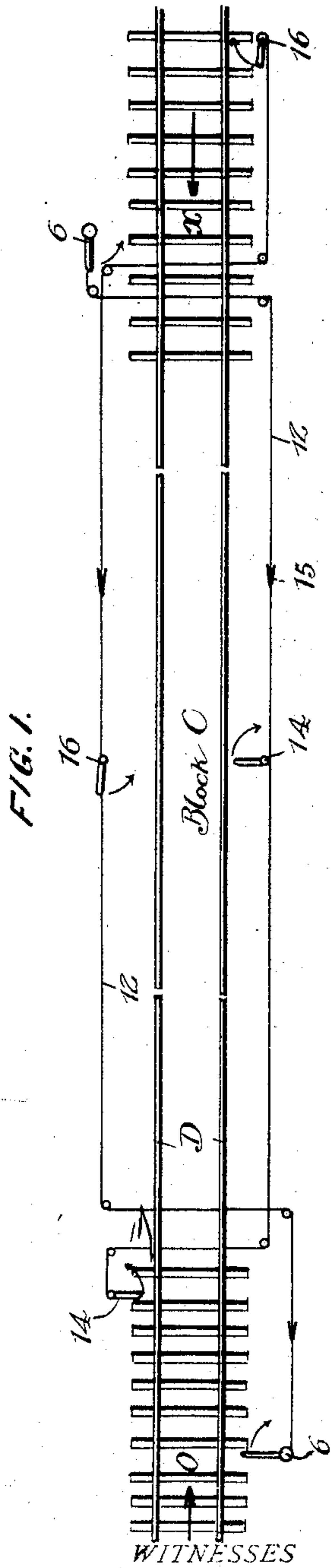


A. WALKER.
 ANTICOLLISION DEVICE.
 APPLICATION FILED DEC. 23, 1907.

905,774.

Patented Dec. 1, 1908.



C. V. Davis.

Myron G. Clear.

