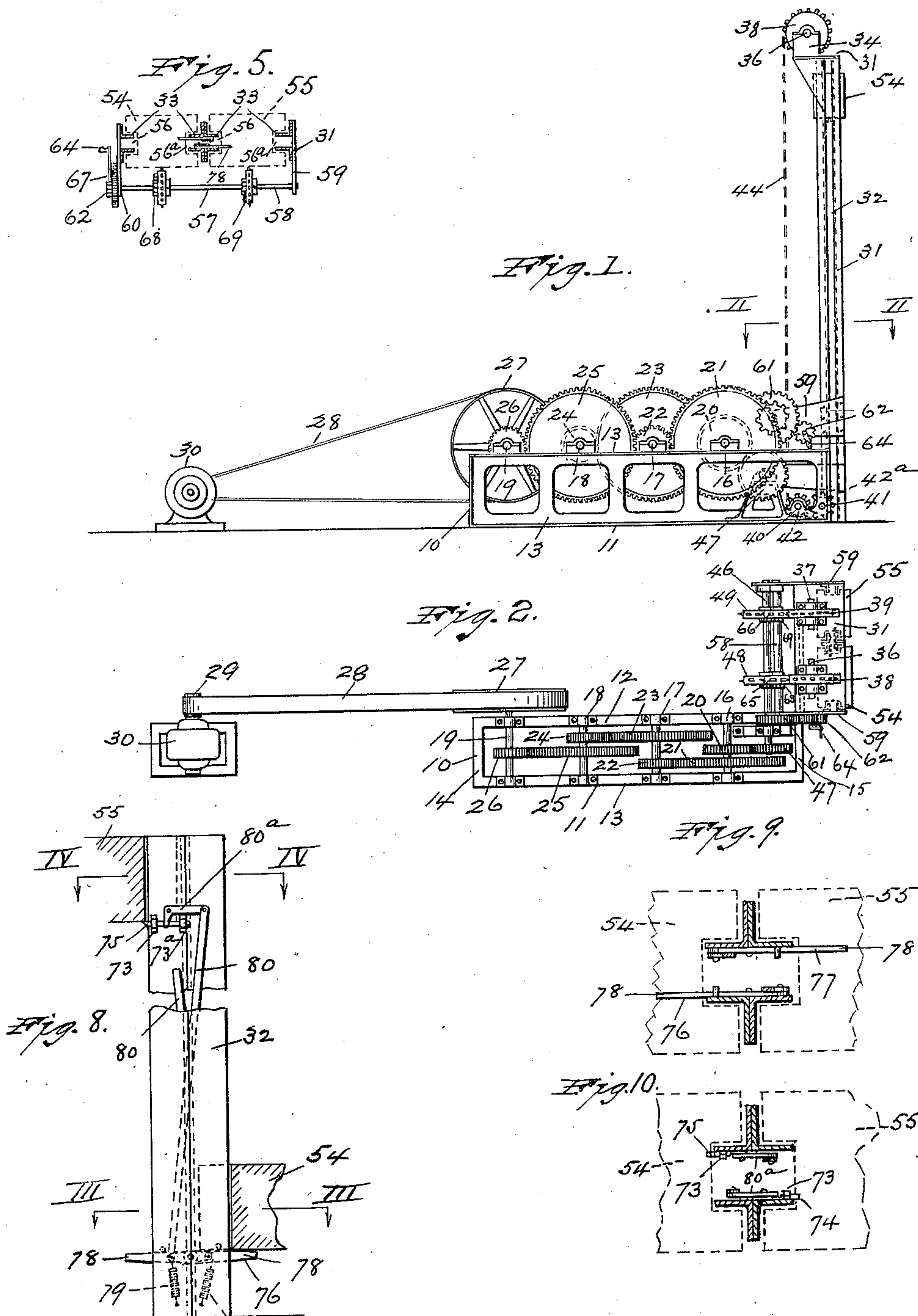


P. E. MUSCHICK.
MECHANISM FOR APPLYING POWER.
APPLICATION FILED APR. 4, 1911.

999,244.

