No. 624,667. Patented May 9, 1899.

C. J. MELLIN.

OVERPASS VALVE FOR LOCOMOTIVE ENGINES.

(Application filed Dec. 29, 1897.)

(No Model.)

Fig 1.

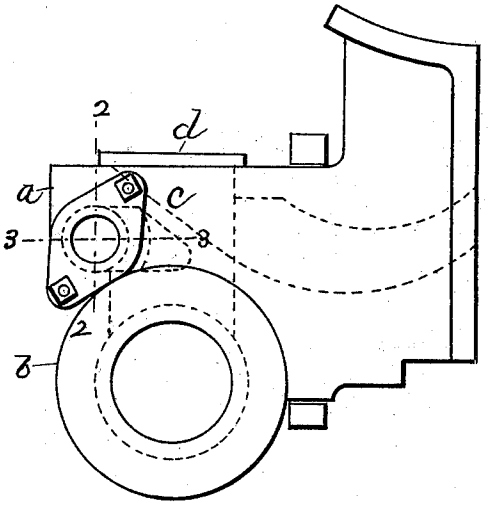


Fig. 2.

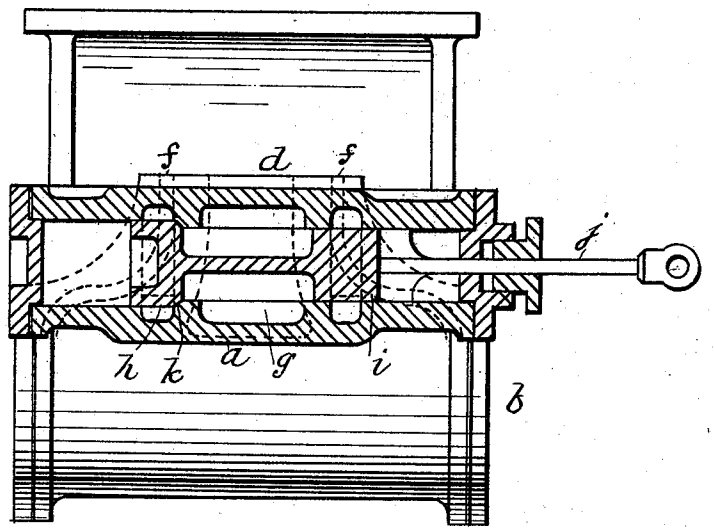
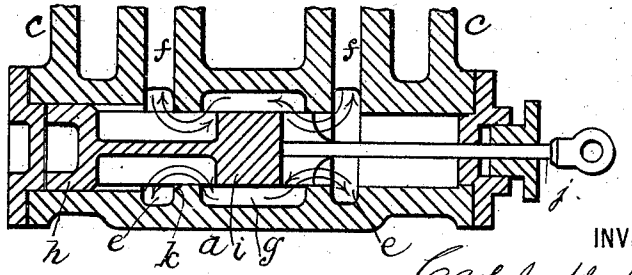


Fig. 3.



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CARL J. MELLIN, OF RICHMOND, VIRGINIA, ASSIGNOR TO THE RICHMOND LOCOMOTIVE AND MACHINE WORKS, OF SAME PLACE.

OVERPASS-VALVE FOR LOCOMOTIVE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 624,667, dated May 9, 1899.

Application filed December 29, 1897. Serial No. 664,167. (No model.)

To all whom it may concern:

Be it known that I, CARL J. MELLIN, a citizen of the United States, and a resident of Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Overpass-Valves for Locomotive-Engines, of which the following is a specification.

My invention relates to overpass-valves for locomotive-engines in which the valve-case is an integral part of the cylinder-casting and the passages for the overpass of air or vapor from one end of the cylinder to the other are cored in the casting, which is an important consideration in the practical construction, because it is found very difficult to find room in locomotive-engines as at present constructed for application of a separately-constructed valve-case of the required capacity for effective service by attachments having the necessary large passages, and even an integral valve device contrived for automatic action involves complications of construction which it is desirable to avoid.

To these ends my invention consists of a simple contrivance of an integral overpass-valve attachment with a valve to be actuated by a hand-lever in the cab, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is an end elevation of a steam-cylinder and part of the saddle of a locomotive, showing the application of my improved overpass apparatus, the steam-chest being removed. Fig. 2 is a vertical longitudinal section on line 2 2 of Fig. 1, including the valve. Fig. 3 is a horizontal section on line 3 3 of Fig. 1.

The valve-cylinder *a* is cast, together with the steam-cylinder *b*, along the outside of the main port-casing *c* and below the valve-face *d* in about the same arrangement as represented in my Letters Patent on an automatic overpass-valve device, No. 587,505, dated August 3, 1897; but in this case only the ports *e*, communicating with the live-steam ports *f*, are provided. The other ports of that patent communicating with the steam-chest and always open to live steam are omitted, not being necessary in this invention. Between the junctions of these ports with the valve-cylinder said cylinder is chambered at *g* for free communication between them when desired, and a piston-valve having heads *h* and *i*, adapted to open and close said ports and afford communication between them when they are to be opened, is applied in said cylinder, said valve being provided with a rod *j* for connection with a lever in the cab in any of the well-known ways to enable the engineer to operate the valve at will. The part of the valve-cylinder containing head *h* is a little larger than the part containing head *i*, and a shoulder is provided at *k* for a seat, whereon said head *h* may close a little more effectively than without such seat, particularly if the lever-latch is made to hold the head *h* against said seat with some pressure, as if the lever be sprung forward a little after the head lodges on the seat to engage the latch in the notch of the latch-holding bar.

It will be understood that when the valve is in the position represented in Fig. 2 the overpass is closed for the regular operation of the engine; but when the valve is shifted back to the position represented in Fig. 3 the overpass is open for the air or vapor to pass from one side of the piston to the other when steam is shut off and the engine is "drifting" to relieve the piston from excessive resistance and prevent an excessive amount of cold air from entering the cylinder through the exhaust-passage.

I claim—

The improved overpass attachment for steam-engines consisting of the combination with the cylinder, of the overpass-valve case located in and formed integrally with the cylinder-casting and having ports respectively communicating with the cylinder steam-ports and an independent overpass-valve in said case adapted to open and close said overpass subject to the control of the engineer substantially as described.

CARL J. MELLIN.

Witnesses:
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