

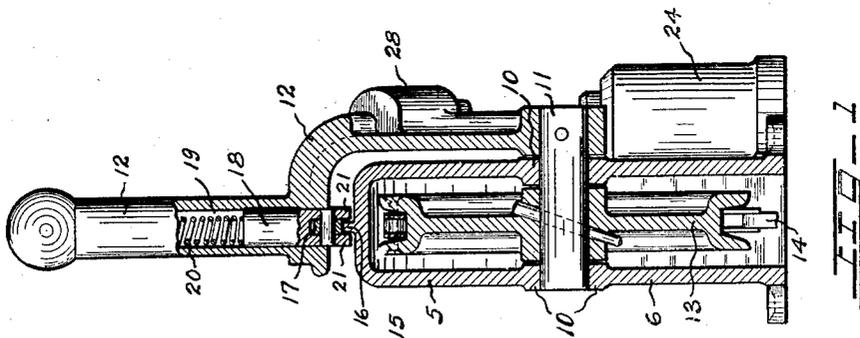
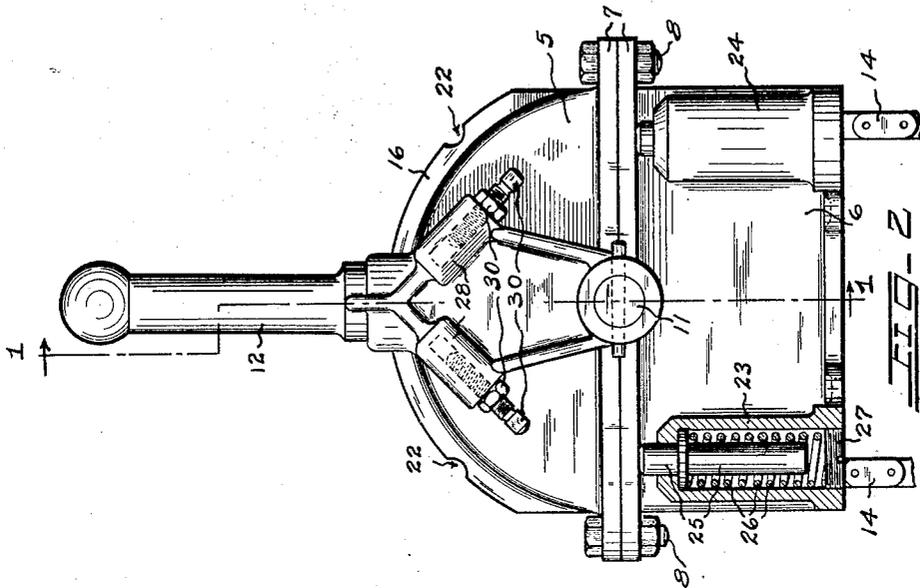
May 31, 1927.

1,630,516

K. BERGER

CONTROLLER

Filed Aug. 2, 1926



INVENTOR  
*Kaute Berger*  
BY  
*Frank Warren*  
ATTORNEY

# UNITED STATES PATENT OFFICE.

KNUTE BERGER, OF SEATTLE, WASHINGTON.

CONTROLLER.

Application filed August 2, 1926. Serial No. 126,606.

My invention relates to improvements in marine engine controllers of a form especially adapted for use in connection with pneumatic reverse gear operating devices of the type disclosed in my copending application Serial No. 126,608, filed August 2, 1926, and the object of my invention is to provide a controller of simple and efficient construction that is adapted for controlling reverse gear operating devices from a remote point.

Another object is to provide a controller that is efficient in operation and that is movable in substantially the same manner as the signalling devices now commonly employed in marine work.

Another object is to provide a controller of this nature that is constructed so as to afford an overthrow and subsequent recoil in both directions to meet certain requirements of the reverse gear operating devices described in my co-pending application hereinbefore referred to.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawings.

In the drawings Figure 1 is a view in vertical mid-section substantially on line 1—1 of Fig. 2 of a controller constructed in accordance with my invention.

Fig. 2 is a view in front elevation of the same.

Referring to the drawings, throughout which like reference numerals designate like parts, 5 and 6 designate the upper and lower parts respectively of a controller housing, said parts being flanged as at 7 and rigidly secured together by bolts 8. The flanges 7 are provided with bearing hubs 10 for the reception of a transverse shaft 11. A controller handle 12 is rigidly secured to the shaft 11 external to the housing and overhangs the upper housing part 5 and a grooved wheel or pulley 13 is rigidly secured to said shaft 11 within the controller housing. A flexible operating member as a chain 14 is rigidly secured as by a pin 15 to the pulley 13 and extends downwardly out of the bottom end of the controller housing and to any remote point there to connect with reverse gear operating means or other desired means.