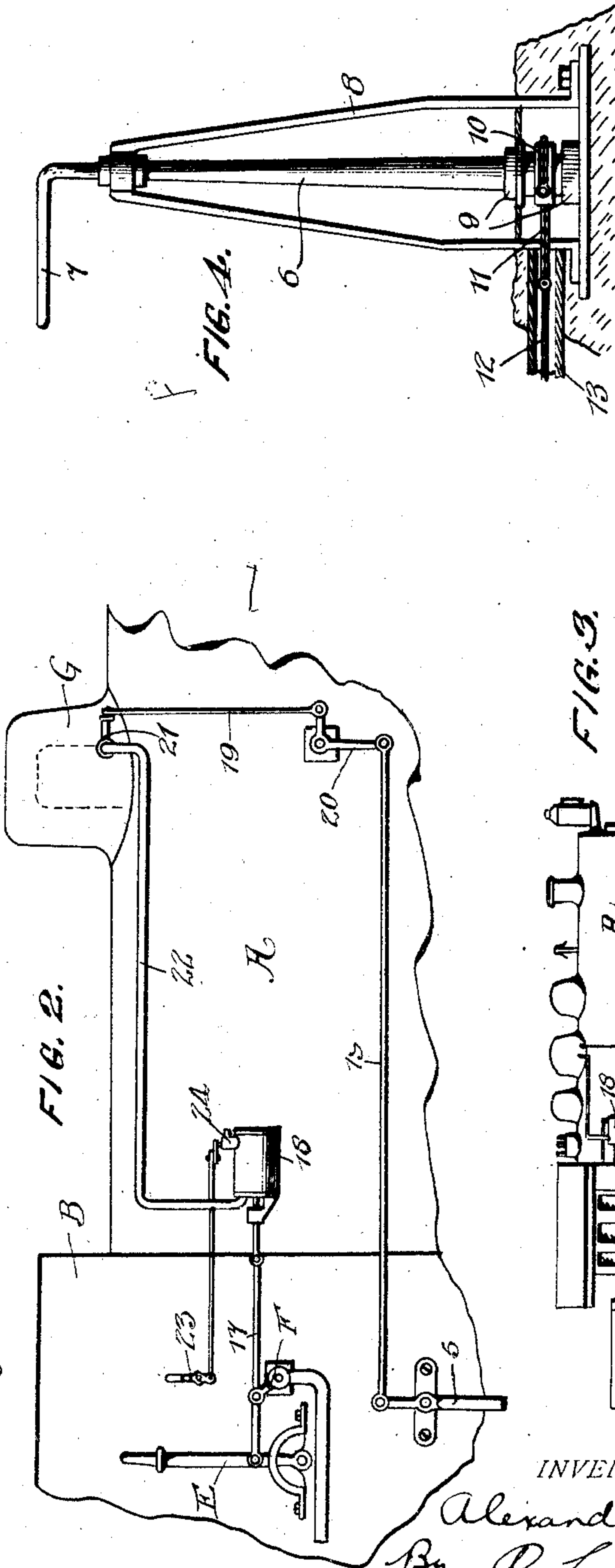


FIG. 2.

