

J. S. MAXFIELD.
 MULTIPLE WEIGHT MOTOR.
 APPLICATION FILED MAY 7, 1910.

995,977.

Patented June 20, 1911.

2 SHEETS—SHEET 1.

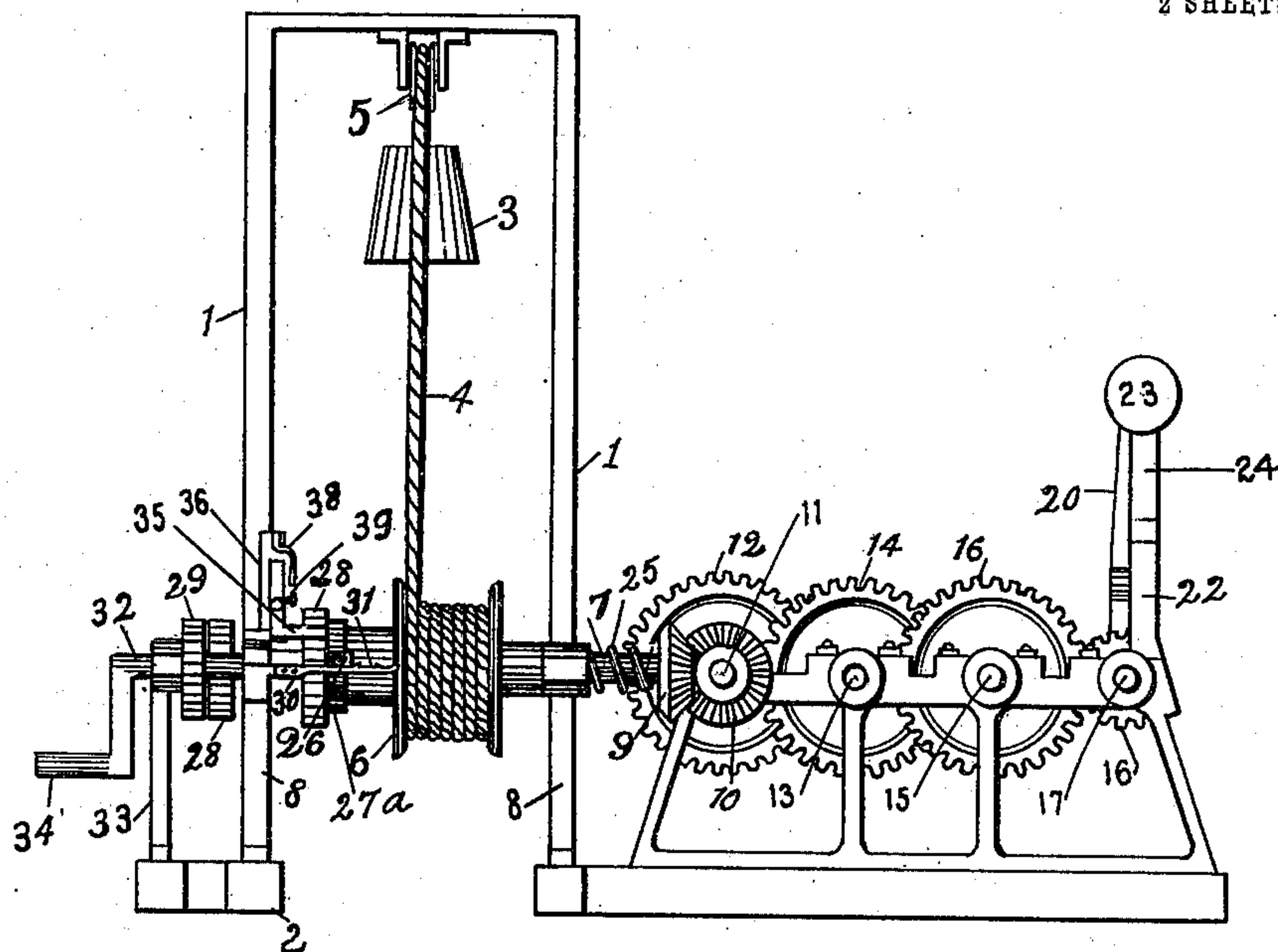
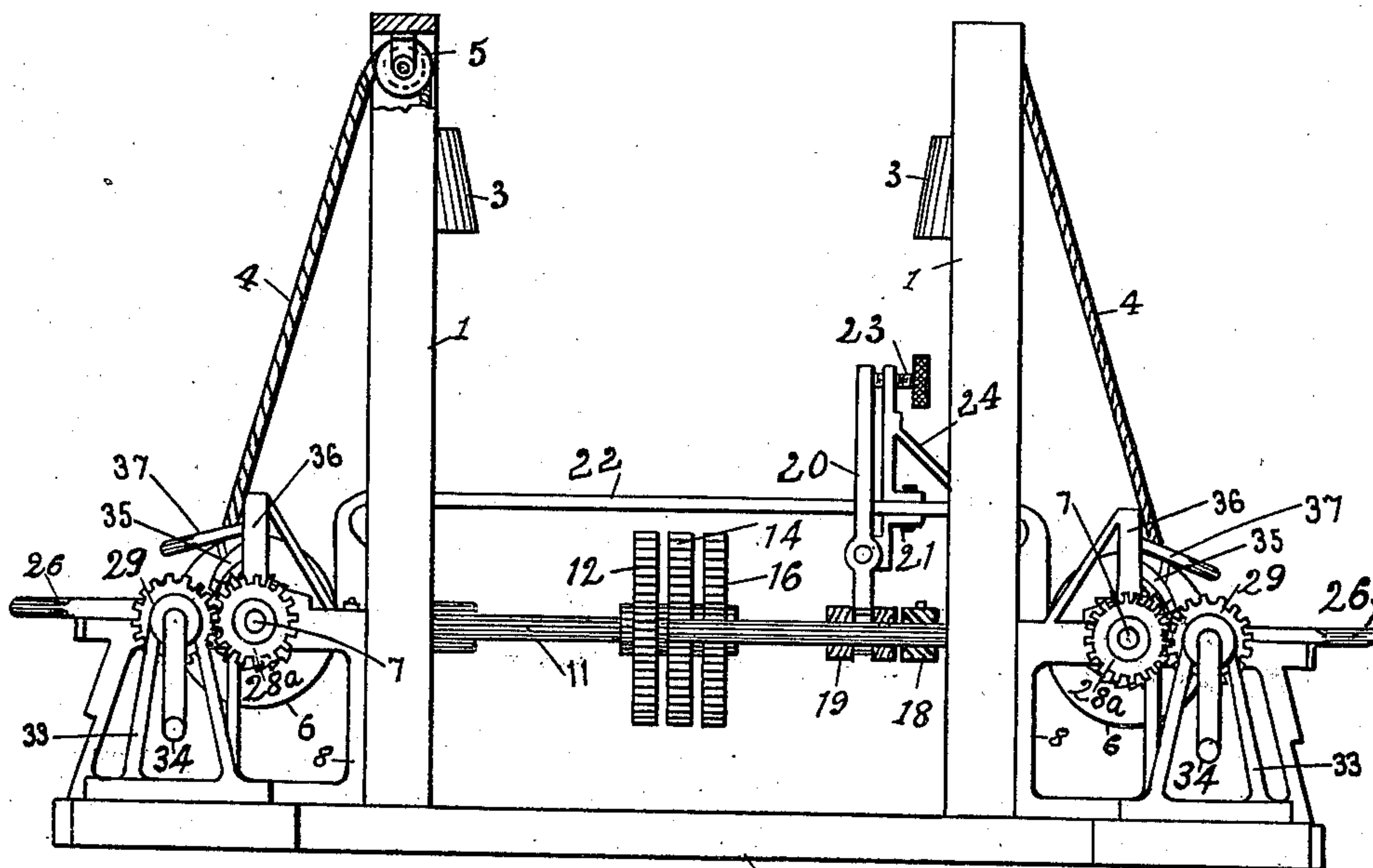


