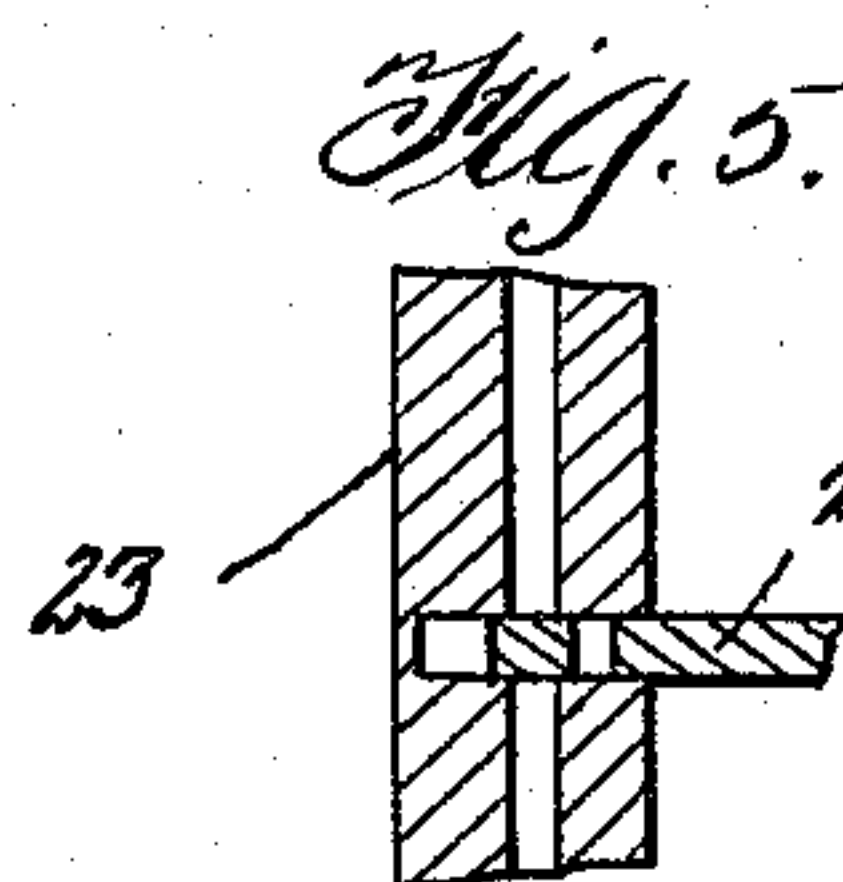
