F. J. BARTO.

WIND OR WATER WHEEL.

APPLICATION FILED AUG. 10, 1917.

1,364,681. Patented Jan. 4, 1921.

2 SHEETS—SHEET 1.

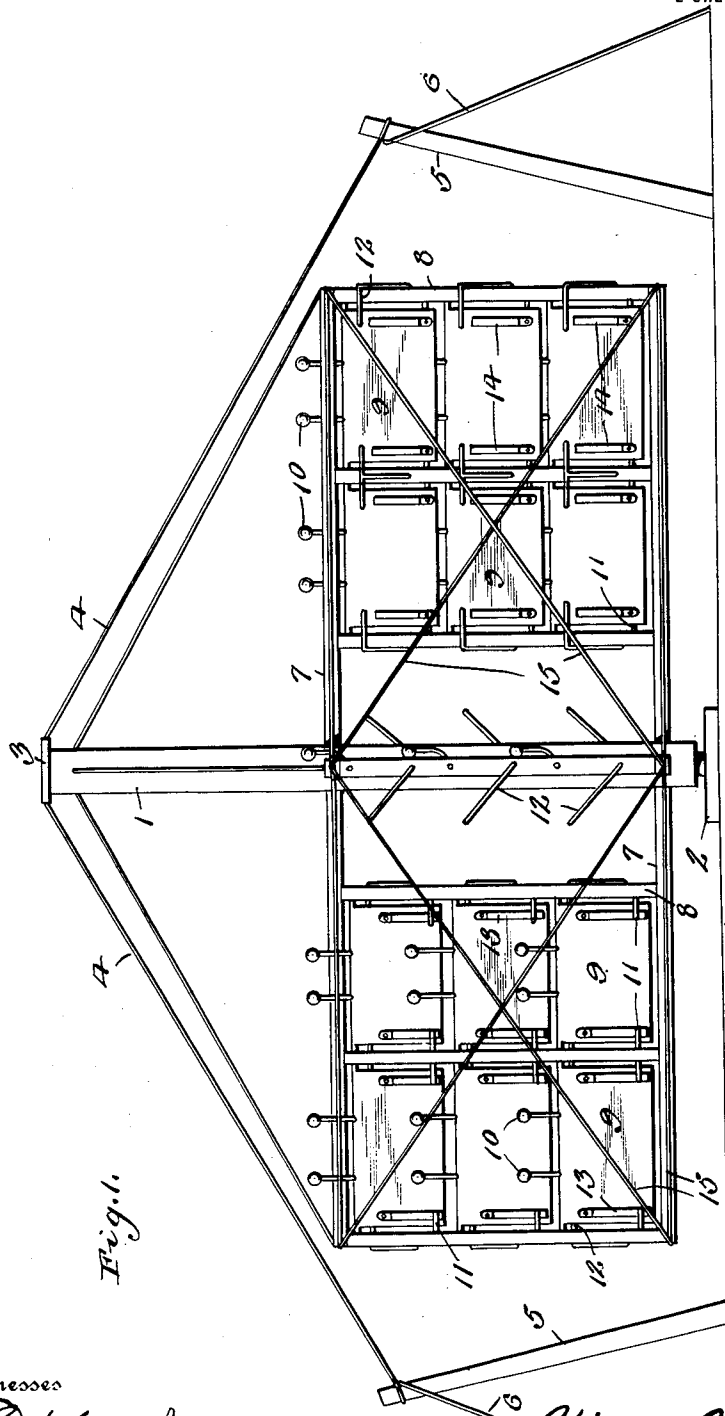


Fig. 1.

Witnesses

E. Sindeser Jr.

K. Peacock

Inventor

F. J. Barto,

By Victor J. Evans

Attorney

F. J. BARTO.

WIND OR WATER WHEEL.

APPLICATION FILED AUG. 10, 1917.

1,364,681.

Patented Jan. 4, 1921.

2 SHEETS—SHEET 2.

Fig. 2.

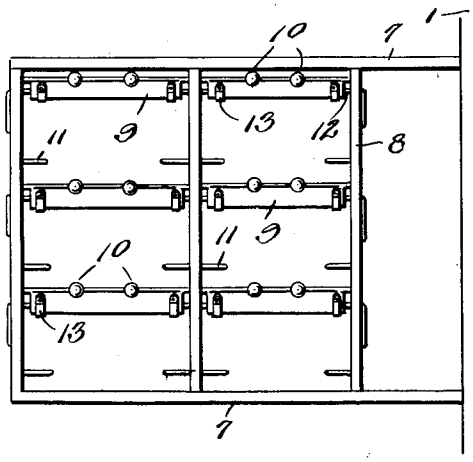


Fig. 3.

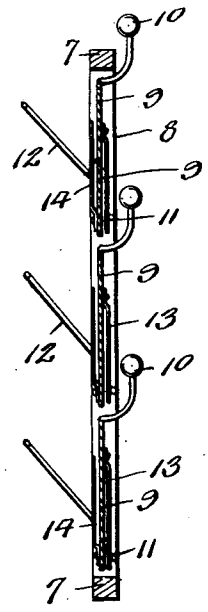


Fig. 4.

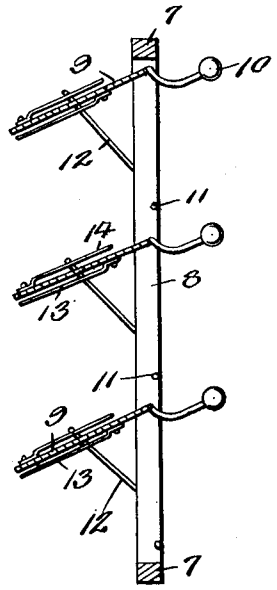
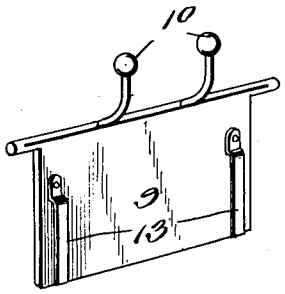


Fig. 5.



