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A. S. Darley,

Oscillating Steam Engine.

Patented May 23, 1836.

Fig. 1.

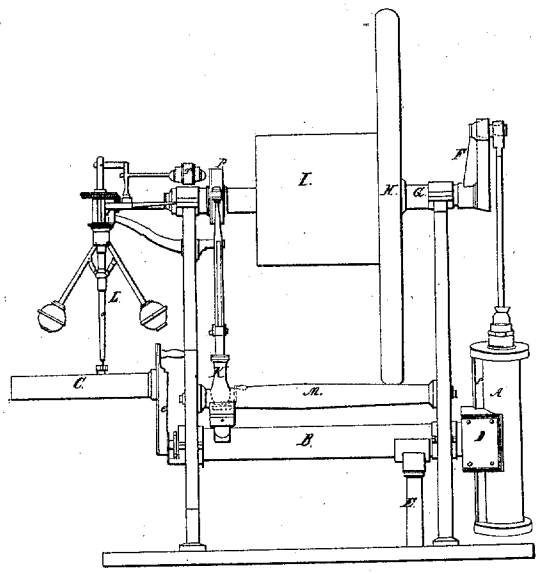


Fig. 2.

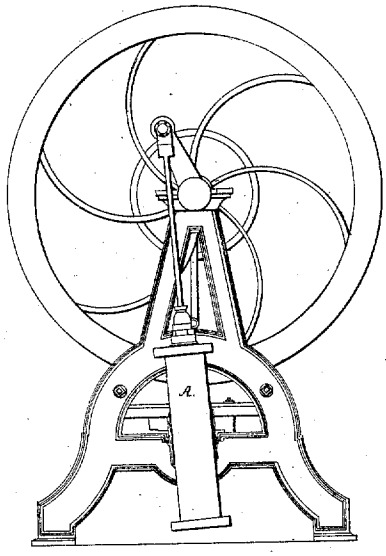


Fig. 1.

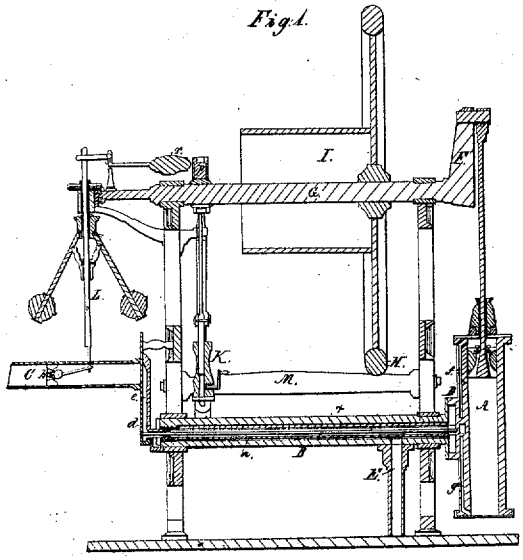


Fig. 2

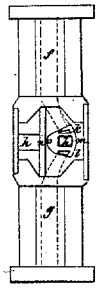
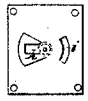


Fig. 3.



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

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May 23. 1836

1. 2.

Augustus D Quarley of Boston Massachusetts

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 Augustus D Quarley himself of his improvement in the Steam Engine.

To all persons to whom these presents shall come Augustus D Quarley of Boston in the County of Suffolk and State of Massachusetts machinist sends Greeting. Be it known that I the said Augustus D Quarley have invented constructed and applied to use new and useful improvements in the Steam Engine which improvements the principle thereof, and mode in which I have contemplated the application together with the manner of using the same I have hereunto set forth and described as follows. Plate 1st represents different views of my improved Steam Engine. Fig 1, being a side elevation showing the several parts as they are arranged and combined together or connected with the frame. Fig 2. is an end elevation exhibiting the form and shape of the frame together with the cylinder which is bearing on its shaft or axis. The main part of my improvements and what I consider as new is affixing the Steam cylinder A on the end of a long hollow shaft or mandrel B. supported in bearings near its extremities as seen in the drawings which other vibrating cylinders have generally been hung on two short journals or arms projecting from the opposite sides of the cylinder, and vibrating and moving in bearings connected to the frame work of the Engine, in which case the Steam has usually entered through one arm, and departed through the other, as has been likewise properly constructed to ensure the necessary movement of the Engine. The operation of the Engine may be described thus. The Steam cock in the induction pipe C being turned gives admission to the Steam from the boiler, which passing through the openings of the throttle valve b is thereby downwardly into the pipe d leading from the box c and situated in the hollow mandrel or shaft B and thence into the Steam valve chest D. From the valve chest it passes through

the piston & into the cylinder where it acts on the piston and forces it down-
wards. In the mean time a communication is opened by the valve
passing by the slot or opening b. so that the steam or air under
the piston escapes through the pipe g under the valve into the open-
ing b. thence through the slot S into the mandrel D from which
it escapes through the eduction pipe G. The construction of the valve
and apertures K. b. &c. are more clearly shewn in Figs 2 & 3
(Plate I.) The valve being stationary and attached to the end of a rod
K the other end of which is secured to the lower part of the steam
Box C. The steam chest is divided by a partition N. into two
apartments, one for the reception of steam from the Boiler, the other for
it after leaving the cylinder. The head of the piston rod is immedi-
ately connected to the crank P on the main shaft O. Of the
fly wheel, I a pulley or drum for communicating power to any ma-
chinery to which the Engine may be attached, Q is the eccentric giv-
ing the plunger of the force pump R. S is the governor spindle driv-
by a bevelled pinion on the end of the main shaft connected with a
bevelled wheel on the upright shaft o. M. M. are iron ties with ad-
justing screws and nuts for connecting the ends of the frame together. n
counterpoise of the governor. The remainder of the machinery is con-
structed as represented in the drawings and may be otherwise fash-
ioned or arranged if necessary.

In conclusion what I claim as my invention and improvement is
the combination of the several parts together as described and exhibit-
ed in the ... annexed drawings. and separately I claim connecting
a steam cylinder to the end of a long mandrel or shaft to inhale
back and forth and exhaust as I have herein mentioned, In wit-
nessing that the above specification of my said invention and
improvements I have hereunto set my hand this nineteenth day
of March in the year of our Lord Eighteen hundred & thirty six.

Signed Thos. H. Dudley

Evd. Witnesses
W.G. T. H. Dudley
J. W. Adams