

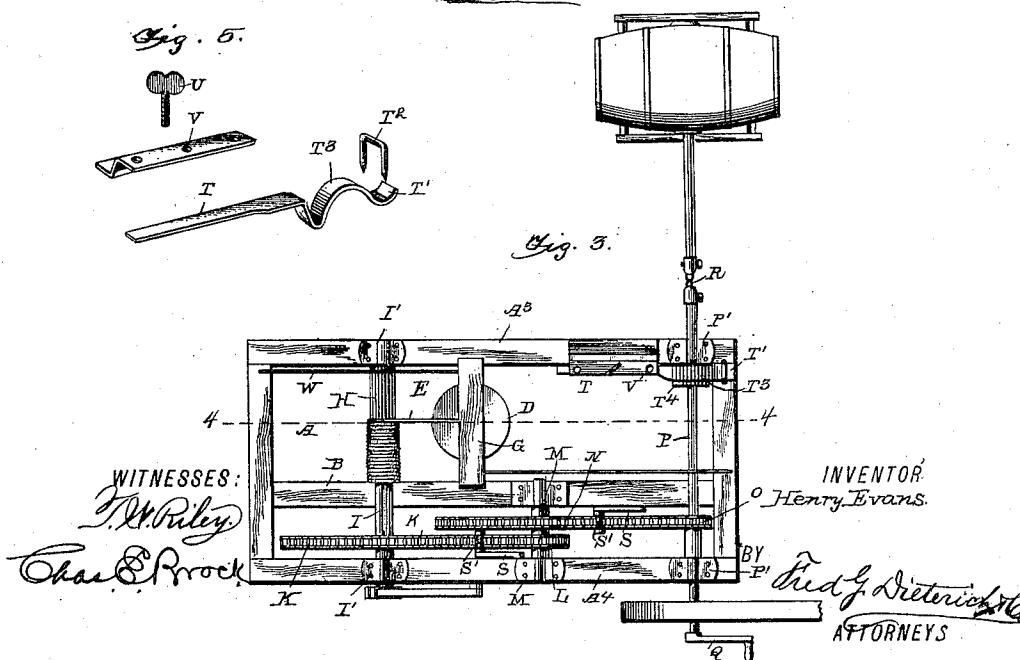
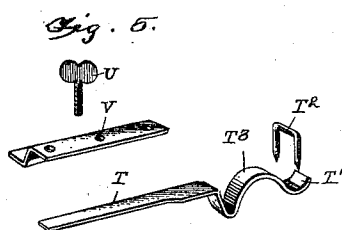
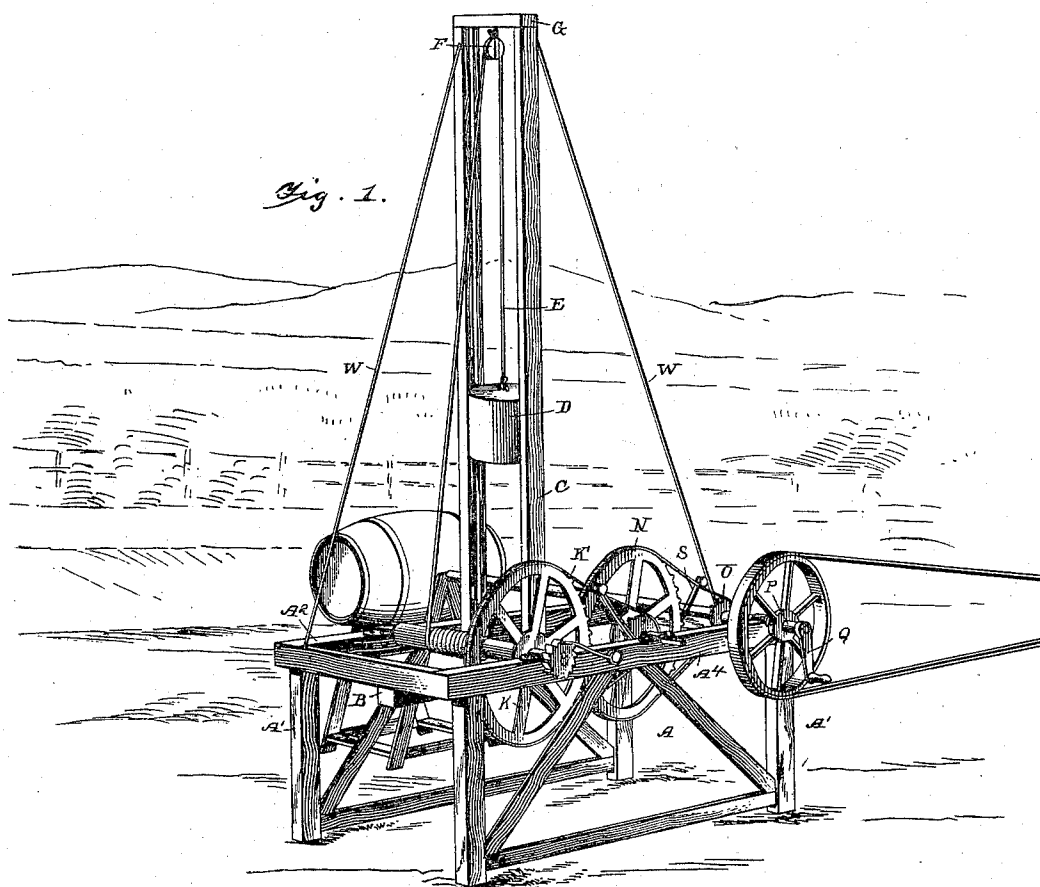
(No Model.)

