(No Model.) 2 Sheets—Sheet 1.

W. A. BLANK.

WINDMILL.

No. 517,374. Patented Mar. 27, 1894.

Fig. 1

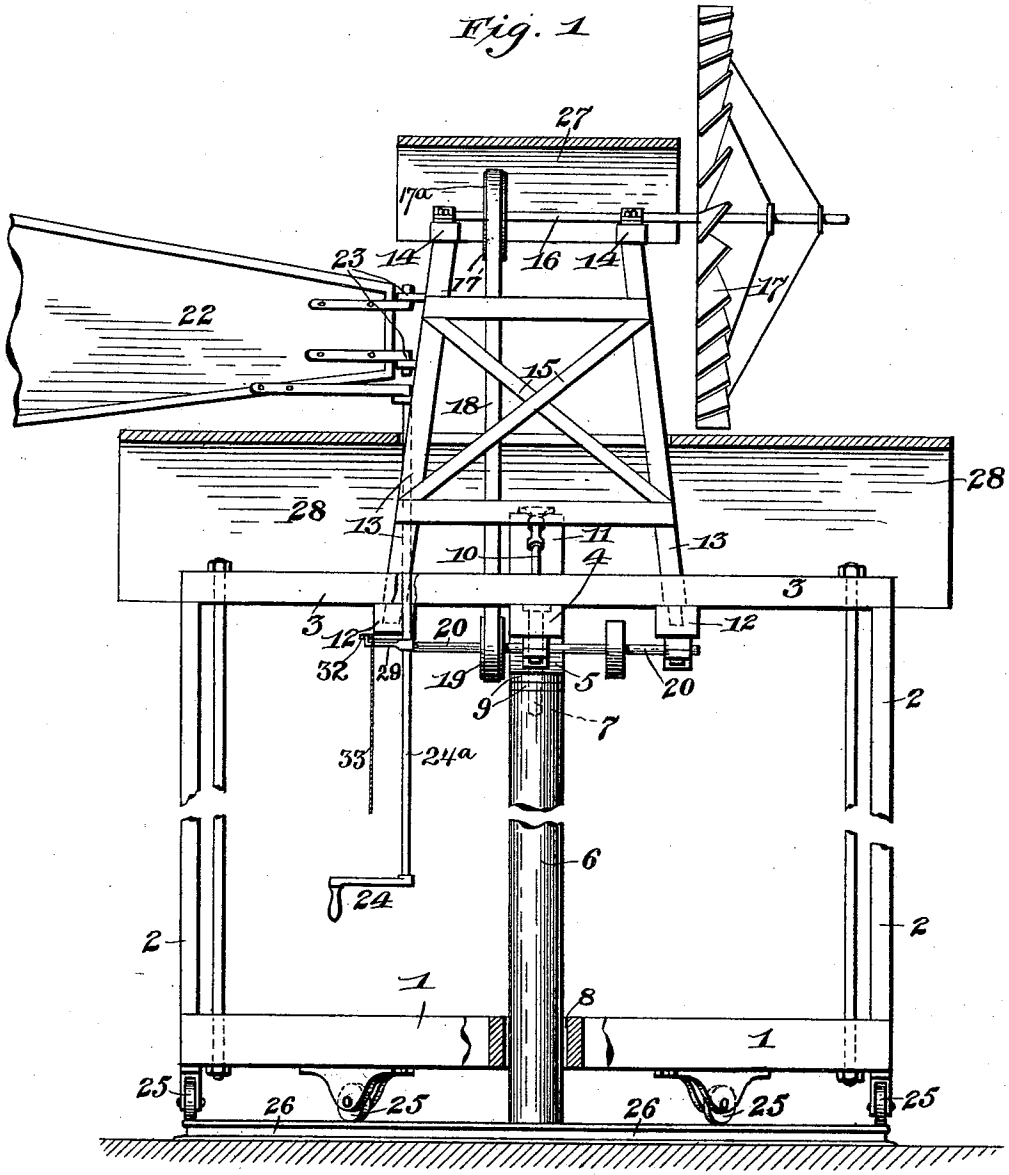
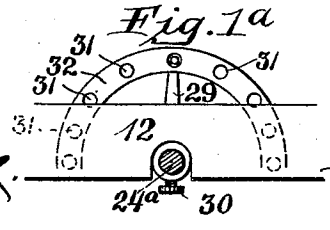


Fig. 1a



Witnesses
Severance
Geo. B. Crowell.

