

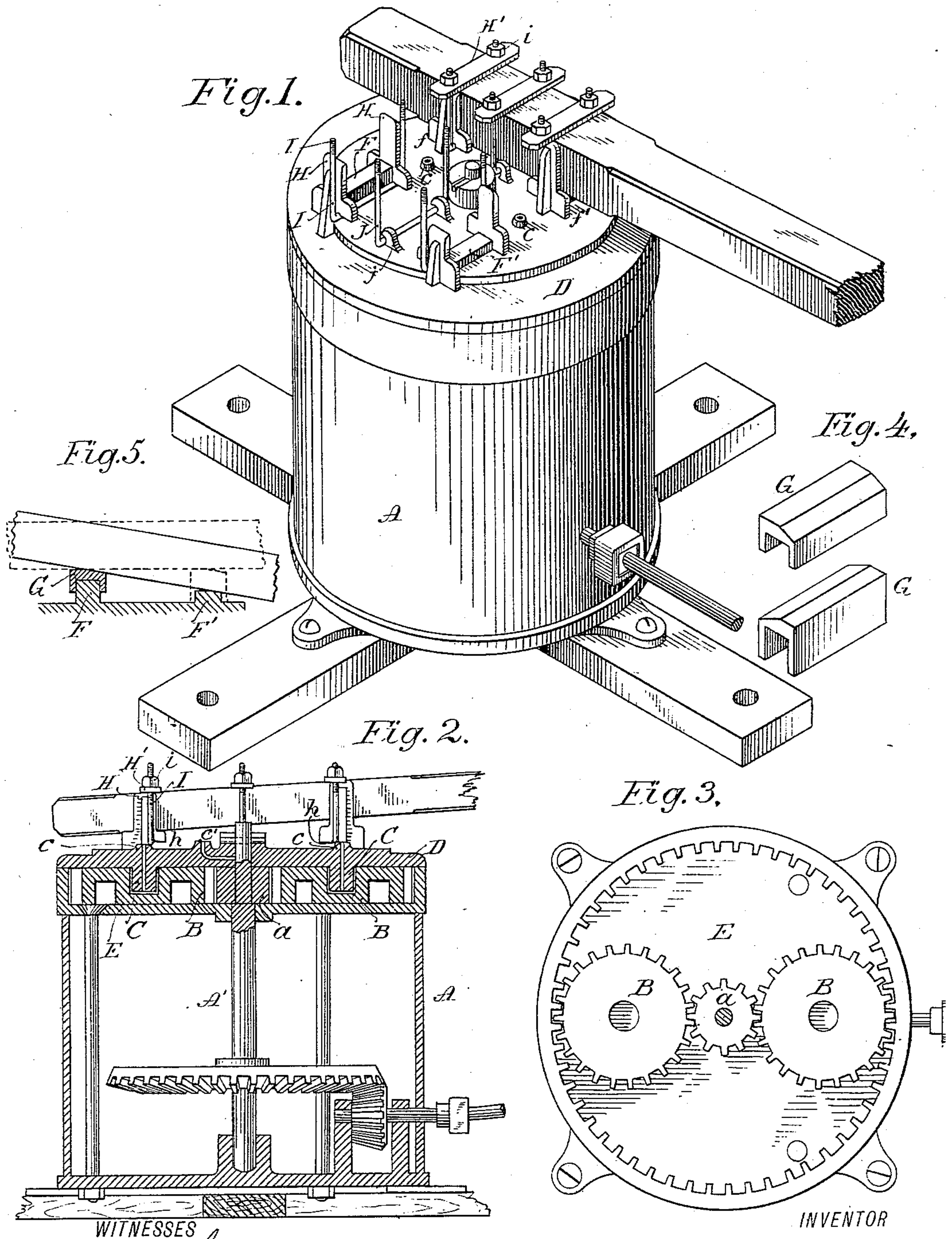
(No Model.)

W. O. FROST.

HORSE POWER.

No. 259,379.

Patented June 13, 1882.



WITNESSES
Wm. A. Skinkle,
Ernest Abshagen.

INVENTOR
Wm. O. Frost.
By his Attorneys
Baldwin, Hopkins, & Rydell.

UNITED STATES PATENT OFFICE.

WILLIAM O. FROST, OF LE ROY, NEW YORK.

HORSE-POWER.

SPECIFICATION forming part of Letters Patent No. 259,379, dated June 13, 1882.

Application filed April 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM O. FROST, of Le Roy, in the county of Genesee and State of New York, have invented certain new and useful Improvements in Horse-Powers, of which the following is a specification.

My invention relates to that class of horse-powers shown in Letters Patent of the United States No. 240,480, granted April 19, 1881, to Jabez T. Warren; and it consists in certain improvements upon the machine therein shown, which improvements will hereinafter be fully set forth and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved machine; Fig. 2, a vertical section; Fig. 3, a plan view with the top plate removed; Fig. 4, a view of the blocks for regulating the height of the sweep; and Fig. 5, a detail view, showing a block on the rest and the sweep in place.

