R. G. Hatfield,

Journal Bearing.

No. 98,260. Patented Dec. 28. 1869.

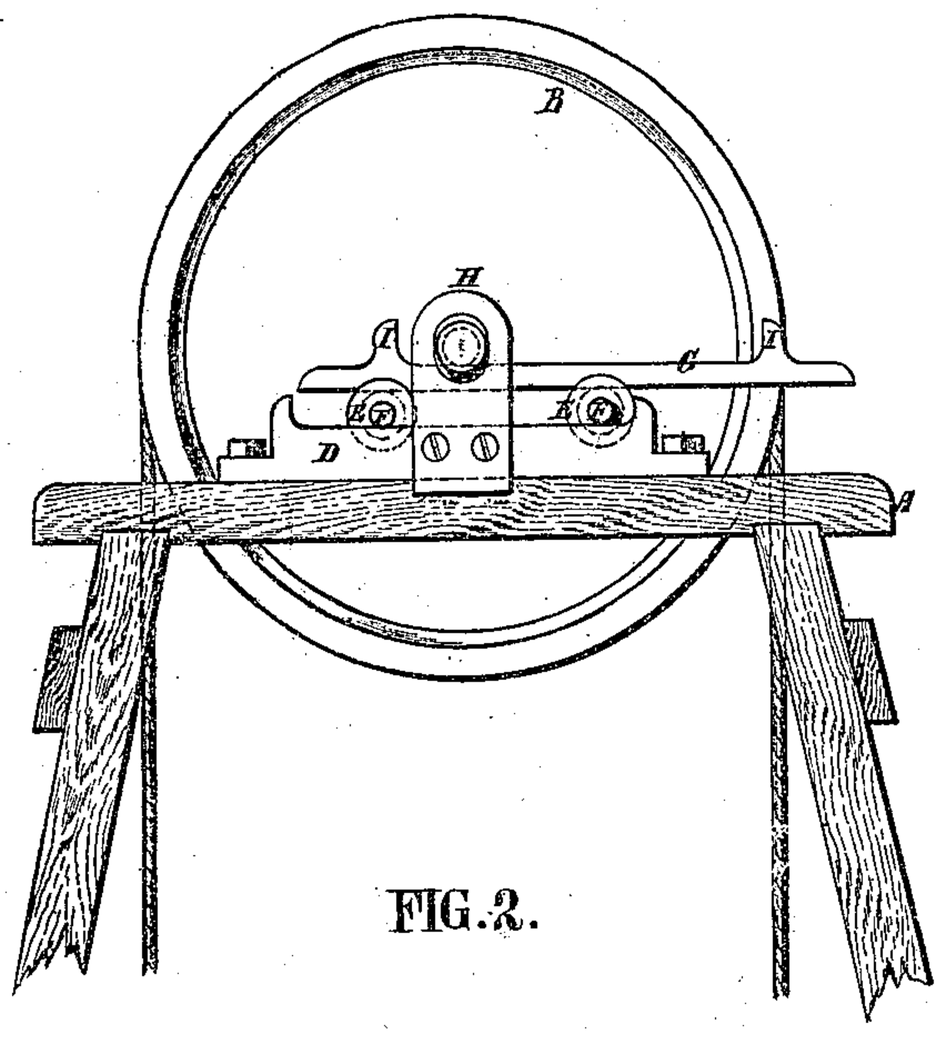
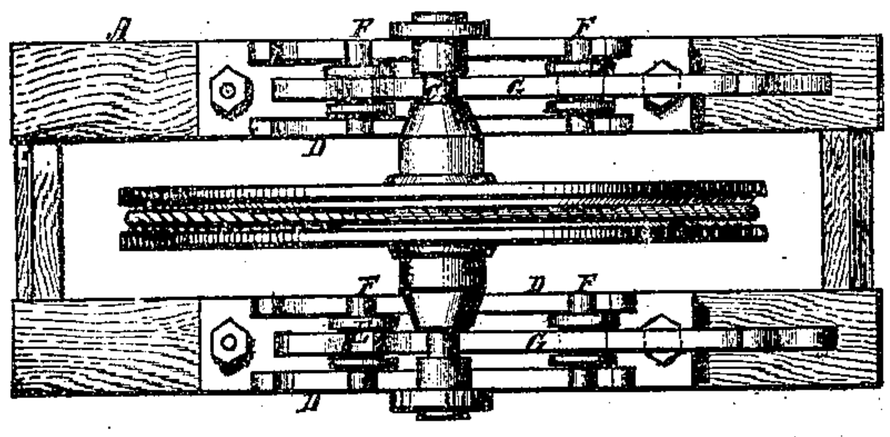


FIG. 2.



Witnesses:

Gustave Dieterich

Geo. N. Mabee

Inventor:

R. G. Hatfield

Munn & Co

Attorneys.

United States Patent Office.

ROBERT G. HATFIELD, OF NEW YORK, N. Y.

Letters Patent No. 98,260, *dated December* 28, 1869.

IMPROVEMENT IN ANTI-FRICTION JOURNAL-BEARINGS FOR HOISTING-MACHINES, &c.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, ROBERT G. HATFIELD, of the city, county, and State of New York, have invented a new and useful Improvement in Anti-Friction Journal-Bearing for Hoisting-Machines, and other purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in machines for raising weights and moving bodies in any direction, and consists in mechanism for diminishing friction on the journal-bearings, as hereinafter more fully described.

In the accompanying drawings—

Figure 1 is a side elevation of a simple hoisting-pulley, showing my anti-friction mechanism applied to the journal.

Figure 2 is a top or plan view of the same.

Similar letters of reference indicate corresponding parts.

In this example of my invention, the improvement is applied to the journals of a single hoisting-pulley, but this application is sufficient to illustrate the invention, and show its adaptability to various other purposes, and for journal-bearings generally.

A represents a supporting-frame.

B is the hoisting-pulley.

C is the journal.

D is a double-track rail, or bed, which rests upon the frame A.

E represents grooved rollers, two or more in number, whose journals, F, rest upon the track D, and which traverse back and forth on the track, as the rollers are revolved.

G is a movable rail, which rests upon the rollers E, and which forms the bearing for the journal C.

When motion is imparted to the pulley B, in the act of hoisting or moving a weight, the traction of the pulley-journals on the bearing-rails will move those rails on the small rollers E, in an opposite direction.

The journals of those rollers at the same time roll on the track D, so that instead of any rubbing or frictional surfaces, we have rolling surfaces throughout the movement.

For hoisting-machines, elevators, dumb-waiters, windlasses, and derricks, for moving window-sashes and shutters, doors, and gates; for moving buildings and heavy weights or bodies, under nearly all circumstances, the mechanism above described may be applied to the journal-bearings.

The journals pass through guide-stands H, which serve merely to keep the journals in place.

I I represent stop-lugs on the bearing-rail, for limiting its movement in either direction.

The advantages of this invention are, the journal is prevented from heating or wearing, while the friction is greatly reduced, and less power is required to rotate the wheels or pulleys.

The expense of all oil or other lubricating-material, and the trouble and cost of applying it, are entirely avoided, as the moving parts operate more perfectly without, than with lubrication.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

In combination with a journal, the track D, rollers E, and bearing-rail G, arranged and operating substantially as and for the purposes herein shown and described.

R. G. HATFIELD.

Witnesses:

GEO. W. MABEE,

ALEX. F. ROBERTS.