

(No Model.)

H. B. COLMAN & G. TURNER.
POWER WINDMILL.

No. 319,392.

Patented June 2, 1885.

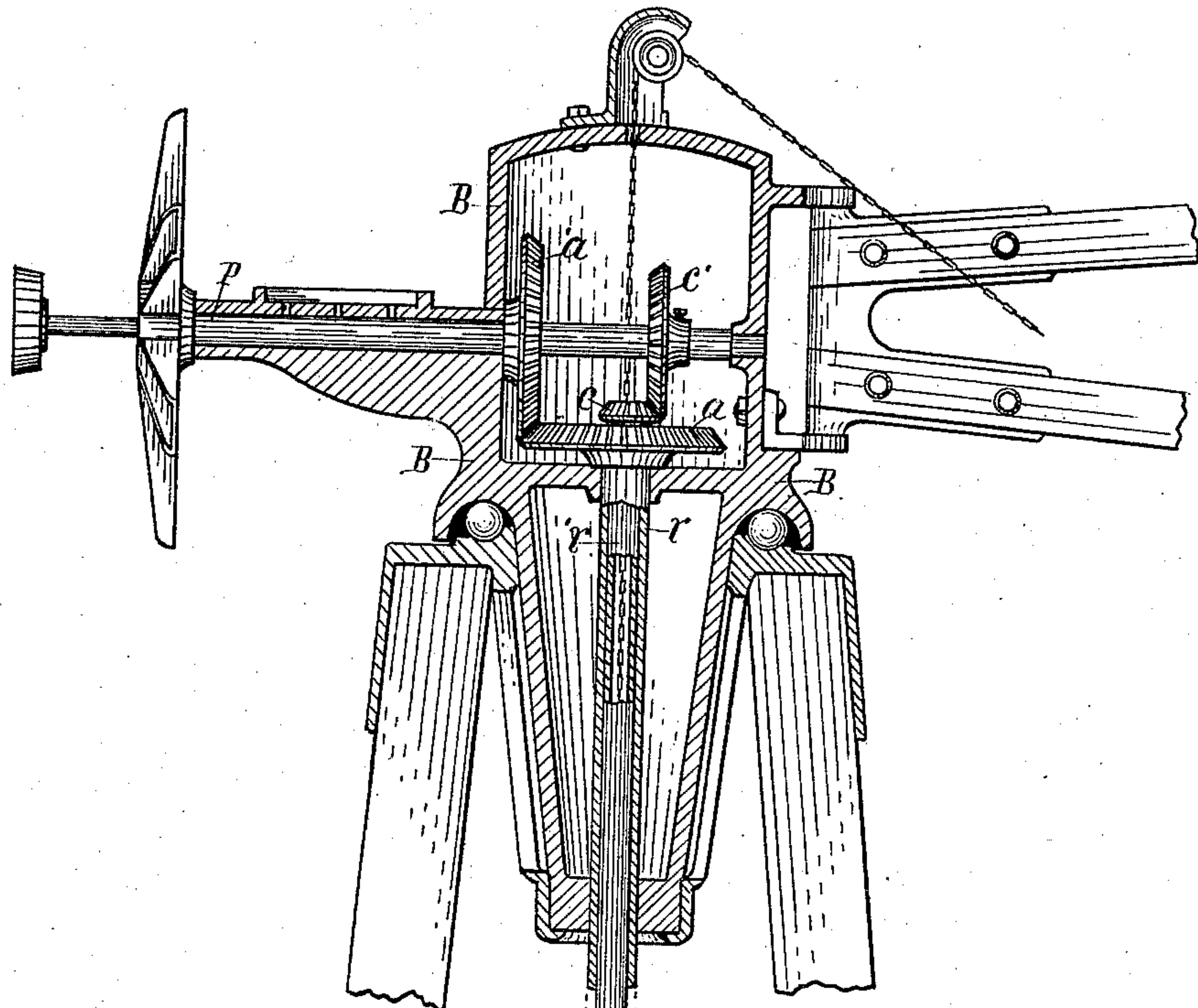


Fig. 1

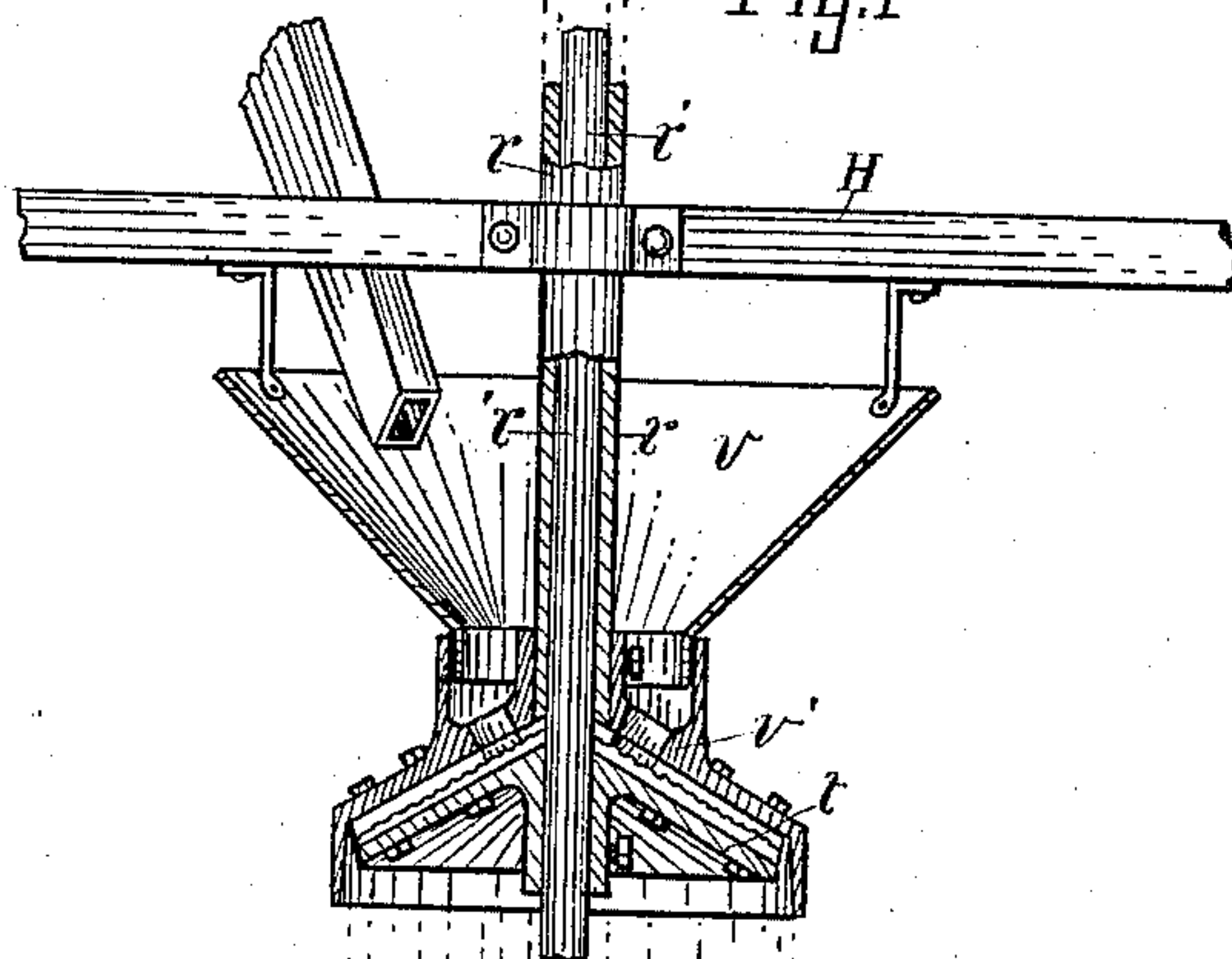


Fig. 2

Witnesses.
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UNITED STATES PATENT OFFICE.

HUTSON B. COLMAN AND GEORGE TURNER, OF KALAMAZOO, MICHIGAN.

POWER-WINDMILL.

SPECIFICATION forming part of Letters Patent No. 319,392, dated June 2, 1885.