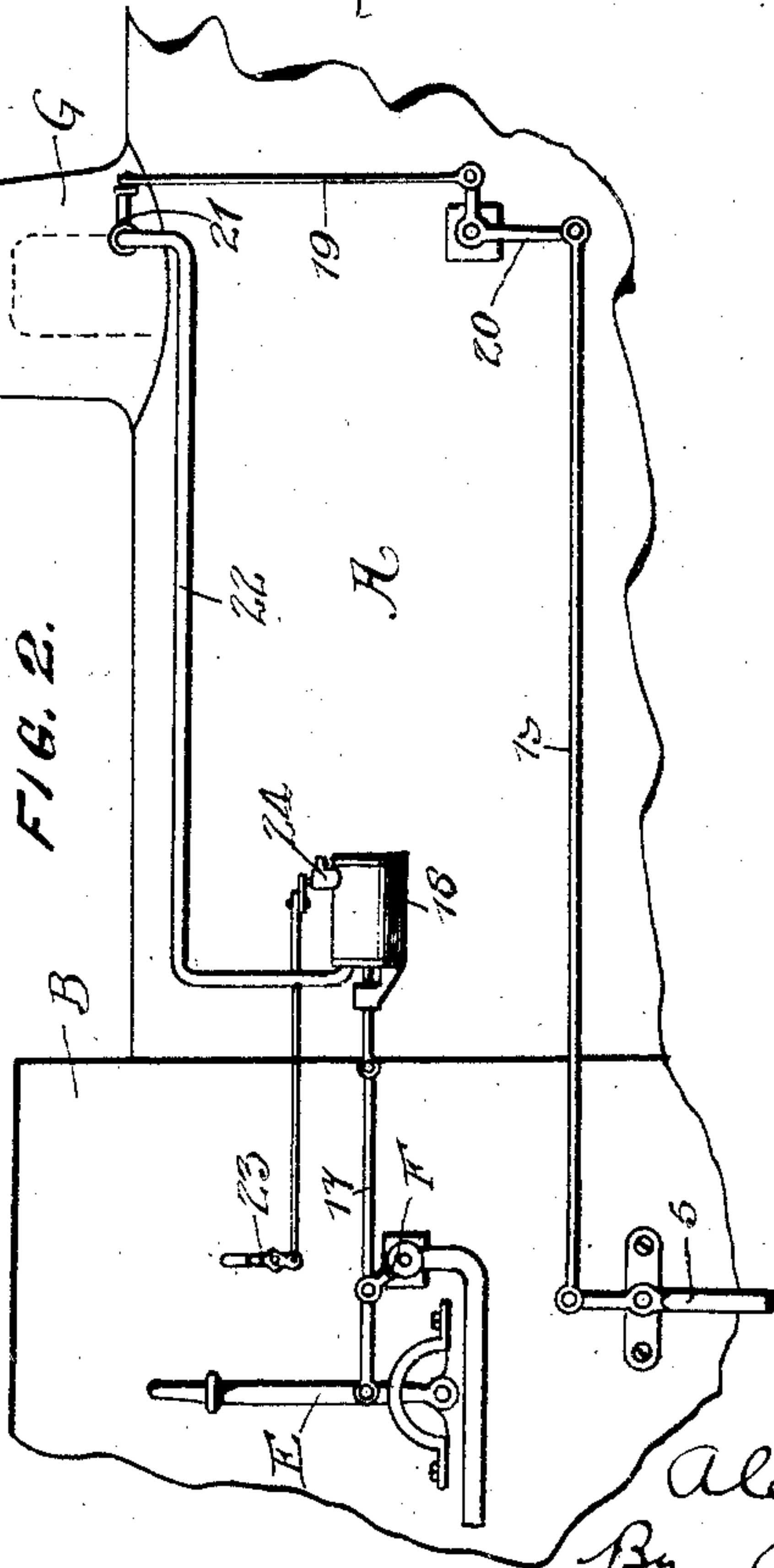
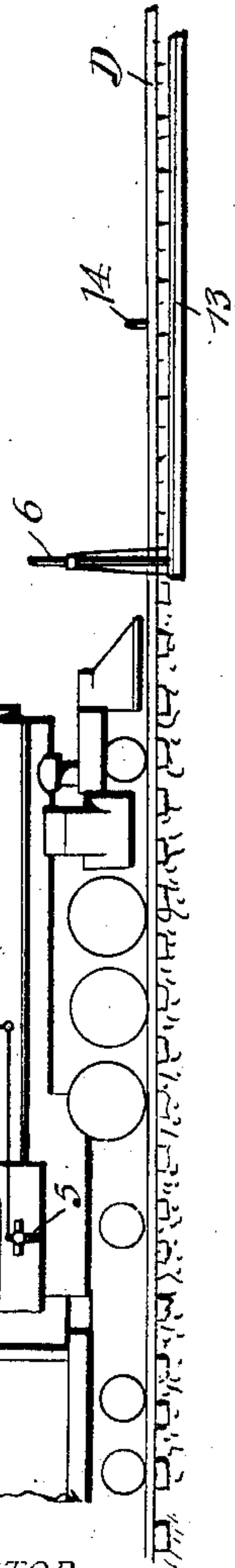
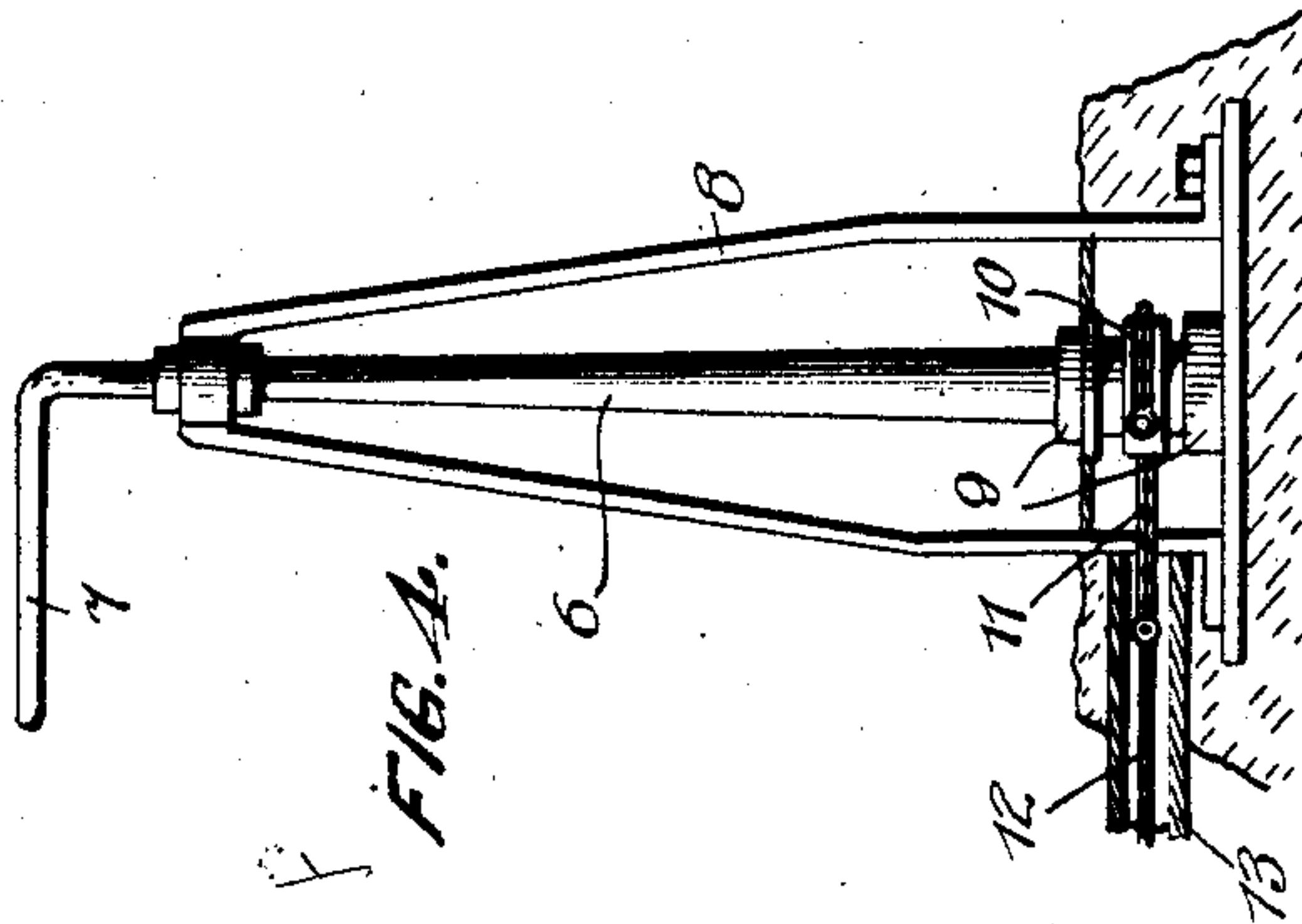


