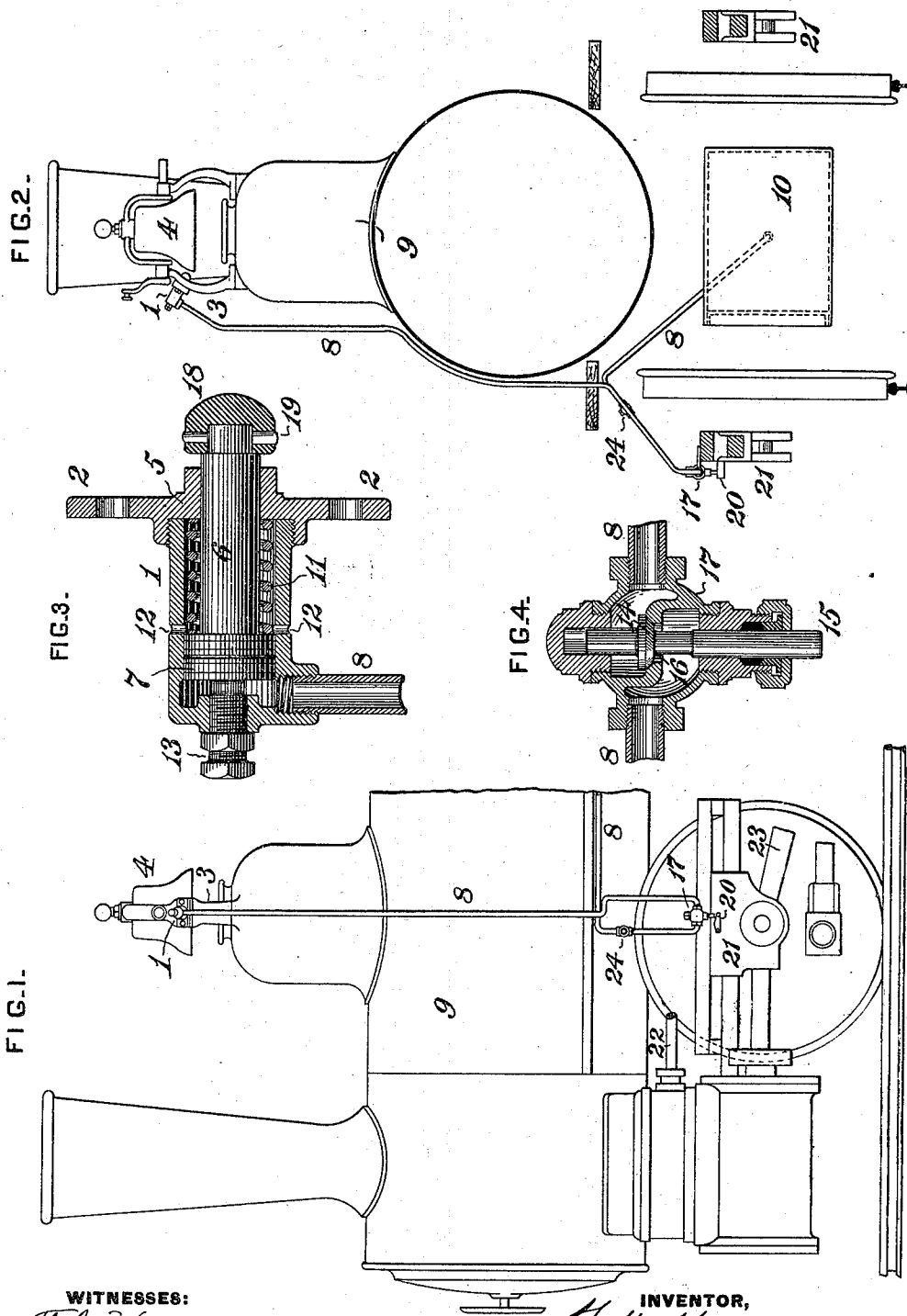


(No Model.)

T. W. HEINTZELMAN.
LOCOMOTIVE BELL RINGER.

No. 552,760.

Patented Jan. 7, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

TAYLOR W. HEINTZELMAN, OF SACRAMENTO, CALIFORNIA.

LOCOMOTIVE-BELL RINGER.

SPECIFICATION forming part of Letters Patent No. 552,760, dated January 7, 1896.

Application filed October 25, 1895. Serial No. 566,874. (No model.)

To all whom it may concern:

Be it known that I, TAYLOR W. HEINTZELMAN, of the city and county of Sacramento, in the State of California, have invented a certain new and useful Improvement in Locomotive-Bell Ringers, of which improvement the following is a specification.

The object of my invention is to provide simple and effective means for automatically sounding the bell of a locomotive-engine, whenever the engine is moved in either direction, and doing so at desired and determined intervals during the continuance of such movement.

To this end my invention, generally stated, consists in the combination of a fluid-pressure cylinder, a piston fitting therein and carrying a bell-hammer, a valve controlling the supply of fluid to the cylinder, and a device connected to a moving member of the engine for periodically opening the supply-valve.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a side view, in elevation, of a portion of a locomotive-engine, illustrating an application of my invention; Fig. 2, a transverse section through the same; Fig. 3, a longitudinal central section, on an enlarged scale, through the hammer-cylinder; and Fig. 4 a similar section through the supply-valve.

