No. 704,529. Patented July 15, 1902.

F. FOSKETT.

SAFETY DEVICE FOR STEAM BOILERS.

(Application filed Nov. 23, 1901.)

(No Model.)

Fig. 1.

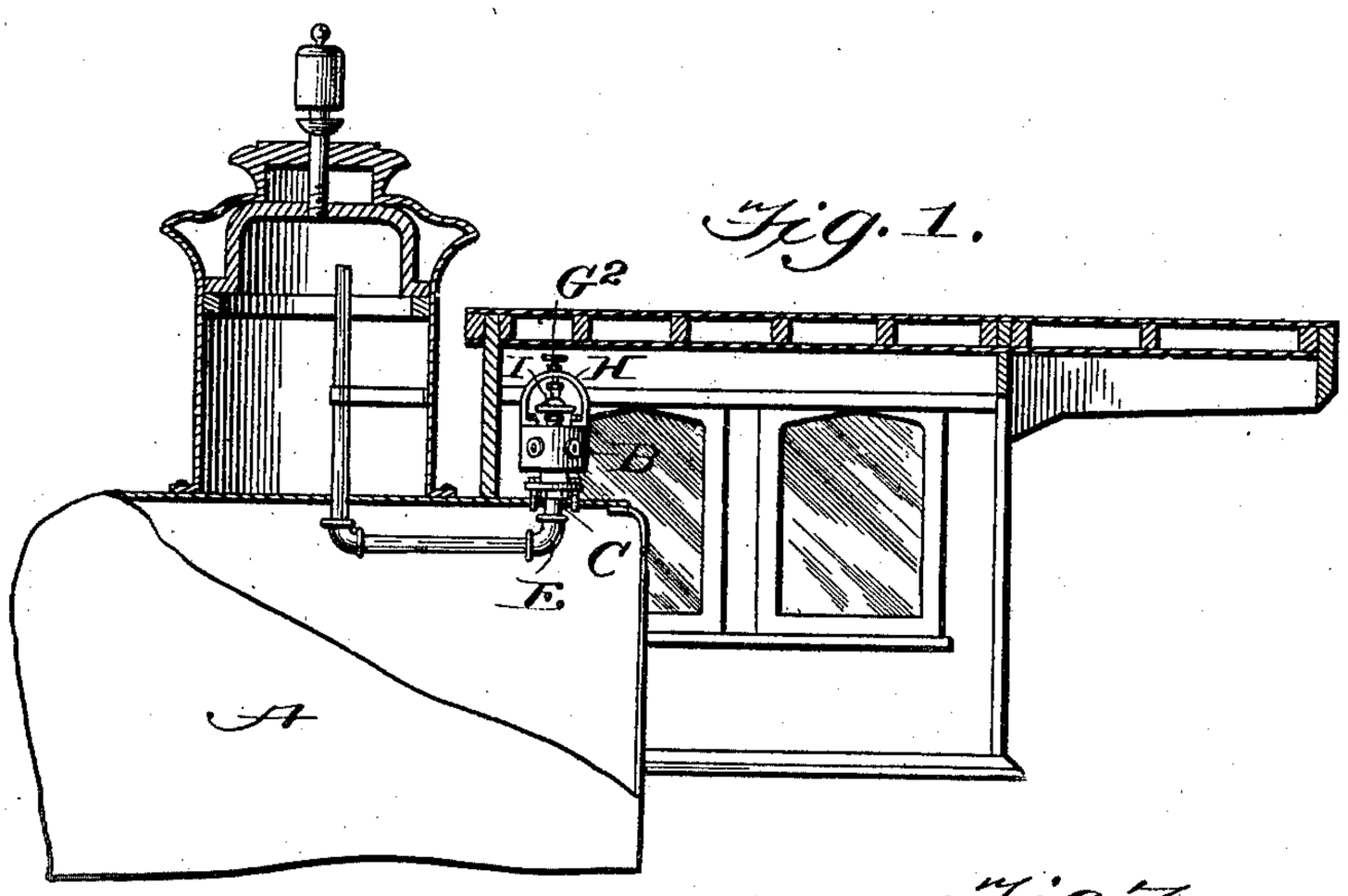


Fig. 2.

