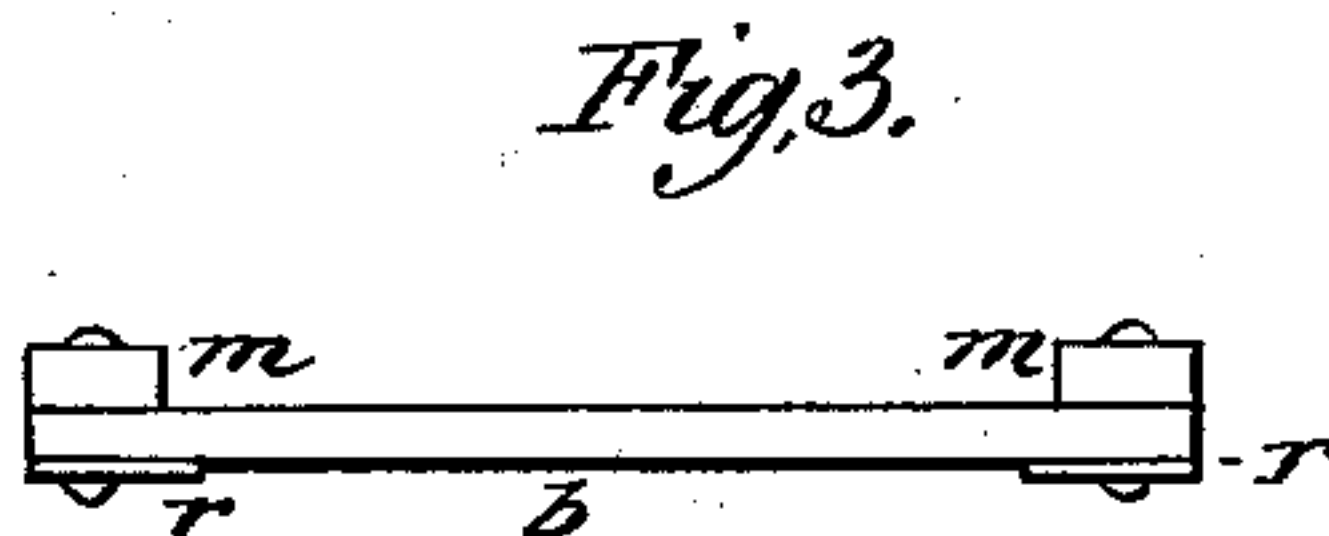
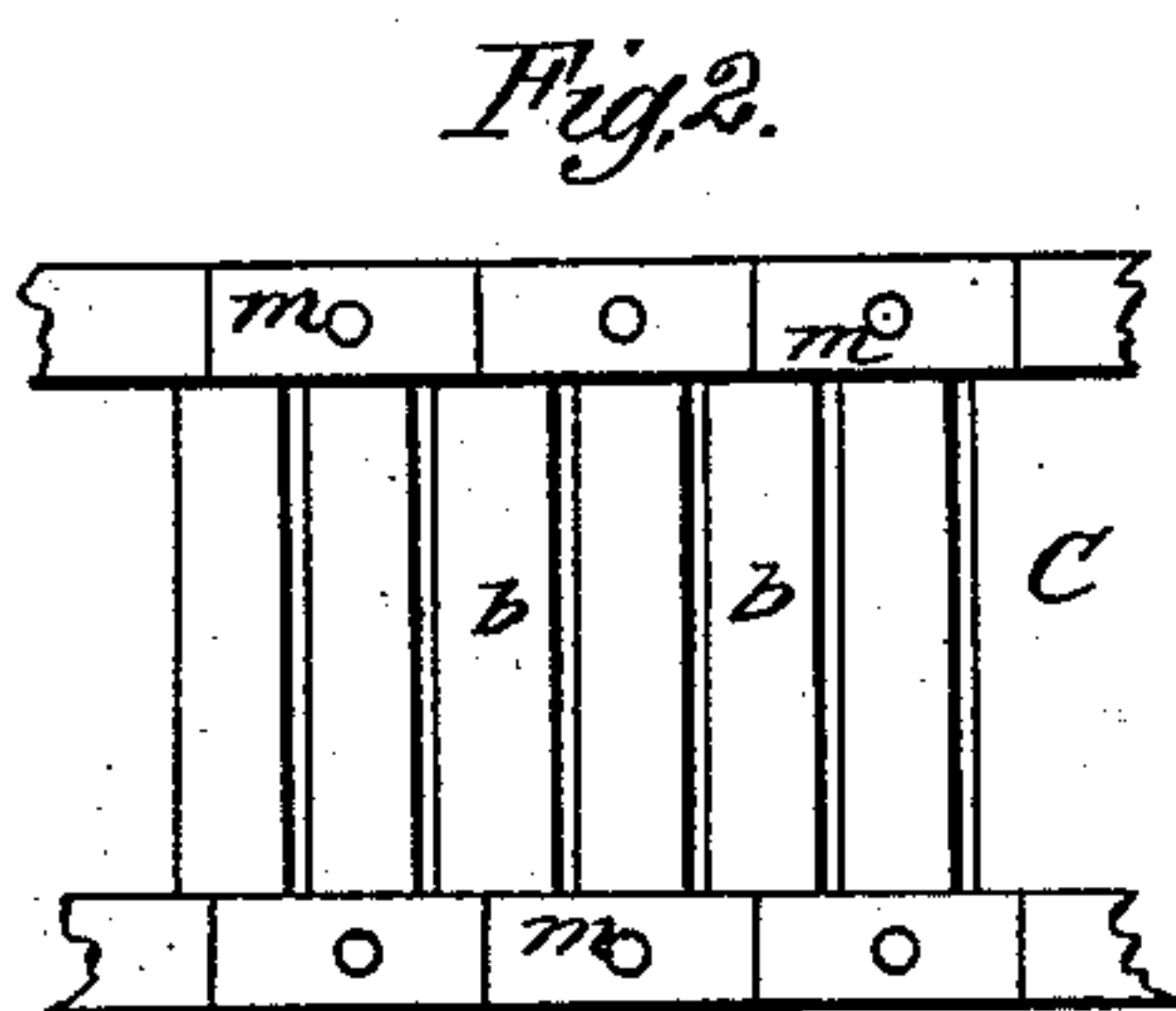
