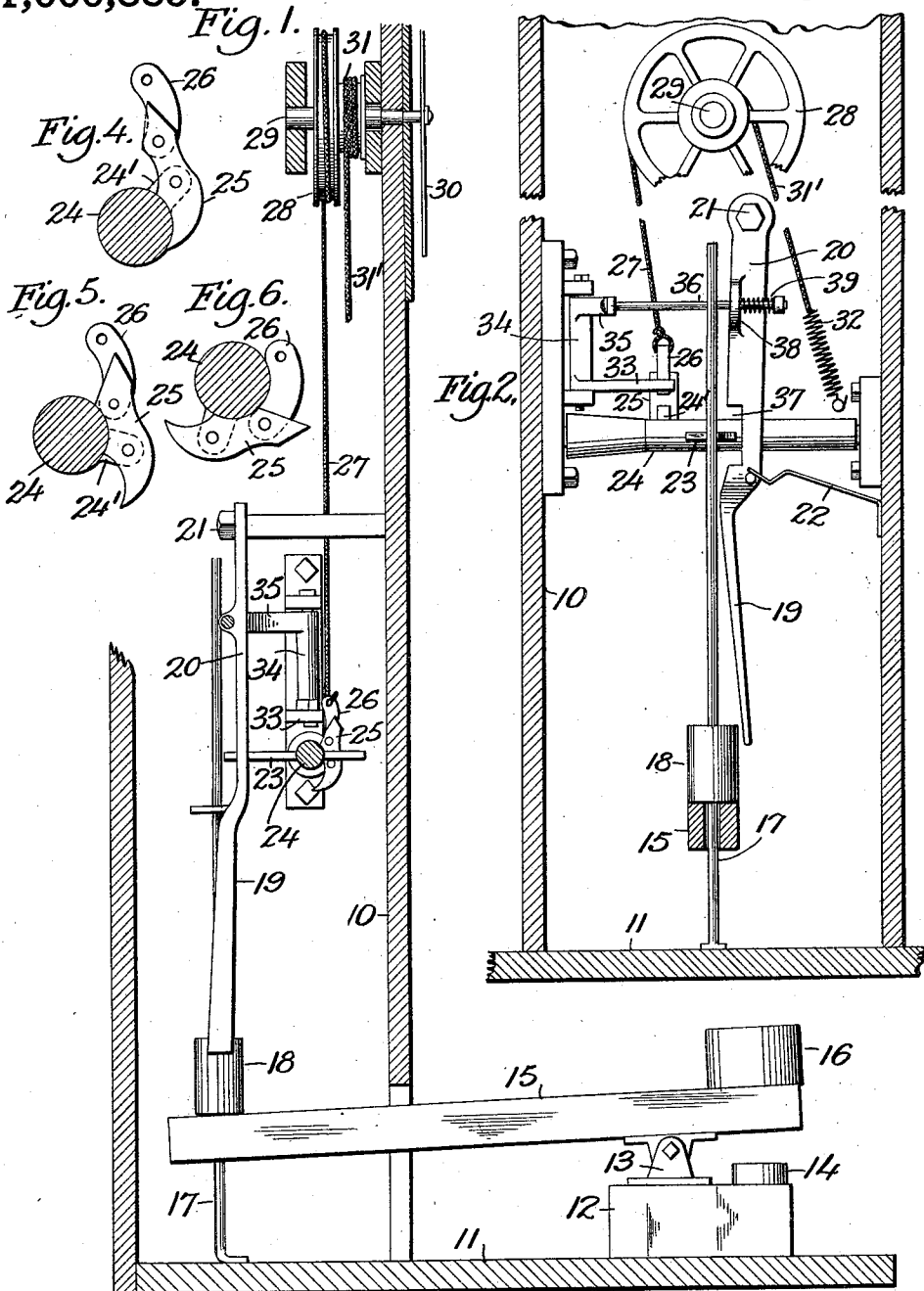


C. L. BARNHART.
POWER REGISTER.

APPLICATION FILED SEPT. 2, 1910.

