Sept. 1, 1925.

1,552,135

G. FRINK

CONTROLLING DEVICE

Filed Oct. 15, 1924

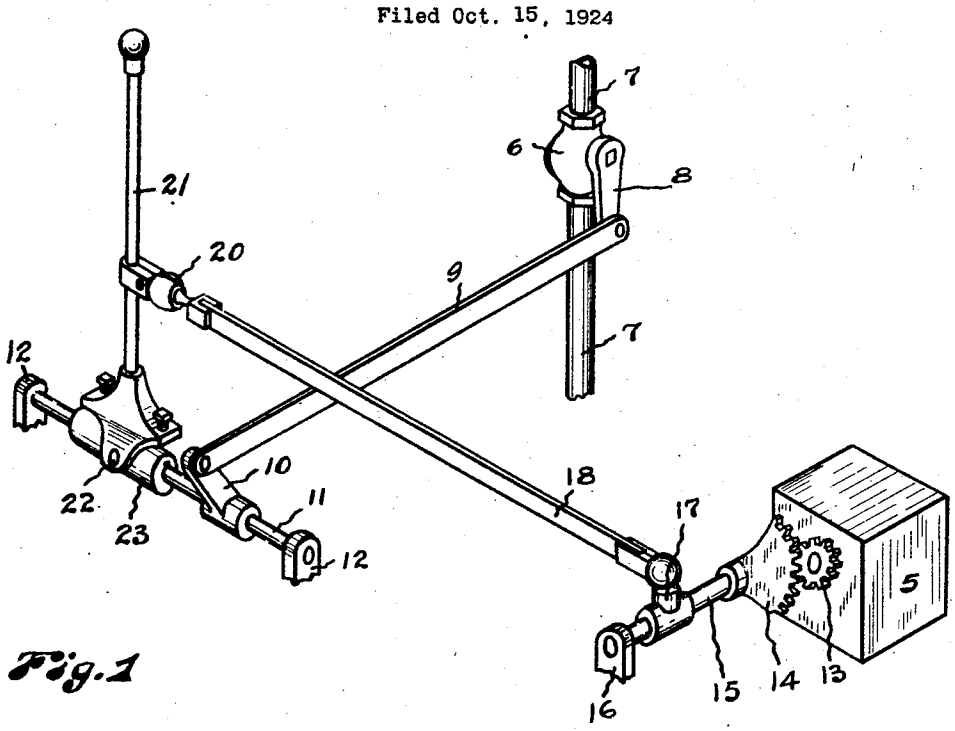


Fig. 1

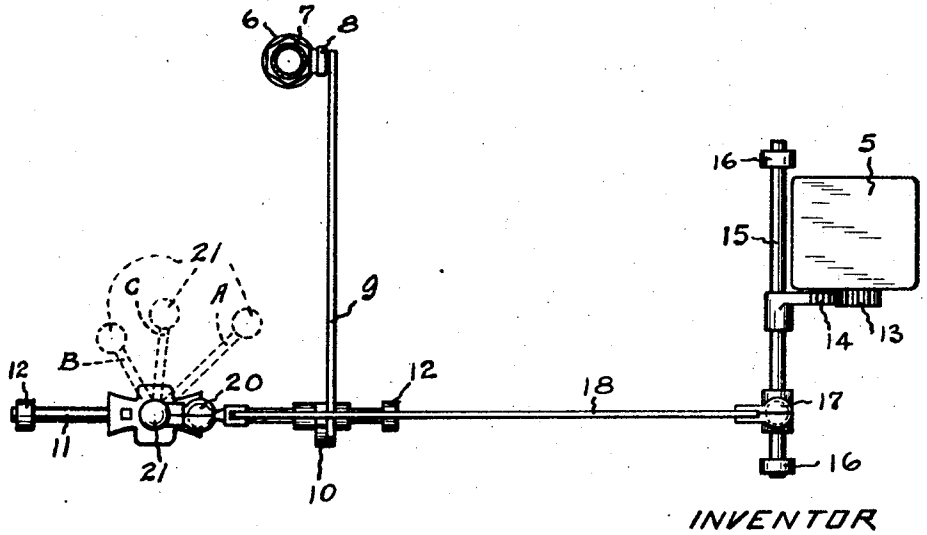


Fig. 2

INVENTOR

Gerald Frink

BY

Grant Warren

ATTORNEY

Patented Sept. 1, 1925. 1,552,135

UNITED STATES PATENT OFFICE.

GERALD FRINK, OF SEATTLE, WASHINGTON.

CONTROLLING DEVICE.

Application filed October 15, 1924. Serial No. 743,745.

To all whom it may concern:

Be it known that I, GERALD FRINK, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a certain new and useful Improvement in Controlling Devices, of which the following is a specification.

My invention relates to improvements in a controlling device and one of the objects of my invention is to provide a controlling device that is adapted to be operated by the use of one hand of an operator for controlling the hoisting and lowering means and the braking means of a hoisting and lowering apparatus whereby either one of the hoisting or lowering means or the braking means may be caused to be inoperative while the operative position of the other is maintained or whereby either one of the hoisting or lowering means or the braking means of the hoisting and lowering apparatus may be caused to be operative while the inoperative position of the other is maintained or whereby the braking means may be caused to be operative while the direction in which the hoisting and lowering means is being reversed.