Witnesses

R. Peacock

Inventor

F. J. Barto,

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

FRANKLIN J. BARTO, OF WAKEFIELD, NEBRASKA.

WIND OR WATER WHEEL.

1,364,681. Specification of Letters Patent. Patented Jan. 4, 1921.

Application filed August 10, 1917. Serial No. 185,595.

To all whom it may concern:

Be it known that I, FRANKLIN J. BARTO, a citizen of the United States, residing at Wakefield, in the county of Dixon and State of Nebraska, have invented new and useful Improvements in Wind or Water Wheels, of which the following is a specification.

This invention relates to wind or water wheels and it consists in the novel features hereinafter described and claimed.

An object of the invention is to provide a wheel of the character indicated which is of simple structure and which includes a vertically disposed shaft journaled for rotation and suitably supported. Arms radiate from the shaft and are arranged in pairs the members of which are located in the same vertical plane. Vertical members connect the members of the pairs of arms together and panels are pivotally connected with the said vertical members. These panels are provided with weights at their upper edge portion but the panels are of such weight as to normally lie approximately in vertical position between the upper and lower members of the pairs of arms. Stops are provided upon the vertical members for limiting the swinging movement of the panels and the panels are provided with springs adapted to engage the stops whereby the swinging movement of the panels is gradually checked or stopped in order to prevent undue noise and damage or wear to the panels.

In the accompanying drawing:—

Figure 1 is a side elevation of the wind or water wheel.

Figures 2, 3, 4 and 5 are detailed views of the several features of the same.

As illustrated in the accompanying drawing the wind or water wheel comprises a vertically disposed shaft 1 journaled at its lower end in or upon a pillow bearing 2. The upper end of the shaft 1 is journaled in a bearing 3 which is connected by means of guy lines 4 with the upper end of stakes 5 which may be driven in the ground or otherwise suitably supported. Guy lines 6 connect the upper end portions of the stakes 5 with the ground and thus the shaft 1 is supported in a vertical position.

Arms 7 extend radially from the shaft 1 and are arranged in pairs, the members of each pair being in the same vertical plane and the members of each pair are connected by vertical members or bars 8. Panels 9 are pivotally connected at their upper corners with the bars 8, each panel being provided at its upper edge portion with one or more weights 10. The panels 9 normally hang vertically between the members of the pairs of arms 7 and the members of the sets of bars 8. Stops 11 are carried by the bars 8 and are located in the paths of movement of the free edge portions of the panels 9 and are adapted to limit the swinging movement of the panels with relation to the bars 8. Stops 12 are carried by the bars 8 and are located in the paths of movement of the inner edge portions of the panels 9 and are adapted to limit the outward swinging movement of the panels 9 with relation to the bars 8. Panels 9 carry at one side springs 13 which are adapted to engage the panels which are adapted to engage stops 11 and at their opposite sides the said panels carry springs 13 which are adapted to engage the stops 12. These springs are for the purpose of cushioning the swinging movement of the panels in order that the panels may be brought to a state of rest without subjecting them to excessive jar. The other end portion of the arms 7 are suitably connected together by means of guy lines 15.

The parts of the wheel are so arranged that when the panels 9 are presented to the wind or the current of water they turn vertically and are limited in their swinging movement between the bars 8 by the stops 11. On the opposite side of the wheel the panels are held out at an angle with relation to the bars 8 by the current of air or water and the weights 10. The outward swinging movement of the panels is limited by the stops 12. Thus as the wheel rotates the panels swing from approximately vertical positions to horizontal positions and back, therefore the side surfaces of the panels are presented to the current in the direction in which the current is moving and the edges of the panels are presented to the current when the panels are moving in the opposite direction to that in which the current moves.

Having described the invention what is claimed is:—

1. A wheel comprising a vertically disposed shaft journaled for rotation, arms radiating from the shaft, and arranged in pairs, vertically disposed bars connecting the members of the pairs of arms together, panels pivotally mounted between the bars, stops carried by the bars and located in the paths of movement of the panels to limit the swinging movement thereof in either direction, yielding abutments carried by the

opposite sides of panels and adapted to engage the stops, and weight carried at the upper edge portions of the panels.

2. A wheel comprising a vertically disposed shaft journaled for rotation, arms radiating from the shaft and arranged in pairs, bars connecting the members of the pairs of arms together, panels pivotally connected at their upper edges between the bars, stops located upon the bars and in the paths of movement of the free edge portions of the panels, stops located upon the bars and located in the paths of movement of the inner edge portions of the panels, yielding abutments carried by the opposite sides of said panels and adapted to engage the stops, and weights carried by the panels above their points of pivotal connection with the bars.

3. A wheel comprising a vertically disposed shaft journaled for rotation, arms radiating from the shaft and arranged in pairs, vertically disposed bars connecting the arms together, panels pivoted between the bars, stops carried by said bars for limiting the movement of such panels in either direction, leaf springs carried by the opposite sides of said panels and having their free extremities reversely disposed, said springs being adapted to engage said stops, and weights carried by the upper edge portions of said panels.

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

FRANKLIN J. BARTO

Witnesses:

F. L. DONELSON,

C. F. HOWARD.