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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Public DEPARTMENT

G.O. No.	(76) (185-7)	Press.
B.P. No.		Mis.
Dated 25. 1. 1881.		197

V.B

Not to be folded or roughly handled

SPECIFICATION

Of a Steam Boiler and Furnace
or other Vegetable matter fired furnace

1859.

My invention is entirely
fuel and clearing out ashes or refuse
besides possessing the advantage of carrying
up steam very rapidly entirely dispensing
for stoking purposes. The boiler is either
a vertical or upright one with internal
to its size the furnace or furnaces being
in the chimney. Further the

Three Tubes (B) which lead to the
External Hue or Casing (D) which is
external shell of the boiler in order
This casing may be made either of iron
or Casing (D) leads on the gases to the
with the chimney whence it escapes
upon a Baseplate or Frame (F)
castiron but which can if required
and is fitted with circular fire bar
connecting towards the bottom

there is a line
to go round the
the heating surface.
The external Hue
which communicates
The boiler rests
the drawing is of
made of brickwork
spaces between them

at the bottom of the boiler, may be used
in the usual way through the Door B
shown at (R) in the drawing by taking the
closing the opening at (C) and allowing the heated gases to pass
out through the opening at (A) as shown and most convenient
and useful.

Another modification of the grate and means of

of sloping (not shown
having another cover
or machinery moving
the burnt husks over
fixed grate below
another. This grate
Hopper (A) or

The fuel
to give stiffness to
at (M) the Hopper
cock at (P) and
at (S) in the drawing.

In working
husk Sawdust &c.

Hopper (A) a fan
power supplied
convenient.

Another
a shut, slide or valve
a fire in the furnace
slide or valve in A
speed or quantity required

in the drawing) is a fixed circular grate
grate on top of it, made to revolve by gear
in furnace a self clearing one as much of
could be allowed to pass through the
over the openings come directly over one
supplied with fuel either through the
a door or doors as is shown at (K) and fired

are introduced to promote circulation as well as
pace or internal flue. The safety valve is shown
(J) the Feed Water chest at (O) the Blow-off
main Firebricks at (R) and Tester gauge glass

Boiler (shown in the drawing) Safety-
valve, matter is first supplied to the
lighted in the Furnace (H) with wood
where sufficient to ~~the~~ source or