Patented Aug. 1, 1911.

2 SHEETS—SHEET 1.



Witnesses:
Charles C. Abbe
E. M. Jerko.

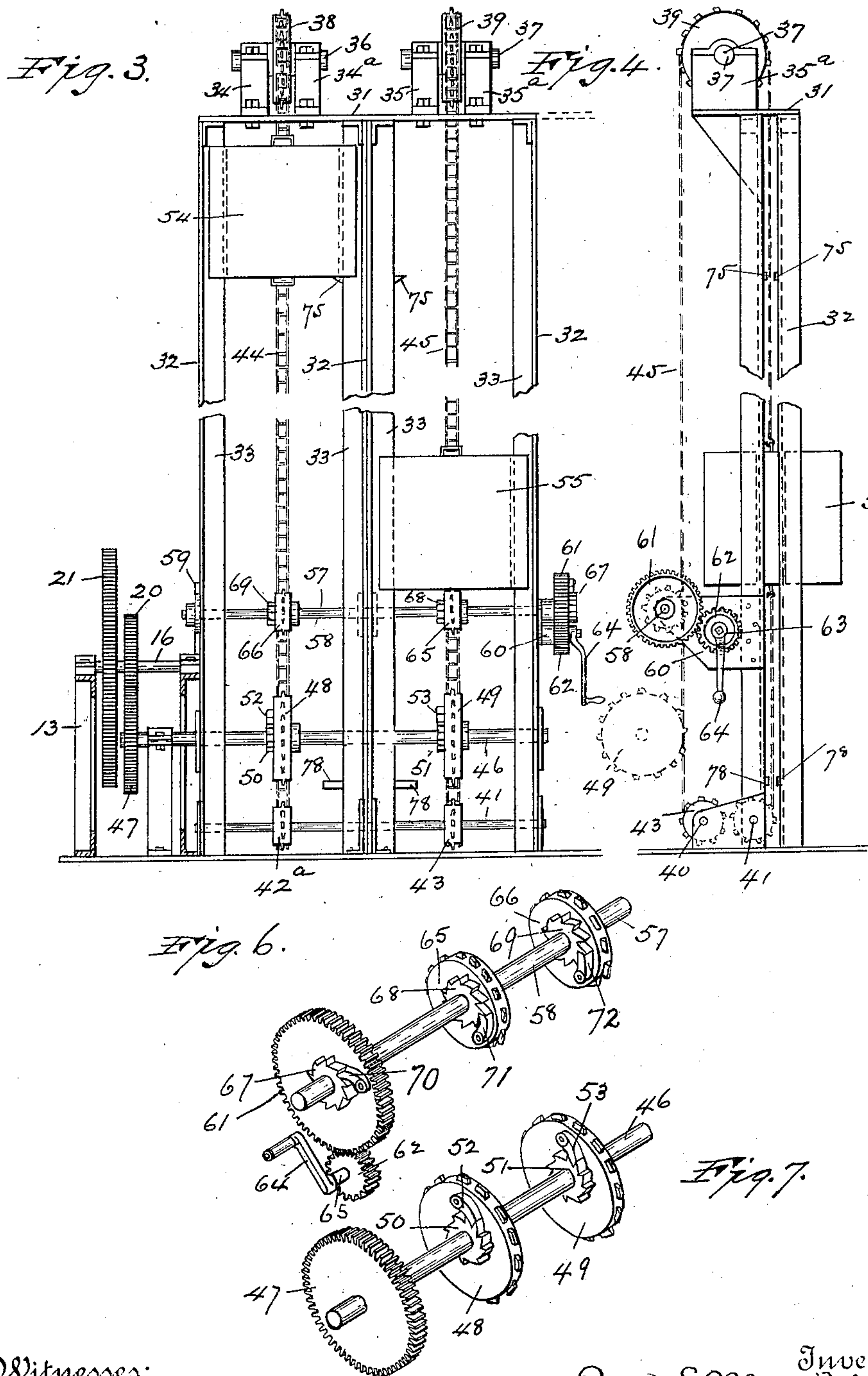
Inventor
Paul E. Muschick
By his Attorney
W. J. Griswell

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UNITED STATES PATENT OFFICE.

