No. 775,661. PATENTED NOV. 22, 1904.

J. T. LEWIS.

AIR RELIEF VALVE.

APPLICATION FILED JULY 18, 1904.

NO MODEL.

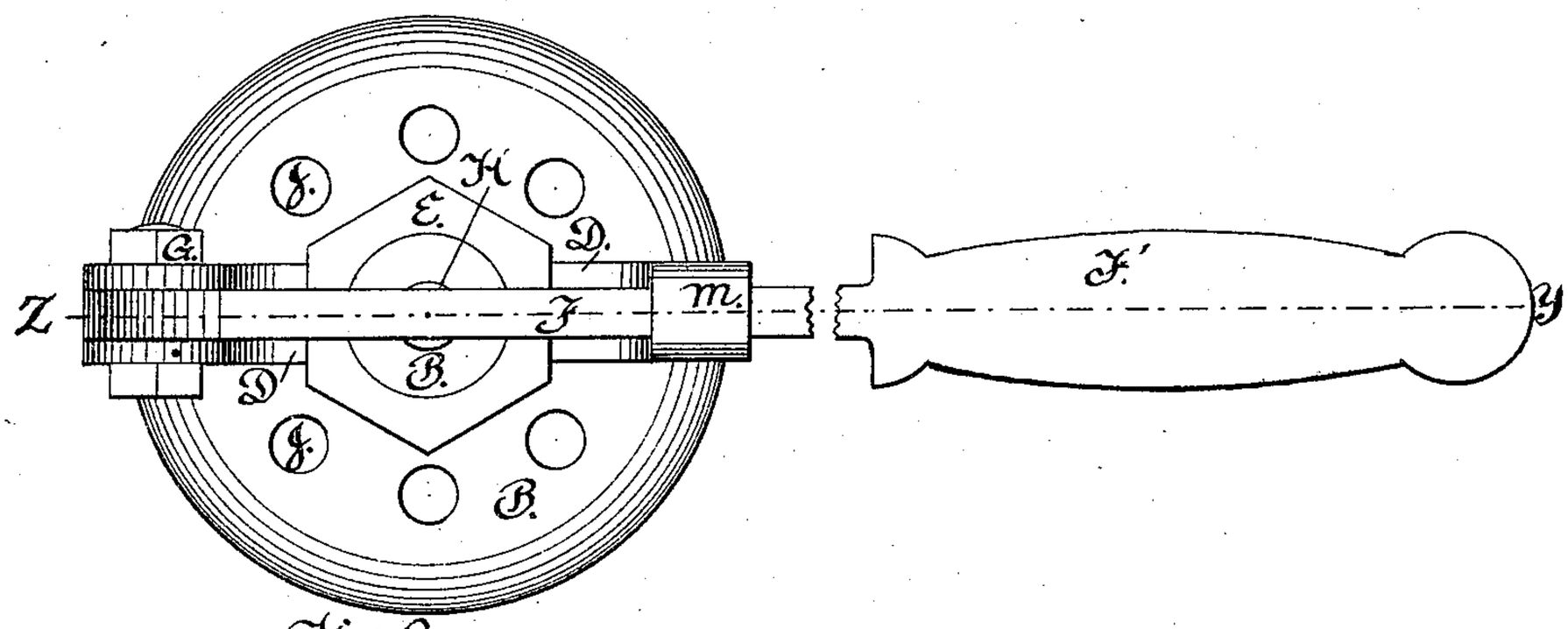

Fig. 2.

