(No Model.) 2 Sheets—Sheet 1.

E. EVERSON.

WINDMILL.

No. 506,483. Patented Oct. 10, 1893.

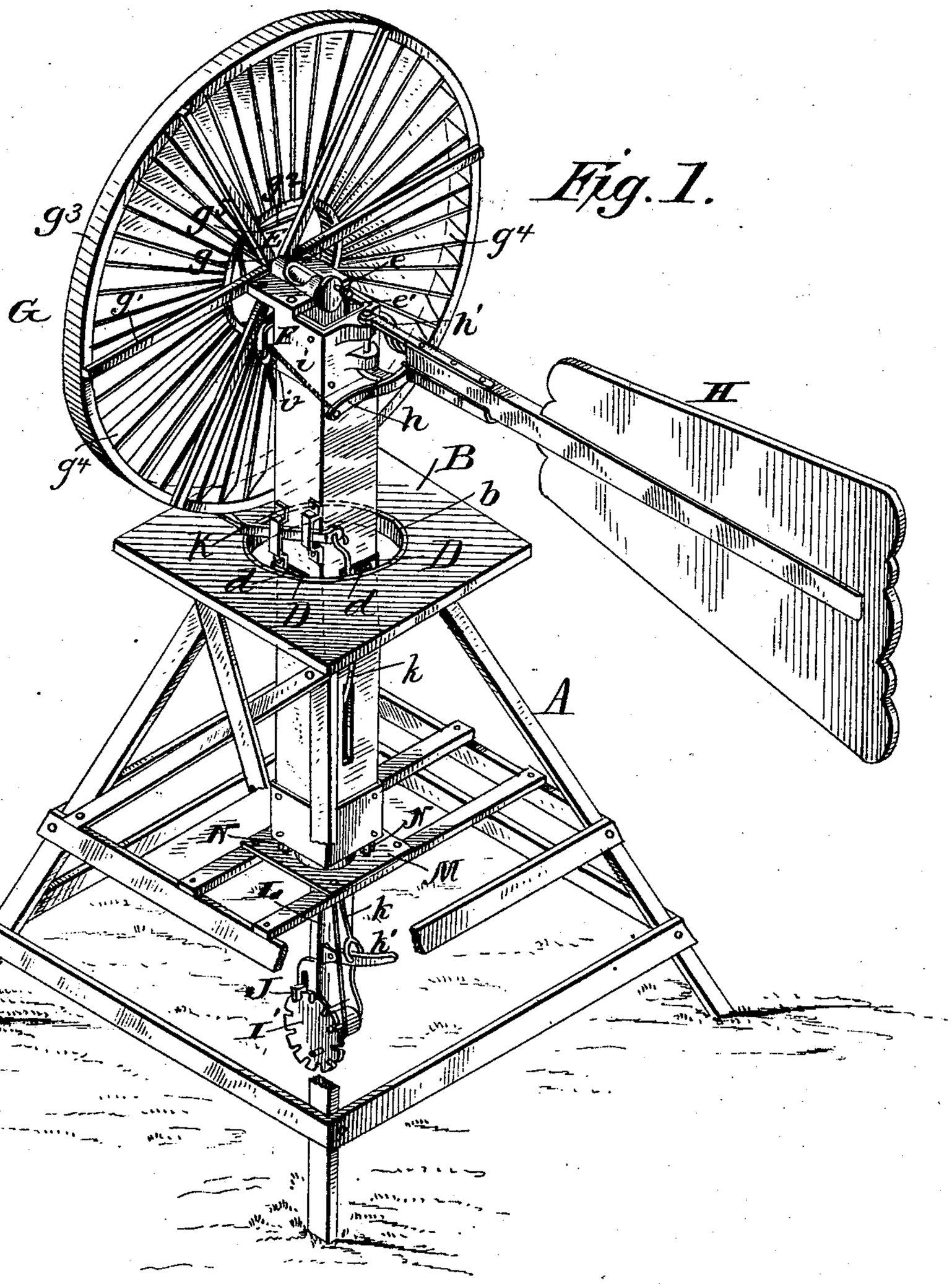

Fig. 1.