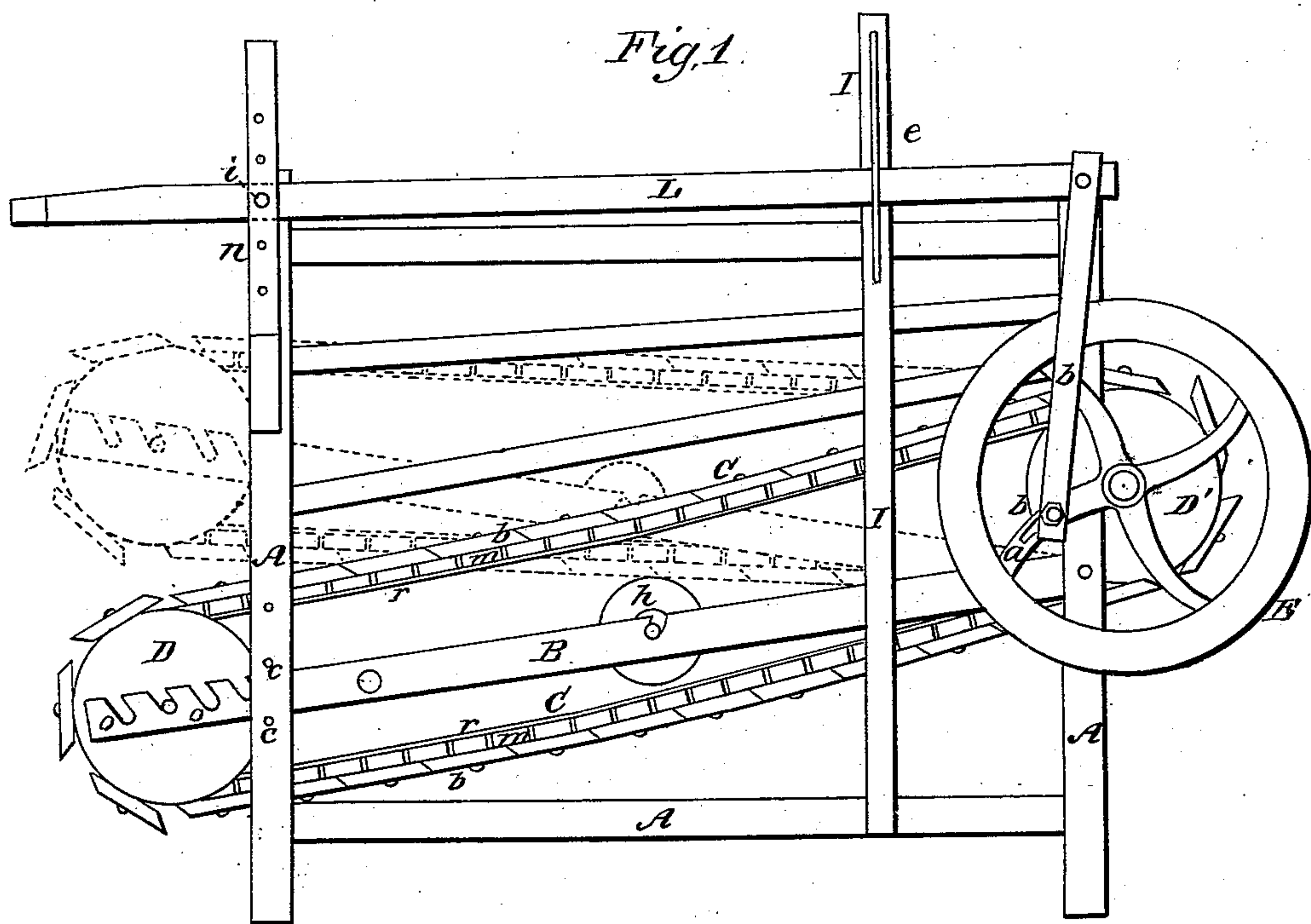


