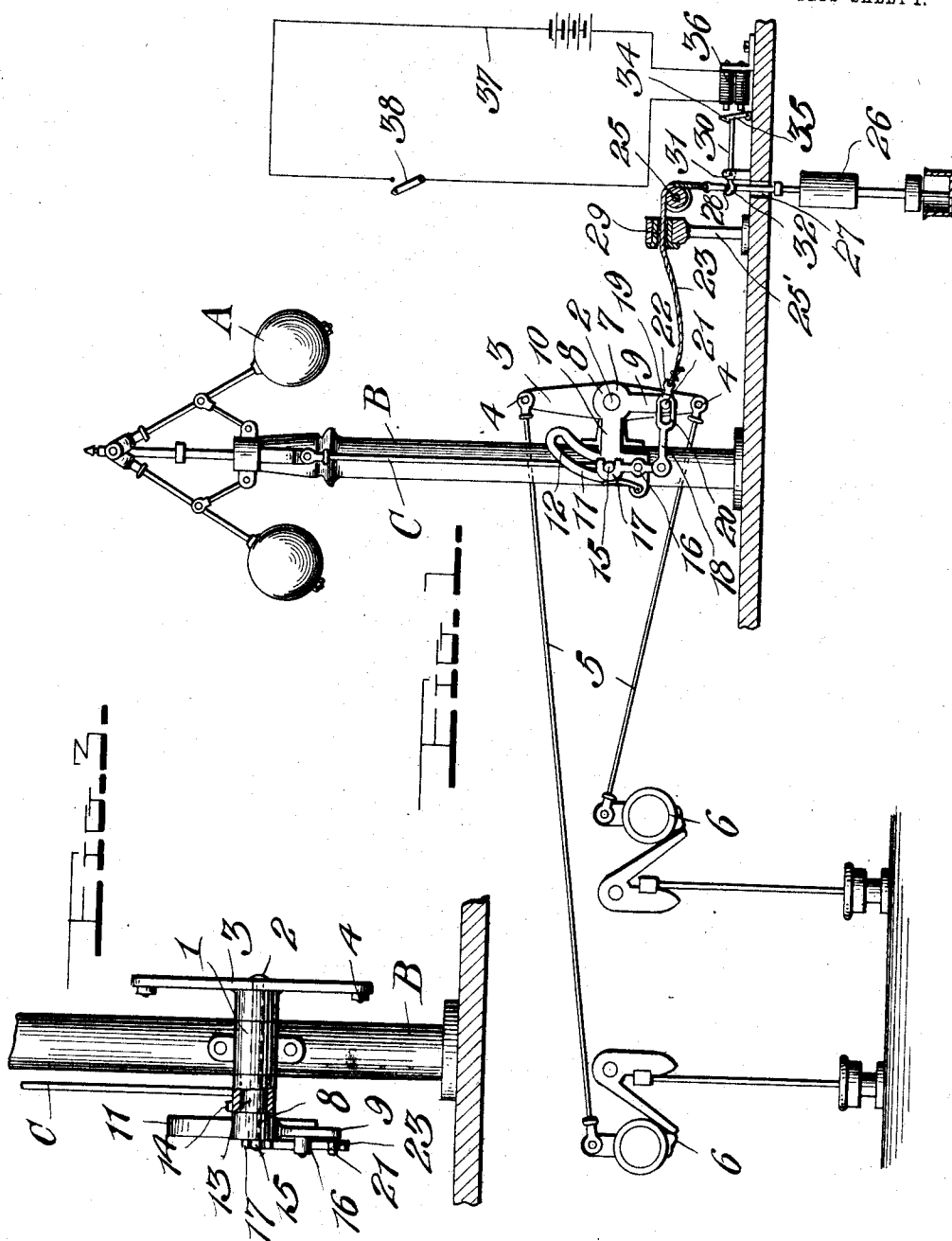


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SAFETY APPLIANCE FOR ENGINE GOVERNORS.
APPLICATION FILED MAY 31, 1910.

981,118.