PAUL E. MUSCHICK, OF PARLIN, NEW JERSEY.

MECHANISM FOR APPLYING POWER.

999,244.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed April 4, 1911. Serial No. 618,875.

To all whom it may concern:

Be it known that I, PAUL E. MUSCHICK, a citizen of the United States, and a resident of Parlin, county of Middlesex, and State of New Jersey, have invented certain new and useful Improvements in Mechanism for Applying Power, of which the following is a full, clear, and exact specification.

This invention relates to a class of mechanism adapted for use to produce power for operating machinery of various kinds.

My invention has for its object primarily to provide a form of mechanism designed to produce power by utilizing the force resulting from the downward movement of one or a plurality of weights from a predetermined height and employing the power thereby produced to operate a single machine, or a number of machines, and more especially a dynamo by which a supply of electricity may be generated for operating machinery of various classes for manufacturing or lighting purposes, etc., thereby dispensing with the use of a steam power system, and saving the great expense incident thereto.

Another object of the invention is to provide means whereby each weight is employed independently for operating the mechanism so that the various weights may be used in succession to permit the mechanism to be operated continuously for a given period of time; and to provide means adapted to permit the weights to be readily readjusted for use as frequently as desired.

A further object of the invention is to provide a simple and efficient form of mechanism wherein the parts may be made very strong and durable, and which is susceptible of being made in any preferred size.

A practical embodiment of the invention is represented in the accompanying drawing forming a part of this specification in which similar characters of reference indicate corresponding parts in all the views, the said invention being more fully described hereinafter and then pointed out in the appended claims.

In the drawing, Figure 1 is a side elevation of one form of mechanism embodying my invention. Fig. 2 is a top plan view of the mechanism. Fig. 3 is a rear elevation, partly broken away, of the vertical frame thereof. Fig. 4 is an end elevation, partly

broken away, of said vertical frame. Fig. 5 is a section taken on the line II—II of Fig. 1. Fig. 6 is a perspective view of the lift used in conjunction with the mechanism. Fig. 7 is a perspective view of the main shaft of the mechanism with two sprocket wheels and a gear wheel held thereon. Fig. 8 is a detail view, partly broken away and partly fragmentary, of the trip employed in the mechanism. Fig. 9 is a section taken on the line III—III of Fig. 8, and Fig. 10 is a section taken on the line IV—IV of Fig. 8.

The mechanism 10 has a longitudinally disposed frame 11 composed of two spaced parallel arranged side bars 12, 13 and end bars 14 and 15. A plurality of bearings are provided at spaced intervals upon the side bars 12 and 13, and in said bearings are journaled shafts 16, 17, 18, 19. Upon the shaft 16 and between the side bars 12 and 13 is a small gear 20, and held upon the shaft adjacent to said small gear is a large gear 21. The large gear 21 meshes with a pinion 22 provided upon the shaft 17, and on said shaft is also a gear 23. The gear 23 meshes with a pinion 24 held upon the shaft 18, and upon said shaft is a gear 25. The gear 25 meshes with a pinion 26 provided upon the shaft 19, and upon said shaft and adjacent to the side bar 12 is a drive-pulley 27. Over the drive-pulley 27 is guided a belt 28 which passes over the pulley 29 of a dynamo 30. The gears 21, 23, 25 are of greater diameter than the pinions 22, 24, 26, and to transmit to the drive-pulley 27 the maximum of power produced when the small gear 20 is revolved all of said gears are the same in diameter.