T. Starr,
Horse Power
No 84,590. Patented Dec. 1, 1868.



Witnesses.
P. S. Dodge.
R. C. Lowrey

Inventor.
Thomas Starr.
by Dodge & Munroe
his attys.

United States Patent Office.

THOMAS STARR, OF NEW LISBON, OHIO.

Letters Patent No. 84,590, dated December 1, 1868.

ANIMAL-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, THOMAS STARR, of New Lisbon, in the county of Columbiana, and State of Ohio, have invented certain new and useful Improvements in Tread-Powers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

My invention consists in certain novel improvements in the construction of a tread-power, to be used for operating churns, grindstones, and for similar domestic purposes.

Figure 1 is a side elevation, and

Figures 2 and 3 are views of portions of endless apron or web, shown detached.

The object of my invention is to construct a cheap, simple, and efficient power, capable of being adjusted to adapt it to be used by animals of various weights and sizes, the better to accommodate the wants of the community at large.

In constructing my improved apparatus, I make a rectangular frame, A, in the usual form, and within it, longitudinally, I mount another frame, B, consisting of two bars, somewhat longer than the main frame, and united by cross-bars, at suitable intervals. This frame B is pivoted at its front end to the main frame A, and its rear end is supported on pins inserted in holes C, of which there is a series, as shown in fig. 1, the rear end of B thus being left free to be raised or lowered, as desired, as hereinafter explained.

In the rear end of this frame B is mounted a roller, D, there being a corresponding roller, D', located at the front end of the main frame A, and around these two rollers is stretched an endless apron or web, C, upon which the animal is to stand when operating the machine, as is usual in this class of motors.

The frame B, at its rear end, is provided with a series of notches, o, in any of which the journals of the roller D may be placed, so as to adjust its position to the length of the web C, which is liable to become stretched by use.

Another roller, h, is located about midway of the frame B, for supporting the central portion of the web C, and prevent it from sagging with the weight of the animal.

The web C is composed of two strips, r, of leather or other flexible material, arranged, one at each side, and having slats, b, of wood, fastened transversely thereon, with blocks, m, secured upon each alternate slat, at each end; these blocks m extending lengthwise directly over the strips r, and having their ends bevelled, as shown in fig. 1, so that the rear end of each block m shall lap over upon the end of the adjoining one, and each block of the series at the same time resting upon three of the slats b, as represented in figs. 1 and 2.

By this method of constructing the web or apron C, I am enabled to use narrow slats and long blocks, se-

cured by a single screw or bolt, at each end of the slats, to the strips r, thereby enabling it to bend and pass freely around the rollers D and D', and at the same time so lock the slats and blocks upon one another as to render the web very rigid and strong, when stretched out straight, when it is to support the animal.

Upon the journal of the roller D' is mounted a balance-wheel, E, one arm of which has a slat, a, in it, in which is secured a stud or pin, on which is pivoted one end of a pitman, l, the upper end of which is pivoted to a lever, L, which is fulcrumed upon a bolt, i, at the rear end of the main frame A, as represented in fig. 1, the rear end of the lever L projecting out beyond the rear end of the main frame, as shown.

Near the front end of the frame A is secured an upright bar, I, to which is attached a rod, e, forming a guide, between which, and the bar I, the front end of the lever L plays, and is steadied and kept in position.

The machine is intended for use by farmers and families generally wherever a small power is wanted for domestic purposes, such as churning, turning grindstones, operating a washing-machine, and all similar purposes; and it may be operated by a dog, sheep, calf, or any similar animal; and by having the web C so arranged that its rear end can be adjusted so as to render it more or less inclined, it can be operated by a lighter or heavier animal, according to circumstances.

By this means, also, its speed may be varied and controlled, the speed being increased by inclining the web more, and decreased by adjusting it more nearly level.

By means of the slat a, in the arm of the wheel E, the pin t can be set nearer to or further from the centre, and thereby the length of the stroke of the lever L may be varied as desired; and by means of the series of holes n, the lever may be raised or lowered, to adapt it to churns of different heights and sizes.

By this method of constructing my improved apparatus, I produce a very simple, cheap, and durable motor, adapted to all the varying conditions, wants, and purposes of the public generally, for domestic use.

Having thus described my invention,

What I claim, is—

1. The web C, consisting of the strips or belts r, having the slats b, and bevelled blocks m connected thereto, and arranged as described.
2. Adjusting the rear end of the frame B vertically, by changing the position of its supporting-pin in the holes C, of the frame A, substantially as herein described, for the purpose of giving any desired incline to the web C, as set forth.
3. The adjustable roller h, and notches o, of the frame B, when constructed and arranged substantially as described, to compensate for the stretching of the web C, as set forth.

THOMAS STARR.

Witnesses:

JOHN McVICKER,
J. M. DICKINSON.