

(No Model.)

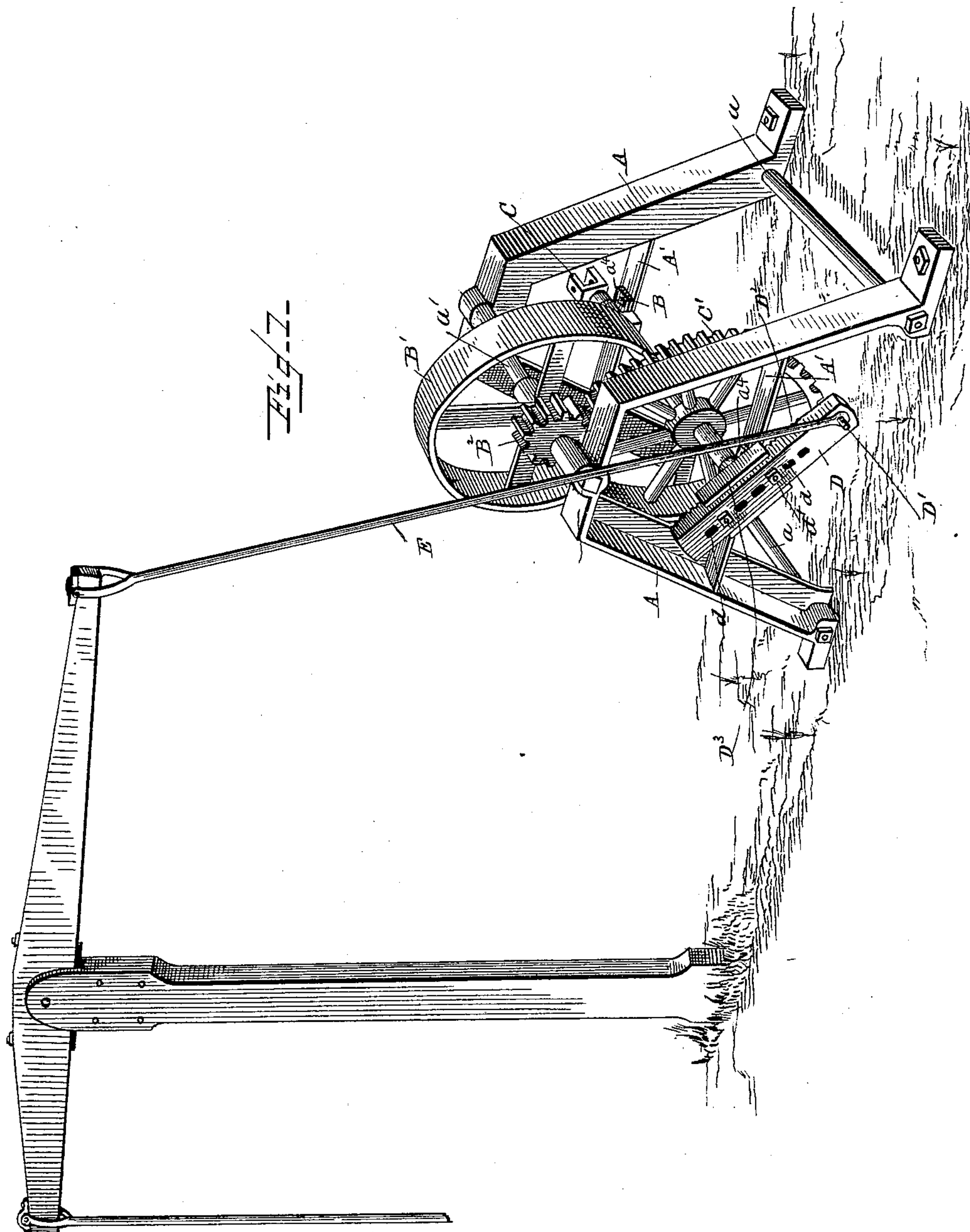
2 Sheets—Sheet 1.

J. H. HOLMGREEN.

MOTOR.

No. 366,958.

Patented July 19, 1887.