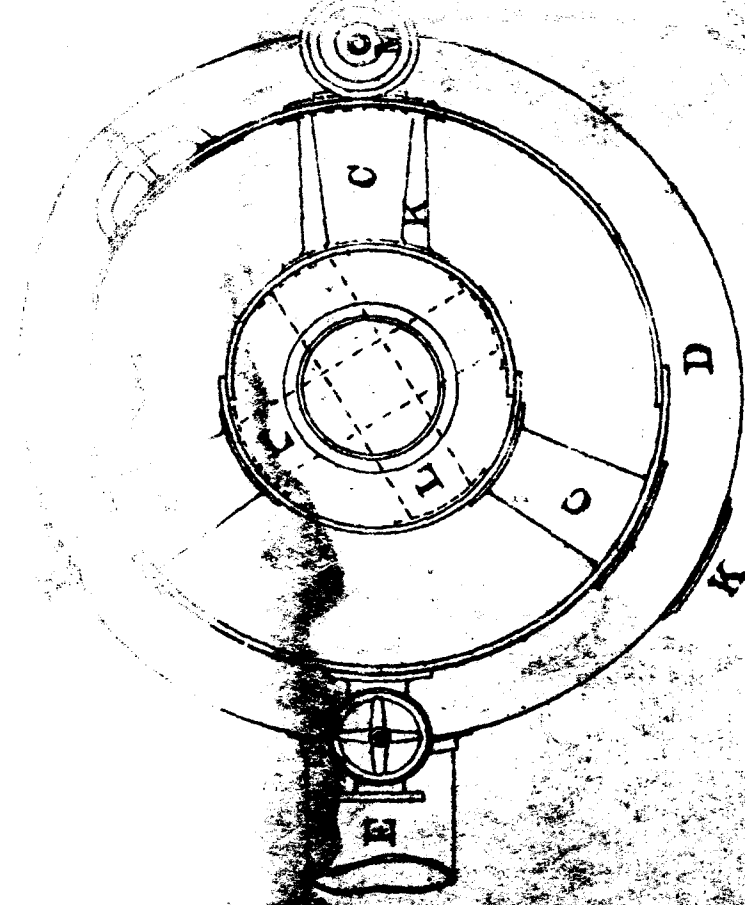
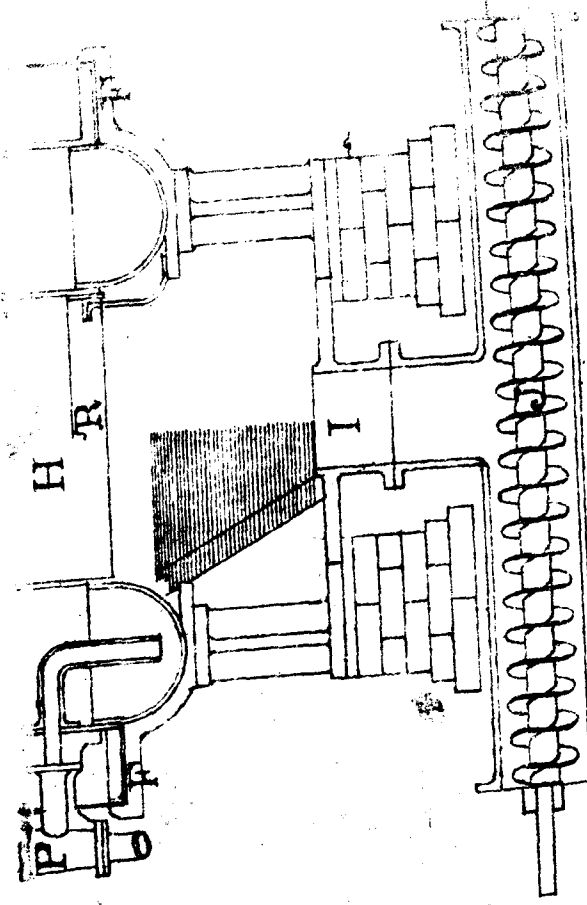
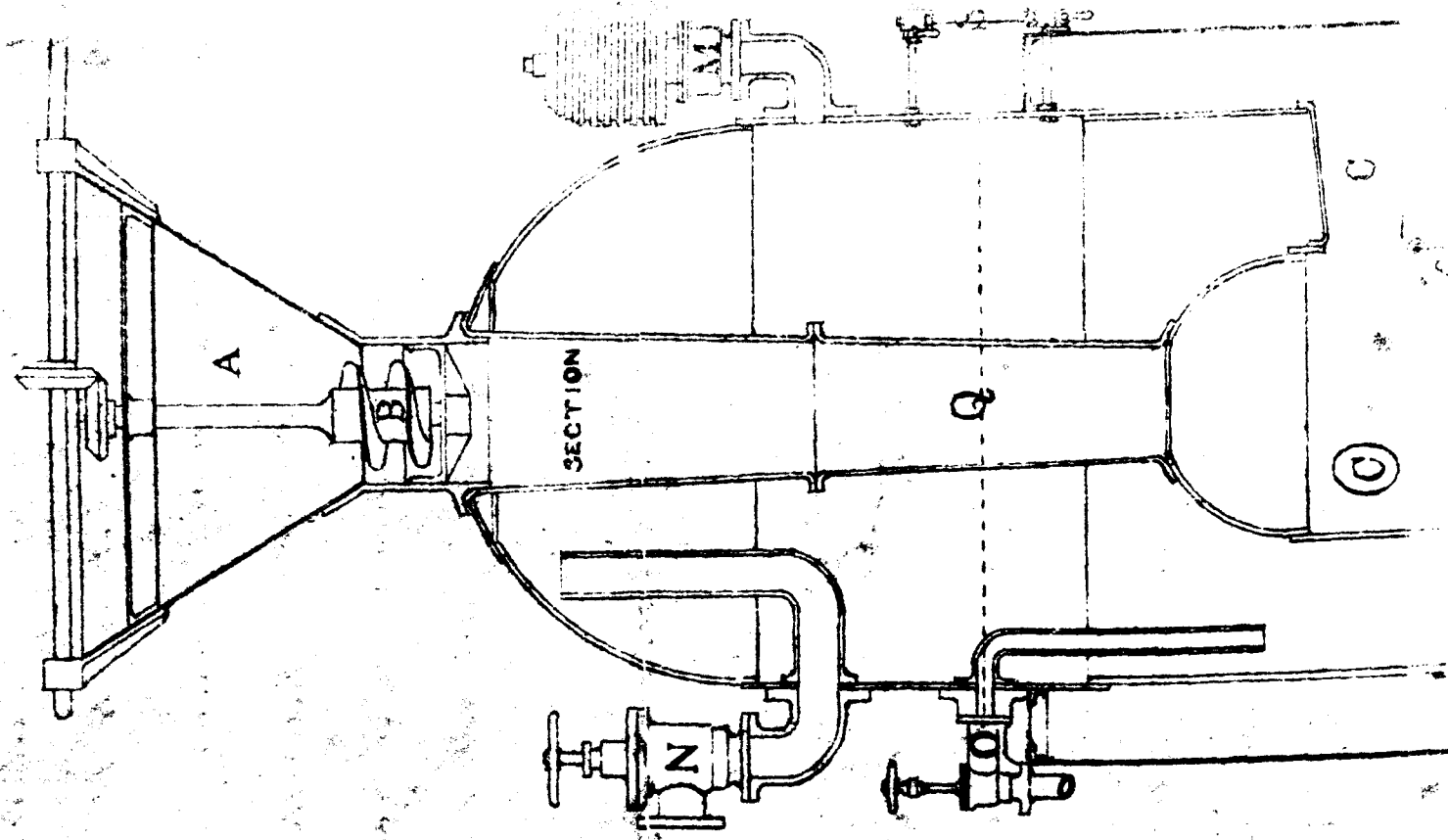
small engine or by any other means most