The upper housing part 5 is of semicircular shape and is provided on its top edge with a rib 16 forming a trackway on which a roller 17 may run. The roller 17 is mount-

ed in a plug 18 that is slidable in a bore 19 in the handle 12 and is urged outwardly by a spring 20. The lower end of the plug 18 is slotted for the reception of the roller 17 and the lower ends 21 of said bar project beyond the periphery of the roller 17 and fit over the sides of the trackway 16 to serve as a guide means for the handle. The trackway 16 is provided at the desired points with recesses 22 for the reception of the roller 17, said recesses serving as detents to hold the handle in a set position until a force is exerted to move the same. In practice three of the recesses 22 are preferably provided, one in the center for a neutral position and one to each side of the center for the ahead and astern positions.

The lower housing member 6 is provided on one side near the respective ends with tubular receptacles 23 and 24 for the reception of buffer pins 25 that are resiliently supported and urged upwardly by compression springs 26 that rest on plugs 27 which are threaded into the bottom ends of the receptacles 23 and 24. The handle 12 is provided on opposite sides with bosses 28 for the reception of bumper screws 30 that are made adjustable by lock nuts 31. When the handle 12 is thrown over to one side the head of the screw 30 on the side toward which the handle is moved will strike against the corresponding buffer pin 25 compressing the spring 26, moving the buffer pin 25 downwardly and permitting an overthrow of the handle 12. The head of the screw 30 engages the buffer pin 25 at substantially the same time that the roller 17 drops into the recess 22, but the pressure on the handle 12 is continued and said handle is moved on past the position in which the roller 17 drops into the notch 22, compressing the spring 20 and imparting an overthrow to the handle, thus imparting extra movement to the chain 14. As soon as the handle 12 is released the recoil of spring 26 moves the handle back to the normal operative position with the roller 17 in the notch 22. This overthrow and recoil give the movement required for the satisfactory operation of the pneumatic reversing gear mechanism disclosed in my copending application hereinbefore referred to.

This controller may be installed in the pilot house of a ship and the chains 14 may extend to and be connected with the reverse gear operating means in the engine room

thus affording a direct control by which the officer in the pilot house can control the movements of the ship. In the controller shown in the mid position is a neutral position, the position to the left in Fig. 2 is the forward or ahead position and the position to the right is the reverse or astern driving position.

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 many changes in my controller may be made within the scope and spirit of the following claims.

I claim:

1. In a controller of the class described, a frame, a pulley pivotally mounted on said frame, a flexible connector member carried by said pulley, a handle for oscillating said pulley, said handle having a neutral position, and having an operative position on each side of said neutral position, and resilient recoil means for permitting an overthrow of said handle past either of said operative positions and returning said handle to said operative position.

2. In a controller of the class described, a housing, a shaft rotatably mounted crosswise of said housing, a pulley on said shaft, a flexible operating member extending over and rigidly connected to said pulley, a handle secured to said shaft for oscillating said pulley, resilient bumper means on said housing and devices on said handle for engaging said bumper means to limit the movement of said handle in both directions.

3. In a controller of the class described, a two part housing formed of a lower section and an upper section rigidly secured together, a pulley mounted for rotation within said housing, a flexible operating member carried on said pulley, a handle rigid with said pulley and detent means on said handle cooperating with said housing for yieldingly retaining said handle in set positions.

4. In a controller of the class described a housing, an arcuate track member on the top of said housing, a pulley pivotally mounted in said housing on a center common to said track member, a flexible operat-

ing member carried on said pulley, a handle external to said housing and secured to said pulley for oscillating the same, and resiliently mounted detent devices in said handle guided on said track member.

5. In a controller of the class described, a frame, a pulley pivotally mounted in said frame, a handle secured to said pulley for oscillating the same, said handle having a neutral position and having an operative position to each side of said neutral position, a flexible operating member carried on said pulley, two resiliently supported recoil members mounted near opposite ends of said frame respectively, and two bumper members on said handle for cooperating with the respective recoil members to permit an overthrow and subsequent recoil movement of said lever beyond the maximum operative position of the same in either direction.

6. In a controller of the class described, a two part housing formed of a lower section and an upper section rigidly secured together, said upper section having an arcuate upper edge, a shaft journaled crosswise of said housing, a pulley rigidly secured to said shaft, a chain secured to said pulley and arranged to extend to remote mechanism for operating the same, a handle secured to said shaft external to said housing and overhanging the upper edge of said upper housing member, a rib forming a trackway on the upper edge of said upper housing member, a plug movably supported in said handle and yieldingly urged toward said trackway, the lower end of said plug being grooved to fit over said trackway, a roller mounted in the groove in said plug and arranged to roll on said trackway, said trackway being notched to form detent recesses for said roller, two resiliently supported recoil members mounted near opposite ends of said lower housing member respectively, and two bumper pins adjustably mounted on said handle for cooperating with the respective recoil members to permit an overthrow and subsequent recoil movement of said lever beyond the maximum operative direction.

In witness whereof, I hereunto subscribe my name this 22nd day of July, A. D. 1926.

KNUTE BERGER.