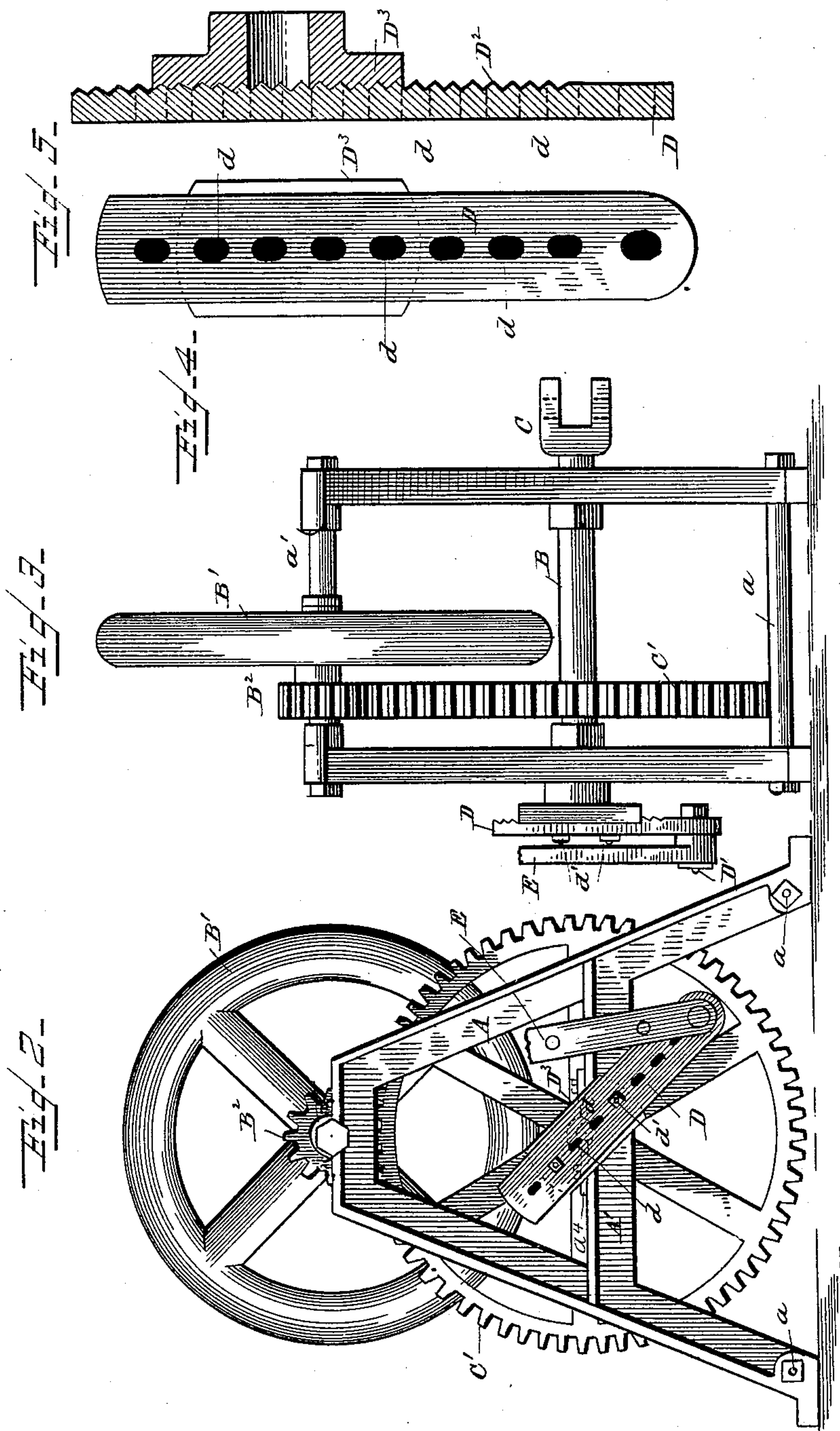
Witnesses
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2 Sheets—Sheet 2.

MOTOR.

Patented July 19, 1887.



Inventor
Julius H Holmgreen
By his Attorney
Chas E Barber.

UNITED STATES PATENT OFFICE.

JULIUS H. HOLMGREEN, OF SAN ANTONIO, TEXAS.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 366,958, dated July 19, 1887.

Application filed March 16, 1887. Serial No. 231,098. (No model.)

To all whom it may concern:

Be it known that I, JULIUS HERMAN HOLMGREEN, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Improvement in Motors, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective of my improved device, showing the same attached to a sweep for running a drill, a vertical reciprocating saw, or a pump, or any device in which a reciprocating motion is desired. Fig. 2 is a side elevation of my improved device. Fig. 3 is a front view of the same. Fig. 4 is a detail view of a part of an adjusting device used for adjusting the length of the stroke of the motor. Fig. 5 is a similar detail view of the serrated plate which meshes with the plate shown in Fig. 4 for forming the adjustment referred to.

