No. 738,115. PATENTED SEPT. 1, 1903.

# C. E. H. LINCOLN.

## LOCOMOTIVE VALVE.

APPLICATION FILED FEB. 24, 1903.

NO MODEL.

Fig. 1.

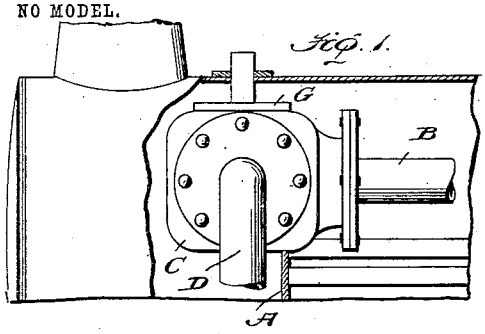



Fig. 2.

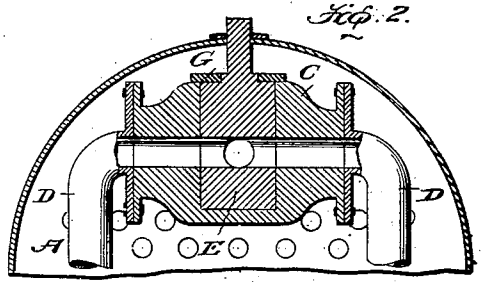



Fig. 3.

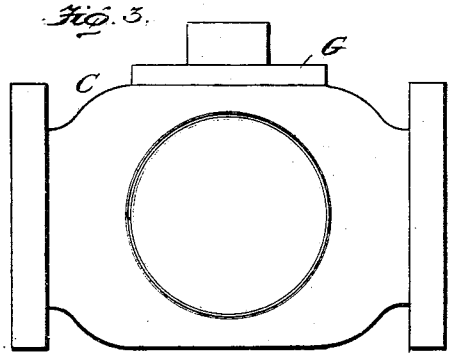



Fig. 4.

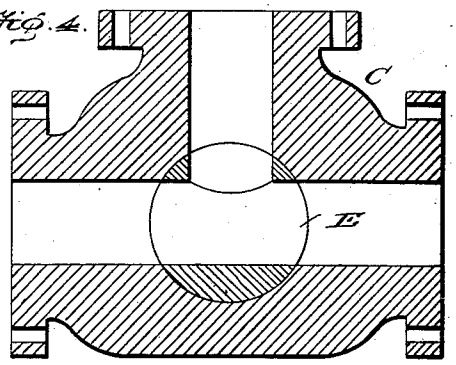
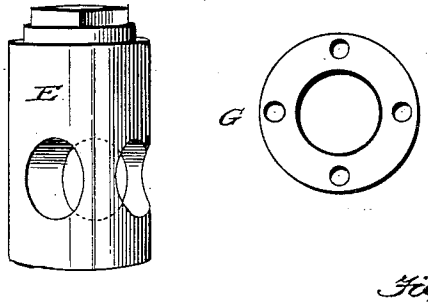



Fig. 6.

Fig. 5.



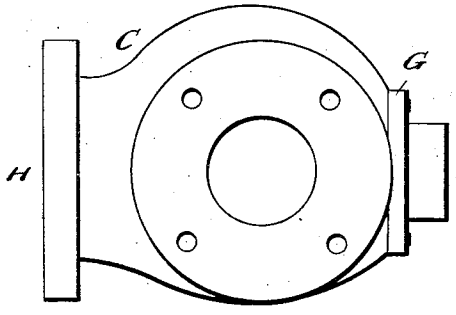
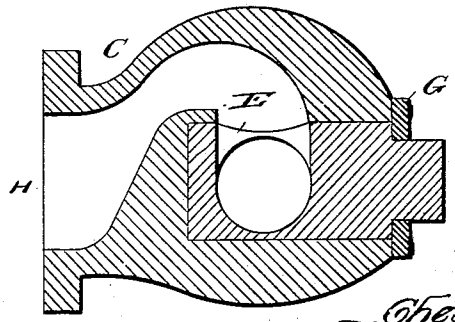




Fig. 7.




