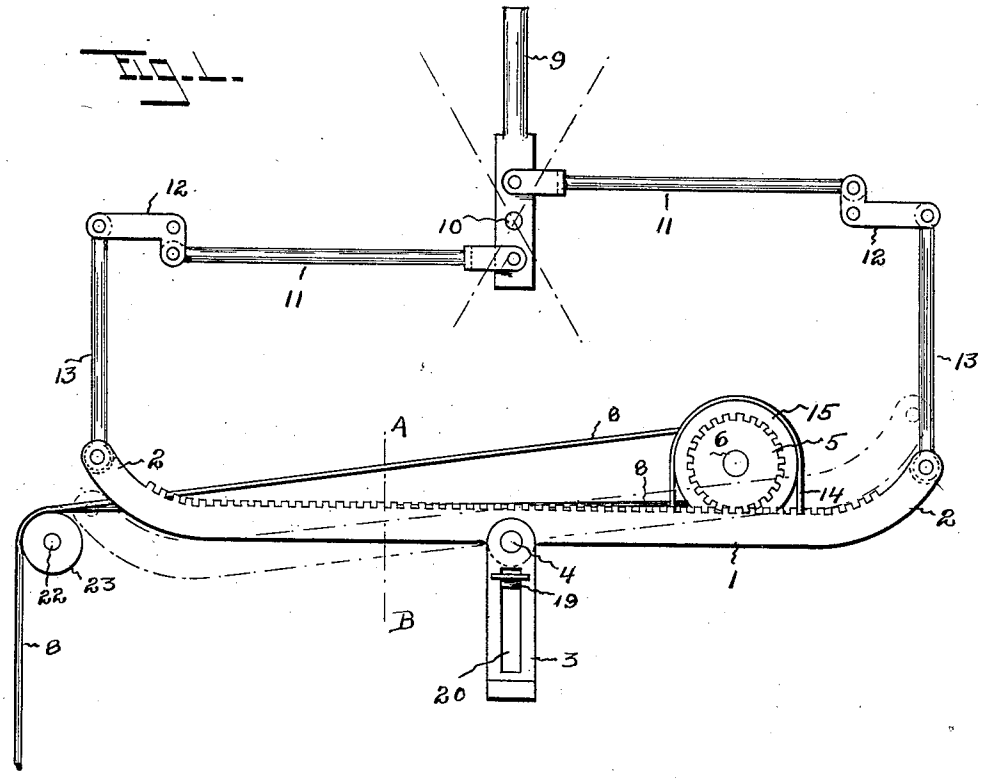
W. C. CUTLER.

WEIGHT RAISING DEVICE.

APPLICATION FILED FEB. 19, 1914.

1,102,013. Patented June 30, 1914.

Fig. 1.



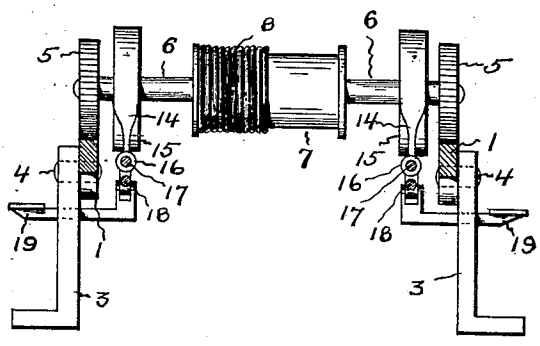
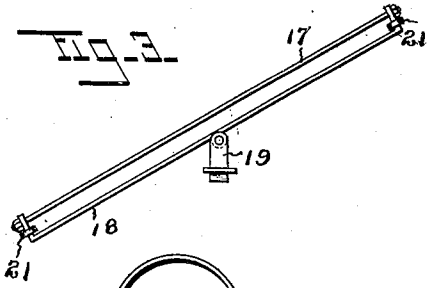


Fig. 2.

Fig. 3.



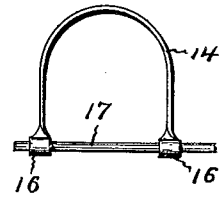


Fig. 4.

WITNESSES
Florence H. Monk
Wallace S. Wright

INVENTOR
William C. Cutler
BY George E. Wells
ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM C. CUTLER, OF SAWTELLE, CALIFORNIA.

WEIGHT-RAISING DEVICE.

1,102,013. Specification of Letters Patent. Patented June 30, 1914.

Application filed February 19, 1914. Serial No. 819,702.

To all whom it may concern:

Be it known that I, WILLIAM C. CUTLER, a citizen of the United States, residing at Sawtelle, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Weight-Raising Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to a new and improved weight raising device, and has for its object, among other things, to provide simple and inexpensive means for raising a weight or load and holding it in any intermediate position, in places where it is inconvenient or impracticable to adopt the means ordinarily used for this purpose, such as an engine or other source of power.

To these, and other ends, my invention consists in the weight raising device, having certain details of construction and combinations of parts, as will be hereinafter described and more particularly pointed out in the claims.

Referring to the drawings, in which like numerals of reference designate like parts in the several figures; Figure 1 is a side elevation of my improved device; Fig. 2 is a sectional end view thereof upon line A—B of Fig. 1; Fig. 3 is a side elevation of the brake rod in an inclined position; and Fig. 4 is a side view of the brake band.