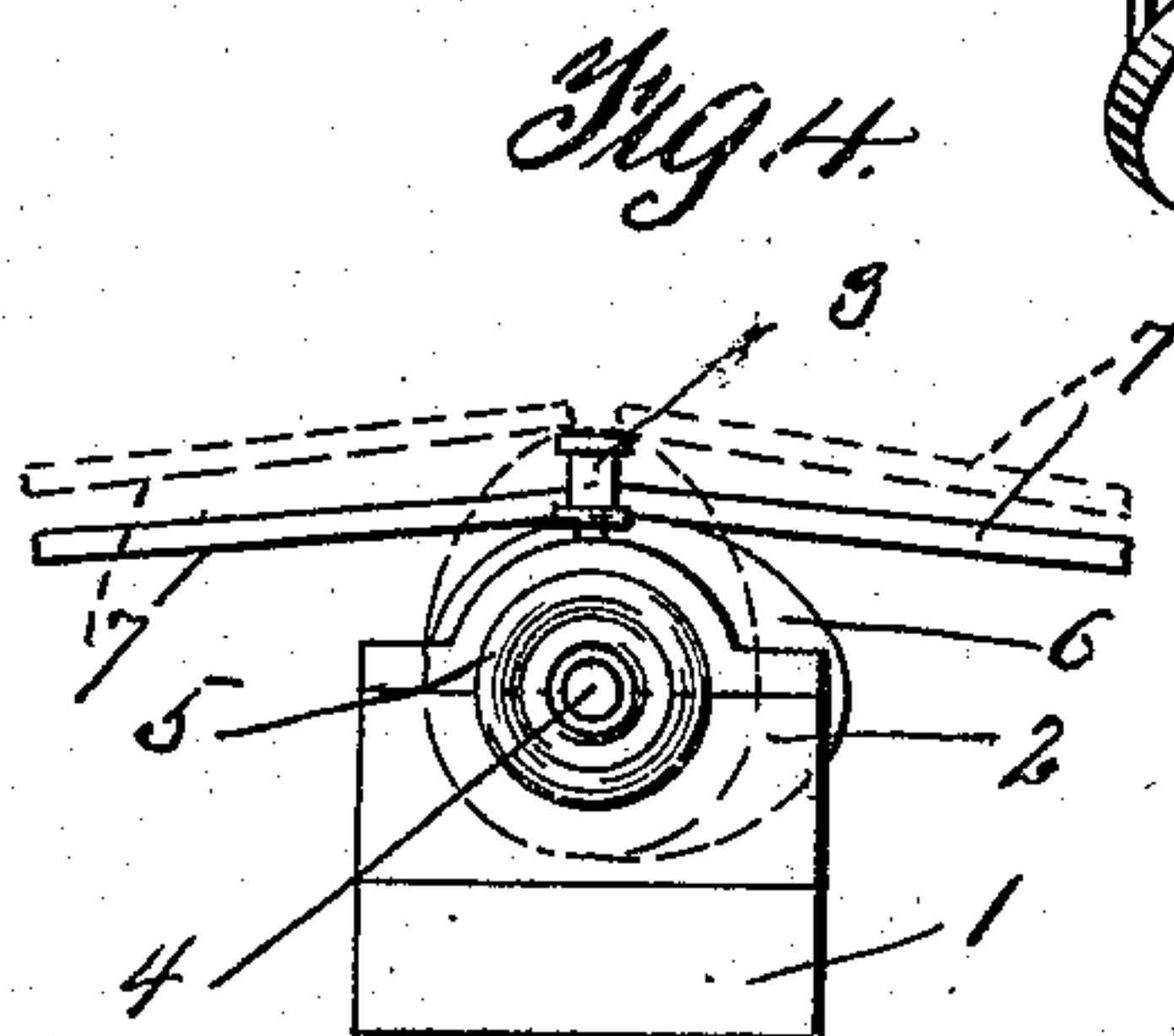
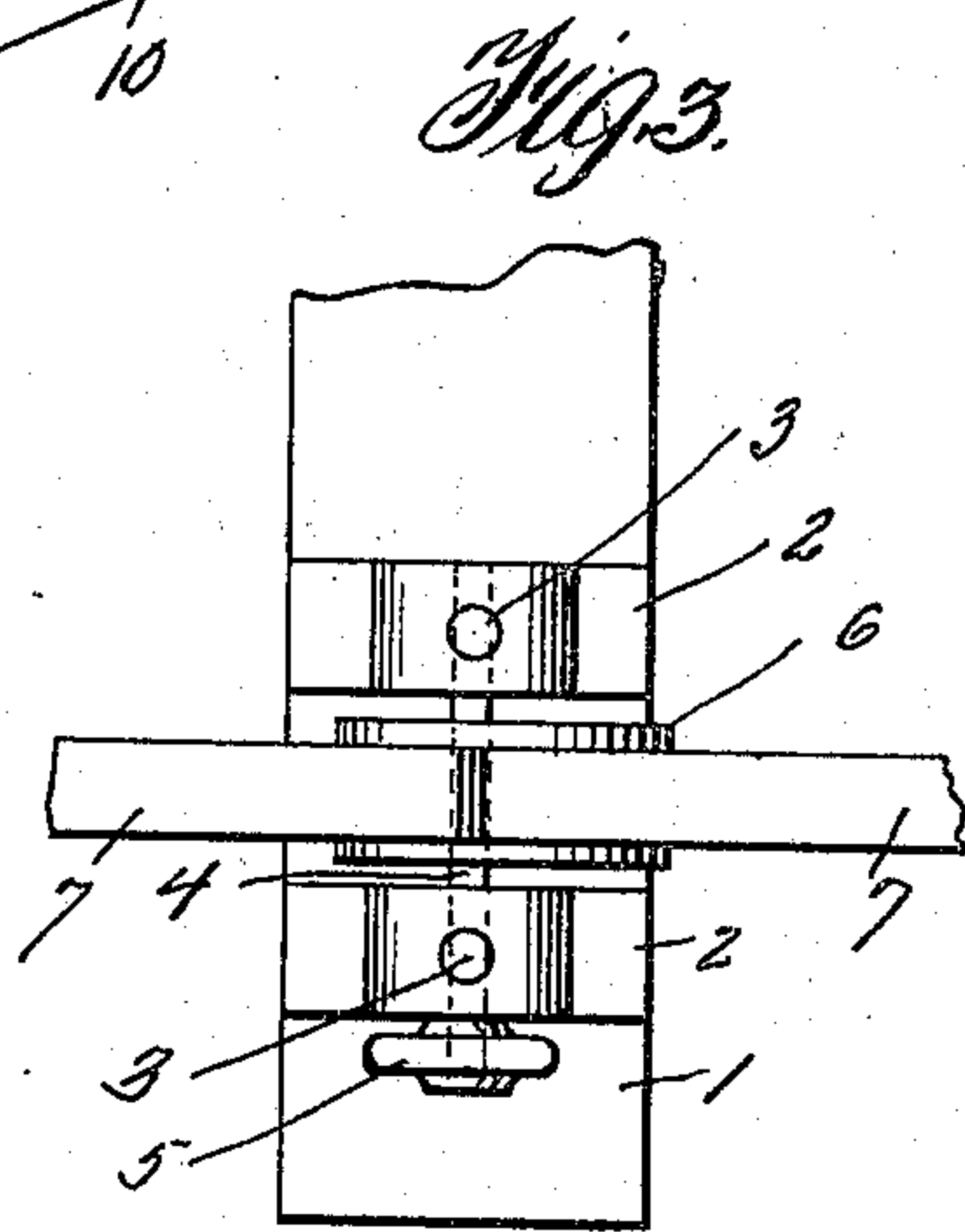