FIG. 3.

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FIG. 4.



UNITED STATES PATENT OFFICE.

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ANTICOLLISION DEVICE.

No. 905,774.

Specification of Letters Patent.

Patented Dec. 1, 1908.

Application filed December 23, 1907. Serial No. 407,806.

To all whom it may concern:

Be it known that I, ALEXANDER WALKER, a citizen of the United States, residing at Render, in the county of Ohio and State of Kentucky, have invented certain new and useful Improvements in Anticollision Devices, of which the following is a specification.

My invention relates to anti-collision devices and particularly contemplates the provision of suitable mechanism in the form of blocks whereby a train within the same will be protected in front and behind and will cause a second train entering either end of the block to be stopped.

My invention specifically resides in the following features of construction, arrangement and operation to be hereinafter described with reference to the accompanying drawings, forming a part of this specification, in which like numerals are used to designate like parts throughout the several figures, and in which—

Figure 1 is a plan view of a railway track provided with my improved actuating mechanism, Fig. 2 is a diagrammatic elevation of a portion of an engine illustrating the application in a relative position of my improved operating mechanism, Fig. 3 is a side elevation of the track and locomotive thereon provided with my improvements, and Fig. 4 is a detail elevation partly in section of one of the actuating levers and its mounting in connections beside the rails.

In the practical embodiment of my invention I preferably provide an engine A with an operating lever 5 pivotally mounted upon the right side of the engine cab B and adapted to be struck and moved, to operate a suitable mechanism carried by the engine for closing the throttle and setting the air-brake.

In Fig. 4 I have shown an actuating lever 6 adapted to strike and move the operating lever 5, comprising a vertical bar having an upper angular end 7 and being suitably mounted in bearings 9 having a sprocket 10 engaging a chain 11 upon the end of an actuating rope or cable 12 leading preferably through a box conduit 13 beneath the surface of the soil at the sides of the tracks.