Patented Jan. 10, 1911.

2 SHEETS-SHEET 1.



Witnesses

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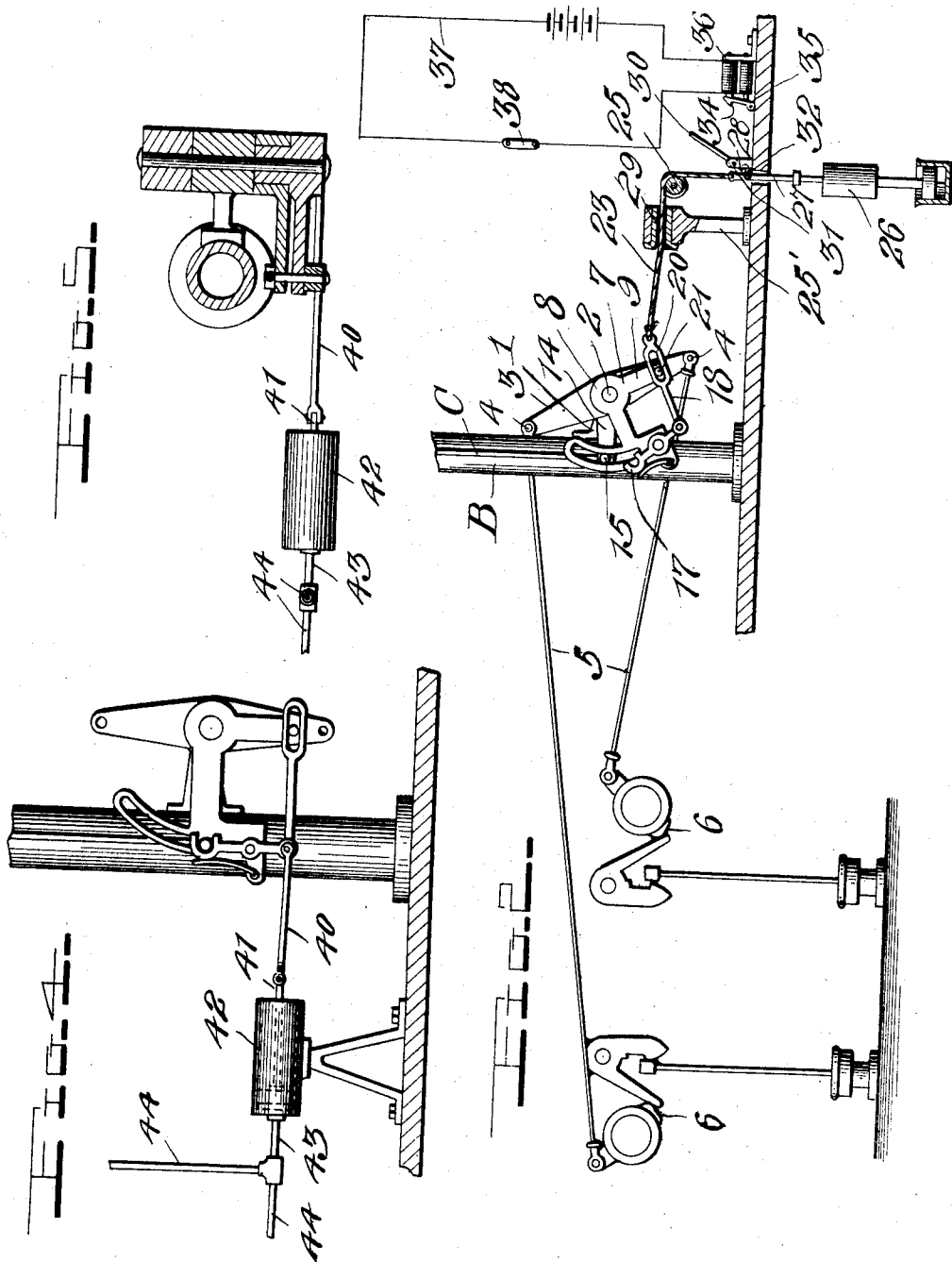
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UNITED STATES PATENT OFFICE.

