

F. W. ROBINSON.

HORSE POWER.

No. 101,045.

Patented Mar. 22, 1870.

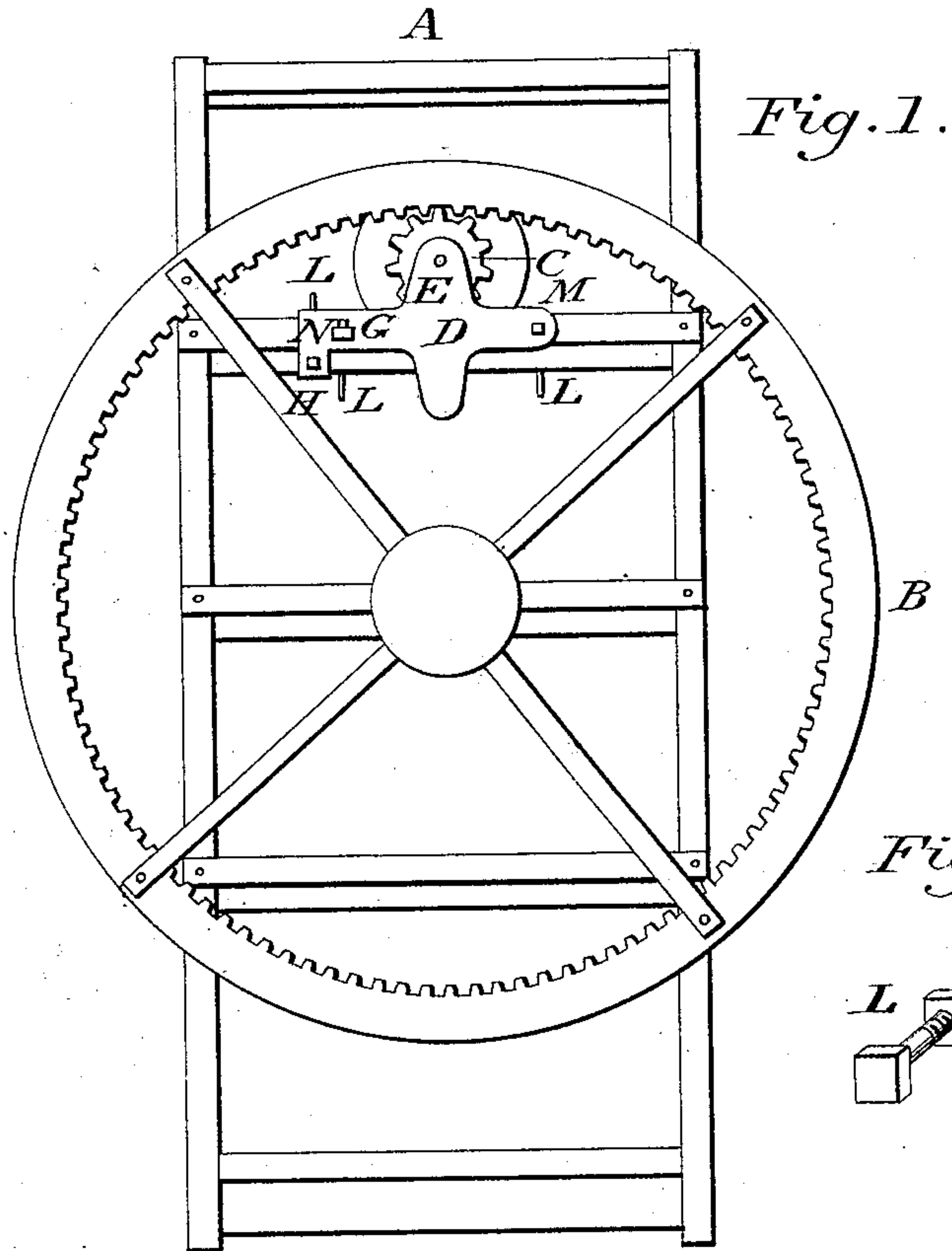


Fig. 1.

