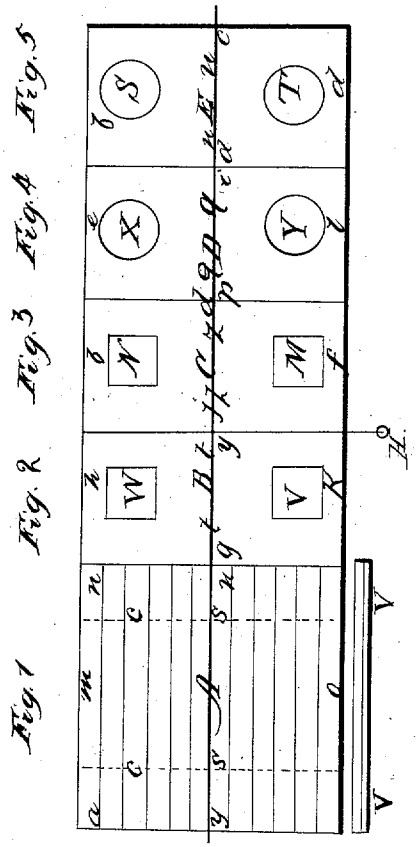
8283X

H. Strait,

Steam Balanced Valve.

Patented June 25, 1834



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

June 25, 1834 429

8283X

Hiram Strait of East Nassau New York

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Hiram Strait himself of his improvement in the Construction, Application and operation of scales on the principle of a Balance.

To all to whom these presents shall come. Be it known that I Hiram Strait of East Nassau in the County of Rensselaer and State of New York have invented a new and useful improvement in the construction application and operation of scales on the principle of a Balance for the purpose of percussing, compressing and exhausting air and Water, and that the following is a full and exact description of the construction application and operation of scales on the said principle of a Balance as invented by me

A represents the model to illustrate the construction application and operation of scales on the principle of a Balance. to create a forceful percussion on air. m. n. o. r. represents its sides which are four of equal length and strongly joined together at their corners. s. s. represents its balancing centre or scale. which is strongly connected to the middle of the sides r. m. Those small hair lines drawn from r. to m. parallel to the scale. s. s. represent small wires woven through their sides r. m. represent a thin narrow stiff slip of light cloth paper or metal a little wider than to fill one interstice between those wires. and as long as m. or r. This slip o. o. is to be nearly balanced & moveably hung across the wire. w. w. The heaviest side is suffered to hang down and be restrained so as to open at any angle by means of the strings C.C. which are attached to the side. m. Slips are to be similarly hung on all the small parallel wires and restrained by strings C. C. C. C. When this is done the handle H which is the common handle to operate the different modifications of the same principle in the model is to be moved quickly up and down which will cause a constant and forceful percussion on the air. and consequently reactions which will either propel or elevate as it is hung horizontally or perpendicularly. the slips may likewise be hung by one of their long sides and not balanced though sufficiently restrained. When the handle H is raised all those scales between m. and s. s. close air light and strike the air while those between s. and r. s open and let the incumbent air through. when brought down. those that closed. open and those that opened close. so that it will strike the same one way as the other. The size weight and shape of the wings to create percussion hung on this principle of a balance are variable. but the principle of operation the same. The wafer which I claim this as peculiar illustration of the

8283 X

principle of a Balance as an Inventor on its application to the Raising and Propelling of canal Barges, and sub-marine navigation to the Perfection of Canal and Rail Roads, Canal Boats Road Mills, and Ventilation. B Fig 2d represents the model to illustrate the Construction application and operation of Valves on the principle of a balance for the purpose of condensing or compressing and Raising air. h.g. k.g. represent a strong plank which is balanced and movably hung to the bottom of an air tight air cistern. The cistern can be of any shape and size. but its bottom must come to a point or ridge to resemble an inverted roof. Across this ridge this plank is balanced so that its ends h and k will alternately strike on each side of this ridge. or the bottom may be flat and then this plank must be curved or bent at its centre so as to allow the balancing motion. t.t. represent its axle or the middle when it is balanced across the bottom of the cistern V.W. represent two valves of a sufficient size one on each side of the balancing point which are to open upward as far as necessary for the easy admission of air. Valves being made and hung in the bottom of the air cistern directly over the balancing plank. and double their dimensions so as to open sufficiently inwards. The Bottom of the cistern on each side the ridge is to be air tight by fastening to this balancing plank. so as to allow its motion. and then when the double Handle H is either raised or depressed it will throw as much air into the air cistern by an upward or downward motion. When the handle H is raised the valve W in the plank opens and lets in air while the valve V closes tight and forces the air between it and the cistern through its own valve into it which when brought down. the valve V opens to let in air. and the valve W forces air into the cistern. The top of the air cistern can be made by means of leather to settle or fall as far into the cistern as it raises above and thus keep up the blast when the motion has ceased for some time. according to the dimensions of the cistern. The uses for which I claim this valuable illustration of the principle of a Balance as mentioned. are its application to Blowing and the condensation or Compression of air. either for the purposes of a moving power or explosion.

C fig 3d represents a model to illustrate the construction application and operation of valves on the principles of a Balance. for the purpose of exhausting or pumping air from air tight receivers of any shape or size. The construction application and operation are the same as those described in Figure 2nd. only that the valves instead of opening in. and must open outward. b.d.f.g. represent the balancing plank. 2.2. its axle or balancing point. and .M. N. its valves which are hung directly under those in the

8283 X

bottom of the vessel to be exhausted of air. The uses for which I claim this valvular
illustration of the principle of a Balance as an Inventor are its application to the ex-
hausting of air from all kinds of Receivers either for practical or scientific purposes.
D. Figure 4th represents the model to illustrate the construction application and operation
of valves on the principle of a Balance for the purpose of pumping raising and compressing
water. [i e l p 3 represent the circuit to which the two piston Rods are attached on
the lower ends of which the valves are hung either on a Balance or laterally. g g. represent the
balancing point or centre of the circuit. XY represent the upper orifices of two hollow
tubes or pipes whose lower extremities are inserted into a body of water. When the handle H is
raised the piston that operates in the orifice X. will cause the water over its valve as that
will immediately close while that in X opens to let the water up and thus whether the han-
dle H is raised or depressed it will raise or pump as much water at an upward or down
ward motion. Any number of valves may be balanced and operate on this principle with ease
and facility. The uses for which I claim this valvular illustration on the principle of a
Balance as an inventor are its application to raising pumping and compressing water for all
practical purposes either for ships wells vessels Boats. Steam Engines. foundaries. and to the
motion of Machinery propelled by water.
E. figure 5th represents the model to illustrate the construction application and operation
of valves on the principle of a balance. so as to create a powerful pressure either by water or air.
a. b. c. d. represent as the balance lever. n. n. its pivot or axle around which it is bal-
anced. S.T. represent valves through which the air or water is to pass in order to
create the pressure. The balancing valves are to be hung and have others hung over them.
the same as in figure 4th. The pressure will be communicated both by the upward & down-
ward motion of the handle H. and can be either uniform or intermittent.
The uses for which I claim this valvular illustration of the principle of a Balance as an
Inventor are. its application to printing stamping raising weights & the communication of all
kinds of impressions. These five illustrations of the construction application & operation of
valves on the principles of a balance can be operated by any moving power

Witnesses
Jno P Dusenbery
Geo W. Strait

Hiram Strait

Drawing

15 64 Words