

(No Model.)

J. C. PRESTON.  
Wind Wheel.

No. 232,205.

Patented Sept. 14, 1880.

Fig. 1.

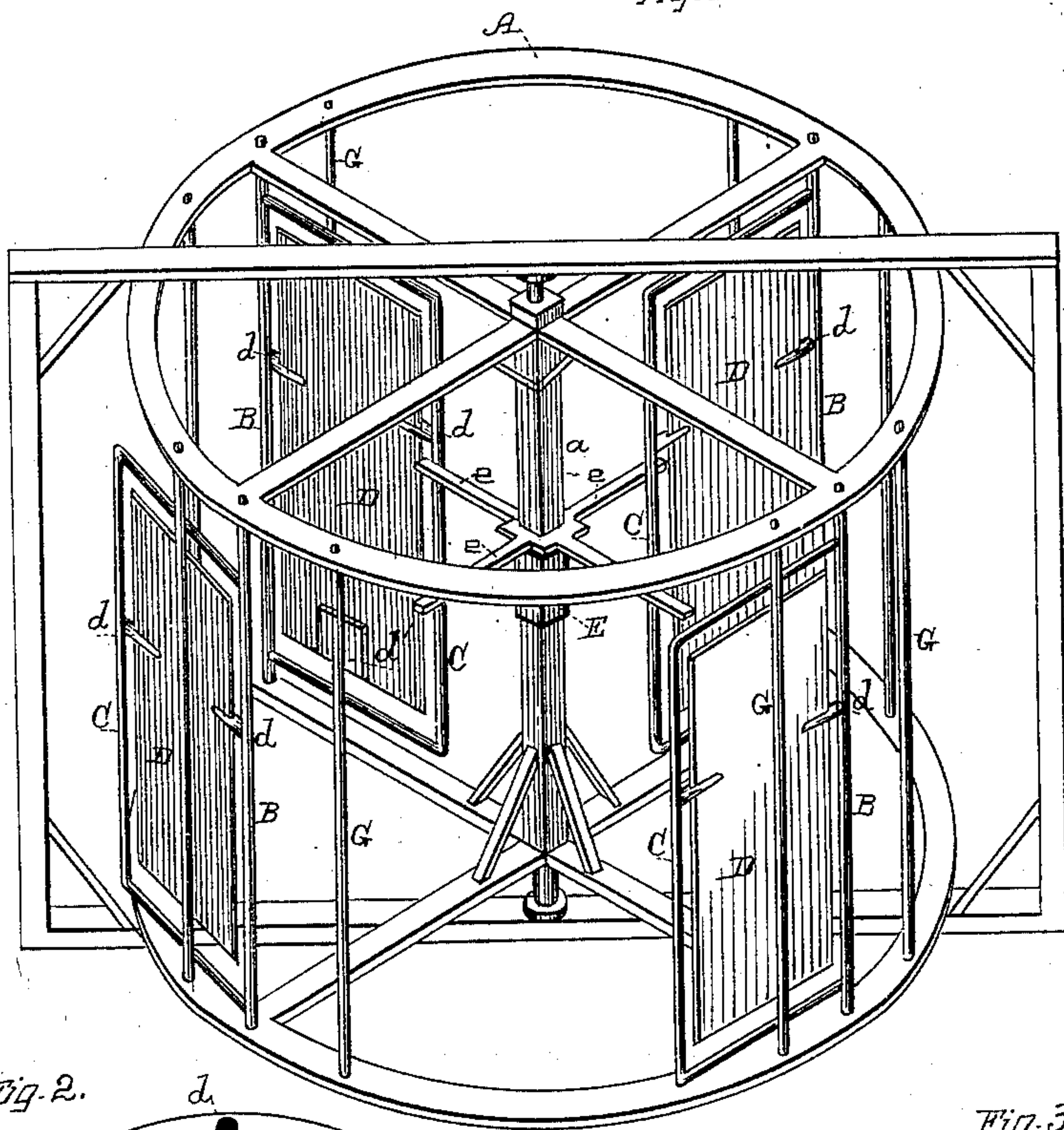


Fig. 2.