WITNESSES
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INVENTOR
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His Attorneys.

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Fig. 2.

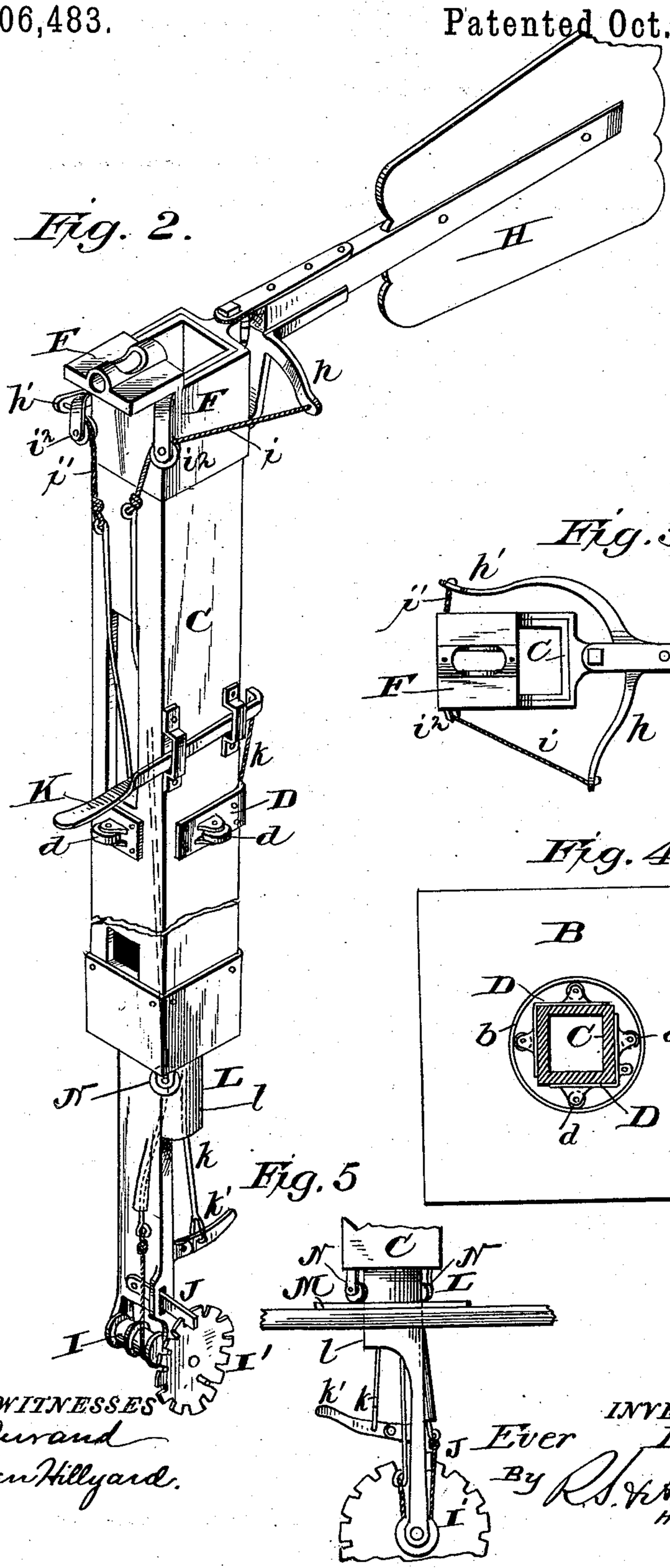

Fig. 3

Fig. 4

Fig. 5

WITNESSES

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Van Buren Hillyard.

INVENTOR

Ever Everson

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UNITED STATES PATENT OFFICE.

EVER. EVERSON, OF MANKATO, KANSAS.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 506,483, dated October 10, 1893.

Application filed April 14, 1891. Serial No. 388,859. (No model.)

To all whom it may concern:

Be it known that I, EVER. EVERSON, a citizen of the United States, residing at Mankato, in the county of Jewell and State of Kansas, have invented certain new and useful Improvements in Windmills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to wind mills.