1,000,885.

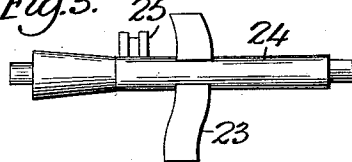
Patented Aug. 15, 1911.



WITNESSES

James F. Duhamel,
J. L. Wright,

Fig. 3.



INVENTOR

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POWER-REGISTER.

1,000,885.

Specification of Letters Patent. Patented Aug. 15, 1911.

Application filed September 2, 1910. Serial No. 580,148.

To all whom it may concern:

Be it known that I, CLARENCE L. BARNHART, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented new and useful Improvements in Power-Registers, of which the following is a specification.

This invention relates to registers and more especially to power registers or devices which will record the force struck by a mallet or other device to test the strength of the individual using the device and it consists of new and novel means whereby the power exerted is transmitted to the hand of a dial which is rotated over a face and indicates the strength exerted. These and other objects and details of the invention are more fully described in the following specification, set forth in the claims and illustrated in the drawings, wherein:

Figure 1 is a vertical sectional view through the apparatus. Fig. 2 is a sectional view at a right angle to Fig. 1. Fig. 3 is a detail view. Figs. 4, 5 and 6 are details of the index operator shown in different positions.

In testing power and strength it has been, heretofore, the practice to provide a lever one end of which is struck by the party wishing to test their strength and the elevation of the opposite end throws a weight into the air which registers the power exerted and rings a bell when a certain standard has been reached. This device is not only costly but occupies a great amount of space and requires a permanently located pole and other details which are undesirable.

The present invention consists of a box or casing 10 mounted on a base 11 and the latter carries a block 12 with the pivot member 13 and a buffer 14. A lever 15 is pivoted on the member 13 and has at its outer end an anvil 16 of rubber or other flexible material which may be struck without injury being inflicted. The inner end of the lever 15 extends within the casing 10 and is forked to straddle an upright rod 17 which carries a sliding weight 18 normally resting on the rear end of the lever but adapted to be forced upward by a sudden pressure from the lever as the anvil 16 is struck. As the weight 18 moves upward it first strikes the inclined face 19 of the lever 20 which is pivoted in the case on the bolt 21 and which may be held out of action by means of a

detent 22, as will be hereafter explained. After forcing aside the lever 20, the weight 18 in its upward movement strikes the arm 23 projecting from the shaft 24 which is journaled across the casing 10. Such a blow would cause the shaft 24 to revolve and in doing so the links 25 and 26 would be carried around the shaft as shown in Fig. 6 and the latter link would carry with it the cord 27 which is wound around a pulley 28 on the shaft 29 of the index 30. Wound upon the pulley 31 of the shaft 29 and in a reversed direction from the cord 27 is a cord 31' which is adapted to put under tension a spring 32 and evidently retard the movement of the pointer or index 30. As will be seen in Fig. 2, the upward movement of the weight 18 in forcing the lever 20 aside removes it from the path of the arm 23 and permits the latter to rotate and wind thereon the cord 27 and rotates the index 30. After the weight 18 has struck its blow and drops down the rod 17, the arm 23 and the shaft 24 are free to rotate until the index has run its course and the cord 31 has been wound upon the pulley 30 until sufficient tension is enveloped in the spring 32 to set up a reverse action when the hand is rotated back to its starting point and the cord 27 is unwound from the shaft 34 with its links 25 and 26. The final movement of the unwinding cord brings the links in the position shown in Figs. 1 and 4 where it will be seen they occupy an upright position and stand in the path of an arm 33 and carried by a pivoted upright shaft 34 which arrests the links and prevents further movement of the shaft 34 but the contact of the links with the arm 33 draws upon an upper arm 35 of the shaft 34 and through a bolt 36 which is connected with the lever 20, the latter is drawn back to its original position and the arm 23 is caught in the recess 37 of the lever which effectually prevents further movement of the arm 23 and shaft, thus preventing the unnecessary vibration of the index and retaining it at the zero point. The bolt 36 passes through an ear 38 on the lever and a compression spring 39 prevents any damage which might result by positive connection. It will thus be seen that the lever 20 has a retarding action on the movement of the weight 18 and in order to give the weight free play and allow it to perform its maximum force an initial blow may be given the anvil 16 which will be sufficient to displace

the lever beyond the detent 22 when a second or more forcible blow may strike the arm 33 unimpeded and with full force so as to cause the hand 20 to move around its greater possible range.