Witnesses

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 738,115. Patented September 1, 1903.

# UNITED STATES PATENT OFFICE.

CHESTER E. H. LINCOLN, OF DOUGLAS, ARIZONA TERRITORY.

## LOCOMOTIVE-VALVE.

SPECIFICATION forming part of Letters Patent No. 738,115, dated September 1, 1903.

Application filed February 24, 1903. Serial No. 144,729. (No model.)

*To all whom it may concern:*

Be it known that I, CHESTER E. H. LINCOLN, a citizen of the United States, residing at Douglas, in the Territory of Arizona, have invented certain new and useful Improvements in Locomotive-Valves, of which the following is a description, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to improvements in locomotives, and particularly to an improved coupling and valve usually called the "nigger-head" coupling, said coupling forming the connection between the live-steam passage and the passages to the engines on opposite sides of the locomotives, the valve being provided for the purpose of cutting off steam from either or both of the engines.

In the ordinary locomotive when one engine becomes disabled and it is necessary to shut off steam therefrom it is also necessary to shut off steam from the other; and the object of my invention is to provide an arrangement whereby the steam-supply can be cut off from one or both cylinders in case of accident or breakdown almost instantly, thus in case of breaking down of both engines shutting off the steam entirely from the cylinders, so the said engines can be repaired, or in case one side only breaks down if desired steam can still be supplied to the other engines and the locomotive proceed on the journey.

The invention therefore consists in the combination with a locomotive of a coupling between the pipe supplying steam from the boiler and the passages to the engines, said coupling being provided with a three-way valve, with means for operating said valve to cut off or supply steam, as desired.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of part of a locomotive-boiler, partly in section. Fig. 2 is a transverse section. Fig. 3 is a front view of one form of coupling. Fig. 4 is a sectional view of Fig. 3. Fig. 5 is a detail view of the valve. Fig. 6 is a front view of another form of coupling; and Fig. 7 is a sectional view of said modified form, showing the valve in place.

In the drawings, A represents the front flue-sheet of an ordinary locomotive-boiler, and B the steam-pipe, to the front end of which is secured the T-coupling or well-known nigger-head coupling C, and the throttle-valve is connected with the steam-passage B in any well-known manner. From the sides of the coupling C extend branch steam-pipes D D to the steam-chest. This coupling C is provided with a seat for a three-way valve having a squared shank which extends to the outside of the locomotive and has adapted to be applied thereto a handle by which it may be manipulated. This valve E is provided with three openings, so arranged that as it is set in one position or another the steam enters through the steam-passage and into both branch pipes C or may be cut off from one or the other, or by turning it another way the valve may close both the boiler supply-passage and the passages to the engines. A suitable collar G is provided for holding down the valve, this being screwed into lugs in the coupling.

In operation to shut off the steam-supply from the right side in case of accident turn the valve a quarter-turn to the right, thus closing the steam-passage to the right cylinder. In case of breakdown on left side of the engine turn the valve a quarter-turn to the left, thus cutting off the steam-supply to the left side of the engine. In case of accident to both sides of the engine turn the valve one-half turn, and this shuts off the steam-supply to both cylinders.

In Figs. 6 and 7 another form of coupling is shown, although the valve is the same, the coupling being different from that shown in the other figures of the drawings by the manner in which the steam is admitted and distributed to the valve. In this construction the steam is admitted through the end H into the nigger-head coupling through an elliptical passage, thence through the valve-ports in the same manner as in the other form.

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

1. In a locomotive, in combination with the steam-passages for supplying the engine-cylinders and the supply-passage from the boiler, a coupling between the said passages and a three-way valve located in said coupling; as and for the purpose specified.

2. In a locomotive, in combination with the

steam-passages for supplying the engine-cylinders and the supply-passage from the boiler, a coupling between said passages, said coupling being provided with an elliptical or circular passage, and with side passages communicating with the engine-cylinders, and a three-way valve located in said coupling and adapted to be turned to register or to close one or the other or all of said steam-passages; substantially as described.

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

CHESTER E. H. LINCOLN.

Witnesses:
S. F. MEGUIRE,
O. S. DUNCAN.