At the end of the frame 11 opposite to the drive-pulley 27 is a vertically disposed frame 31 constructed of uprights 32 which may be of any desired height, and upon the opposed faces of said uprights are guide-rails 33. Four brackets 34, 34^a and 35, 35^a are provided upon the top of the vertical frame 31, and in each pair of said brackets is a bearing in which is journaled a short shaft 36 and 37. Held upon each of the shafts 36 and 37 is a sprocket wheel 38 and 39, and at the lower end of the vertical frame 31 are journaled two shafts 40 and 41. At similarly spaced intervals upon each of the shafts 40 and 41 is a sprocket wheel 42,

42^a and 43. Over the sprocket wheel 38 and the pair of sprocket wheels 42 and 42^a is trained a sprocket chain 44, and over the sprocket wheel 39 and the pair of sprocket wheels 43 and 43^a is guided a sprocket chain 45. Upon the lower part of the vertical frame 31 facing the longitudinal frame 11 is journaled a drive shaft 46 upon one end of which is a gear 47 meshing with the small gear 20 upon the shaft 16 rotatably held in said longitudinal frame. Also held at spaced intervals upon the drive-shaft 46 are two loosely held sprocket wheels 48 and 49. The sprocket wheel 48 is adapted to be rotated by the sprocket chain 44 and the sprocket wheel 49 is adapted to be revolved by the sprocket chain 45. To permit one or both of the sprocket wheels 48 and 49 to be rigidly held upon the drive-shaft 46 so as to revolve the shaft when the sprocket wheels are rotated, upon said shaft is rigidly held adjacent to each of the sprocket wheels a ratchet 50 and 51, and upon each of the sprocket wheels 48 and 49 is a pawl 52 and 53. The pawl 52 is adapted to engage the ratchet 50 and the pawl 53 is adapted to engage the ratchet 51 so that the sprocket wheels 48 and 49 may be rotated separately or simultaneously by throwing one of the pawls out of engagement with its respective ratchet or retaining the engagements of the pawls and ratchets, if desired, whereby the drive-shaft 46 may be revolved by the rotation of the sprocket wheels 48 and 49 with the sprocket chains 44 and 45.

In order to move the sprocket chains 44 and 45 for rotating the sprocket wheels 48 and 49 whereby the drive shaft 46 will be revolved to operate the dynamo 30 through the medium of the gears 47, 21, 23, 25 and pinions 20, 22, 24, 26, I connect to each of the sprocket chains 44 and 45 a weight 54 and 55. Each of the weights 54 and 55 are substantially rectangular in shape, and in two of the opposite faces of each of said weights are formed grooves 56 and 56^a so as to permit each of the weights to loosely engage two of the guide rails 33 whereby said weights may be guided between the uprights 32. Each of the weights 54 and 55 are adapted to move singly, and to independently produce sufficient power in its downward movement from the top of the vertical frame 31 to move one of the sprocket chains 44 and 45 at a speed to transmit ample power, as above described, to the dynamo 30, and while only two of the weights are illustrated in the drawing, it is clear, that any number of said weights may be employed in my invention.

For the purpose of permitting each of the weights 54 and 55 to move downwardly in succession from the top of the vertical frame 31 whereby the mechanism will be operated continuously for a given period of

time, I provide a lift 57 which is adapted to be manually operated for raising the weights separately or simultaneously from the bottom to the top of the vertical frame 31. The lift 57 consists of a shaft 58 which is journaled in brackets 59 and 60 extending from the end uprights 32 of the frame 31. At one end of the shaft 58 is a gear wheel 61 meshing with a pinion 62 held upon a short shaft 63 which is rotatable in the bracket 60. Upon the shaft 63 is a crank handle 64 adapted to be turned to rotate the pinion 62 for rotating the gear 61 and the shaft 58. Upon the shaft 58 at spaced intervals from the gear wheel 61 are two sprocket wheels 65 and 66. The gear wheel 61 and sprocket wheels 65 and 66 are loosely held upon the shaft 58. The sprocket wheel 65 is in engagement with the sprocket chain 45 and the sprocket wheel 66 is in engagement with the sprocket chain 44 so that when said sprocket chains are moved to rotate the sprocket wheels 48 and 49 of the drive shaft 46 the sprocket wheels 65 and 66 will revolve loosely upon the shaft 58. Upon the drive shaft 46 and adjacent to the gear wheel 61 and the sprocket wheels 65 and 66 is a ratchet 67, 68, 69 and on one face of the gear 61 and on one face of each of the sprocket wheels 65 and 66 is a pawl 70, 71, 72 each of which are adapted to engage one of said ratchet wheels so as to rigidly hold the gear wheel 61 and the sprocket wheels 65 and 66 on the shaft 58 for moving one or both of the sprocket chains 44 and 45 whereby the weights 54 and 55 may be raised separately or simultaneously from the bottom to the top of the frame 31 by manually turning the crank handle 64, and by swinging one or both of the pawls 71 and 72 out of engagement with the ratchet wheels one or both of the weights may be allowed to descend downwardly from the top to the bottom of the vertical frame 31 for operating the mechanism.