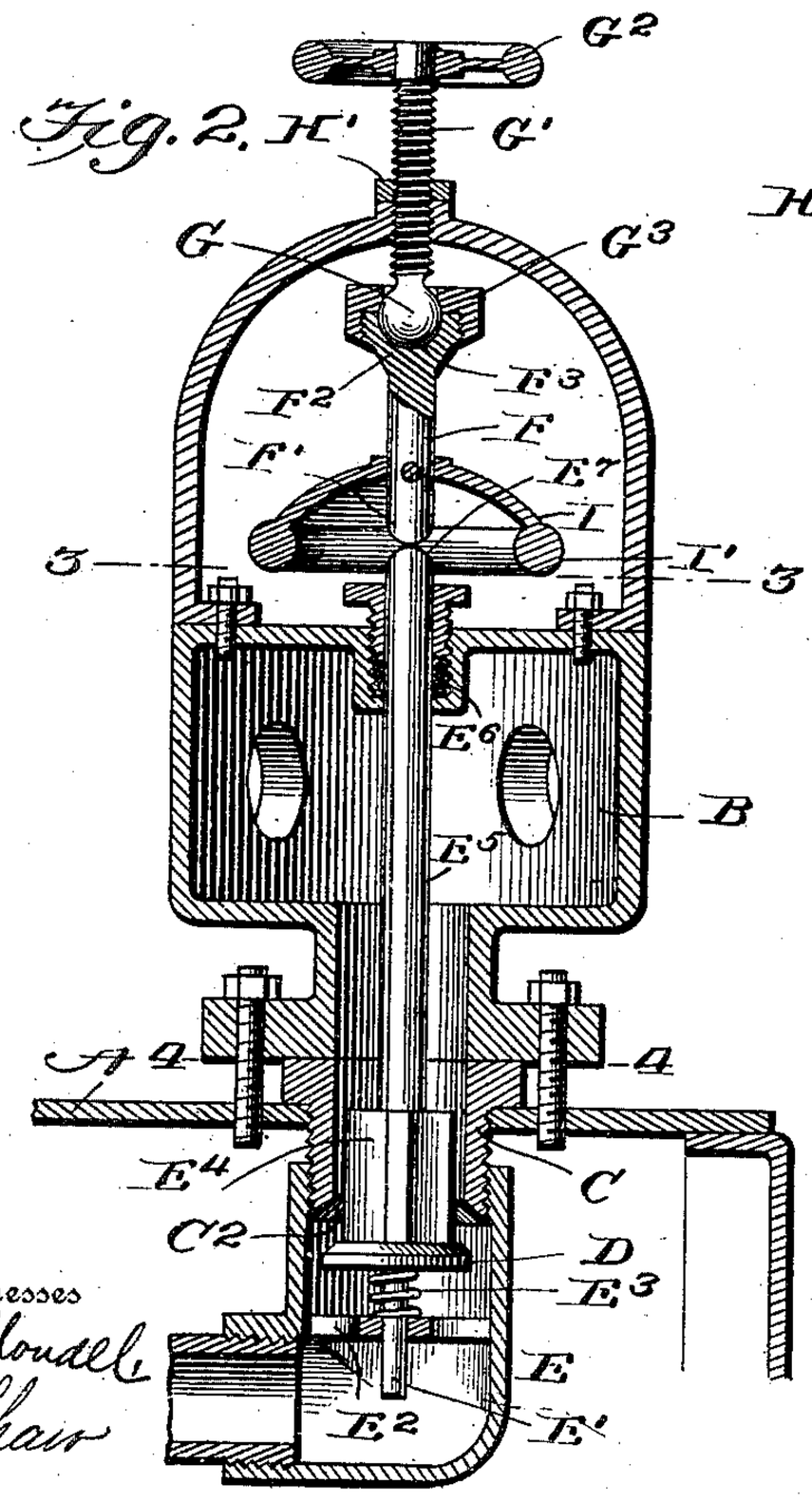


Fig. 3.

