

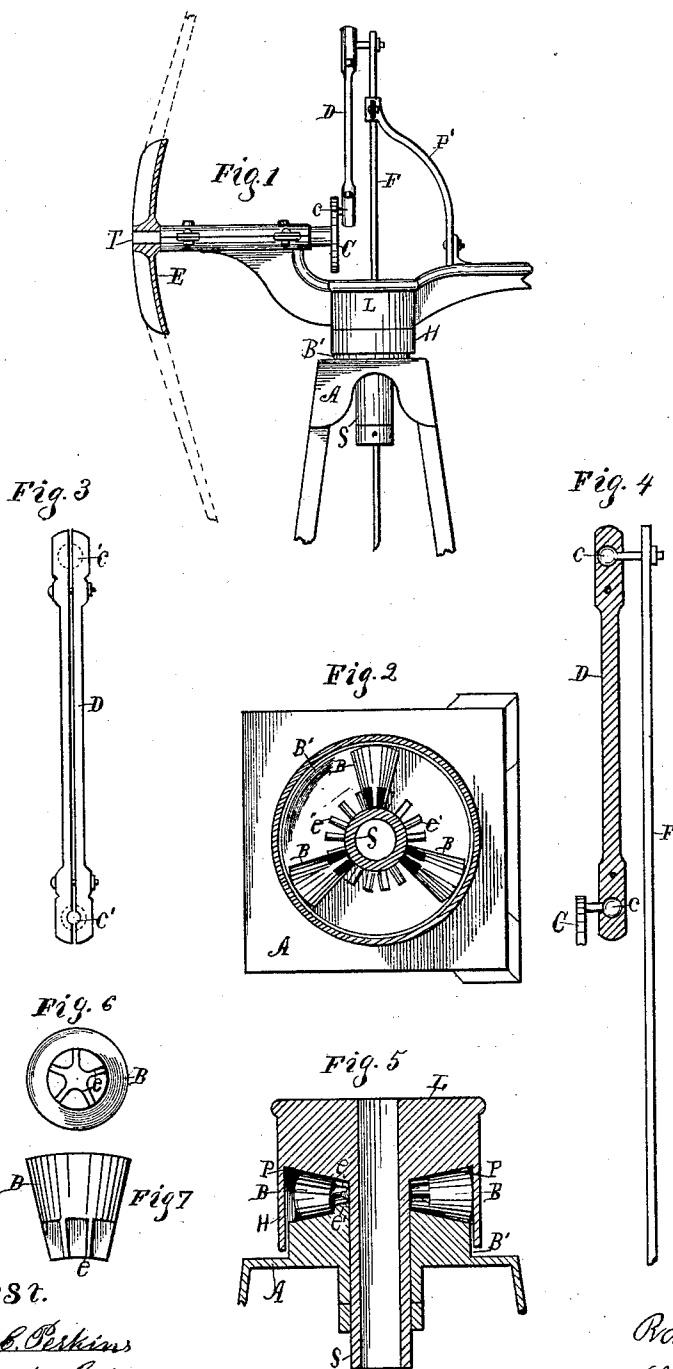
(Model.)

R. E. STRAIT.

WIND ENGINE.

No. 245,982.

Patented Aug. 23, 1881.



Attest.
John C. Perkins
John H. Chase

Inventor.
Ransom E. Strait
By *Lucius C. West*
Att'y.

UNITED STATES PATENT OFFICE.

RANSOM E. STRAIT, OF GALESBURG, ASSIGNOR TO C. H. BIRD, OF KALAMAZOO, MICHIGAN.

WIND-ENGINE.

SPECIFICATION forming part of Letters Patent No. 245,982, dated August 23, 1881.

Application filed February 19, 1881. (Model.)

To all whom it may concern:

Be it known that I, RANSOM E. STRAIT, of Galesburg, county of Kalamazoo, State of Michigan, have invented new and useful Improvements in Wind-Engines, of which the following is a specification.

My invention has for its object certain improvements in beveled friction-rollers loosely located between the cap and head of wind-engines, which are provided with a shaft, pipe, or plunger, located perpendicularly through said cap and head, and the adaptation of the latter to conform to the construction of said roller, whereby all danger of clogging and lateral displacement of said rollers is not only obviated, but they are also prevented from gravitating toward a common center during their circuitous transit, where their small ends would unduly engage the center vertical pipe or shaft, greatly retarding, if not blocking entirely, their operation, and whereby a steady and free action of the related parts is greatly facilitated.

In the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate like parts, Figure 1 is a side view of the engine with the vane-arm broken away, and a section of the wheel on the line of its arms. Fig. 2 is a top view of the head and friction-rollers; Fig. 3, the pitman; Fig. 4, longitudinal section of the pitman; Fig. 5, perpendicular section of cap and head on a line with the plunger F in Fig. 1; Fig. 6, end view of friction-roller, and Fig. 7 side view of same.

A illustrates the head crowning the supporting-frame of a wind-engine; B', the raised center portion of said head, over which cap L is located, the rim H of said cap extending below and surrounding said portion B' of head A.

I construct the rollers in substantially the form shown at B, the large end being oval in form. Around the small end, extending back about one-third the distance between the two ends, are formed serrations or depressions *e*, Figs. 6 and 7. One end of the depressions or furrows thus formed is closed by the body of

the roller where they terminate, thus forming shoulders, which, when the raised corrugations of the cap and head mesh with them, prevent said rollers from gravitating toward the plunger, pipe, or shaft, as previously specified.

The top of the raised portion B' of the head A and the inner top surface of the cap L over the wheels B are corrugated, as at *e' e'* in Figs. 2 and 5, the corrugations of the cap L and head A, respectively, being a fac-simile of each other. Fig. 2 serves to illustrate both constructions. These corrugations surround the tubular projection S and mesh with the serrations *e* of the rollers B, the corrugations corresponding in length to the serrations. The top of raised portion B' of the head and the inner top surface of cap L over rollers B are inclined or beveled to conform to the bevel of the rollers. I use three of the rollers in the location shown in Figs. 2 and 5. This pendent tubular projection or pipe S of the cap L forms a bearing to said cap, and also a way in which the plunger is vertically located. The peculiar construction of the serrations on the rollers B and the corrugations of the cap and head prevent said rollers from engaging said pipe or pendent projection, as before specified.

D is the pitman or crank-rod, cast in two parts, Fig. 3, with spherical recesses *c' c'* in each end to receive the spherical knobs *c c* of the cranks to the wheel-shaft C and plunger F. The two parts of the pitman, when in use, are bolted close together.

E shows a section of the wheel, which I make concaved on its inner face, said wheel, as before stated, receiving the wind against said inner face. The object of this, as before stated, is that it admits of the wheel being located at a farther distance from the engine proper with less amount of ballast on the vane-arm, because in effect it tends to locate largely the weight of the wheel near to said engine, instead of at its bearing T.

It is deemed that the operation is sufficiently explained by the preceding description and drawings.

What I claim and desire to secure is—

In a wind-engine, the cap with its tubular
pendent projection constructed integral there-
with, and having the corrugations in its in-
5 ner top surface surrounding said tubular pro-
jection, in combination with the head having
the raised portion provided with like corru-

gations, and the rollers having the sunk serra-
tions described, all substantially as set forth.

RANSOM E. STRAIT.

Witnesses:

JOHN GALLIGAN,
JOHN H. CHASE.