When the weights 54 and 55 have been raised to the top of the vertical frame 31, and to hold said weights upon the upper part of two of the uprights 32 are provided two pairs of brackets 73 and 73^a, and in each pair of said brackets is a slidable bolt 74 and 75, each of which is adapted to be moved so that one end thereof may be guided for the underside of the weights 54 and 55 to rest thereupon. As a means to release one of the weights held at the top of the vertical frame 31 when the other weight has descended to a point near the bottom of said frame, I provide two trips 76 and 77 both of which are similar in form. Each of the trips 76 and 77 has a lever 78 which is pivotally held to one of the center uprights 32 and extends beyond the uprights so as to be in the path of movement of the weights. To the projecting part of each of

the levers 78 and to the adjacent upright are held the ends of a spring 79 normally serving to force the projecting parts of the levers toward the bottom of the vertical frame 31, and to the opposite part of each of said levers is pivoted one end of a rod 80. Each of the rods 80 extends upwardly, and to its other end is pivoted one end of an angular arm 80^a. Each of the angular arms 80^a is pivoted to one of the center uprights 32 and has its opposite end connected to each of the slidable bolts 74 and 75 so that when the angular arms 80^a are moved upon their pivots said bolts will be guided to engage with the weights 54 and 55 or to be disengaged therefrom.

In practice I prefer to operate the mechanism 10 consecutively by one of the weights 54 and 55, in which instance said weights are positioned at the top of the vertical frame 31 so as to rest upon the slidable bolts 74 and 75, and the weight 54 may be allowed to descend between the uprights 32. The sprocket chain 44 will thereby be moved so as to rotate the sprocket wheel 48, and through engagement of the pawl 52 with the ratchet 50 the drive shaft 46 will be revolved to rotate the gear 47. The small gear 20 will then be rotated to revolve the shaft 16 for rotating the large gear 21, and through the medium of the gears 23 and 25 and pinions 22, 24, 26 the power will be transmitted to the drive wheel 27 and thence to the dynamo 30. When the weight 54 has moved sufficient distance toward the bottom of the vertical frame to contact with the lever 78 of the trip 77 said lever will be swung to force the rod 80 which is pivoted thereto in an upward direction, and one end of the angular arm 80^a upon the opposite end of said rod will also be forced upwardly. The opposite end of the angular arm 80 will then be swung so as to move the slidable bolt 75 from engagement with the weight 55. When the weight 55 has started on its descent between the uprights 32 the weight 54 may be raised to the top of the vertical frame 31, by manually winding the crank handle 64 and the pinion 62 will rotate the gear wheel 61. Through engagement of the pawls 70 and 71 with the ratchet wheels 67 and 68 the drive shaft 46 will be revolved to rotate the sprocket wheel 65 for moving the sprocket chain 44 so that the weight 54 may thereby be positioned and held upon the slidable bolt 74 until released for its successive descent by the weight 55 operating the trip 76 in the same manner as the trip 77 is operated, as above described.

In the foregoing description I have embodied the preferred form of my invention, but I do not wish to be understood as limiting myself thereto, as I am aware that modifications may be made therein without

departing from the principle or sacrificing any of the advantages of this invention, therefore I reserve to myself the right to make such changes as fairly fall within the scope thereof.