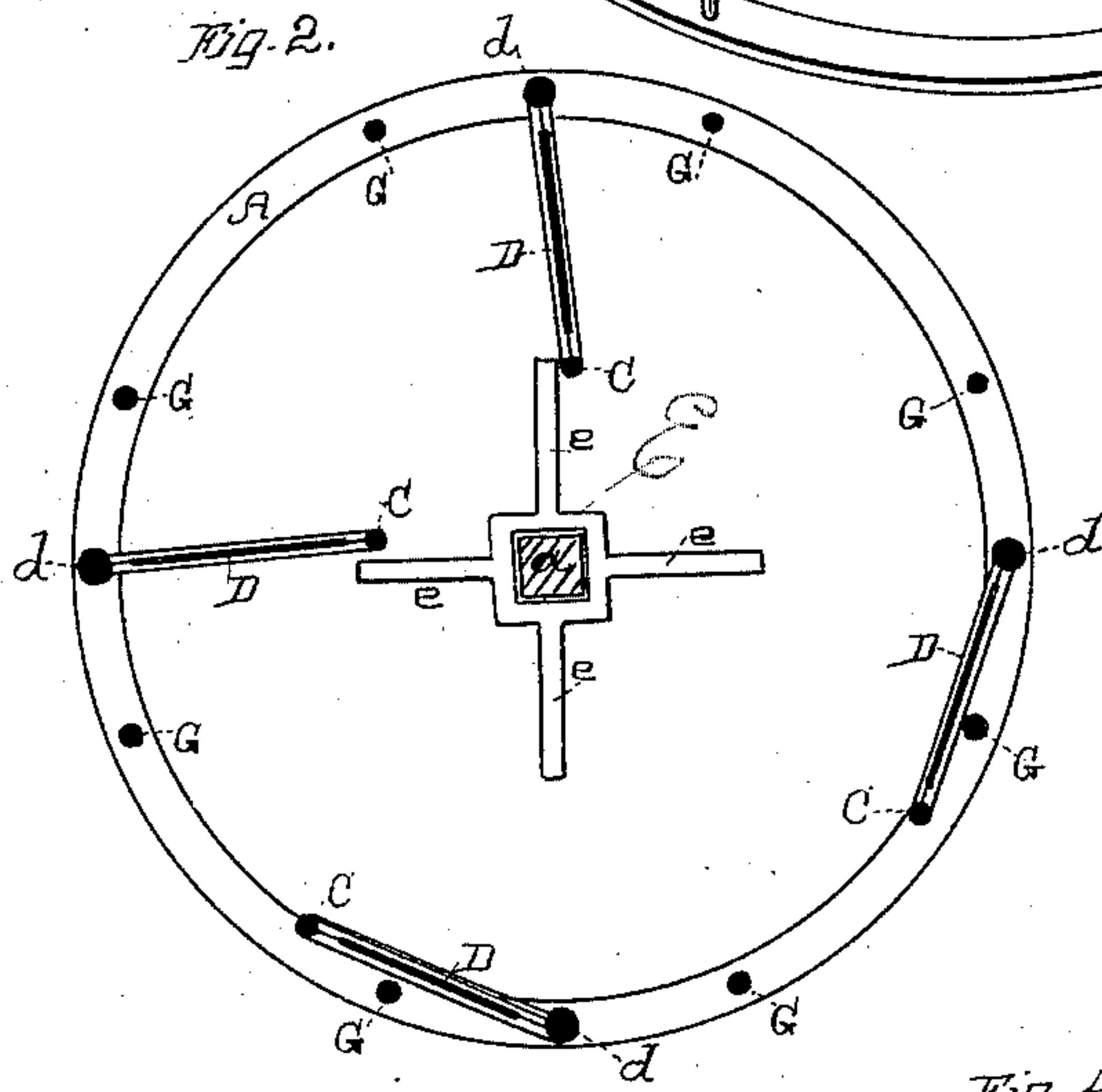


Fig. 3.