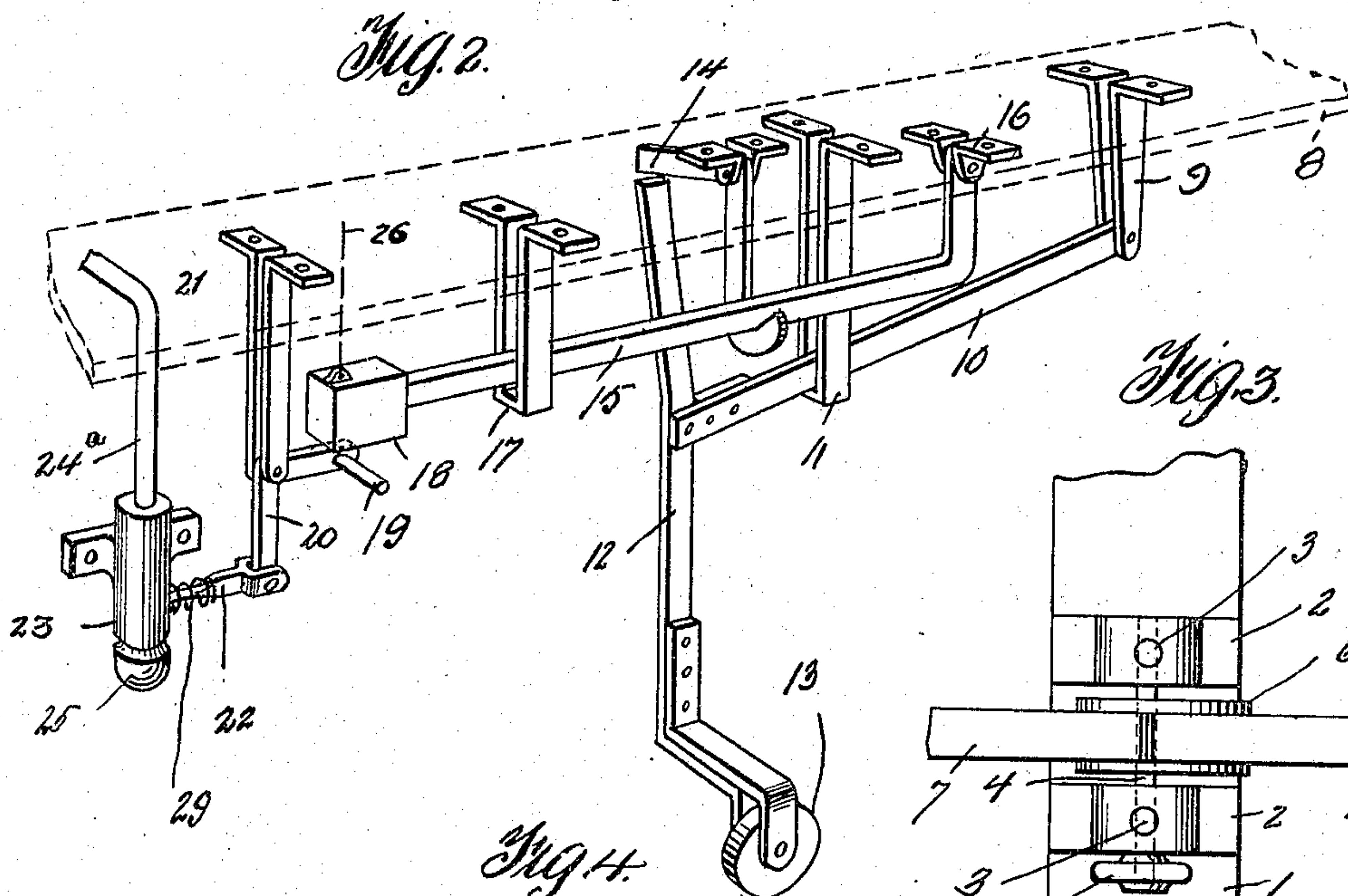