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SAFETY APPLIANCE FOR ENGINE-GOVERNORS.

981,118.

Specification of Letters Patent. Patented Jan. 10, 1911.

Application filed May 31, 1910. Serial No. 564,286.

To all whom it may concern:

Be it known that I, HUBERT R. ROCKWELL, a citizen of the United States, residing at Mount Vernon, in the county of Jefferson and State of Illinois, have invented certain new and useful Improvements in Safety Appliances for Engine-Governors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to safety appliance attachments for engine governors and has for its primary object to provide means whereby the engine may be automatically stopped at any desired time.

Another object of my invention is to provide means whereby the admission of steam or other motive power to the engine may be stopped or controlled by an operator some distance from the engine or in some other portion of the building in which the engine is located.

A further object of my invention is to provide an attachment for a governor of any desired make that may be connected to or disconnected from said governor at the will of the operator.

A still further object of my invention is to provide a safety device whereby the safety attachment may be disconnected from the governor by electrical or other suitable means extending to different portions of the building in which the engine is located.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved safety attachment connected to a Pickering governor. Fig. 2 is a side elevation showing the safety appliance disconnected from the governor. Fig. 3 is an elevation of the same looking at right angles to Fig. 2. Fig. 4 is a side elevation of my improved safety appliance actuated by a different form of operating means. Fig. 5 is a horizontal sectional view on the line 5—5 of Fig. 4.

The same reference characters indicate corresponding parts throughout the several views.

Referring to the drawings, A designates 55 a governor of any desired type, supported upon the governor's staff B and having the usual governor rod C connected therewith. Extending from the governor staff B, adjacent its lower extremity is an apertured 60 bracket 1, in which is pivotally mounted the rock shaft 2. Suitably fixed upon the rock shaft 2, adjacent one end, is the usual rocker-arm 3 having pivotally secured to its opposite ends, as indicated at 4, the cam-rods or links 5 adapted, upon the rocking of said arm 3, to suitably move the cams 6 to adjust the valve openings of the steam inlet valves in the well known or any preferred manner. 70

Secured upon the rock shaft 2 adjacent its opposite end is a slotted link 7, preferably constructed as shown, of an elongated hub portion 8 provided with radially extending arms 9 and 10, at the outer end of one of 75 which, as 10, is provided the arm or branch 11 having a curved slot 12 suitably formed therein. The hub portion 8 is reduced, as at 13, and loosely mounted upon said reduced portion is a crank-arm 14, in the outer 80 end of which is carried a latch-pin 15 adapted to project on opposite sides from the crank-arm, extending on one side through the slot 12 in the link 7. The governor rod C is pivotally secured to the latch-pin 15 on the opposite side of the crank-arm 14. 85

Pivoted intermediate its ends upon the arm 11 of the link 7, is a latch member 16 provided with a hook or catch 17 at one end, 90 said catch being adapted to fit over or engage the projecting end of the latch-pin 14 extending through the slotted link 7, as clearly shown in Fig. 1. At its opposite end the latch-member 16 is pivotally connected to the link 18, which intermediate 95 its ends is enlarged as at 19, and provided with a longitudinally extending guide-slot 20, adapted to surround a laterally projecting guide-pin 21 carried by the radial arm 100 of the link 7. Suitable means, as the eye 22, is formed on the link 18 to connect the

same to the operating mechanism for throwing or actuating the governor attachment.