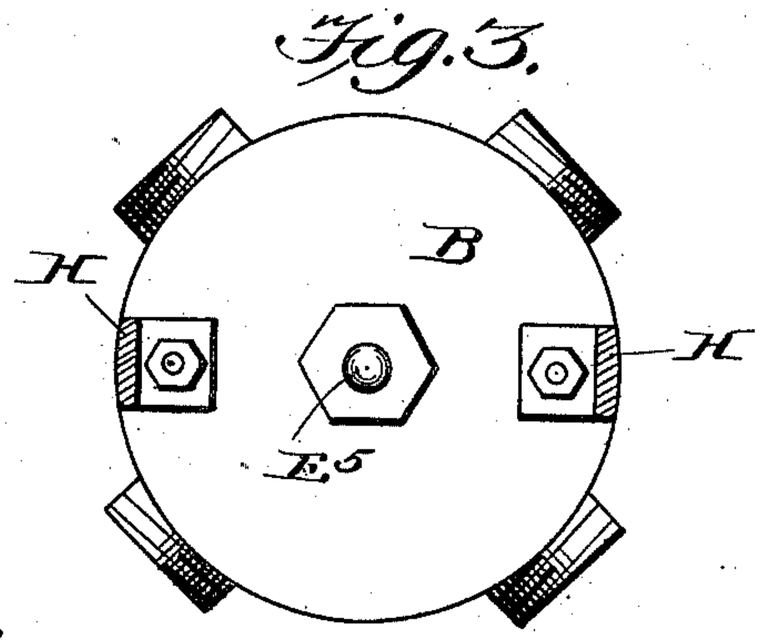
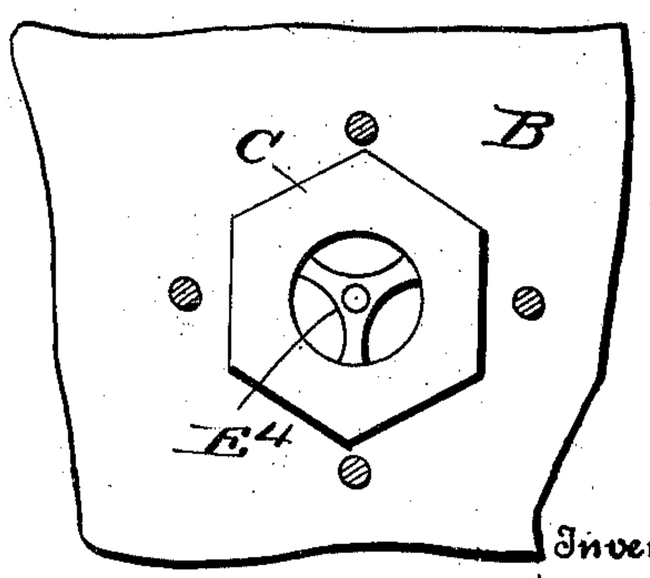


Fig. 4.



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UNITED STATES PATENT OFFICE.

FREDERICK FOSKETT, OF SAN ANTONIO, TEXAS.

SAFETY DEVICE FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 704,529, dated July 15, 1902.

Application filed November 23, 1901. Serial No. 83,408. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK FOSKETT, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Safety Device for Steam-Boilers, of which the following is a specification.

This invention is a safety device for steam-boilers, and more particularly for locomotive-boilers.

The object of the invention is to provide a device which can be applied to fountains now in common use upon locomotive-boilers, said fountains being located upon the boiler within the locomotive-cab, and to which the various steam-pipes are connected, said fountain receiving its supply of steam directly from the steam-dome. Whenever an accident occurs, such as a collision or a derailment of a locomotive, the steam usually escapes at the fountain, causing injury to the locomotive attendants.

It is with the object of cutting off all escape of steam at the fountain that my invention is designed; and with this object in view the invention consists, essentially, in providing an attachment to the fountain by means of which a check-valve will normally be held open, thereby permitting steam to pass into the fountain, said means being such that in case the locomotive should receive a sudden jar or roll to one side the means for holding the said valve open will be shifted and the said valve automatically closed, cutting off the steam from the fountain.

The invention consists also in certain details of construction and novelties of combination hereinafter fully described, and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a view illustrating the practical application of my invention. Fig. 2 is a vertical sectional view taken through a corner of the boiler and the fountain attached thereto and also illustrating my invention in section. Fig. 3 is a detail sectional view on the line 3 3 of Fig. 2. Fig. 4 is a detail sectional view on the line 4 4 of Fig. 2.