2 Sheets—Sheet 1.

H. EVANS.
MECHANICAL MOTOR.

No. 585,953.

Patented July 6, 1897.



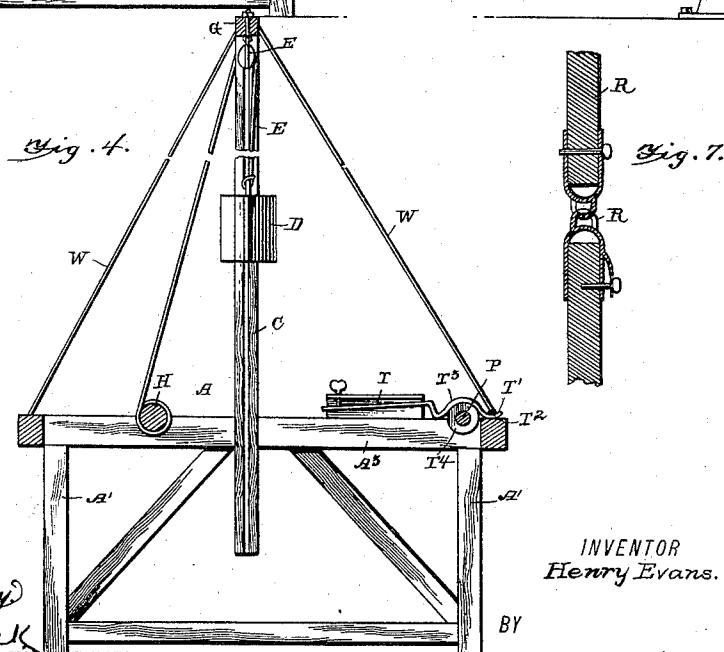
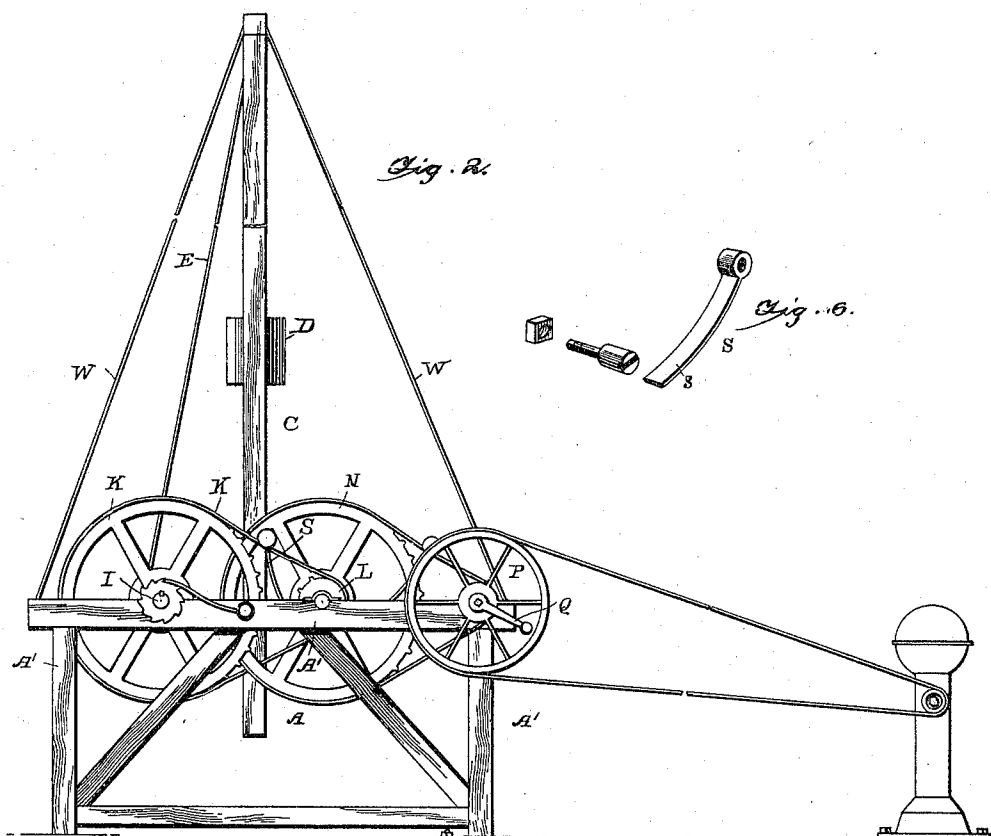
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2 Sheets—Sheet 2.

