects

of the invention and while I have particularly described the elements best adapted to perform the functions set forth, it is obvious that various changes in form, proportion and in the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the principles of the invention.

Having thus described this invention, what I claim is:—

1. In a hydraulic motor, the combination with a casing having an inlet and outlet therein; of a rotor comprising a disk, a shaft rotatably mounted in the walls of said casing and carrying said disk, and a plurality of channel-shaped water vanes radially secured to one face of said disk to project beyond the outer periphery thereof, one side flange of each of said vanes being directed inwardly toward the inner end thereof.

2. In a hydraulic motor, a rotor comprising a disk, and a plurality of water vanes radially secured to the one face thereof, the projecting portions of said vanes being channel-shaped and each having an inwardly projecting flange formed on the one edge thereof extending from the projecting portion of the same to the extreme rear edge thereof.

3. In a hydraulic motor, a rotor comprising the combination with a disk; of a plurality of water vanes, each consisting of a body, having a right angularly bent securing flange formed on one side edge thereof, said flange extending the greater portion of the length of said body, both side edges of said body from the termination of said securing flange to the one end thereof being provided with additional flanges to form a projecting channel portion thereon, and an additional inwardly directing flange formed on the edge of said body opposite that having the securing flange thereon, said latter flange increasing in width from its forward to its rear ends.

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

EUGENE H. LINDSLEY.

Witnesses:

THAD L. FULLER,
H. B. LINDSLEY.