Referring now to Fig. 1, an actuating lever 6 is mounted as described, at each end of the block C and at opposite sides of the rails D. Tripping levers 14 are connected to their re-

spective actuating levers 6 by the actuating ropes or cables 12, and are mounted simultaneously thereto intermediate and at the opposite end of the block, said tripping levers being adapted to swing said actuating lever 6 by means of their connection, and in such manner that said actuating lever 6 is parallel with the rails when the tripping levers 14 are at right angles thereto and vice versa. Thus, when a train approaches in the direction indicated by the arrow O, the first tripping lever 14 will be struck and moved in the direction indicated by its arrow thus moving the other tripping lever 14 as indicated by its arrow and pulling the rope or cable 12 as indicated at 15, thus throwing the actuating lever 6 at right angles to the rail and in such position that the operating lever 5 of an engine approaching in the direction of arrow X will be struck. However, if a train approaching in the direction of the arrow O continues through the block C and no train approaches in the direction indicated by the arrow X, said first train will, of course, knock the lever 6 away without any actuation of the engine mechanism, inasmuch as said lever 6 is at the left hand side of the same. A train approaching in the direction indicated by the arrow X will similarly actuate the actuating lever 6 at the opposite end of the block C through tripping levers 16, and further said train when arrived centrally of the block will strike the intermediate tripping lever 14 and will throw the operating lever 6 corresponding thereto, at right angles to the rails at its rear, thus protecting both front and rear ends of the block against the danger of the encroachment of other trains.

The operating mechanism carried by the engine includes the throttle lever E and the air-release lever F, both having connection by a rod 17 with the piston head within the small steam cylinder 18 located probably upon the engine boiler just outside the cab. The operating lever 5 has connection by connecting rods 19 and a bell-crank lever 20 with a valve or its equivalent 21 within the steam pipe leading from the throttle valve within the dome G, said valve when open, by the actuation of said lever 5 admitting steam from said steam pipe into a pipe 22 leading to the cylinder 18 in front of the piston head therein, thus forcing said piston head rearwardly therein, carrying the rod 17 and si-

multaneously closing the throttle lever E and releasing the air lever F. Thus, upon such actuation, the train will be quickly brought to a standstill as is readily apparent and when the danger is past and it is desired to again proceed, the throttle and air levers E and F may be released for their normal actuation by a lever 23 pivotally mounted within the cab B and operating to open a valve 24 to relieve the pressure within the cylinder 18.

Having thus fully described my invention, I claim:

1. In a device of the character described, the combination with a track block system, the blocks of which comprise actuating levers mounted at opposite ends thereof, and on opposite sides of the said tracks, end tripping levers mounted at opposite ends of the block and on opposite sides of the tracks to said actuating levers, and intermediate tripping levers mounted midway of the block and on opposite sides of the tracks to one another, one of said end tripping levers and one of said intermediate tripping levers being connected to each of said actuating levers, in such manner as to set the latter when either of the former are struck by a locomotive, of a mechanism carried by a locomotive for effecting the automatic stoppage thereof and including an operating lever mounted upon one side of the said locomotive, and adapted to be struck by the said actuating levers when set, substantially as described.

2. In a device of the character described, the combination with a track block system, the blocks of which comprise actuating levers mounted at opposite ends thereof, and on opposite sides of the said tracks, end tripping levers mounted at opposite ends of the block and on opposite sides of the tracks to

said actuating levers, and intermediate tripping levers mounted midway of the block and opposite to one another on each side of the said track, each of said end tripping levers being connected with the actuating lever at the opposite end of the block thereto, and to the intermediate tripping lever on the opposite side of the tracks, in such manner as to set the actuating lever when either of its tripping levers are struck by a locomotive, of a mechanism carried by a locomotive for effecting the automatic stoppage thereof, and including an operating lever mounted upon one side of the said locomotive, and adapted to be struck by the said actuating levers when set, substantially as described.

3. In a device of the character described, the combination with the track levers, of a mechanism carried by a locomotive for effecting the automatic stoppage of the same, said mechanism comprising a steam cylinder, a piston working therein, and having its rod connected to the air brake and throttle levers, a pipe leading from the steam dome into said cylinder in front of said piston and provided with a valve within said dome, a lever mounted upon one side of said locomotive in alinement with said track levers, connections between said lever and said steam pipe valve for opening the same when said lever is struck, said cylinder being provided with a valve therein and a lever located in the locomotive cab and having connection with said valve for operating the same to relieve the pressure when desired, substantially as described.

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

ALEXANDER WALKER.

Witnesses:

THOMAS LEE,
LARRIE BARRETT.