H. EVANS.
MECHANICAL MOTOR.

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WITNESSES:

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HENRY EVANS, OF WAUZKA, WISCONSIN.

MECHANICAL MOTOR.

SPECIFICATION forming part of Letters Patent No. 585,953, dated July 6, 1897.

Application filed July 18, 1896. Serial No. 599,668. (No model.)

To all whom it may concern:

Be it known that I, HENRY EVANS, residing at Wauzeka, in the county of Crawford and State of Wisconsin, have invented a new and Improved Mechanical Motor, of which the following is a specification.

This invention is an improved mechanical motor, the object being to provide a cheap, simple, and durable form of motor operated by a weight and capable of use for operating a churn, ice-cream freezer, cream-separator, fanning-mills, grindstones, and the like.

Another object is to provide a mechanical motor operated by a weight in which the several parts are so arranged that after the weight has once descended and performed its operation it can be quickly and easily raised again without the expenditure of a great deal of power, thus enabling a child or a weak person to set the motor.

Another object is to provide an improved form of brake by means of which the tension or friction upon the operative parts of the machine can be regulated, as desired, to obtain any required speed.

Another object is to provide a motor in which the speed can be increased, as desired, by the regulation of the brake and the addition of extra weights.

Another object is to provide a motor in which only one locking dog or pawl will be necessary, and a still further object is to provide a weight-motor in which the drive belts or chain will be normally held at a uniform degree of tightness.

With these various objects in view my invention consists in the peculiar construction of the various parts and in their novel combination or arrangement, all of which will be fully described hereinafter, and pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a view showing the invention in use as applied to a working-body churn. Fig. 2 is a side view showing its application to the cream-separator. Fig. 3 is a top plan view. Fig. 4 is a vertical sectional view on the line 4 4 of Fig. 3. Figs. 5, 6, and 7 show details of construction.

In carrying out my invention I employ a main frame or support A, which is essentially

rectangular in shape and supported upon suitable legs A', braced by the beams A².