In the practice of my invention I provide a fluid-pressure hammer-cylinder 1, which is provided with lateral flanges 2, through which it is adapted to be secured to the bell-yoke 3, or to any other convenient support adjacent to the bell 4 of the engine. In the instance shown, the flanges 2 are made integral with a removable cap or head 5, which is screwed upon the periphery of the cylinder 1, and which serves as a guide for the piston-rod 6 of a properly-packed piston 7, fitting in said cylinder. The detachment of the head 5 admits of the insertion or removal of the piston and rod, the opposite end of the cylinder being preferably, as shown, closed. A hammer 18 is fixed upon the outer end of the piston-rod 6 and is preferably connected removably thereto, as by a key 19, so as to admit of the substitution of a new one when worn out or broken.

A fluid-pressure-supply pipe 8, which may

either lead to the steam-space of the boiler 9, or, as in the instance illustrated, to the main air-reservoir 10 of the air-brake apparatus of the engine, communicates with one end of the cylinder 1, adjacent to which the piston 7 is normally held by a spring 11, and an exhaust-port 12 (one or more) is formed in the cylinder, in position to be put into communication with the supply-pipe 8 by the traverse of the piston past it to the outward limit of its stroke. The length of stroke of the piston may be varied by the adjustment of a set-screw 13, which engages the supply end of the cylinder, and against which the piston is normally held by the spring 11.

The supply of fluid under pressure to the cylinder 1 is controlled by a supply-valve 14, which is fixed upon a stem 15 and opens and closes a port 16 in a casing 17, which is interposed between and connected with adjacent sections of the supply-pipe 8. The valve 14 is held normally seated by the pressure upon its top from the source of supply, and, while seated, cuts off the supply of fluid to the cylinder 1.

The supply-valve 14 is periodically opened for admitting fluid to the cylinder 1 to effect the stroke of the piston 7 and thereby tap the bell by a device connected with a moving part of the engine, and the bell is thereby sounded one or more times in each revolution of the wheels in either direction. A convenient construction for this purpose is shown in the drawings, the same consisting of a tappet or lifter 20, which is secured to one of the cross-heads 21 of the engine in position to abut against the stem 15 of the supply-valve and thereby momentarily unseat said valve and admit fluid under pressure to the hammer-piston 7 on each traverse of the cross-head in either direction.

It will be obvious that by employing two or more tappets the number of taps of the bell made during each revolution of the driving-wheels will be correspondingly increased.

I do not desire to limit myself to the specific means for unseating the supply-valve above described, as the same operation may, if desired, be effected in a similar manner by the action of a projection on the valve-stem 22, or a tappet actuated by the movement of the connecting-rod 23. Such varia-

tion of mere structural detail would not involve any departure from the spirit of my invention, the essential feature of which consists in utilizing a moving member of the engine as a means for periodically actuating the supply-valve of a fluid-pressure cylinder.

In order to enable the operation of the appliance to be intermitted, when desired—as, for example, in passing over portions of the road where it is not necessary for the bell to be sounded, or where, as in some locations, the ringing of locomotive-engine bells is prohibited by municipal ordinances—a shut-off cock 24 is provided in the supply-pipe 8, between the supply-valve 14 and the fluid-pressure reservoir, by closing which cock the unseating of the supply-valve is prevented from effecting the traverse of the hammer-piston 7.

It will be seen that my improvement is of simple construction and readily applicable to locomotives of any of the various constructions in railroad service. Its application insures the sounding of the bell whenever the engine is moved in either direction without dependence upon the crew of the engine, and thus puts beyond doubt that the bell shall be sounded in localities where it is necessary or desirable that this should be done.

I claim as my invention and desire to secure by Letters Patent—

1. In a locomotive bell ringer, the combination, substantially as set forth, of a fluid pressure cylinder, a piston fitting therein and carrying a bell hammer, a valve controlling the supply of fluid to the cylinder, and a device, connected to a moving member of the engine, for periodically opening the supply valve.

2. In a locomotive bell ringer, the combination, substantially as set forth, of a fluid pressure cylinder, a piston fitting therein

and carrying a bell hammer, a valve controlling the supply of fluid to the cylinder, and a tappet connected to a moving member of the engine in position to abut against and unseat the supply valve during each revolution of the engine wheels.

3. In a locomotive bell ringer, the combination, substantially as set forth, of a fluid pressure cylinder, a piston fitting therein and carrying a bell hammer, a supply pipe connecting said cylinder with a compressed air reservoir, a valve controlling said supply pipe, and a device, connected to a moving member of the engine, for periodically opening the supply valve.

4. In a locomotive bell ringer, the combination, substantially as set forth, of a fluid pressure cylinder, a piston fitting therein and carrying a bell hammer, a supply valve controlling a pipe for the supply of fluid to the cylinder, a device, connected to a moving member of the engine, for periodically opening the supply valve, and a shut off cock in the supply pipe between the supply valve and the source of supply.

5. In a locomotive bell ringer, the combination, substantially as set forth, of a fluid pressure cylinder, a supply pipe leading thereinto, a piston fitting therein, a bell hammer fixed to the rod of said piston, an exhaust port in said cylinder, in position to be put into communication with the supply pipe by the outward traverse of the piston, a spring bearing on the piston and tending to hold it normally adjacent to the supply end of the cylinder, and an adjustable stop for varying the traverse of the piston.

TAYLOR W. HEINTZELMAN.

Witnesses:

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