Fig. 6.

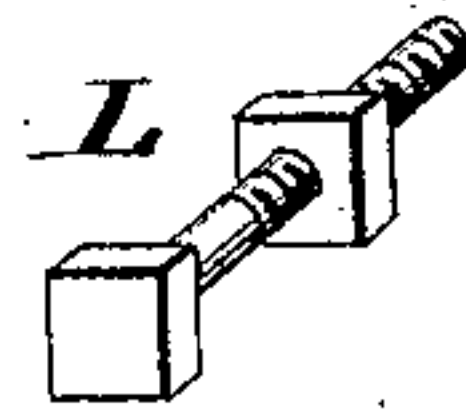


Fig. 2.

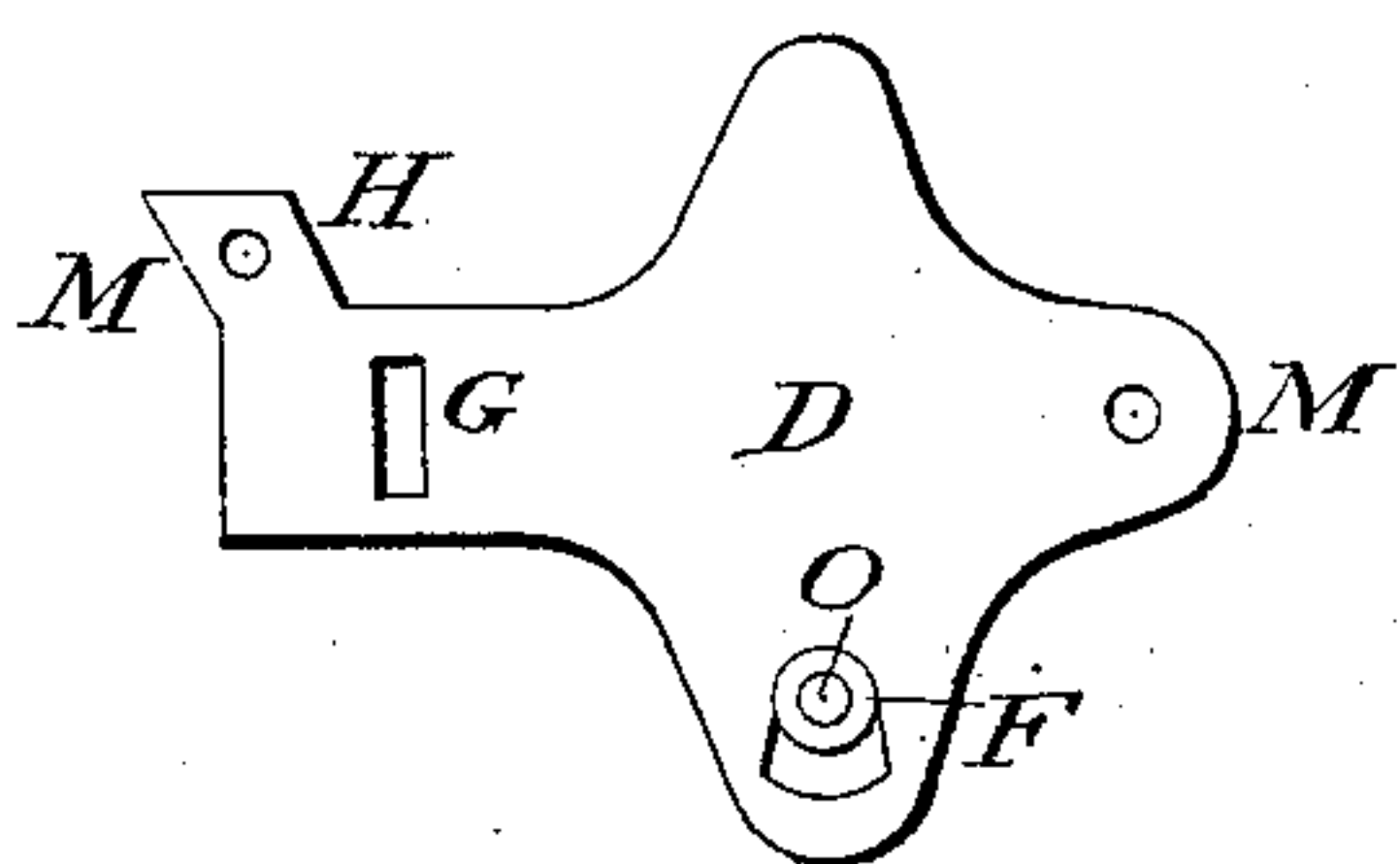


Fig. 3.

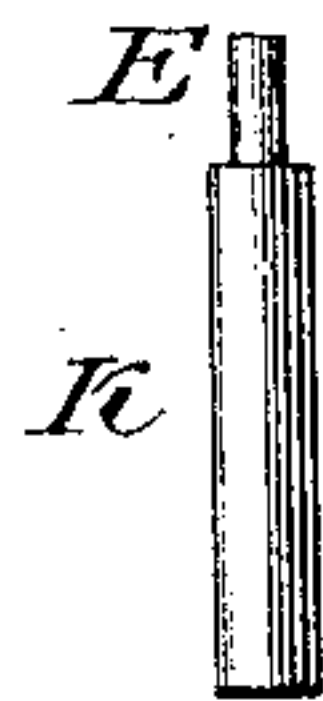


Fig. 4.

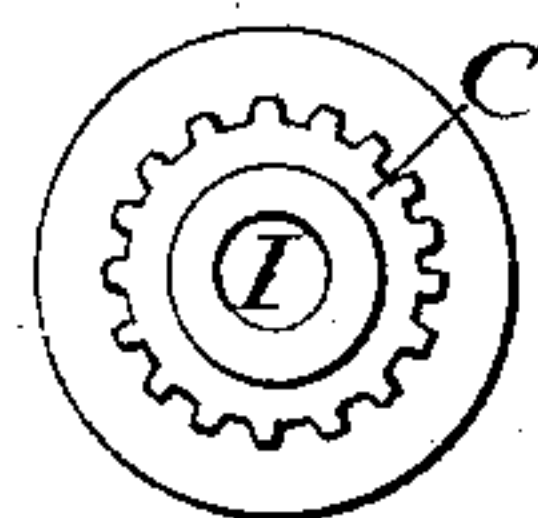
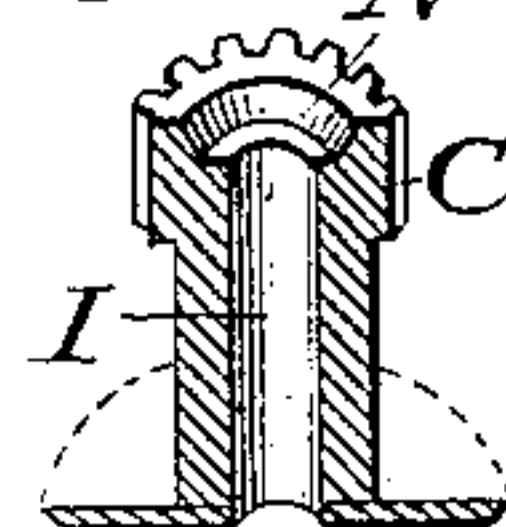


Fig. 5.



Witnesses:

H. E. Robinson  
J. A. Dugdale

Inventor:

F. W. Robinson

# United States Patent Office.

FRANCIS W. ROBINSON, OF RICHMOND, INDIANA.

Letters Patent No. 101,045, dated March 22, 1870.

## IMPROVEMENT IN HORSE-POWER.

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, FRANCIS W. ROBINSON, of the city of Richmond, county of Wayne and State of Indiana, have invented new and useful Improvements in Horse-Powers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Figure 1 is an end view of the horse-power.

Figure 2 is an adjustable plate, bottom side up.

Figure 3 is an upright shaft.

