

J.A.H. Ellis' Packing Box.

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PATENTED JAN 31 1871

Fig. 1.

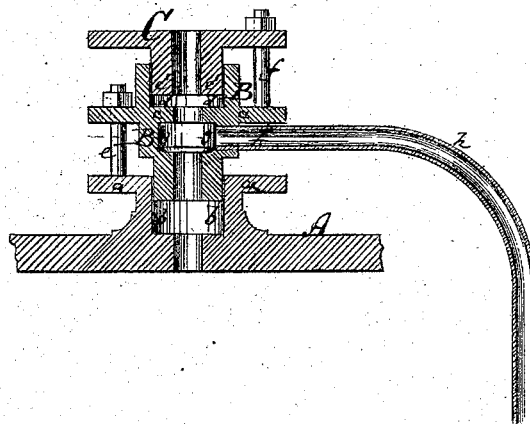
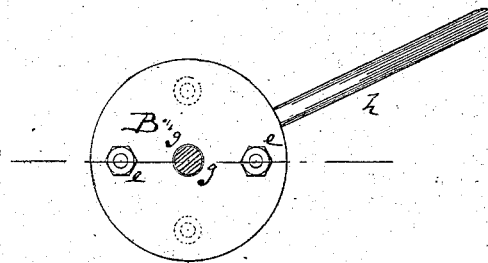


Fig. 2.



Witnesses:

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JOEL A. H. ELLIS, OF SPRINGFIELD, VERMONT.

Letters Patent No. 111,330, dated January 31, 1871.

IMPROVEMENT IN STUFFING-BOXES FOR ENGINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOEL A. H. ELLIS, of Springfield, in the county of Windsor and State of Vermont, have invented a new and improved Stuffing-Box for Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 represents a longitudinal section of my improved stuffing-box.

Figure 2 is a transverse section of the same.

Similar letters of reference indicate corresponding parts.

This invention is to prevent the escape into the atmosphere of vapor around the piston and valve-rods, and the escape of the fluid from which the vapor is produced around the plunger of the force-pump that supplies vapor-generators where expensive volatile liquids are employed in the generator of a vapor-engine.

My invention consists in a chamber, provided between two stuffing-boxes surrounding such rod or plunger, and from which chamber a tube passes to a condenser or exhaust-pipe of the engine from the piston and valve-rods, and to the reservoir containing the fluid from the force-pump.

By this means I am enabled to prevent the escape of the vapor and fluid into the engine-room, and it becomes unnecessary to pack the stuffing-box as tightly as heretofore, and hence considerable friction is avoided.

A in the drawing represents the head of a cylinder, or equivalent device, provided with a projecting box, *a*, into which is fitted a gland, B, compressing the packing or stuffing at *b*.

The gland B contains an annular vapor-chamber, *g*, beyond which it receives another layer, *d*, of stuffing, that is held in place by a second gland, C.

Screws or bolts *e e* serve to secure the gland B to the head A, while other screws or bolts *f* hold C to B.

The annular chamber *g* which surrounds the rod or plunger is provided with a tube, *h*, that extends from the chamber *g* to the condenser of the engine or to the exhaust-pipe.

The vapor which may have passed by or through the packing *b* enters the chamber *g* and passes off by the tube *h*.

The packing *d* prevents the steam or vapor from leaving the chamber *g* except through the tube *h*.

The gland C or the metal *c*, at C, surrounding the rod or shaft, may be sufficient without any elastic packing.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The gland of a stuffing-box for the rods of a vapor-engine, provided with a vapor-chamber, *g*, and a tube for conveying away the escape-vapors, as specified.

JOEL A. H. ELLIS.

Witnesses:

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