July 13, 1926. 1,592,610

A. MÉSZÁROS

POWER MECHANISM

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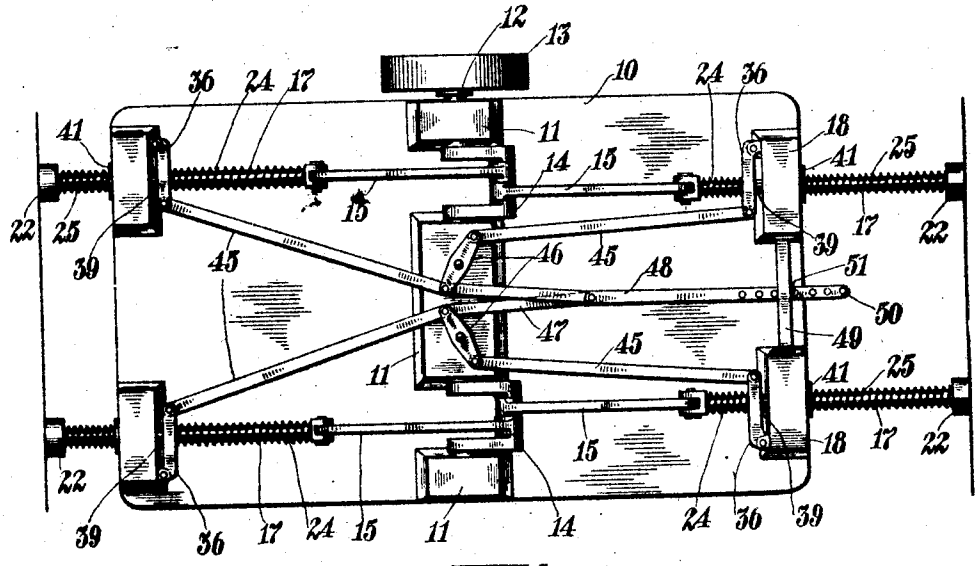


Fig. 1.

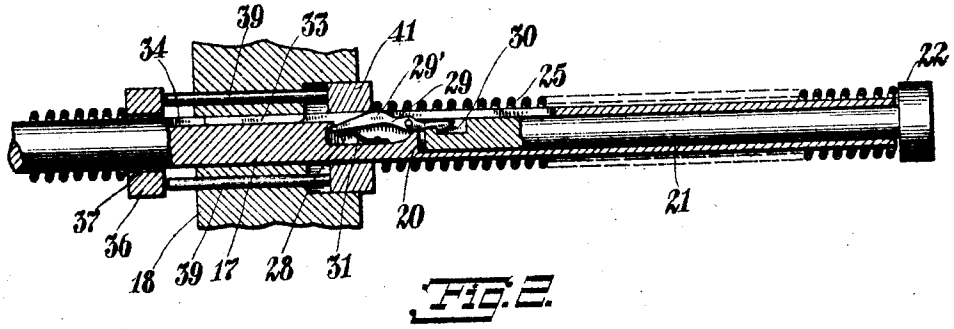


Fig. 2.

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POWER MECHANISM.

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This invention relates to power mechanisms of the type in which springs are compressed and actuate a desired part or parts when freed and particularly adapted for use in shops for hammering purposes, as for forgings, etc., the invention having for an object the provision of a novel mechanism of this sort which comprises a power shaft with a number of reciprocating elements in operative connection therewith whereby compression of the springs actuates the desired parts.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Fig. 1 of the drawing is a plan view showing my improved mechanism.

Fig. 2 is a fragmentary longitudinal sectional view showing the spring control means.

Referring now to the drawing my improved mechanism comprises a base or bedplate 10 on which are mounted a number of pillow blocks or bearing elements 11 which support a power shaft 12 on which is a pulley 13 for connection to a desired source of power. This shaft is formed with a pair of cranks 14 to which connect the ends of the pairs of opposed connecting rods 15 whose opposite ends connect to the reciprocable bars 17 which are slidably supported by the bearing members 18 and which extend horizontally over the base 10 at right angles to the shaft 12. These bars 17 are formed with borings such as 20 at their outer ends in which are slidably mounted the rods such as 21 which have enlarged heads 22 on their outer ends or which may be arranged to have any suitable head, for any desired purpose, mounted thereon. Coiled around the bars 17, between the heads 22 and the opposite sides of the bearing members 18, are the coiled expansion springs 24 and 25 respectively.

