

E. G. McMILLAN.
Horse-Powers.

No. 142,115.

Patented August 26, 1873.

Fig. 1

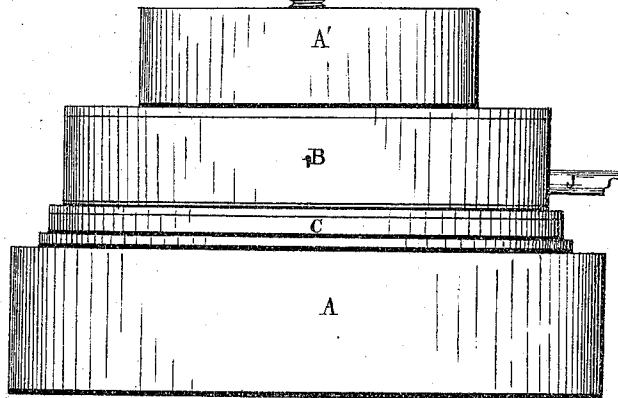


Fig. 2.

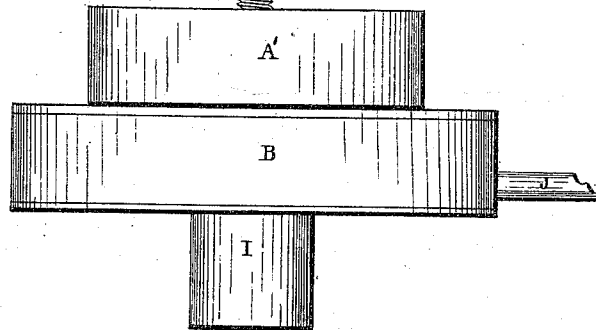
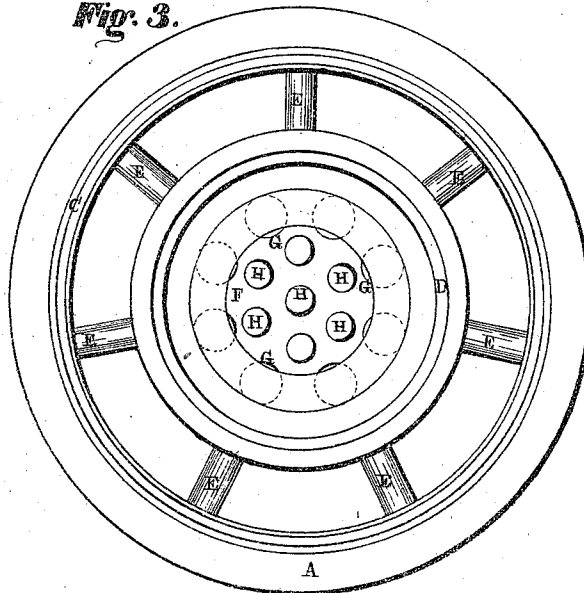


Fig. 3.



Witnesses.

A. B. Cornell.
H. Champion

Inventor.

E. G. McMillan
Per. Burridge & Co.
Atty.

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Fig. 4.

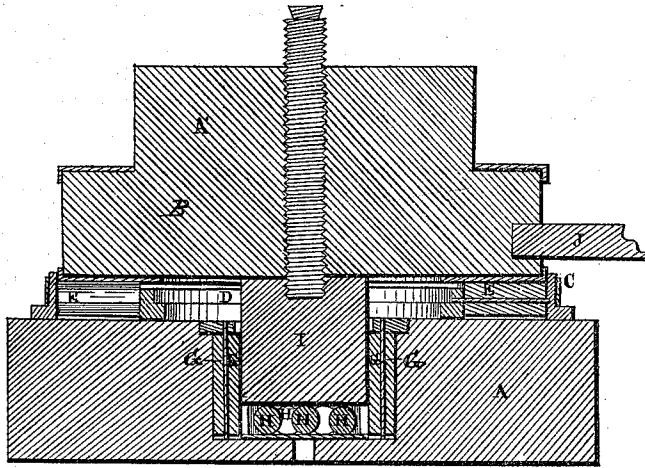
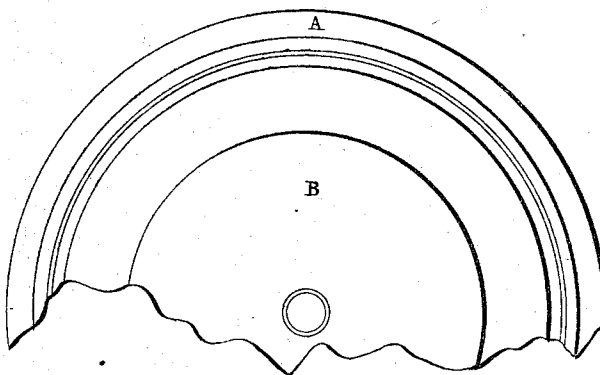