The improvement consists of the novel features which will be hereinafter more fully described and claimed and which are shown in the annexed drawings, in which—

Figure 1 is a perspective view of a wind mill embodying my invention. Fig. 2 is a detail perspective view of the stock, parts being broken away showing the tail vane, the tail vane operating devices, and the brake. Fig. 3 is a top plan view showing the manner of connecting the tail vane operating cables or chains with the tail vane. Fig. 4 is a horizontal section just above the tower. Fig. 5 is a detail side view of the lower end of the windmill stock, showing the roller bearings and the plate in which the lower end of the stock is journaled.

The derrick or mast A, is of usual construction and is provided at its upper end with the platform B, which is centrally apertured to receive the stock C, and which is strengthened by the metal band or ring *b* on which the guide rollers *d*, that are secured to the sides of the stock C, travel in the turning of the stock to bring the wheel in the wind. These rollers *d* are journaled in lugs which project from the angle castings D which are secured to the diagonally opposite corners of the stock.

The wheel shaft E is journaled in bearings on the metal cap F at the upper end of the stock C, and is provided at its inner end with the crank *e* to which the pump rod *e'* is attached. The wheel G is mounted on the outer end of the shaft E and is composed of a central spider or hub *g*, arm *g'*, and inner and outer ring g^2 and g^3, respectively, which are secured to the arms *g'*, and the slats or blades g^4 which are between and secured at their ends to the rings g^2 and g^3. The end of the shaft E projects beyond the plane of the wheel, and the latter is strengthened by the stay rods g^5.

The tail vane H is pivoted to the cap F in the ordinary manner, and is provided with the horizontal arms *h* and *h'*. The arm *h* is approximately at right angles to the plane of the tail vane and the arm *h'* is in the plane about parallel with the plane of the tail vane. The cables or chains *i* and *i'* which are secured at their upper ends to the extremities of the arms *h* and *h'*, pass over guide pulleys i^2 on the cap F and extend down through the stock and connect at their lower ends with the windlass I, which is mounted in bearings on an extension of the stock to be within convenient reach from the ground. The disk or hand wheel I' secured to the windlass is notched in its periphery to be engaged by the latch J to hold the windlass in the located position. Obviously, on turning the windlass the cables or chains will be operated to shift the position of the tail vane relative to the wheel to throw the wheel more or less or entirely out of the wind. A portion of the cables or chains is reversely wound on the windlass, hence, on operating the windlass one cable or chain is unwound and the other is wound thereon, thereby actuating the tail vane through the arms *h* and *h'* to throw the mill in and out of gear or to any point between these limits to adapt the power to the velocity of the wind and the nature or load of the work.

The brake lever K is pivoted betweeen its ends to the stock C and extends substantially in a horizontal line. The outer end of the brake lever is broadened or provided with a shoe which is adapted to bear on the periphery of the wheel when the brake is to be applied. The inner end of the brake lever is connected by the rod *k* with the hand lever *k'* near the lower end of the extension of the stock.

The stock is provided at its lower end with the metal socket L which terminates in the tubular extension *l* which obtains a bearing in the plate M on the cross bars *m* of the derrick. The rollers N secured to the socket L at the base of the tubular extension *l* travel on the plate M and sustain the weight of the stock and its appurtenances.

The operation of the several parts of the mill is obvious to one skilled in the art from the foregoing detailed description.

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

In a wind mill, the combination with a derrick, a stock C mounted and adapted to turn in the said derrick and carrying the operating mechanism, and having the tail vane pivotally attached thereto, of arms *h h'* projecting from opposite sides of the tail vane, the arm *h'* extending alongside and parallel with the stock, a windlass I within convenient reach having notched hand wheel I', latch J to engage with the notched hand wheel, and cords reversely wound on the said windlass at their lower ends, and having their upper ends operatively connected with the said arms *h* and *h'*, substantially as described for the purpose set forth.

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

EVER. EVERSON.

Witnesses:
G. W. GEORGIA,
SEVERT. SEVERSON.