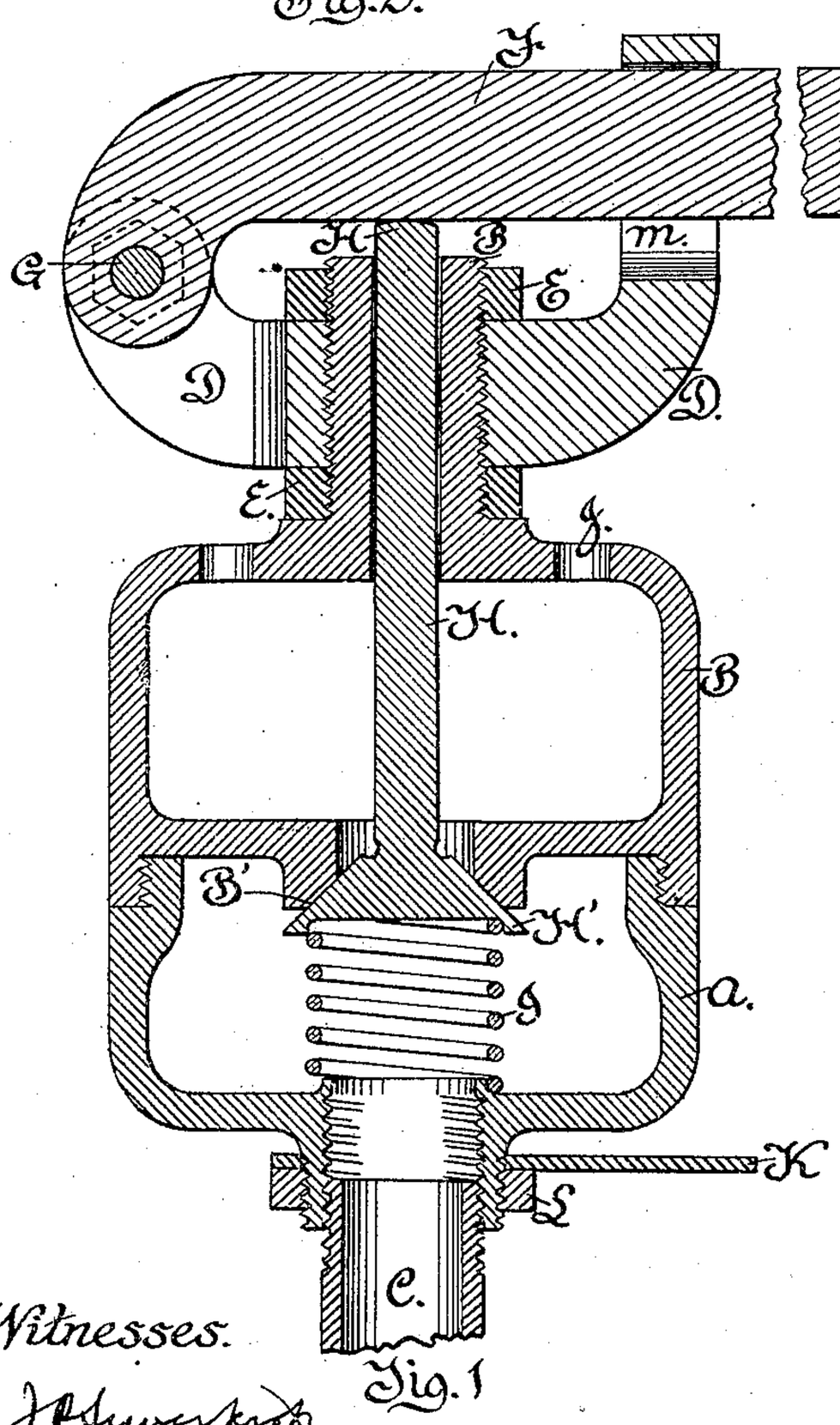

Fig. 1

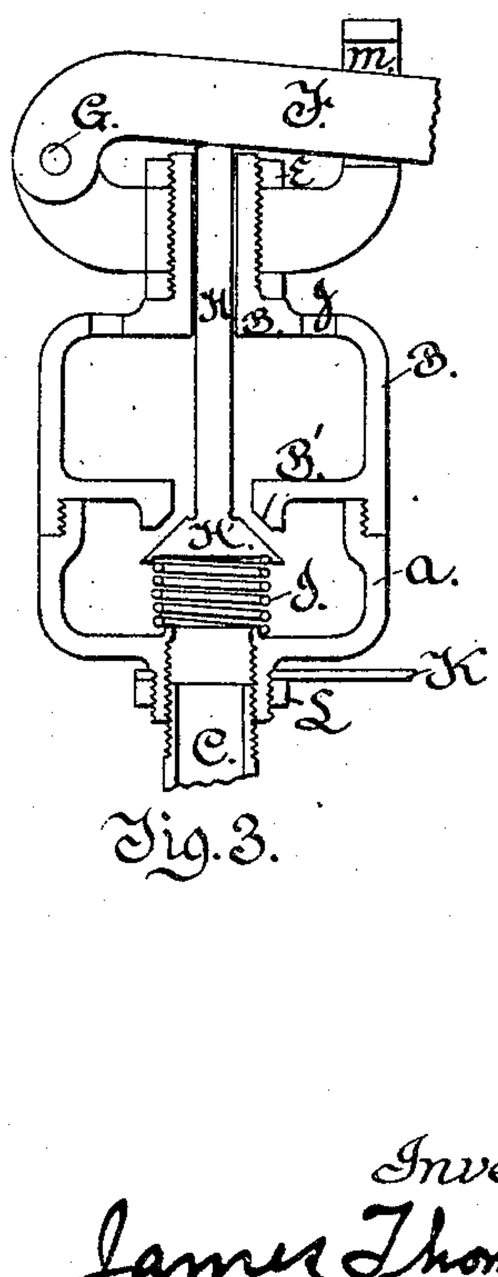

Fig. 3.