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(No Model.)

2 Sheets—Sheet 2

W. A. BLANK.

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Fig. 2.

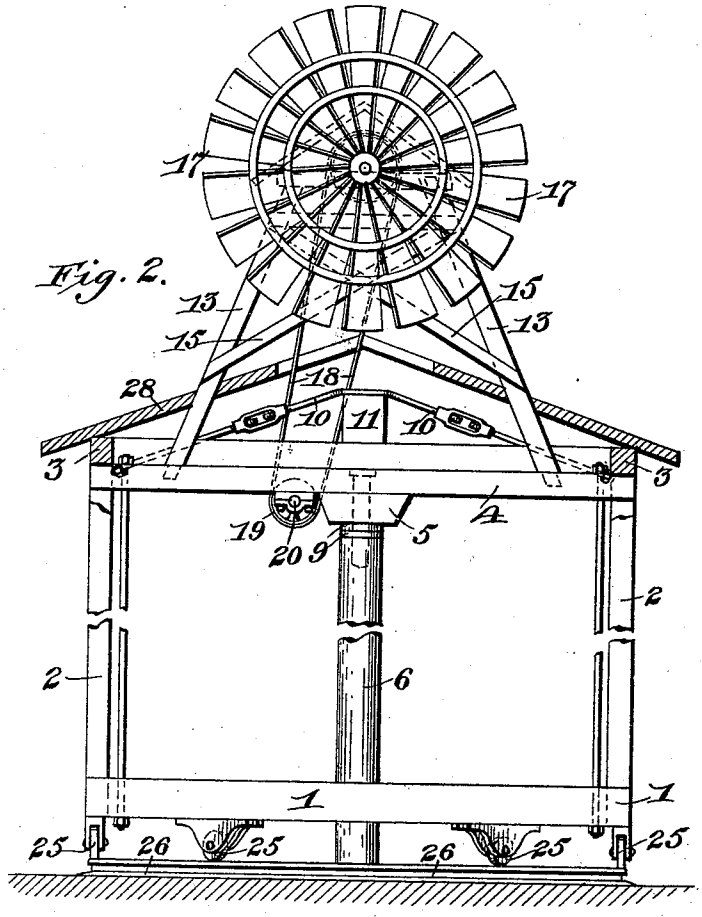
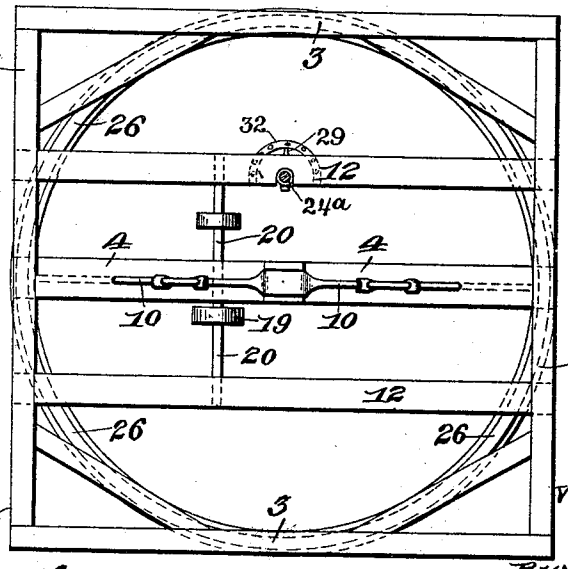


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM A. BLANK, OF LA PORTE, INDIANA.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 517,374, dated March 27, 1894.

Application filed July 15, 1893. Serial No. 480,624. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. BLANK, a citizen of the United States, residing at La Porte, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Windmills, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates more particularly to the construction of wind mills which are adapted to carry and operate machinery of any character, although it may be arranged for any of the uses for which wind-mills are commonly employed, and my invention consists of two frames, the lower one of which revolves and is supported on a central shaft by means of a block, cross-beam and truss-rods, and which carries the machinery to be operated, together with shafting and pulleys which are driven by the wind-wheel and wind-wheel shaft journaled in the upper frame rigidly secured to and carried by the said lower frame. A vane hinged to the upper frame is adapted to be turned in the direction of the wind, when the wheel will be thrown into the wind carrying with it the upper and lower frames and thus prevent the driving belts from becoming twisted. And my invention further consists of certain features of novelty that will be hereinafter fully described and specifically pointed out in the claims.