Figure 4 is a pinion and bevel-wheel.

Figure 5 is the pinion and bevel-wheel cut in two.

Figure 6 is a bolt and nut.

A, in fig. 1, is the frame.

B, in fig. 1, is a master wheel.

C, in fig. 1, is a pinion also seen at figs. 4 and 5.

D is a vibrating plate, or adjustable plate also seen at D, in fig. 2.

E, the top end of the shaft K, also seen at fig. 3.

F, in fig. 2, is a projection on the under side of the plate D, not seen in fig. 1.

G, in fig. 1, is a slot also shown at G in fig. 2.

H is an ear on the plate D, projecting downward, also shown at fig. 2.

I, in fig. 5, is the half of a hole through the pinion C. Said hole is seen at I in fig. 4.

K, in fig. 3, is an upright shaft.

L L L, in fig. 1, are bolts, one of which is more fully shown at L in fig. 6.

M M, in fig. 1, are holes through which the bolts L pass, also seen at M M in fig. 2.

N is a recess in the top of the pinion C, as shown at figs. 4 and 5.

O, in fig. 2, is a hole through the projection F, on the plate D, also seen with the end of the shaft or journal E through it at fig. 1.

### Construction and Operation.

The frame is made as all horse-power frames in common use of the kind are made; the master wheel the same as is in common use; the pinion the same, except that I have a recess in the top of my pinion, as at N in figs. 4 and 5. This recess should be about three inches diameter, and one and a half inch deep.

I make my adjustable plate D the shape shown at D in fig. 1, and at D in fig. 2. I make this plate D about three-quarters of an inch thick.

I cast solid on the front projecting ear of this plate, on the under side, a projection, F, in which the journal E of the shaft K revolves.

I secure my pinion to the top of my bevel-wheel with a smooth hole extending through, as at I in figs. 4 and 5.

My shaft K is made of one and three-eighths inch

round iron, and turned smooth, with the journal E at the top end. This shaft K turns freely in the pinion C and hole, O, in the projection F. This is unlike other shafts that are keyed fast in the wheels. The bottom end of this shaft K is provided with a step-box.

The plate D has an ear cast at the side of one end, as at H in figs. 1 and 2, with a hole, M, to receive a bolt.

The pinion C and bevel-wheel being secured together, they are placed over a step-box, when the shaft K is slipped into the hole I, when the plate D is laid onto a cross-piece of the frame A, when the hole o in the projection F is slipped down on the journal E, the pinion C revolving freely on the shaft K, and the shaft K revolving freely in the pinion C, and journal, E, of shaft K, revolving freely in the hole O in the projection F.

The piece D is firmly secured to the cross-piece of the frame A by means of a bolt, L, passed vertically through the hole M, and a corresponding hole through the cross-piece of the frame A. This bolt, when inserted, serves as a fulcrum.

Another bolt, L, is passed through the slot G, and through a hole vertically through the cross-piece of the frame A.

Those bolts both have nuts at the lower ends, and may be firmly screwed.

Another bolt, L, is passed horizontally through the cross-piece of the frame A, and through the hole M in the ear H of the plate D. This draw-bolt also has a nut on it, and is screwed against the ear H.

By turning the nut on this draw-bolt the pinion is forced in the direction of the heel of the arrow, and thereby compensates for the wear on the cogs, or in the hole O, and the shaft K, running loose in its bearings and in the wheels, does not require so frequent oiling, and wears evenly.

There are two of those plates D and pinions, C, on each horse-power, arranged as described.

I am aware that there have been devices used for setting the cogs over, by means of set-screws. This I do not claim.

I am aware of the claims of John A. Pitts, patented July 4, 1854, and also of his administrators in a reissue of said patent of May 14, 1861.

I do not claim anything claimed by him; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

Combining the loose revolving shaft K, with the adjustable plate D when provided with the projection F, for the purposes above described.

F. W. ROBINSON.

Witnesses:

H. E. ROBINSON,

T. A. DUGDALE.