J. C. RANDALL
Horse-Power.

No. 199,862. Patented Jan. 29, 1878.

Fig. 1.

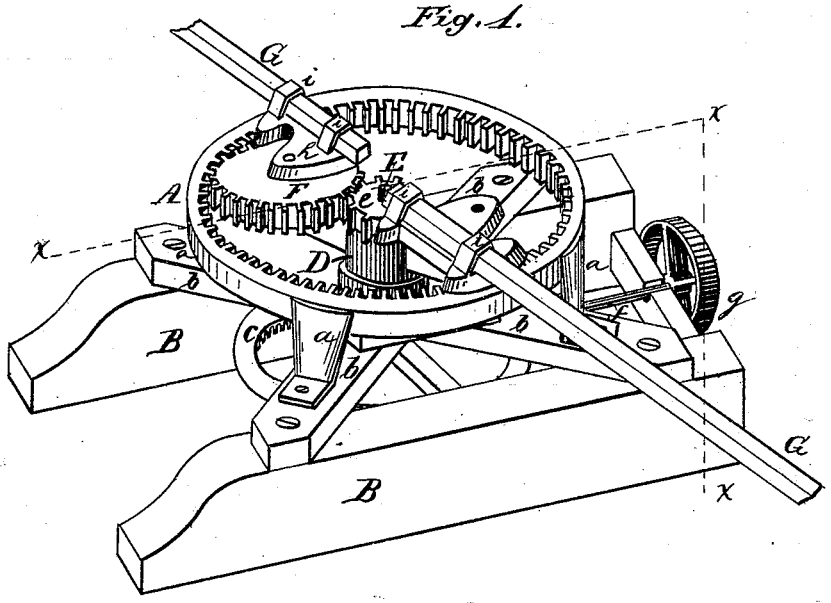
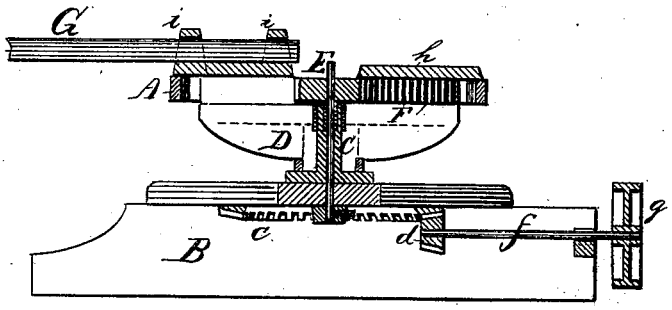


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN C. RANDALL, OF SULPHUR SPRINGS, TEXAS, ASSIGNOR OF ONE-HALF HIS RIGHT TO A. N. EDWARDS AND Y. M. EDWARDS, OF SAME PLACE.

IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **199,862**, dated January 29, 1878; application filed June 26, 1877.

To all whom it may concern:

Be it known that I, JOHN C. RANDALL, of Sulphur Springs, in the county of Hopkins and State of Texas, have invented certain new and useful Improvements in Horse-Powers; 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 which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view, and Fig. 2 is a vertical section taken through the line *x x* in Fig. 1.

Similar letters of reference indicate corresponding parts in both the figures.

My invention relates to that class of horse-powers which, by a slight modification of its parts, may be used either as stationary or portable powers; and it consists in a novel and improved construction and combination of the operating parts, substantially as hereinafter more fully described, and pointed out in the claim.

In the drawing, A is a stationary wheel, with inside teeth or gearing, elevated on four knees, *a*, which are bolted to the wheel, and secured upon a wooden cross, *b*, that rests firmly on the two parallel side sills B B. In the center of the cross is secured a hollow post, C, which forms a pivot or pintle for the revolving lever-head D. E is a shaft, passing up through post C, and having the center pinion *e* keyed onto its upper end. To the lower end of shaft E is keyed a bevel-wheel, *c*, which meshes with a pinion, *d*, secured upon the end of a horizontal shaft, *f*. By the last-named shaft, motion is imparted to the belt-drum *g*, or to the tumbling-rods, as the case may be, for operating the machinery.

F is a counter-wheel, hung horizontally in a bearing, *h*, which projects from the lever-head. This counter-wheel meshes with the inside gearing of the stationary wheel A, and also with the center pinion *e*, to which it accordingly imparts a rotating motion in the direction of the motive power. The levers G are inserted in keepers *i i* on top of the lever-head, so as to be above the face of wheel A.

From the foregoing description the operation of my improved power will be readily understood. By the combination of wheel A, counter-wheel F, and center pinion *e*, the pinion *e* and bevel-wheel *c* will gain one entire revolution on each revolution of the lever-head, thereby accelerating the speed of the machinery without the intervention of complicated gears. By the employment of the counter-wheel F, friction is reduced to a minimum, and the whole construction of the machine is such as to make it strong and durable, and not liable to get out of order.

In the drawing hereto annexed I have represented a portable power. To change this into a stationary power, all that is necessary is to remove the center pinion *e* and bevel-wheel *c* from the center shaft E; substitute a longer shaft for this, with one end projecting far enough down through the center pinion to form a pintle which shall work in the top of the center post; place the bevel-wheel *c* on top of this shaft, (the upper end of which is journaled in bearings in the ceiling or framework of the machine,) and change shaft *f*, with its pinion *d* and drum *g*, from its position in the lower part of the frame to the top, so as to mesh pinion *d* with bevel-wheel *c*.

It is obvious, however, that this power may be used as a stationary power without any change in the position of the operating parts.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination of the stationary gear-wheel A with the rotating lever-head D, having laterally-projecting leaves or wings *h*, constructed as described, for the insertion of the counter-wheels F, and provided with raised keepers *i*, substantially as described, for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN C. RANDALL.

Witnesses:
B. W. FOSTER,
I. W. RANKIN.