In the accompanying drawings:—Figure 1 is an elevation of my improved wind-mill. Fig. 1ª is a detail view showing the means for holding the vane in its adjusted position. Fig. 2 is an elevation taken at right angles to Fig. 1, and partly in section, and Fig. 3 is a top plan view of the lower frame.

1 represents the floor of the lower frame, which may be of square or other suitable form, 2 the uprights extending upward therefrom, and 3 the cross-pieces connecting the uprights at the top of the lower frame.

4 represents a cross beam secured to the cross-pieces 3 midway of their length and 5 a short block secured to the under side of the cross-beam 4. By the above-described arrangement of parts the lower frame, and also the upper frame which is carried by the lower frame are pivotally mounted on the central shaft 6 by means of the pin or bolt 7. The shaft 6 passes down through an opening 8 in the floor 1 and is rigidly supported at its lower end in any convenient manner. To lessen the friction between the block 5 and shaft 6, a pair of washers 9 is inserted between the said parts, and to prevent the frame from sagging at its sides and ends, truss rods 10 are secured to the cross-pieces 3 at one end and at their other ends to a block 11 secured to the cross-beam 4. 12 are also cross-beams secured to the cross-pieces 3 to form the supports of the supplemental or upper frame which is rigidly secured to the lower frame. This frame is composed of the uprights 13 rigidly secured at their lower ends to the cross-beams 12 and secured together at their upper ends by the cross-pieces 14. The uprights 13 are braced by means of the truss work 15. Journaled to the cross-pieces 14 is the wind-wheel shaft 16 and carrying the wind-wheel 17 which may be of any desired construction. 17ª is a driving pulley keyed on the said wind-wheel shaft 16 and connected by means of the belt 18 and adapted to drive the pulley 19 which is keyed on the shaft 20 journaled on the cross-pieces 13. Sprocket-wheels and chains may be used instead of the pulleys 17ª, 19 and belt 18. One or more pulleys may be keyed onto the shaft 21 for driving different pieces of machinery on the floor 1 of the lower frame.

22 represents a vane which is hinged at 23 to the supplemental frame and it is adapted to be turned in the direction of the wind by the operating handle 24 and rod 24ª. By this arrangement, when the wind changes, the vane is turned in the right direction by the handle 24 when the wheel will be thrown into the wind which turns the whole frame and prevents the gearing from becoming twisted. The vane 22 is held in its adjusted position by means of the spring locking pin 29 which is secured onto the operating rod 24ª by means of the set screw 30, and which engages in openings 31 formed in the segment 32 secured to the cross-beam 12. When it is desired to change the position of the vane, the locking pin 29 is disengaged from the segment 32 by means of the cord or rope 33, and the operating handle turned until the vane is in the desired position, after which the cord 33 is released and the locking pin allowed to engage in an open-

ing in the segment. To allow of the frame-work being turned easily and to aid in supporting the frame pulleys or rollers 25 are secured to the bottom of the floor 1 and travel on the track 26. Suitable housings 27 and 28 are placed over the tops of the upper and lower frames to protect the shaftings and machinery from the weather.

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

1. In a wind mill, the combination of a central shaft, an upper frame work carried by a lower frame work, said upper and lower frame-work being supported on the central shaft by means of a cross-beam, a block mounted on said cross beam and truss-rods connected to said block and cross-beam, substantially as shown and described.

2. In a wind-mill, the combination of the lower frame centrally mounted on a vertical shaft, a block on said shaft and having truss rods passing over the same and connected at their ends to the frame, suitable shafting and pulleys journaled in the lower frame, the upper or supplemental frame rigidly secured on the lower frame, the wind-wheel and wind-wheel shaft journaled in the upper frame, a pulley keyed on said shaft, belting passing over the pulleys in the upper and lower frames, and the vane hinged to said supplemental frame and provided with the operating rod and handle for turning the vane in the direction of the wind, substantially as shown and described.

3. In a wind mill, the combination of a central shaft, and upper frame-work carried by a lower frame-work, said upper and lower frame-works being supported on and carried by the central shaft by means of a cross-beam secured to the lower frame-work, a block on the cross-beam, truss-rods connected to said block and cross-beams to support the sides of the lower frame-work, suitable shafting and pulleys mounted in the upper and lower frame-works, a wind wheel carried by the upper frame-work, and a vane pivotally connected to the upper frame-work, and adapted to be turned in the direction of the wind and held in its adjusted position for throwing the wind-wheel into the wind, substantially as shown and described.

WILLIAM A. BLANK.

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