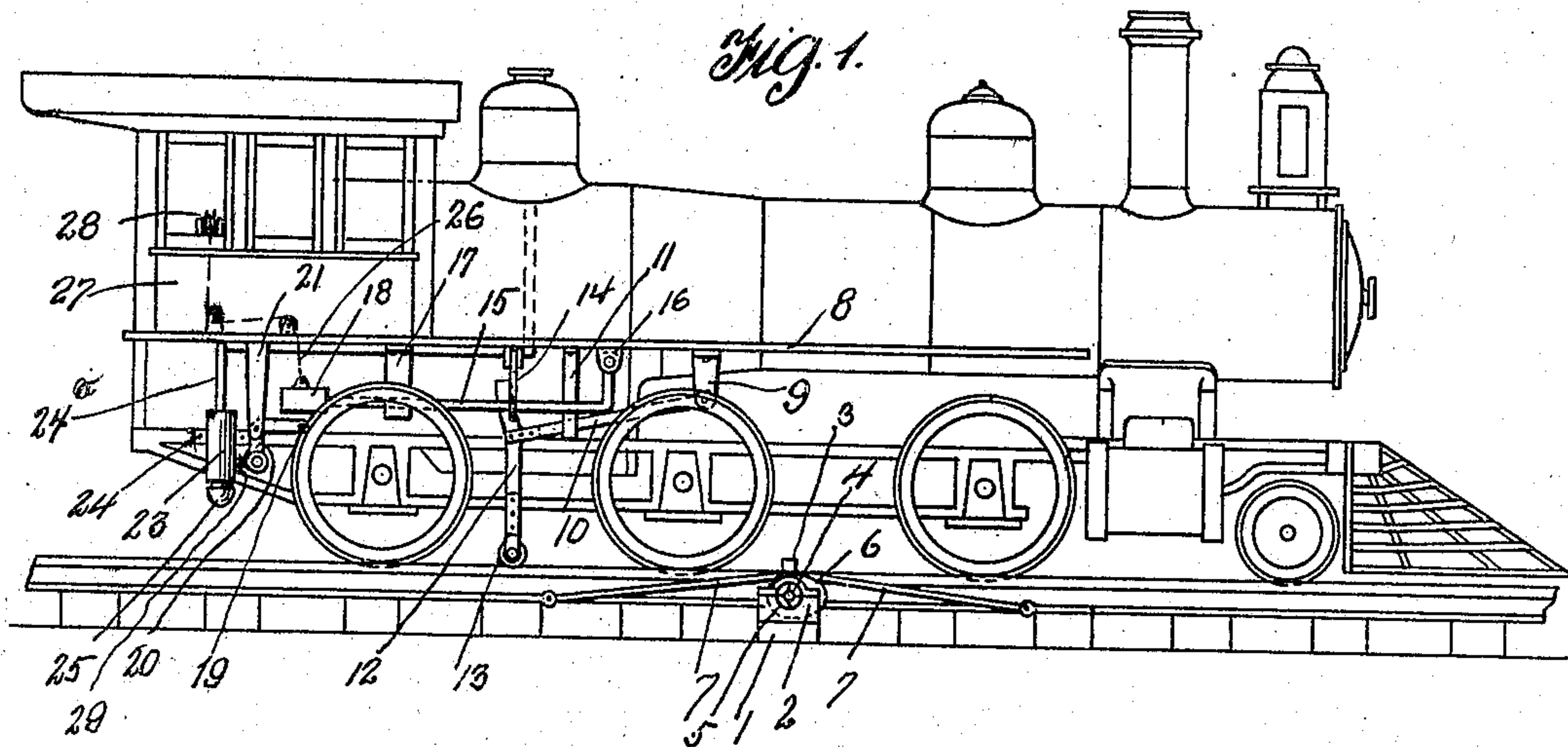