Fig 1



2

WITNESSES:
W. H. Parkman

J. H. Murray

Fig 2

INVENTOR
Jacey S. Maxfield

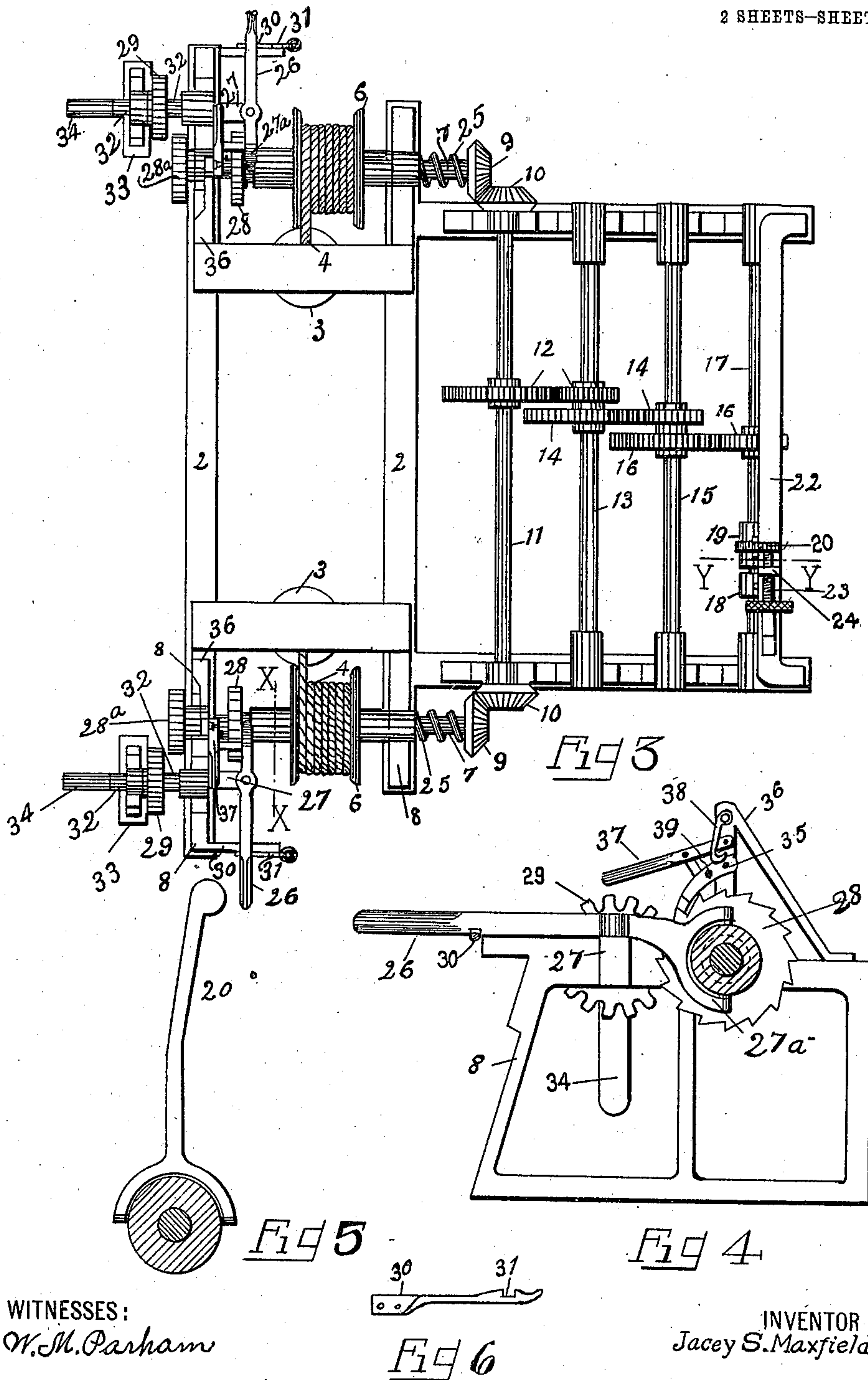
BY *John M. Spellman*
 ATTORNEY

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WITNESSES:
 W. M. Parham

J. S. Murray

INVENTOR
 Jacey S. Maxfield

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UNITED STATES PATENT OFFICE.

JACEY S. MAXFIELD, OF HUGO, OKLAHOMA.

MULTIPLE-WEIGHT MOTOR.

995,977.

Specification of Letters Patent. Patented June 20, 1911.

Application filed May 7, 1910. Serial No. 559,871.

To all whom it may concern:

Be it known that I, JACEY S. MAXFIELD, citizen of the United States, residing at Hugo, in the county of Choctaw and State of Oklahoma, have invented certain new and useful Improvements in Multiple-Weight Motors, of which the following is a specification.

My invention relates to new and useful improvements in multiple weight motors. Its object is to provide a weight motor which may include as many units as are necessary to perform any desired work.

A further object is to provide means by which one or more of these units may be made inoperative without impeding the operation of the other units.

A still further object is to provide suitable means for elevating the weights and for governing the speed of the motor as the weights descend.

Finally the object of the invention is to provide a device of the character described which will be efficient, of comparatively simple construction, and also one the various parts of which will not be likely to get out of working order.

With these and various other objects in view, my invention has relation to certain novel features of construction and operation, an example of which is described in the following specification and illustrated in the accompanying drawings, wherein:

Figure 1 is an end elevation of the weight motor complete. Fig. 2 is a side elevation of the same, the upper portion of one of the weight towers being broken away to show the construction therebehind. Fig. 3 is a plan view of the weight motor. Fig. 4 is a detail vertical section taken on the line $x-x$ of Fig. 3 showing the means employed to throw one of the motor units out of action. Fig. 5 is a detail view taken on the line $y-y$ of Fig. 3 showing a portion of the governor. Fig. 6 is a detail view of a spring catch employed to hold one of the operating levers in adjustment.