Between the side members A³ and A⁴ of the frame is arranged a parallel beam B, and connected to the beams A³ and B are the upright standards C, grooved upon their interior faces to receive a sliding weight D, said weight being suspended by means of a cable E, which passes over a pulley or sheave F, suspended from the cross-piece G, connecting the tops of the standards C, the opposite end of said cable being connected to a drum H, mounted upon a shaft I, journaled in the bearings I', upon the top of the main frame.

Mounted upon the shaft I, between the beams B and A⁴, is a sprocket-wheel K, preferably about twenty-four inches in diameter, and passing over said sprocket-wheel is a drive-chain K', which operates a sprocket L, upon a shaft M, journaled in bearings M' upon the beams B and A⁴, and in addition to the small sprocket L is a large sprocket N, about twenty-four inches in diameter, and passing thereover is a drive-chain N, which operates a sprocket O, about two inches in diameter, mounted upon a shaft P, journaled in bearings P' upon the top of the main frame or support.

The shaft P carries a crank Q at its forward end and a pawl Q' adjacent thereto, while at the rear end is arranged the spring-coupling R, connected with a tumbling-rod R', which is adapted to operate a working-body churn or other article.

In order to keep the drive belts or chains tight, I employ belt-tighteners S, which consist of a spring-arm s, attached to the sides of the main frame, and a flanged roller s', which rests upon the upper flight of the drive chain or belt.

Whenever additional speed is desired, an additional weight can be added, and in order to regulate or slacken the speed I employ a brake T, which consists of a brake bar or arm having a hook T' at one end adapted to engage a loop or staple T² on the end of the frame, and adjacent to said hook end is a curved portion T³, adapted to rest upon a friction collar or disk T⁴, mounted upon the shaft P.

The end of the arm T is straight, and bearing thereon at different points is a set-screw U, whereby the tension or pressure of the brake-arm upon the brake disk or collar can be increased or decreased, as desired, and in order to adjust the set-screw upon the brake-arm at different points I arrange a bar or plate V, provided with a flange extending over the arm T and having a series of threaded perforations V', through which the set-screw is adjusted. Now it will be noticed that the crank for winding up the weight is placed upon the end of the shaft P, which carries a small sprocket-wheel, and the weight can therefore be raised without the expenditure of a great force and a child or weak person is thereby enabled to set the churn in operation. By applying the crank to the end of the shaft M the weight can be raised somewhat quicker, but more power must necessarily be expended. By the employment of the chain or belt tighteners there is always a positive connection between the various brake-wheels and all danger of slipping is avoided.

By means of the adjustable brake the tension can be regulated so that almost any desired speed can be obtained, but when using the motor upon a working-body churn the liquid within the barrel will act as a sufficient brake, and its use will not be necessary for this operation, but when using the motor upon a cream-separator said brake will be a very necessary part of the machine.

It will of course be understood that when the weight is wound up the spring-pin of the tumbling-rod coupling will be drawn out, so that the shaft P will be disconnected from the tumbling-rod.

Guy rods or wires W are attached to the uprights at their upper ends, and connect with the sides of the main frame or support for the purpose of bracing the uprights, but this can be dispensed with, if desired, and the uprights made secure by any other suitable means.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a mechanical motor, the combination of a main frame, a shaft, a loop mounted on the main frame at one side of the shaft, the brake-bar, consisting of a straight portion, a curved portion frictionally engaging such shaft, a hook portion detachably interlocked with the said loop, a plate secured to the main frame, an adjusting-screw mounted on such plate held to engage the straight portion of the brake-bar, and means for mounting the screw at different points along the brake-bar, substantially as shown and described.

2. In a mechanical motor, the combination of a main frame a shaft, a loop mounted on the frame at one side of the shaft a brake-bar detachably interlocked with said loop and engaging the shaft, a plate disposed longitudinally of the brake-bar and having a flange extending over the same, said flange being provided with a series of perforations located at different distances from the loop, and a screw engaging the brake-bar, mounted on said plate and adapted to be arranged in any one of the perforations of the flange substantially as described.

HENRY EVANS.

Witnesses:

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