J. W. JOHNSON.
 AUTOMATIC SIGNAL DEVICE FOR RAILWAYS.
 APPLICATION FILED NOV. 21, 1908.

923,793.

Patented June 1, 1909.



Witnesses

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AUTOMATIC SIGNAL DEVICE FOR RAILWAYS.

No. 923,793.

Specification of Letters Patent.

Patented June 1, 1909.

Application filed November 21, 1908. Serial No. 463,862.

To all whom it may concern:

Be it known that I, JOHN W. JOHNSON, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Signal Devices for Railways, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an automatic signal device for railways, and the object of my invention is the provision of positive and reliable means in connection with a track and a locomotive for automatically sounding a signal that will notify the engineer or operator of the locomotive to proceed with caution or to entirely stop the locomotive, as prearrangement of the signals may denote.

My invention aims to eliminate the use of torpedoes and similar devices that are placed upon the rails of a track and by their detonation caused by a locomotive passing over the same, notifying the engineer to stop or proceed with caution. Numerous accidents occur in the placing of torpedoes, besides other accidents occurred by wrecks due to failure on the part of the engineer to hear the detonation of the torpedo. Torpedoes containing explosives are also dangerous for storage purposes and require careful handling.

It is in view of the above facts that I have devised my automatic signal, which can be placed in an operative position by a towerman or switchman and positively notify an engineer by an audible signal that can be readily heard above the noise of a moving train.

The above and other objects are accomplished by a device that will be hereinafter described and then claimed.

In the drawings:—Figure 1 is an elevation of the locomotive and track equipped with the automatic signal, Fig. 2 is a perspective view of that portion of the signal carried by the locomotive, Fig. 3 is a plan of the signal actuating device, as arranged relative to a track, Fig. 4 is a side elevation of the same,

and Fig. 5 is a detail sectional view of a valve body forming part of the audible signal.

To put my invention into practice, I provide a tie or sleeper 1 adjacent to a rail with bearings 2 having oil cups 3. In the bearings 2 is journaled a shaft 4 having a hand wheel 5, whereby said shaft can be easily rotated. Upon the shaft and between the bearings 2 is mounted a cam 6.

Pivotaly connected to ties or sleepers at the sides of the tie 1 are auxiliary rails 7 having the confronting ends thereof resting upon the cams 6. By turning the shaft 4 the auxiliary tracks 7 can be raised to an inclination with the confronting ends thereof on a level or slightly above the tread of the rails upon which a locomotive travels.

The locomotive equipment comprises an audible signal, such as a whistle, supplied with steam or air from the locomotive, the supplying of steam or air to the whistle being controlled by mechanism carried by the locomotive and actuated by the inclination of the auxiliary rails 7.

The running board 8 of the locomotive is provided with a bearing 9 for a pivoted arm 10, said arm being further supported by a stirrup 11 carried by the running board 8. The upper end of the arm 10 is provided with a lever 12 and revolvably supported by the lower end of said lever is a wheel 13 adapted to engage and ride over the auxiliary rails 7. The upper end of the lever 12 is adapted to impinge a latch 14, carried by the running board 8, and release a lever 15 normally supported thereby and pivotaly connected to a bearing 16, carried by the running board. The pivoted lever 15 is limited in its downward movement by a stirrup 17 carried by the running board 8, and the free end of said lever is provided with a weight 18. This weighted free end of the lever 15 is adapted to strike an extension 19 of the bell crank lever 20 pivotaly mounted in a hanger 21, carried by the running board. The bell crank lever 20 is pivotaly connected to a slide valve 22 arranged in a whistle body 23, secured to the locomotive, as at 24. The whistle body connects with the steam chest

or bottom of the locomotive by a pipe 24^a, and when the slide valve 22 is moved a supply of steam is admitted to the body 23, and immediately passes into the whistle head 25 causing a signal to be sounded. Any well known type of whistle can be used that can be sounded by air or steam.