Referring now more particularly to the drawings wherein like numerals of reference designate similar parts in all the figures, the numeral 1 denotes the weight towers and 2 the longitudinal beams upon which said towers rest. The motor is actuated by weights 3, one of which is suspended in each weight tower by a rope 4 passing over a

pulley 5. The ropes 4 are mounted upon drums 6 each of which is fast upon a shaft 7 supported in brackets 8 at each extremity. Upon one extremity of each shaft 7 is mounted a beveled pinion 9. Each of the pinions 9 is adapted to mesh with a beveled pinion 10, these latter pinions being mounted upon a shaft 11, mounted transversely of the shafts 7. A pair of spur gears 12 communicate rotation from the shaft 11 to the shaft 13. A similar pair of spur gears 14 transmit this rotation to a shaft 15 and a third pair of spur gears 16 finally communicate the rotation to a governor shaft 17, the train of gears having served to greatly increase the speed of the latter shaft. The governor consists of a set collar 18 which rotates with the shaft 17 and a sliding collar 19 mounted on the same shaft adjacent to said set collar. A lever 20 pivotally mounted in a bracket 21 is adapted to slide the collar 19 into contact with the collar 18, the resulting friction serving to govern the velocity at which the weight falls. A screw 23 horizontally mounted in a bracket 24 bears upon the upper extremity of the lever 20 regulating the amount of friction between the collars 18 and 19. The strap 22 furnishes a support for the brackets 21 and 24.

A coiled spring 25 mounted upon each shaft 7 bears against each pinion 9 serving to hold the pinions 9 and 10 in mesh. In order to throw these pinions out of mesh so as to render any unit inoperative a lever 26 is provided to each unit, which lever is pivotally mounted upon a bracket 27. This lever is provided with a yoke 27^a adapted to bear against a ratchet wheel 28 mounted fast upon the shaft 7 for purposes hereinafter explained. By manipulating the handle of the lever 26 transversely of the machine, the yoke 27^a is made to bear against the ratchet wheel 28 displacing the said shaft longitudinally and throwing the gears 9 and 10 out of mesh. In order to hold the lever 26 in adjustment when the spring 25 is compressed, a spring 30 is mounted adjacent to the handle of the lever transversely thereof, said spring being supported from one of the brackets 8. This spring is provided with a catch 31 which receives the handle of the lever when the shaft 7 is displaced, the spring 25 being compressed. Upon the extremity of the shaft 7 opposite to that extremity which carries the gear 9 a spur gear 28^a is

mounted. When the shaft 7 is displaced throwing the gears 9 and 10 out of mesh the gear 28^a meshes with a spur gear 29 mounted upon a spindle 32. This spindle has one
 5 extremity mounted in the bracket 8 and the other extremity in the bracket 33. The spindle 32 is provided with a crank 34 upon its outer extremity by which said spindle may be manually rotated. When any unit of the
 10 weight motor has run down, the lever 26 is manipulated displacing the shaft 7 longitudinally, throwing the gears 9 and 10 out of mesh and the gears 28^a and 29 into mesh. The crank 34 is now rotated manually, and
 15 this rotation is imparted through the gears 28^a and 29 to the shaft 7.

In order that the weight 3 may not drop in case the operator should release the crank 34 while raising the weight, a ratchet wheel
 20 28 is mounted fast upon the shaft 7. This ratchet wheel is engaged by a dog 35 pivoted upon a bracket 36. When the motor is ready to operate, the dog 35 is raised by means of a lever 37, and is held in a raised
 25 position by means of a hook 38 pivoted upon the bracket 36, which hook engages a pin 39 upon said dog.

While only two weight towers have been shown in the accompanying drawing, it is
 30 obvious that any number of such towers may be employed, the shaft 11 being extended sufficiently to receive driving power from each unit.

I am aware that changes may be made in
 35 the form and details of the herein described device without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations in said device

as fairly come within the scope of the following claims. 40

What I claim is:

A weight motor of the class described, comprising the combination with a power drum; of a flexible connection mounted 45 thereupon, a pulley mounted above the drum over which said flexible connection passes, a weight suspended from the extremity of said connection, a shaft upon which the power drum is fast, a crank shaft adjacent 50 to said drum shaft adapted to be manually rotated, a power shaft, gearing adapted to communicate rotation from the drum shaft to the power shaft, a governor shaft, a train of gearing adapted to communicate rotation 55 from the power shaft to the governor shaft at increased velocity, means upon the governor shaft adapted to restrict the velocity of operation of the machine, said drum shaft being slidable, a spring adapted to hold the 60 respective gears of the drum and power shafts in mesh, a ratchet wheel fast upon the drum shaft, gearing adapted to communicate rotation from the crank shaft to the drum shaft, a lever adapted to move the 65 drum shaft longitudinally in engagement with the ratchet wheel, means to hold the lever in its adjusted position, means to hold the ratchet wheel in position against rotation and means to move the said engaging 70 means out of operative position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACEY S. MAXFIELD.

Witnesses:

EDNA HILL,
 G. A. MAXFIELD.