The general organization of the machine is the same as that shown in the patent to Warren above referred to. There is a drum or case, A, in which a vertical shaft, A', rotates, imparting motion to the tumbling-shaft by suitable gearing. Motion is given the shaft A' by planet-wheels B, which turn on bearings on the top plate, D, and gear with a pinion, a, on the shaft. The top plate turns upon the upper end of the shaft A', and is carried around by the sweep.

The object of the first part of my invention is to insure the perfect lubrication of the machine. The hubs C on the top plate do not quite reach to the bottom of the sockets in the planet-wheels, and fit more or less loosely therein, thus leaving oil-spaces. Oiling tubes or ducts c extend from the top plate through the hubs C, so that oil may be poured directly into the sockets of the planet-wheels. The hubs and the sockets of the wheels are chilled, and, as they run in oil, there is little wear. The oil that overflows from the sockets of the planet-wheels lubricates the planet-wheels, the pinion a, the cogs in the outside rim, the bearing of the shaft A', and the plate or diaphragm E, on which the planet-wheels rest and move. Thus by supplying oil to the sockets in the planet-wheels in sufficient quantity the machine may be kept properly oiled. With this arrangement the planet-wheel sockets can be readily

kept filled with oil, and there is little liability of the bearings running dry. An extra oiling-duct, c', is provided for oiling the bearing of the top plate on the shaft A'. Two planet-wheels are shown; but a greater number may be used, if desired.

The next part of my invention relates to the means for varying the elevation of the sweep. The drawings show two sets of rests, F F' and f f', on the top plate for supporting two sweeps. However, the machine may be made to work with three or four sweeps, in order to give greater strength and power, without departing from the principle of this part of my invention. In the organization shown in the drawings the employment of two sweeps is optional, and depends upon the work being done. In order to support the sweeps horizontally, or with their ends elevated, I make the rests F and f' higher than the rests F' f, and provide movable blocks or caps G, which fit over the rests. This is illustrated more clearly in Fig. 5, where the rest F is, say, twice as high as the rest F' and the cap G equal in height to the rest F'. Thus, with the cap on the high rest the sweep will be elevated, and if the cap be moved from the high rest to the low one the sweep will be supported horizontally, as shown in dotted lines. In order to afford the sweep a firm seat on the cap and rest F', I bevel the edge of the rest and cap, as seen in Figs. 4 and 5.

The next part of my invention relates to the manner of holding or securing the sweep to the top plate, and, as incidental to this feature, the manner of adjusting the sweep endwise. The sweeps preferably rest in sockets or between the brackets H, of which the rests above described form the bottom, and are firmly held by loops or straps I, which are slipped under the open-bottomed or slotted sides of the brackets at h, the sweeps being firmly clamped by cross-plates H' and nuts i. These straps embrace the outer sides of the brackets, and serve to sustain and brace them against the side strain of the sweep. In order to give greater strength and for convenience, other straps, J, held by hooks or sockets j on the top plate, are placed between the brackets and rests. By securing the sweep to the top plate by clamping devices it is unnecessary to impair its strength by making bolt-holes in it, as in the

patent of Warren above named. Any endwise adjustment may be obtained by merely loosening the nuts *i*, shifting the sweep, and then reclamping it in place. In light machines it
5 will probably be sufficient to employ the center strap, J, only.

The several improvements above described greatly increase the value, strength, and efficiency of the machine.

10 Having described my invention, what I claim is—

1. The combination of the top plate, the planet-wheel having the central recess or socket, and the hub on the top plate having the
15 oil-duct through it, and on which the planet-wheel turns, substantially as and for the purpose set forth.

2. The combination of the top plate, the sweep, the rests, and the movable cap which
20 fits over the rests, substantially as and for the purpose set forth.

3. The combination of the top plate, the sweep, the rests or sockets on the plate for the

sweep, and clamping devices for securing the sweep so as to permit its endwise adjustment, 25 substantially as set forth.

4. The combination of the top plate, the sweep, the brackets which hold the sweep, and the clamping straps or loops which embrace the outsides of the brackets and clamp the
30 sweep in place, substantially as set forth.

5. In a horse-power, the combination of the top plate, the sweep, and clamping devices which bind the sweep to the plate, for the purpose set forth.

6. The combination of the top plate, the sweep, the rests or sockets for the sweep, and a clamping-strap between the rests for securing the sweep in place, substantially as set
40 forth.

In testimony whereof I have hereunto subscribed my name this 3d day of April, 1882.

WILLIAM O. FROST.

Witnesses:

SAMUEL H. MURDOCH,

EDWARD W. VAN ALLEN.