Connected to the weighted end 18 of the lever 15 is a cable 26, said cable extending upwardly into the cab 27 of the locomotive, where said cable is fixed to a drum 28 so that the engineer or operator of the locomotive can rotate said drum to raise the weighted end of the lever 15. Under normal conditions the cable 26 is slack, whereby the whistle actuating mechanism can be operated in the following manner:—When the towerman or switchman sets the auxiliary rails 7 at an inclination, as shown in Fig. 1 of the drawings, said rails are in the path of the wheels 13, but as the locomotive passes by the auxiliary rails 7, the inclination of said rails raises the lever 12 and causes said lever to release the latch 14. The weighted end 18 of the lever 15 then drops and strikes the bell crank lever 20, and this lever forces the slide valve 22 inwardly and allows the steam or air to pass into the whistle head 25 and sound the same. The whistle continues to blow until the engineer or operator of the locomotive has heard the same, and then the engineer or operator winds the cable 26 upon the drum 28, elevates the lever 15 and restores the parts of the mechanism to their normal position. When the lever 15 is elevated the latch 14 assumes its normal position by gravity and supports the lever 15, while the lever 10 is supported by the stirrup 11. In order that the slide valve 22 will be returned to its normal position, I can place a spring 29 between the bell crank lever 20 and the whistle body 23, this spring forcing the slide valve to its normal position when the lever 20 is released. If it is desired to dispense with this spring, the weighted end 18 of the lever 15 can be connected to the bell crank lever 20. After the engineer of the locomotive has been duly notified by the sounding of a whistle, the towerman or switchman can restore the auxiliary rails to their normal position by turning the hand wheel 5.

While in the drawings forming a part of this application there is illustrated the preferred embodiments of my invention, it is to be understood that the same can be varied or changed as to shape, proportion and manner of assemblage without departing from the spirit of the invention.

Having now described my invention what I claim as new, is:—

1. In an automatic signal, the combination with a track and a locomotive adapted to travel thereon, of a whistle carried by said locomotive, a slide valve for controlling the

operation of said whistle, a bell crank lever for moving said slide valve, a pivoted weighted lever for actuating said bell crank lever, a latch for normally supporting said weighted lever in an elevated position, a lever supported by said locomotive for releasing said latch, a wheel revolubly supported by the lower end of said lever, adjustable auxiliary tracks arranged adjacent to the locomotive track and adapted to be impinged by said wheel for raising said lever and releasing said latch to allow said weighted lever to move said slide valve through the medium of said bell crank lever, manual means in connection with said auxiliary rails for setting said rails at an inclination, and means in connection with said locomotive to restore said weighted lever to its normal position.

2. In an automatic signal, the combination with a track and a locomotive adapted to travel thereon, of a whistle carried by said locomotive, a slide valve for controlling the operation of said whistle, a bell crank lever for moving said slide valve, a pivoted weighted lever for actuating said bell crank lever, a latch for normally supporting said weighted lever in an elevated position, a lever supported by said locomotive for releasing said latch, a wheel revolubly supported by the lower end of said lever, adjustable auxiliary tracks arranged adjacent to the locomotive track and adapted to be impinged by said wheel for raising said lever and releasing said latch to allow said weighted lever to move said slide valve through the medium of said bell crank lever, and manual means in connection with said auxiliary rails for setting said rails at an inclination.

3. In an automatic signal for locomotives, the combination with a whistle and a valve for controlling the operation of said whistle, of a weighted lever carried by said locomotive for moving said valve, a latch for normally supporting said weighted lever, a pivoted lever carried by said locomotive for releasing said latch and allowing said weighted lever to move said valve, a revoluble wheel carried by said pivoted lever, auxiliary adjustable rails arranged in the path of said wheel and adapted to be impinged by said wheel for elevating said pivoted lever and releasing said latch, means for adjusting said auxiliary rails, and means in connection with said locomotive for restoring said weighted lever to its normal position in engagement with said latch.

4. In an automatic signal for locomotives, the combination with a whistle, and a valve for controlling the operation of said whistle, of a weighted lever carried by said locomotive for moving said valve, a latch for normally supporting said weighted lever, a pivoted lever carried by said locomotive for releasing said latch and allowing said weighted

lever to move said valve, a revoluble wheel
carried by said pivoted lever, auxiliary ad-
justable rails arranged in the path of said
wheel and adapted to be impinged by said
5 wheel for elevating said pivoted lever and re-
leasing said latch, and means for adjusting
said auxiliary rails.

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

JOHN W. JOHNSON.

Witnesses:

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C. V. BROOKS.