The links are secured to the shaft 24 by means of a small arm 24' which projects from its side and to which the link 25 is pinned. As will be seen in Fig. 6, the links are so shaped that they hug the shaft and while rotating therewith in the direction for winding they pass beneath the arm 33 and only strike it when the cord is unwound and they are carried away from the shaft.

It is obvious that this device may be applied to any similar registering and recording machines where it is advisable at times to limit the blow and also to instantly stop the hand so that continual vibration will result.

The details and the arrangement of the parts of the device may be otherwise modified without departing from the essential features above described.

What I claim as new and desire to secure by Letters Patent is:

1. In a power register, an operating lever, a weight operated by the lever to move upwardly, a pointer, means for rotating said pointer and actuated by the upward movement of the weight, a movable retainer for the pointer, and actuating means operated to release the retainer by the upward movement of the weight.

2. In a power register, an operating lever, a weight operated by the lever to move upwardly, a pointer, means actuated by the upward movement of the weight for rotating said pointer, a pivoted retainer for the pointer, and actuating means operated to release the retainer by the upward movement of the weight.

3. In a power register, an operating lever, a weight operated by the lever to move upwardly, a pointer, means actuated by the upward movement of the weight for rotating said pointer, a pivoted retainer for the pointer, actuating means operated to release the retainer by the upward movement of the weight, and means for holding the retainer out of engagement with the pointer actuating means after movement has been imparted to the retainer by the weight.

4. In a power register, an operating lever, a weight operated by the lever to move upwardly, a pointer, means actuated by the upward movement of the weight for rotating said pointer, a pivoted retainer for the pointer, actuating means operated to release the retainer by the upward movement of the weight, and means for yieldingly

holding the retainer out of engagement with the pointer actuating means after movement has been imparted to the retainer by the weight.

5. In a power register, an operating lever, a weight operated by the lever to move upwardly, a pointer, means actuated by the upward movement of the weight for rotating said pointer, a pivoted retainer for the pointer, actuating means operated to release the retainer by the upward movement of the weight, and means to automatically engage and yieldingly hold the retainer out of engagement with the pointer actuating means after movement has been imparted by the weight.

6. In a power register, an operating lever, a weight operated by the lever to move upwardly, a pointer, a shaft adapted to be rotated by the weight when the latter moves upwardly, a flexible connection between the pointer and shaft operating to turn the pointer in one direction when the shaft rotates, and means for moving the pointer in the opposite direction when the shaft comes to rest.

7. In a power register, an operating lever, a weight operated by the lever to move upwardly, a pointer, a shaft adapted to be rotated by the weight when the latter moves upwardly, a flexible connection between the pointer and shaft operating to turn the pointer in one direction when the shaft rotates, and means for moving the pointer and shaft in the opposite direction when the latter ceases to rotate from the impetus of the weight.

8. In a power register, an operating lever, a weight operated by the lever to move upwardly, a pointer, means operated by the weight and connected with the pointer and serving to move the latter in one direction, means operating to move the pointer in the opposite direction after the completion of movement of the first-named means, a retainer normally in engagement with the first-named operating means for the pointer and operated by the weight to move from engagement with said means, a mechanism operated by the first-named operating means for the pointer to move the retainer into engagement with the first-named pointer operating means after the completion of movement of the second-named operating means for the pointer.

In testimony whereof I affix my signature in presence of two witnesses.

CLARENCE L. BARNHART.

Witnesses:

JAMES F. DUHAMEL,
MORRIS FLOREA.