Referring to the drawings, A indicates a locomotive-boiler having the fountain B attached thereto, a short section of pipe C being interposed between the boiler and fountain, the lower edge of said pipe having a seat C^2 formed thereon, against which the valve D seats, said valve being arranged within a pipe E and having a depending pin E′ passing through a spider E^2, a coil-spring E^3 being arranged about the pin E′ between the valve and spider for the purpose of forcing the said valve forwardly, so as to seat upon the valve-seat C′. The valve is formed with guide-wings E^4 and also with a stem E^5, said stem projecting through the top of the fountain, as most clearly shown, a stuffing-box and gasket E^6 being employed to provide a steam-tight joint. The upper end of the stem E^5 is rounded, as most clearly shown at E^7, and resting upon the rounded end is a rounded end F′ of a rod F, said rod having a head F^2, which is formed with a socket F^3, adapted to receive the ball G, arranged upon the end of the screw-shaft G′, said shaft having a hand-wheel G^2 at its upper end. The ball G is held in place in the socket F^2 by means of a coupling-ring G^3, thereby providing a ball-and-socket joint between the rod F and the screw-shaft G′. The screw-shaft G′ works through the yoke H, which is rigidly secured to the top of the fountain B, and the jam-nut H′ also surrounds the screw-shaft G′ and bears upon the top of the yoke for the purpose of locking the screw-shaft in its adjusted position.

A concaved disk I is rigidly attached to the rod F adjacent to its lower end, the rim of said disk being considerably enlarged, as shown at I′, for the purpose of increasing the weight of the said disk at points beyond the center. In operation the rounded end of the rod is placed upon the rounded end of the stem and the screw-shaft turned down until the valve E is unseated, thereby permitting the steam to flow freely from the dome into the fountain and out through the various pipe connections. In case the locomotive should receive a sudden jar, such as results from a collision, or if the locomotive should be turned over or thrown to one side the weighted disk I would swing by gravity to a perpendicular position, and consequently would carry the end of the rod away from the end of the stem, the ball-and-socket joint between the rod F and screw-shaft G′ permitting the rod to swing freely, and the moment the end of the rod swings away from the end

of the stem the spring beneath the valve, together with the steam-pressure, will force the said valve firmly against its seat, and thereby cut off the supply of steam to the fountain and prevent all accidents resulting upon the undue escape of steam.

It will thus be seen that I provide an exceedingly cheap and simple appliance which can be attached to any and all locomotives now in use and whereby all accidents due to escaping steam will be avoided.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the kind described, the combination with a valve, and its stem, of a presser-rod adapted to bear upon the valve-stem, said presser-rod being pivotally supported, whereby it can be swung by gravity away from the end of the valve-stem, substantially as described.

2. In a device of the kind described, the combination with a valve and its stem, of a presser-rod adapted to contact with the end of the valve-stem, said presser-rod having a screw-shaft movably connected thereto, whereby the presser-rod can be swung by gravity away from the valve-stem, substantially as described.

3. In a device of the kind described, the combination with a valve and its stem, of a presser-rod adapted to bear upon the said stem, said presser-rod having a disk attached thereto, said disk having a weighted periphery, said presser-rod being pivotally suspended or supported whereby it can be swung by gravity away from the end of the valve-stem, substantially as described.

4. In a device of the kind described, the combination with a valve and its stem, of a presser-rod adapted to bear upon the said stem, a disk attached to said presser-rod and having a weighted periphery, and a screw-shaft connected to the presser-rod, by means of a universal joint, whereby said presser-rod can be swung by gravity away from the valve-stem, substantially as described.

5. In a device of the kind described, the combination with a valve and its stem, of a presser-rod adapted to bear upon the end of the valve-stem, said presser-rod having a disk attached thereto, the periphery of said disk being weighted, a threaded shaft connected to the presser-rod by means of a universal joint, a yoke through which the screw-shaft works, and a jam-nut surrounding the screw-shaft and adapted to bear upon the top of the yoke, substantially as and for the purpose described.

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