The object of my invention is to construct a device which may be used for pumping, sawing, drilling, and other analogous purposes, which will be effective in its operation, and which will not be liable to get out of order, and the parts of which will not be liable to get out of alignment with each other. To this end it consists in making the device triangular and mounting the fly-wheel on the shaft, which holds the upper end of the frame firmly together.

Heretofore great difficulty has been experienced with devices of this character and great disadvantage has resulted from the wrenching and twisting of the parts and the frame, which resulted in lost motion and irregular movement, and my object is to obviate these disadvantages; and to that end it consists in constructing a frame triangular in shape, rigidly secured together, as will be hereinafter described, and the gear-wheels and the shafts upon which the same are mounted are to be mounted one directly above the other in the manner shown.

In the accompanying drawings, A A designate the main stays or side pieces, which are triangular in shape and which are bolted together at their lower extremities by the bolts

or rods *a a*, and which are rigidly secured together at the top by the rod or shaft *a'*. These stays are also provided with cross-braces A' A', which are in this instance formed integral with the main stays. These cross-pieces are provided centrally with suitable journal-boxes, in which is mounted the shaft B. This shaft B is provided at one end with an ordinary knuckle-joint, C, and at its opposite end with a crank-arm, D, having a wrist-pin, D', to which is secured the lever E.

The rod *a'*, which secures the upper portion of the frame rigidly in place, has loosely journaled thereon a fly-wheel, B', the hub of which is provided with a pinion, B², which is rigidly secured to the fly-wheel B' at its hub and may be formed integral therewith.

The fly-wheel may be flat to receive a belt. The fly-wheel and the pinion B² rotate together and are journaled on the rod or shaft *a'*. Directly beneath the pinion B² is a cog-wheel, C', which is rigidly keyed to the shaft B, journaled in the journal-boxes *a' a'*, and this cog-wheel C' imparts motion to the fly-wheel B' through the medium of the pinion B². Motion is imparted to the device through the knuckle-joint C, which is connected in any suitable manner with a rotating rod, which may be run by horse-power, water-power, or any other suitable motive power which it may be found desirable to use.

The crank-lever D is adjustable by means of the corrugations D², (shown in detail in Fig. 5,) and the two plates D D³ may be bolted together at any desired adjustment through the perforations *d d* and by a suitable bolt, *d'*, (shown in Fig. 3.)

From the foregoing it will be observed that the device is constructed triangular in shape and is securely and firmly held in place by rigid rods at its three extremes, which makes a very strong and compact device. In this instance the whole device is constructed of metal, the fly-wheel and pinion B² being rigidly secured together and journaled loosely on the rod or shaft *a'* in the top of the frame, making a device in which the friction is comparatively slight.

It will also be observed that the main rods or shafts supporting the running-gear are mounted in the frame one directly above the other, thus preserving the center of gravity

directly in the center of the machine and preventing any undue wrenching or twisting of the frame proper or the running-gear.

5 The whole device, being made of metal, is not materially affected by the ordinary varying degrees of heat and cold or humidity.

10 Having now described the objects, uses, and advantages of my device, and having set forth its construction and operation, what I desire to secure by Letters Patent, and what I therefore claim, is—

15 1. In a motor of the character described, the combination of the main stays made triangular in shape and rigidly secured together at their three extremes, the rod at the top of the motor which serves as a stay for the frame and forms a bearing for the fly-wheel, which is journaled loosely on said rod, a pinion formed rigidly with the fly-wheel, and a second rotating shaft journaled loosely within the frame directly beneath the fly-wheel and pinion, said rotating shaft having a gear-

wheel which imparts motion to the pinion and fly-wheel, all constructed to operate substantially as and for the purposes specified. 25

2. The main frame made triangular in outline and provided with two cross-beams midway between the extremities of the side pieces, and a rotating shaft journaled between the side pieces and within suitable journal-boxes, said rotating shaft having a joint at one end and an adjustable crank-arm at the other, and a cog-wheel rigidly secured to the shaft, with a fly-wheel and its pinion journaled loosely on the rigid shaft in the top of the frame, all constructed to operate substantially as and for the purposes specified. 30 35

In testimony that I claim the above as my invention I hereunto set my hand in the presence of two subscribing witnesses.

JULIUS H. HOLMGREEN.

Witnesses:

SAM MAVERICK,

J. N. GROESBEECK.