In Figs. 1, 2 and 3 is shown one form of operating mechanism, but it is to be understood that any other suitable means, as for example, that illustrated in Figs. 4 and 5, may be employed to operate the safety attachment and that electricity, compressed air or other preferred means may be employed to actuate or start into operation the operating mechanism. Referring particularly to Figs. 1, 2 and 3, the operating mechanism comprises a cord, wire, or like flexible element 23, connected at one end to the link 18, and adapted to pass over a guide-pulley 25, and at its opposite end is detachably connected with a weight 26, the arm 27 of which is provided with a laterally extending pin or lug 28. The bracket 25, as herein shown, is provided with an aperture 29 adapted to guide the flexible cord 23. To support the weight 26 in an elevated position, at which time the flexible cord 23 is slackened, as shown in Fig. 1, a suitable lever 30 is fulcrumed intermediate its ends, as at 31, and at one end is provided with a hook 32 adapted to engage the laterally projecting pin or lug 28. The opposite end of the lever 30 is adapted to cooperate with a catch 34 carried by the armature 35. When this armature is attracted to the magnet 36, by closing the circuit indicated at 37, through pushing upon the button or like switch device 38, the end of the lever 30 is released from the catch 34 and swings upwardly, disengaging the hook 32 from the weight rod 27, and allowing the weight to descend to release the latch member 16 from the latch pin 15. As the weight descends, the slack in the flexible cord 23 is taken up and the pull exerted upon the link 18, which rocks the latch member 16 upon its pivot, disengages the hook 17 from the latch-pin 15, which releases the governor rod and the crank-arm 14 from the link 7. The further movement of the weight 26 serves to rock the rocker-arm 3, and adjust the cams 6 through the cam rods 5 to close the inlet valves of the engine.

In Figs. 4 and 5 is illustrated a means whereby the safety appliance may be actuated by the employment of compressed air or like fluid, the pitman 40 being connected at one end to the link 18 and at the other end to the piston rod 41, adapted to be moved within the cylinder 42, upon the introduction of compressed air to said cylinder through the supply pipe 43. It is designed that suitable branch pipes 44 extend to different floors of the building in which the engine is located, or that suitable valve operating mechanism be positioned so that the valve to admit the compressed air to the cylinder 42 may be opened from any portion of the building.

It will be apparent from the foregoing description that when the latch member 16 is in engagement with the latch pin 15, the crank arm 14 to which the governor rod C is connected, will be locked to the slotted link which is secured upon the same shaft 2 which carries the rocker arm 3. In this way, upon the movement of the governor rod, the crank arm 14, link 7, and rocker arm 3, will be moved together to open or close the steam inlet valves. When, however, it is desired to entirely stop the engine the operating means is suitably set in motion to release the latch member 16 from the latch-pin 15, whereupon the rocker arm may be swung into any desired position without in any way affecting the movement of the governor or the governor rod.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages as defined in the appended claims.

Having described my invention what I claim as new is:

1. In a device of the character described, an engine governor having a governor rod, a shaft and a rocker arm fixed thereon, a sleeve secured on said shaft having right angularly disposed arms formed on one end, one of said arms having an upwardly curved slotted end, a crank arm mounted to rotate on said sleeve connected to said governor rod, a pin carried by said arm movable in the slot in the end of the arm on said sleeve, a latch member adapted to engage said pin, a movable connection between said member and the other arm on said sleeve, and means for disconnecting the latch member and pin and rotating said shaft and rocker arm.

2. In a device of the character described, an engine governor having a governor rod and a rocker arm, a slotted link connected to said arm and having angularly disposed arms, a crank arm independently movable of said rocker arm and link, a pin carried by the crank arm extending through the slot of said link, a latch member pivoted upon said link to engage said pin, a link pivoted to said latch member and movably connected to one of the arms of said slotted link, and electrically operated means connected to said last named link to disengage the latch member and pin and rotate said rocker arm.

3. In a device of the character described, an engine governor having a governor rod and a rocker arm, a slotted link connected to the rocker arm, a crank arm loosely mounted upon said link and connected to the governor rod, a pin carried by the crank

5 arm and adapted to extend through the slotted link, a latch member pivoted upon the slotted link and adapted to engage said pin, and means for disengaging the latch member and pin at any desired time, said means comprising a flexible element connected to the latch member, a weight secured to said flexible element, a lever adapted to support the weight in an elevated position and elec-

trical means adapted to release said lever 10 to allow the weight to fall.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HUBERT R. ROCKWELL.

Witnesses:

L. E. MAYFIELD,

P. J. GARRISON.