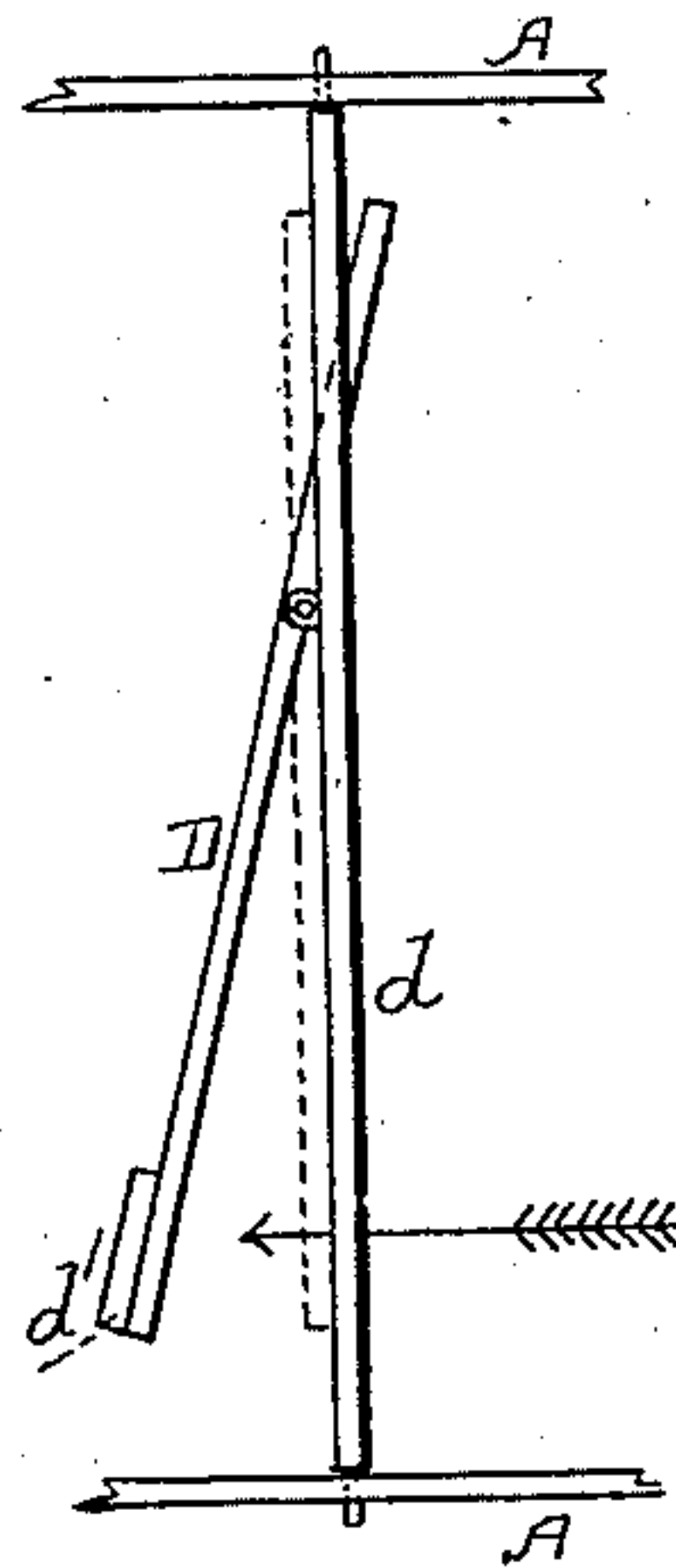