Application filed February 28, 1885. (No model.)

To all whom it may concern:

Be it known that we, HUTSON B. COLMAN and GEORGE TURNER, citizens of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have jointly invented a new and useful Power-Windmill, of which the following is a specification.

This invention has for its object to construct and combine a wind-wheel shaft having a swiveled bearing-support, correlative parts of a machine or machinery, and transmitting power-shafts in a manner that each of said machine parts will be suspended and operated by its individual power-shaft. The details of construction to this end are set forth in the following description of parts.

In the drawings forming a part of this specification, Figure 1 is a side elevation of a construction embodying the invention, parts being in vertical section; and Fig. 2 shows a receptacle to contain ground grain, in vertical section.

Referring to the letters marked on the drawings, P is the wind-wheel shaft, and B the bearing-support therefor, swiveled in the cap of the derrick by the usual friction-ball of such devices, to allow the wind-wheel to shift from one point of the compass to another. This bearing-support is commonly termed the "head" of the windmill. Extending from the interior chamber of the head (said portion of the head commonly termed the "urn") down through its pendent portion toward the ground or floor of a building, as the case may be, are two rotatable power-shafts, r' and r , hollow and concentric, one within the other. These shafts r' and r are suspended from the mill-head by means of the gears ca , connected with their upper ends, which gears form shoulders or enlargements, preventing the power-shafts from falling downward, said power-shafts being free to rotate in the mill-head, independently of any movement of the latter, when the wheel shifts from one point of the compass to another. The shafts form operative engagement with the wheel-shaft P by means of gears a' and c' , secured to said wheel-shaft in a manner to admit of the wheel and head shifting, as stated, without interfering with the rotating movements of the power-shafts.

It will be observed that the power-shafts r'

and r , for transmitting power from the wheel-shaft to machinery below, rotate in opposite directions, and independently of each other.

The fixed beam H has suitable bearings, through which the power-shafts pass, forming a guide-support to said shafts. This beam may of course represent a roof or floor of a building. Below this beam we have illustrated the correlative burrs v' and t of a grain-grinder, for the purpose of giving a practical demonstration of the principles of the invention. One burr, v' , is secured to one of the shafts, r' , and the other burr, t , is secured to the other shaft, r , and are thus suspended and operated by the suspended power-shafts independently of each other, and yet in correlative operative position each to the other. Thus by applying this principle to a grain grinder or crusher motion is imparted to both the grinding-burrs of the mill in opposing directions to each other. A fixed or stationary hopper is shown at v disconnected from the burrs and power-shafts. A tray or bin, to receive the ground grain as it falls from the grinder, is shown at F.

The above-described principles may be applied to the correlative operative parts of a machine or machinery other than those of a grinding-mill, which parts it is desirable to suspend free from any fixed ground support or bearings, and to rotate said parts in opposing directions, each by independently-operative power-shafts suspended from the swiveled bearing-support of a wind-wheel shaft. It will no doubt be found in some instances more desirable that the suspended independent power-shafts shall not be concentric with each other, but retaining the other functions of suspending the machine parts in correlative operative position each to the other, and of rotating said machine parts in opposing directions.

It will be observed that the wind-wheel will not be canted out of its proper position in the wind by the resistance of the work being done by the machine parts, because said parts are suspended by power-shafts having a common axis with said parts, and thus free from resistance of grounded bearing-supports out of line with said common axis, heretofore employed in power-windmills.

The further construction and operation of the details of power-windmills are deemed to

be sufficiently understood by those skilled in the art without further description here.

Having thus described our invention, what we claim is—

- 5 The combination of a wind wheel shaft, a swiveled bearing-support for said shaft, transmitting power-shafts forming operative engagement with the wheel-shaft, substantially as described, to rotate in opposing directions, and correlative machine parts, each connected
10 with a power-shaft, and adapted to be inde-

pendently rotated by said power-shafts in opposing directions, substantially as set forth.

In testimony of the foregoing we have hereunto subscribed our names in presence of two 15 witnesses.

HUTSON B. COLMAN.
GEORGE TURNER.

Witnesses:

GEO. C. WINSLOW,
L. WHITCOMB.