Witnesses.

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No. 775,661. Patented November 22, 1904.

UNITED STATES PATENT OFFICE.

JAMES THOMAS LEWIS, OF CHATTANOOGA, TENNESSEE.

AIR-RELIEF VALVE.

SPECIFICATION forming part of Letters Patent No. 775,661, dated November 22, 1904.

Application filed July 18, 1904. Serial No. 217,095. (No model.)

To all whom it may concern:

Be it known that I, JAMES THOMAS LEWIS, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented a new and useful Air-Relief Valve for Automatic Air-Brakes, of which the following herein set out is a specification.

The existing method of applying air-brakes to railroad-trains is unsatisfactory in so far as the locomotive-brakes come into action and are released simultaneously with those on the remainder of the train. Applying the air-brakes frequently causes the locomotive-wheels to be completely locked, so that they slide on the rails, thereby flattening them, and at the present time there is no adequate release of the locomotive-brakes without releasing the brakes on the whole train. My invention obviates this trouble and puts the engineer in control of his engine-brakes independently of the rest of the train. In other words, when the engineer has applied the air-brakes to his train he can instantly release or govern the pressure of the brakes on his engine without interfering in any way with any other part of the train.

My invention relates to improvements in the operative mechanism of train-brakes or any other device in which compressed air is used; and the objects of my improvement are to allow the engineer or operator to have independent control of the locomotive-brakes in the case of a train without interfering with the operation of the brakes on the rest of the train. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the entire machine; Fig. 2, a top view of the same; and Fig. 3 a reduction of Fig. 1 with the lever thrown down, showing the machine in operation.

Similar letters refer to similar parts throughout the several views.

The chamber of the device is made in two pieces—the lower part A and the upper part B. Connection is made with a suitable pipe C, threaded into the lower part of A, as shown. This connection is made between what is known as the "triple" and the brake-cylinder in the brake-cylinder pipe. B has its upper part threaded to receive the fitting D, which may be screwed up or down within certain limits and held securely in place by the jam-nuts E E. The fitting D has a fork in one end, in which is hinged the lever F by means of the bolt G. The opposite end of D is fitted with a guide to prevent the lever F from becoming disengaged from the valve-stem H. A and B are threaded together, so as to make an air-tight joint. The partition B′ has in its lower surface an opening into which the valve H′ is ground to an air-tight joint. The valve H′ is held in position by the spring I and is guided by the valve-stem H. The upper surface of B is provided with the holes J J to allow the egress of exhaust-air when the machine is in operation. The lower part of A is exteriorly threaded to receive the bracket K, which is held in any desired position by the lock-nut L. The bracket K and the lever F are shown broken away for convenience.

In the case of a train-brake the operation of my invention is as follows: The air having been turned on the brakes are automatically applied to all the cars and to the locomotive-wheels. By depressing the lever F the valve H′ is unseated, allowing the air to escape through the opening D′ and the holes J J. As soon as the lever F is released the spring I and the pressure of the air force the valve H′ into its seat again, thus allowing the locomotive-brake to come into operation again. It will readily be seen that the air-release is completely under the control of the operator, allowing him to entirely release the engine-brakes or apply such pressure upon them as he may see fit.

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

1. The combination in an air-brake, or other device, operated by compressed air, of an air-relief valve made in two pieces, the lower half being internally threaded to provide a suitable connection for the inlet air-pipe and externally threaded to provide for an adjustable bracket; and the upper half provided with a partition containing in its lower surface, a

seat for an air-relief valve, apertures for the release of exhaust-air, and an exteriorly-threaded projection which serves, at the same time for a guide to the valve-stem and also, as a means for raising and fixing in place the lever fulcrum and guide.

2. The combination in an air-relief valve of the body A, B, with the valve-stem H′, H, the adjustable fitting D and the lever F substantially as set forth.

In testimony whereof I have signed my name in the presence of two subscribing witnesses.

JAMES THOMAS LEWIS.

Witnesses:

A. R. McKENZIE,

P. L. THOMPSON.