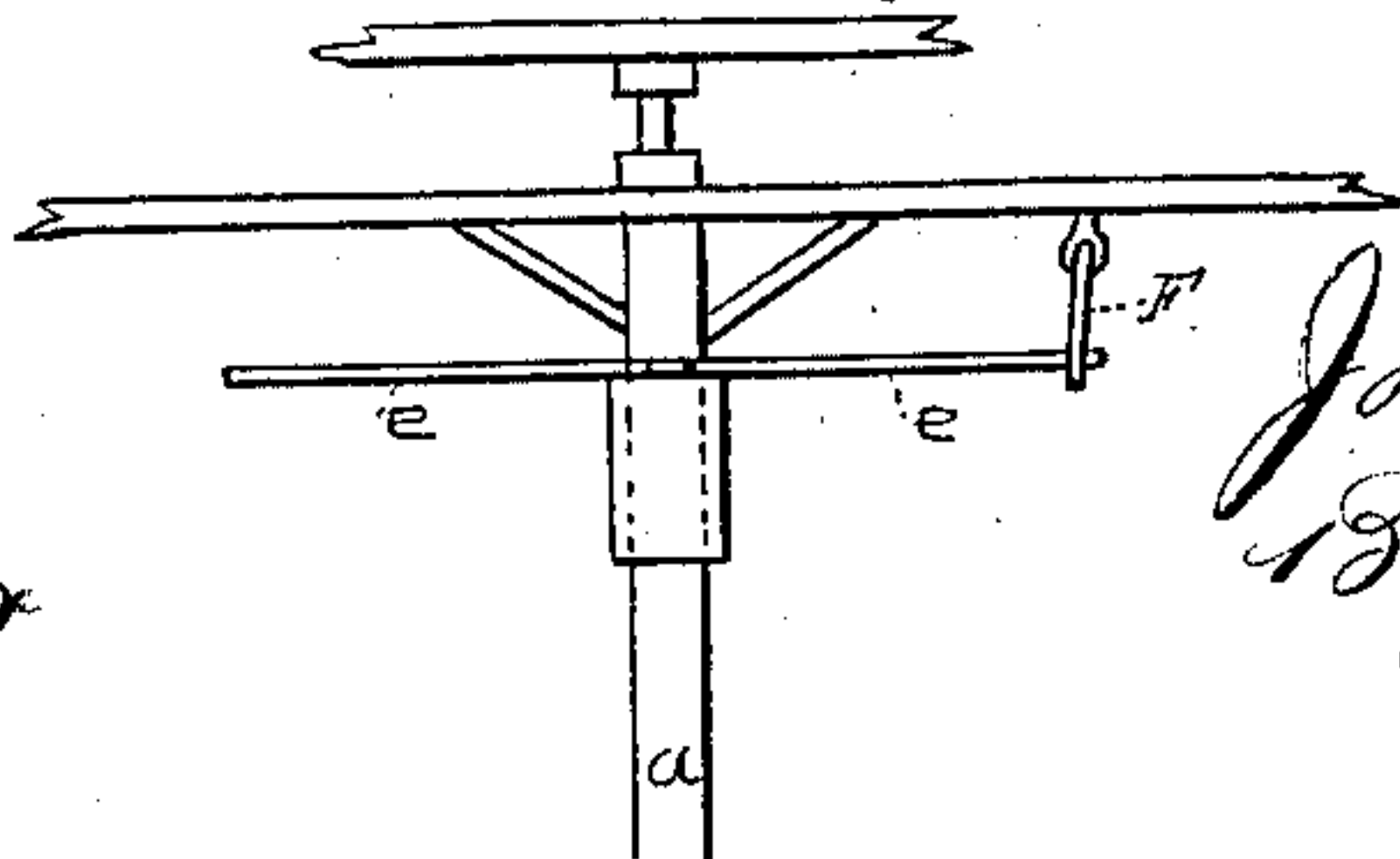