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

1. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side-bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a drive shaft journaled in the lower part of the uprights; a gear wheel provided at one end of the drive shaft and meshing with the pinion upon one of the shafts journaled in the longitudinal frame; a sprocket wheel provided upon the drive shaft; a sprocket wheel rotatably held upon the top of the vertical frame; a sprocket wheel rotatably held at the bottom of the vertical frame; a sprocket chain guided over the sprocket wheels at the top and bottom of the vertical frame, said sprocket chain engaging the sprocket wheel upon the drive-shaft; and a weight connected to the sprocket chain and movable between two of the uprights of the vertical frame.

2. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side-bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a drive shaft journaled in the lower part of the uprights; a gear wheel provided at one end of the drive shaft and meshing with the pinion upon one of the shafts journaled in the longitudinal frame; a sprocket wheel provided upon the drive shaft; a sprocket wheel rotatably held upon the top of the vertical frame; a sprocket wheel rotatably held at the bottom of the vertical frame; a sprocket chain guided over the sprocket wheels at the top and bottom of the vertical frame, said sprocket chain engaging the sprocket wheel upon the drive-shaft; a weight connected to the sprocket chain and movable between two of the uprights of the vertical frame; and means provided upon the ver-

tical frame and adapted to raise the weight from the bottom to the top of said vertical frame.

3. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a drive shaft journaled in the lower part of the uprights; a gear wheel provided at one end of the drive shaft and meshing with the pinion upon the shaft which is journaled in the longitudinal frame in proximity to the vertical frame; a sprocket wheel rotatably held upon the top of the vertical frame; a sprocket wheel rotatably held at the bottom of the vertical frame; a sprocket chain guided over the sprocket wheels at the top and bottom of the vertical frame; means provided upon the drive shaft and adapted to be engaged by the sprocket chain for revolving said drive shaft when the sprocket chain is moved; a weight connected to the sprocket chain and movable between two of the uprights of the vertical frame; and means provided upon the vertical frame and adapted to raise the weight from the bottom to the top of said vertical frame.

4. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a plurality of brackets fastened upon the uprights; a drive shaft journaled in the brackets; a gear wheel provided at one end of the drive shaft and meshing with the pinion of the shaft journaled in the longitudinal frame in proximity to the vertical frame; a sprocket wheel provided upon the drive shaft; a sprocket wheel rotatably held upon the top of the vertical frame; a sprocket wheel rotatably held at the bottom of the vertical frame; a sprocket chain guided over the sprocket wheels at the top and bottom of the vertical frame; said sprocket chain engaging the sprocket wheel upon the drive shaft; and a weight connected to the sprocket chain and movable between the uprights of

the vertical frame; a second shaft journaled in the lower part of the uprights of the vertical frame; a gear held upon the second shaft; a sprocket wheel also held upon the second shaft and engaging the sprocket chain; and means provided upon the vertical frame and adapted to rotate the gear upon the second shaft for revolving said shaft to rotate the sprocket wheel thereon for moving the sprocket chain to raise the weight.

5. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; guide rails provided upon the opposed faces of each of the uprights; a sprocket wheel rotatably held upon the top of the vertical frame; a sprocket wheel rotatably held at the bottom of the vertical frame; a sprocket chain guided over the sprocket wheels at the top and bottom of the vertical frame; means provided upon the vertical frame and adapted to transmit power from the sprocket chain when moved to the gears and pinions of the longitudinal frame; and a weight connected to the sprocket chain and movable between the guides of two of the uprights of the vertical frame.

6. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; guide rails provided upon the opposed faces of each of the uprights; a wheel rotatably held upon the top of the vertical frame; a wheel rotatably held at the bottom of the vertical frame; a chain guided over the wheels at the top and bottom of the vertical frame; means provided upon the vertical frame and adapted to transmit power from the chain when moved to rotate the gears and pinions of the longitudinal frame; and a weight connected to the chain and movable between the guide rails of two of the uprights of the vertical frame whereby said frame may be moved.

7. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a wheel rotatably held upon the top of the vertical frame; a wheel rotatably held at the bottom of the vertical frame; a chain guided over the wheels at the top and bottom of the vertical frame; means provided upon the vertical frame and adapted to transmit power from the chain when moved to rotate the gears and pinions of the longitudinal frame; a weight connected to the sprocket chain and guided between two of the uprights of the vertical frame whereby said chain may be moved; and means provided upon the vertical frame and adapted when operated to raise the weight from the bottom to the top of said vertical frame.

8. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights each of said uprights having a guide rail provided upon one of its faces; a chain movably held between two of the uprights; a weight connected to the chain and guided between the guide rails of two of the uprights; means movable by the chain and adapted to engage one of the pinions of the longitudinal frame whereby power may be transmitted to the gears and pinions of said longitudinal frame when the weight descends from the top to the bottom of the vertical frame; and a lift provided upon the vertical frame and adapted when operated to raise the weight from the bottom to the top of said vertical frame.

9. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the

longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a drive shaft journaled in the lower part of the uprights; a gear wheel provided at one end of the drive shaft and meshing with the pinion upon one of the shafts journaled in the longitudinal frame; a plurality of wheels provided upon the drive shaft; a plurality of wheels rotatably held upon the top of the vertical frame; a plurality of wheels rotatably held at the bottom of the vertical frame; a plurality of chains, each guided over one of the wheels at the top and bottom of the vertical frame, each of said chains engaging one of the wheels upon the drive shaft; and a plurality of weights each connected to one of the chains and movable between two of the uprights of the vertical frame.

10. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a plurality of wheels rotatably held upon the top of the vertical frame; a plurality of wheels rotatably held at the bottom of the vertical frame; a plurality of chains, each guided over one of the wheels at the top and bottom of the vertical frame; a plurality of weights, each connected to one of the chains and movable between two of the uprights of the vertical frame; means movable by the chain and adapted to transmit power to the pinions and gears of the longitudinal frame when the weight descends from the top to the bottom of the vertical frame.

11. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a plurality of wheels rotatably held upon the top of the vertical frame; a plurality of wheels rotatably held at the bottom of the vertical frame; a plurality of chains, each guided over one of the wheels at the top and bot-

tom of the vertical frame; a plurality of weights, each connected to one of the chains and movable between two of the uprights of the vertical frame; means movable by the chain and adapted to transmit power to the pinions and gears of the longitudinal frame when the weights descend from the top to the bottom of the vertical frame; and a lift provided upon the vertical frame and adapted when operated to raise the weights from the bottom to the top of said vertical frame.

12. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a plurality of wheels rotatably held upon the top of the vertical frame; a plurality of wheels rotatably held at the bottom of the vertical frame; a plurality of chains, each guided over one of the wheels at the top and bottom of the vertical frame; a plurality of weights, each connected to one of the chains and movable between two of the uprights of the vertical frame; means movable by the chain and adapted to transmit power to the pinions and gears of the longitudinal frame when the weight descends from the top to the bottom of the vertical frame; a lift provided upon the vertical frame and adapted when operated to raise the weights singly or simultaneously from the bottom to the top of said vertical frame; means adapted to hold the weights at the top of the uprights of the vertical frame; and a plurality of trips provided upon the vertical frame at the lower part thereof, each of said trips being adapted to release the holding means of one of the other weights when said weight has descended to the lower part of the uprights of said vertical frame.

13. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a drive shaft journaled in the lower part of the uprights; a plurality of wheels rotatably held upon the top of the vertical frame; a plurality of

wheels rotatably held at the bottom of the vertical frame; a plurality of chains, each guided over the wheels at the top and bottom of the vertical frame; a plurality of weights, each connected to one of the chains and movable between two of the uprights of the vertical frame; means provided upon the drive shaft of the uprights and adapted to be engaged by the chains whereby power may be transmitted to the gears and pinions of the longitudinal frame when the weights descend from the top to the bottom of the uprights of the vertical frame; means provided upon the vertical frame and adapted when operated to raise the weights singly or simultaneously from the bottom to the top of said vertical frame; means provided upon the vertical frame and adapted to hold the weights at the top thereof; and means provided at the lower part of the vertical frame and adapted to be operated by one of the weights descending between the uprights for releasing the holding means of one of the other weights.

14. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a drive shaft journaled in the lower part of the uprights; a gear wheel provided at one end of the drive shafts and meshing with the pinion upon one of the shafts journaled in the longitudinal frame; a plurality of sprocket wheels provided upon the drive shaft; a plurality of sprocket wheels rotatably held upon the top of the vertical frame; a plurality of sprocket wheels rotatably held at the bottom of the vertical frame; a plurality of sprocket chains, each guided over one of the sprocket wheels at the top and bottom of the vertical frame, each of said sprocket chains engaging one of the sprocket wheels upon the drive shaft; a plurality of weights, each connected to one of the sprocket chains and movable between two of the uprights of the vertical frame; means provided upon the vertical frame and adapted when operated to move one or all of the chains to raise the weights singly or simultaneously from the bottom to the top of the uprights of the vertical frame.

15. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the

shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a drive shaft journaled in the lower part of the uprights; a gear wheel provided at one end of the drive shaft and meshing with the pinion upon one of the shafts journaled in the longitudinal frame; a plurality of sprocket wheels provided upon the drive shaft; a plurality of sprocket wheels rotatably held upon the top of the vertical frame; a plurality of sprocket wheels rotatably held at the bottom of the vertical frame; a plurality of sprocket chains, each guided over one of the sprocket wheels at the top and bottom of the vertical frame, each of said sprocket chains engaging one of the sprocket wheels upon the drive shaft; a plurality of weights, each connected to one of the sprocket chains and movable between two of the uprights of the vertical frame; means provided upon the vertical frame and adapted when operated to move one or all of the chains to raise the weights singly or simultaneously from the bottom to the top of the uprights of the vertical frame; means provided upon the vertical frame and adapted to hold the weights at the top thereof; and means provided at the lower part of the vertical frame and adapted to be operated by one of the weights descending between the uprights for releasing the holding means of one of the other weights.

16. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a plurality of sprocket wheels rotatably held upon the top of the vertical frame; a plurality of sprocket wheels rotatably held at the bottom of the vertical frame; a plurality of sprocket chains, each guided over one of the sprocket wheels at the top and bottom of the vertical frame; a plurality of weights, each connected to one of the chains and movable between two of the uprights of the vertical frame; means provided upon the

vertical frame and movable by the chain, said means being adapted to transmit power to the pinions and gears of the longitudinal frame when the weights descend from the top to the bottom of the vertical frame; means provided upon the vertical frame and adapted when operated to raise the weights singly or simultaneously from the bottom to the top of the vertical frame; means provided upon the vertical frame and adapted to hold the weights at the top of said vertical frame; and means provided upon the vertical frame and adapted to release the holding means of one of the other weights when said weight has descended to the lower part of the uprights of said vertical frame.

17. In a mechanism for producing power; the combination with a longitudinally disposed frame having two spaced side bars; of a plurality of shafts journaled in the side bars; a gear provided upon each of the shafts; a pinion also provided upon each of the shafts and each meshing with the gear upon one of the other shafts; a drive wheel provided upon the shaft at one end of the longitudinal frame; a vertically disposed frame provided at the opposite end of the longitudinal frame and composed of a plurality of spaced uprights; a drive shaft journaled in the lower part of the uprights; a gear wheel provided at one end of the drive shaft and meshing with the pinion upon one of the shafts journaled in the longitudinal frame; a plurality of sprocket wheels provided upon the drive shaft; a plurality of sprocket wheels rotatably held upon the top of the vertical frame; a plurality of sprocket wheels rotatably held at the bottom of the vertical frame; a plurality of sprocket chains each guided over one of the sprocket wheels at the top and bottom of the vertical frame, each of said sprocket chains engaging one of the sprocket wheels upon the drive shaft; a plurality of weights, each connected to one of the sprocket chains and movable between two of the uprights of the vertical frame; means provided upon the vertical frame and adapted to hold the weights at the top of said vertical frame; and means provided upon the vertical frame and adapted to release the holding means of one of the other weights when said weight has descended to the lower part of the uprights of said vertical frame.

This specification signed and witnessed this third day of April A. D. 1911.

PAUL E. MUSCHICK.

Witnesses:

ROBT. B. ABBOTT,
E. M. JERKE.