In the embodiment of my invention I provide two parallel side plates 1, having curved ends 2, and pivotally mounted upon the standards 3 by the studs 4. The upper surface of these side plates is provided with teeth, into which mesh the teeth of the pinions 5 that are fixed upon a shaft 6. Secured to said shaft is a drum 7, upon which is coiled a rope or cable 8, in such manner that the rotation of said drum will cause one end of the rope to rise while the other falls an equal distance. A weight is attached to one end of said rope or cable, and to the other end the weight or load to be lifted by the apparatus, which may be placed in a bucket, box, or similar device, connected to the rope. The shaft 6 moves by gravity along the side plates 1 when the same are tilted so that the upper surface thereof presents an inclined plane, and is rotated during such travel by the engagement of the teeth of the pinion 5 with those upon the side plates 1.

In Fig. 1 the dotted line illustrates the extreme inclined position of the side plates upon one side of the standard 3. As the drum rotates while traveling over the side plates 1, the opposite ends of the rope 8 are raised and lowered thereby, the fixed weight upon one end of the rope substantially counterbalancing the load to be raised upon the other end. The tilting of these side plates is accomplished through the actuation of a lever 9 that is pivotally mounted at 10, having rods 11—11 connected therewith, which are secured at their outer ends to one arm of a rock lever 12, which in turn is connected with the side bars 1 by the rods 13—13. It is apparent that by rocking the lever 9 upon its pivot mounting it will raise and lower the opposite ends of the said side plates according to the direction of movement of the said lever, thus presenting an inclined plane for the purposes above described. The ends of the side plates are curved at 2 to form a stop for the pinions 5 at the end of their travel. In practice these side plates are made comparatively long for the purpose of increasing the length of the horizontal travel of the shaft 6 and thereby increase the number of rotations of the drum 7 and the distance that the weights can be raised and lowered.

Brake means are provided for stopping the travel of the shaft 6 at any point in its path, said means comprising a brake band 14 that partly surrounds the fixed brake drums 15, and having collars 16 connected at their free end, which slide upon the rod 17 during the travel of the shaft 6. These rods are connected with the frame 18 pivotally mounted midway of its length upon a treadle 19, which projects through the slot 20 in the standard 3, and having a sliding engagement with the lugs 21 upon the side plates 1. By exerting a pressure upon the treadle 19, the frame 18 is moved downwardly, and by reason of the engagement of the rod 17 with the band 14 sufficient friction is applied to the drum 15 to stop its rotation, and the shaft and parts connected therewith, at any point of its travel. In the drawings I have shown two of these brake drums, each operating separately, but they may be connected so as to be operated in unison, or only one drum may be operated. if so desired.

In many ways the details of my invention may be modified, and I would therefore have it understood, that I do not limit myself to

the exact construction herein shown and described, but claim all that falls fairly within the spirit and scope of my invention.

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

1. In a device of the character described, the combination with companion side plates, having teeth thereon; means for moving said side plates from a horizontal to an inclined position; a shaft extending across said side plates; pinions thereon, the teeth of which mesh into the teeth in said side plates; and a drum upon said shaft.

2. In a device of the character described, the combination with companion side plates, having teeth thereon; means for moving said side plates from a horizontal to an inclined position; a shaft extending across said side plates; pinions thereon, the teeth of which mesh into the teeth in said side plates; a drum upon said shaft; and brake means for checking the rotation of said shaft.

3. In a device of the character described, the combination with companion side plates, having teeth thereon; lever actuated means for moving said plates from a horizontal to an inclined position; a shaft extending across said side plates; pinions thereon, the teeth of which mesh into the teeth in said side plates; and a drum upon said shaft.

4. In a device of the character described, the combination with companion side plates, having teeth thereon; stops upon the end of said side plates; means for moving said side plates from a horizontal to an inclined position; a shaft extending across said side plates; pinions thereon, the teeth of which mesh into the teeth in said side plates; and a drum upon said shaft.

5. In a device of the character described, the combination with companion side plates, having teeth thereon; means for moving said side plates from a horizontal to an inclined position, said means comprising a rock lever; companion bell cranks; rod connections between said rock lever and bell cranks, and similar connections between said bell cranks and said side plates; a shaft extending across said side plates; pinions thereon, the teeth of which mesh into the teeth in said side plates; and a drum upon said shaft.

6. In a device of the character described, the combination with companion standards; side plates pivotally connected therewith and having teeth thereon; means for moving said side plates from a horizontal to an inclined position; a shaft extending across said side plates; pinions thereon, the teeth of which mesh into the teeth in said side plates; and a drum upon said shaft.

7. In a device of the character described, the combination with companion side plates, having teeth thereon; means for moving said side plates from a horizontal to an inclined position; a shaft extending across said side plates; pinions thereon, the teeth of which mesh into the teeth in said side plates; a brake drum fixed to said shaft; and a brake band partly surrounding said drum and having a sliding connection with a part upon one of said side plates.

8. In a device of the character described, the combination with companion side plates, having teeth thereon; means for moving said side plates from a horizontal to an inclined position; a shaft extending across said side plates; pinions thereon, the teeth of which mesh into the teeth in said side plates; a brake drum fixed to said shaft; a rod movably secured to one of said side plates; a brake band partly surrounding said drum and having a sliding connection with said rod.

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

WILLIAM C. CUTLER.

Witnesses:
WM. J. AITON,
E. C. RITCHEY.