Fig. 4.



Witnesses

Geo. H. Strong,  
Grant A. Brooks

Inventor

John C. Preston  
By Dewey & Co.  
Attys



# UNITED STATES PATENT OFFICE.

JOHN C. PRESTON, OF ARCATA, CALIFORNIA.

## WIND-WHEEL.

SPECIFICATION forming part of Letters Patent No. 232,205, dated September 14, 1880.

Application filed July 3, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN C. PRESTON, of Arcata, county of Humboldt, and State of California, have invented an Improved Wind-  
5 Wheel; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in wind-wheels; and my improvements consist in forming an open skeleton-wheel revolving  
10 in a horizontal plane, and hinging on vertical rods a series of frames carrying the vanes or fans, these frames being adapted to swing edgewise to the wind on one side, but on the other side to be held by sliding movable lugs,  
15 so that their surfaces are exposed to the wind and the wheel caused to revolve and furnish power.

The vanes or fans are hung on pintles in their frames and weighted at their lower ends, so  
20 that they will automatically present more or less of an angle to the wind, and when the wind is very strong will swing back while revolving, so as to allow part of the wind to blow through the frame.

25 A collar encircles the central revolving post or shaft and carries arms or lugs, against which the frames impinge. By sliding this collar up the lugs are taken out of the way of the fans, and all of the fans will present their  
30 edges to the wind, thus stopping the revolution of the wheel. The fans can go on either side of the lugs, so the wheel may be run in either direction desired, as is more fully described in the accompanying drawings, in which—

35 Figure 1 is a perspective view of my device. Fig. 2 is a horizontal section. Fig. 3 is an edge view of one of the vanes. Fig. 4 shows the loop for suspending the sliding stop.

The wheel A has a central revolving shaft,  
40 a, and is made with a skeleton-frame, as shown, open at all sides. At regular distances around the periphery of the wheel are placed swiveled rods B, on which are hung the fan-frames C, these fan-frames being free to swing on these  
45 rods within certain distances. In each of these swinging frames is placed a fan or vane, D, swiveled to the frame above its center, as shown at d, and having a weight, d', at its lower end to keep it perpendicular in light winds. If  
50 the wind becomes strong, the vane or fan can tilt back on its swivels, so as to allow some of

the wind to pass through. The fan can thus regulate itself to the force of the wind without the necessity of hand adjustment. In a light wind the whole face of the fan will be  
55 presented to it, while if the wind blows hard the fan, being swiveled, hangs at an angle to the wind, and thus does not give so broad a surface to the wind.

On the central shaft of the wheel is a sliding collar, E, on which are secured lugs or  
60 stops e, so that when the fan-frames swing against these lugs they will be held with the surfaces of the vanes or fans to the wind.

I have shown my wind-wheel as provided  
65 with four fans; but it is manifest that any number can be used. When the wheel is standing so that the wind strikes it two of the fan-frames on one side will strike against the lugs, thus holding the fans in the wind. The other  
70 two frames the wind will throw away from the lugs, so they will hang in line with the wind, and no pressure will be exerted upon them. All the pressure, therefore, being exerted on those two fans which touch against the lugs  
75 on one side of the wheel, the wheel is compelled to revolve. As the revolution continues one of the edgewise fans will be swung by the wind against the lug, while the one formerly against the lug will swing free from it and come  
80 edgewise to the wind. Thus two fans will be held broadside to the wind at all times, while two will be edgewise to it, the power being continuously exerted on one side of the wheel.

In case it is desired to have the wheel re-  
85 volve in an opposite direction the sliding collar is moved up the shaft, and all the frames swung so as to impinge on the opposite sides of the lugs on said collar. The same action will then occur, except that it does so in the reverse di-  
90 rection.

If at any time it is desired to stop the revolution of the wheel, the sliding collar with its lugs is moved up the shaft above and out of reach of the vanes, and there secured by the  
95 catch F. The fans then, not striking the lugs, all hang edgewise to the wind, and the wheel does not revolve.

Stop-bars G are placed at regular distances on the periphery of the wheel, which prevent the  
100 vane-frames swinging too far out. Chains connected with said frames will answer the pur-

pose; but the stop-bars control the movements of the frames with less noise than the chains would. A series of wheels formed in this manner can be placed one above another and  
 5 geared together, so that immense power may be gained. The vanes may be made of wood, metal, canvas, or any desirable substance.

The whole wheel can be mounted on a frame, set on a bed provided with wheels, and by attaching a rope to the shaft when the wind is  
 10 blowing it will haul itself from place to place, drawing itself up to the place where the other end of the rope is made fast. This feature is a useful one in grubbing up roots and stumps,  
 15 for which this wind-wheel is well adapted. It can be made of very large size, but at all times control its own movements with relation to the wind, so that no damage can occur.

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

1. In combination with the wheel A and

the weighted swinging fans D and fan-frames C, the centrally-placed collar E, with its lugs or stops *e*, said collar being adapted to be  
 25 moved up the shaft clear of said fan-frames, whereby the fans may be made to impinge on the lugs, so as to rotate the wheel in either direction, or the motion of the wheel may be stopped, substantially as and for the purpose  
 30 herein described.

2. In combination with the wheel A, revolving in a horizontal plane, and the hinged frames C, adapted to impinge on the lugs *e*, the swiveled weighted fans or vanes D, where-  
 35 by the said vanes automatically regulate their angle to the wind, substantially as and for the purpose herein set forth.

In witness whereof I have hereunto set my hand.

JOHN C. PRESTON.

Witnesses:

CHAS. G. YALE,  
 S. H. NOURSE.