Fig. 5.



Witnesses.

A. F. Cornell.
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UNITED STATES PATENT OFFICE.

EPHRAIM G. McMILLAN, OF BERLIN, OHIO.

IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **142,115**, dated August 26, 1873; application filed November 30, 1872.

To all whom it may concern:

Be it known that I, EPHRAIM G. McMILLAN, of Berlin, in the county of Erie and State of Ohio, have invented a certain new and Improved Horse-Power, of which the following is a description:

Figure 1 is a side view of the horse-power. Fig. 2 is a detached section. Fig. 3 is an inside view of the lower section of Fig. 1. Fig. 4 is a transverse vertical section. Fig. 5 is a section of a top view of Fig. 1.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a horse-power; and the object thereof is to produce a cheap power without the employment of wheels or gearing, and which power consists of one or more plain pulleys provided with a large step, said step being fitted in a pedestal, and rests and turns upon a number of balls in the bottom of the step-seat, and which step is also surrounded with a series of upright friction-rollers as a bearing-surface, and the under side of the pulley also rests and revolves upon radiating horizontal friction-rollers.

The following is a more full and complete description of the above-specified power: The above-said horse-power consists of two sections, A and B. The lower section A is a pedestal, having near its margin an annular flange, C, Fig. 3, within which is a smaller one, D, and of less height than the outer one. In the space between the two flanges are journaled friction-rollers E, having their axes of rotation in radial lines. In the center of the pedestal is a deep hole, F, Fig. 3, in the sides of which are buried, nearly flush therewith, friction-rollers G, Fig. 3, having vertical axial lines, as shown in Fig. 4. In the bottom of said hole, which is flat, are placed a number of balls, H. Said hole, with its friction-rollers and balls, is the seat of the step I, Fig. 2, projecting from

the lower side of the upper section B, and in which seat the step is fitted and rotates, as shown in Fig. 4. In said figure it will be seen that the end of the step rests upon the balls, whereas the sides are embraced closely by the vertical friction-rollers G. It will be observed that when the two sections A and B are put together the flange C projects up and embraces the lower edge of the upper section, as shown in Fig. 4. By this means section B is securely retained in its relation to the lower section against lateral displacement.

The practical operation of the above-described horse-power is as follows: The lower section is, by any approved means, firmly secured to the ground. To the sweep J, Fig. 1, is attached the team, and by which the upper section is rotated. The section, being in part supported by the radial rollers E, and in part by the balls H, on which the step I rests, is turned with great facility, and which is relieved from pinching and cramping by the vertical rollers G, which readily turn by the side pressure of the step. Motion is conveyed from this power by means of a belt, which passes around the drum A of the upper section to the drum or pulleys of the machinery to be driven, the height of the pedestal and the upper section being such as to allow the team to pass under the belt.

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

The section A, provided with the central depression F, with vertical rollers G and balls H, in combination with the step I and section B, the several parts being constructed and arranged for operation substantially as and for the purpose specified.

EPHRAIM G. McMILLAN.

Witnesses:

W. H. BURRIDGE,
J. H. BURRIDGE.