Within a suitable recess 28 in each bar 17 is mounted a hooked latch 29 the hook whereof engages in a keeper recess 30 in the inner end of the rod 21 to retain the latter withdrawn into the bar against the pressure of the spring 25, the latch being normally held in operative position by means of a flat spring 31 secured at one end in the recess 28 and bearing at its other end on the latch. This latch is formed on one side with a cam projection or hump 29′ which is adapted to be engaged by a key or feather projection 33 on the bearing member 18 which projection engages in a longitudinal groove 34 in the bar. This projection acts to lift the latch from the rod 21 and free the latter, this engagement of the latch with the part 33 taking place when the bar is drawn backward by the crank 14 on the shaft 12. When the rod 21 is freed it is thrown forward, and the head thereon acts as a hammer to form any desired object that may be supported on a suitable abutment.

To vary the effective strength of the springs 25 I may provide a series of adjusting devices comprising arms 36 which have slotted apertures such as 37 therein through which the bars pass, and which bear at one end on the bearing members 18 and have connected to their other ends a unitary adjusting mechanism. Extending freely through each of the bearing members 18 are the pairs of pins 39 which bear at one end upon the arms 36 and at opposite ends upon the collars 41 which freely surround the bars 17, and against which collars the adjacent expansion spring 25 bear. It will be apparent that by swinging the arms 36 toward or away from the bearing members 18 the degree to which the springs 25 are compressed when the bars 17 are drawn backward may be varied.

For adjusting these arms 36 in unison I provide the following means. The arms engaged with the opposed bars are connected by links 45 to opposite ends of rock-levers 46 mounted on one of the shaft bearings 11, while these rock-levers are in turn connected by means of the links 47 with a single adjusting rod 48 which extends freely through a suitable aperture in a fixed cross bar 49. This rod is formed with a number of apertures 50 spaced therealong through any one of which a pin 51 may be inserted to hold the rod in adjusted positions. It will be obvious that by moving the rod longitudinally the arms will be adjusted, with a consequent variation of the effective strength of the springs 25. The heads 22 on the rods 21 act as hammers to deliver blows upon any desired surfaces, such as indicated by lines at the right and left of Fig. 1, with which said heads 22 are shown as engaged. The rods 21 are released, to be thrown forward

by the springs 25, when the bars 17 are adjacent the inner ends of their travel, the keys 33 riding on the humps 29′ of the latches to free the latter. Outward movement of the rods is arrested by the heads 22 striking the desired parts. As the bars 17 move outward they compress the springs 25, and finally the latches 29 engage the inner ends of the rods 21, as the bars 17 are at their extreme outer position, the rods moving inward with the bars until the latches are again released. The said springs 24 react against the power transmitted through power shaft 12, and this resistance serves to produce a firm motion to said reciprocable bars 17.

While I have illustrated and described a preferred embodiment of my invention it is to be understood that I do not limit myself to the precise construction herein shown, or to any particular application thereof, and that various changes and modifications might be made therein without departing from the spirit and scope of the invention as defined in the appended claims.

Having thus described my invention what I claim as new and desire to protect by Letters Patent of the United States is as follows:—

1. A unitary adjusting means for varying the effective strength of hammer blows for a machine of the class described, comprising a plurality of arms, each being pivotally attached at one of their ends to a stationary member, the sides of said arms abutting against adjustable means controlling the effective strength of the hammer blows, levers pivotally mounted at their centers to a stationary member, connecting links having one of their ends pivotally attached to the free ends of said arms, and the other of their ends to one of the ends of said levers, according to the desired direction of motion, auxiliary links connecting to one of the ends of said lever, according to the desired direction of motion, and a single control rod having one end connected to the free ends of said auxiliary links.

2. A unitary adjusting means for varying the effective strength of hammer blows for a machine of the class described, comprising a plurality of arms, each being pivotally attached at one of their ends to a stationary member, the sides of said arms abutting against adjustable means controlling the effective strength of the hammer blows, levers pivotally mounted at their centers to a stationary member, connecting links having one of their ends pivotally attached to the free ends of said arms, and the other of their ends to one of the ends of said levers, according to the desired direction of motion, auxiliary links connecting to one of the ends of said lever, according to the desired direction of motion, and a single control rod having one end connected to the free ends of said auxiliary links, said single control rod having its free end provided with apertures for locking to various adjusted positions.

In testimony whereof I have affixed my signature.

ALBERT MÉSZÁROS.