Another object is to provide a hoisting and lowering device embodying a lever arm arranged and mounted upon a shaft which shaft and lever arm have means attached thereto for controlling the lowering and hoisting means and the braking means of the hoisting apparatus said controlling means for the lowering and hoisting means and the braking means being so associated with said lever arm and shaft, that a load may be raised to a desired position and there be held in such raised position by means of the braking means while the raising means is caused to be inoperative from which position the lever arm may be moved to a position to cause the lowering mechanism to operate to lower the load and from this position the braking means may be gradually released thereby lowering the load at a desired speed.

I accomplish these objects by devices illustrated in the accompanying drawings, wherein—

Figure 1 is an isometric view of the controlling devices constructed in accordance with my invention; and

Fig. 2 is a plan view of the same illustrating by broken lines several positions into which the controlling lever may be moved.

One preferred use of my controlling device is in connection with hoisting and lowering apparatus for handling heavy and bulky logs, which hoisting and lowering apparatus is operated by means of an electric motor having a controller for controlling the direction in which the motor is to be run and for controlling the speed at which the motor is to be run.

The motor is connected with a suitable winding drum having suitable brake means (not shown) preferably operated by compressed air. It is desirable to use apparatus of this nature for the reason that in handling logs the weight of the same vary and it is necessary to provide an apparatus that is capable of handling loads of varying weights. It will be understood that my controlling device may be associated with steam or air operated hoisting and lowering apparatus and with steam brake means for said hoisting and lowering apparatus.

Referring to the drawings, throughout which like reference numerals designate like parts, 5 indicates the housing of a controller which may control a supply of motive agent to a prime mover, as the supply of electric current to a motor or steam to an engine and 6 indicates a valve in a pipe line 7 that may control a supply of motive agent, as compressed air or steam, to a brake that is associated with said prime mover.

The valve 6 has a crank arm 8 connected by a link 9 with a crank arm 10 on a shaft 11 that is mounted for oscillation in bearing brackets 12.

The controller 5 is arranged to be operated by a pinion 13 that meshes with a gear segment 14 on a shaft 15 that may be supported in bearing members 16. The shaft 15 is connected by a lever arm 17, link 18 and universal joint member 20 with an operating lever 21 that is connected by pivots 22 with a sleeve 23 on the shaft 11, the pivots 22 being arranged at right angles to the shaft 11 so that the operating lever 21 may be moved on the pivots 22 in the longitudinal plane of the shaft 11.

The connections hereinbefore described and illustrated in the accompanying drawings make possible the universal movement of the operating lever 21 any movement of said lever longitudinally of the shaft 11 on pivots 22 producing an adjustment of the controller 5 and any movement of said lever

21 in a direction at right angles to the shaft 11 imparting an oscillating movement to said shaft 11 and tending to vary the adjustment of the valve 6. For instance, assuming the vertical position of the lever 21, as shown in Fig. 1, to be neutral, then, movement of said lever 21 directly to the right will actuate the controller to supply the motive agent for starting the motor in one direction without changing the position of the valve 6, while movement of said lever 21 to the left will actuate the controller in a manner to reverse the running direction of the motor. Movement of the lever 21 into the dotted line positions A or B, shown in Fig. 2, will operate both the controller 5 and valve 6 and movement of the lever 21 into the position C will operate the valve 6 only, the pivotal connection of the link 18 and lever arm 17 permitting the link to be swung to one side without producing a strain thereon. The valve 6 may be constructed so that movement of the operating lever 21 in a forward direction from the neutral position produces a setting or tightening effect upon the brake while movement of the same to the neutral position releases the brake mechanism.

The lever 21 being free to be moved into any position makes it possible to completely govern both the controller and the brake operating means with one hand and to get the desired speed from the motor and the desired brake pressure upon the brake at any time, and, further makes it possible to start, stop, reverse or vary the speed of the motor without releasing the brake or to alter the condition of the brake without changing the operating condition of the motor.

This application for Letters Patent is a substitute application for application Serial No. 644,646, filed in the United States Patent Office June 11, 1923.

The foregoing description and accompanying drawings clearly disclose a preferred embodiment of my invention but it will be understood that this disclosure is merely illustrative and that such changes in the same may be made as are within the scope and spirit of the following claims.

What I claim is:

1. In a controlling device for controlling a prime mover and a brake, a lever mounted for universal movement, brake control means operated by displacement of said lever in one direction and prime mover control means operated by movement of said lever at substantially right angles to said first named direction.

2. In a controlling device, a lever mounted for universal movement, prime mover controlling devices, brake controlling devices and means connecting said lever with both of said controlling devices whereby any desired adjustment of both controlling devices may be secured simultaneously by the manipulation of said lever.

3. In a controlling device, a lever mounted for universal movement, a controller for a prime mover, brake controller means, a link connecting said lever and said prime mover controller device, and another link at substantially right angles to said first named link connecting said lever and said brake controller means.

4. In a controlling device, a controller for a prime mover, a brake control device, a shaft mounted for oscillation, a crank arm on said shaft, a link connecting said crank arm and said brake control device, a lever secured to said shaft by pivot means disposed at right angles to the shaft, and another link connecting said lever with said prime mover controller.

5. In a controlling device, a controller for a prime mover, a brake control device, a shaft mounted for oscillation, a crank arm on said shaft, a link extending at substantially right angles to said shaft and connecting said crank arm and said brake control device, a lever pivoted to said shaft by pivot means disposed at right angles to said shaft, and another link arranged substantially parallel with said shaft and connecting said lever with said prime mover controller.

In witness whereof, I hereunto subscribe my name this 9th day of October A. D. 1924.

GERALD FRINK.