working this Boiler and Furnace is having
the bottom of the hopper A and after kindling
with wood, coals or other fuel, to open the shut,
allowing it to fall by gravitation into H at a sufficient
ashes or refuse can also be removed by allowing

H. The latter method is adopted where power is not convenient to be
had, or during the time that steam is being raised to drive the power which
is to be used for the pump and cleaning gear.

Dated at *London*
the 31st day of *Dec* 1880
A. P. Russell

BOILER FOR BLENNING PADDY-HUSK SAW-DUST OR OTHER VEGETABLE WASTE



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Specification of an invention for the
Application of Carburetted Atmospheric
Air for lighting or illuminating purposes
generally and particularly for lighting
Railway Carriages, Stations Signals &c.

The invention consists in the
method or mode of producing a regular
and constant current of atmospheric air
at a required pressure and temperature, which
is afterwards carburetted and converted
into illuminating gas for lighting purposes
generally, and particularly for Railway
Carriages, Stations Signals &c. The
invention also includes a method for
supplying the kerosene or inflammable oil
or spirit for carburetting the air, in such
a manner as to effectually avoid and
prevent any waste of spirit or danger
from taking fire during the operation of
charging the apparatus with the inflammable
spirit.

The invention does not require drawings
to describe it, and the various parts may
be varied in form and design to suit
circumstances and localities. The manner
of producing the stream or current of air
is

6/5/77 (2)
is as follows:-

A vertical pipe or pipes of suitable length and diameter is or are placed vertically, the upper end or ends being slightly bell mouthed or conical and open to the air, the lower end or ends being below the level of water or other liquid in a closed air tight tank or receiver. In to the upper end or ends of the vertical pipe or pipes an intermittent or pulsating supply of water or other liquid is made to fall which drives before it downwards, the air contained in the vertical pipe or pipes, also the air which enters the pipe or pipes between the interruptions or pulsations of the water or other liquid.

In this manner the air and the water or other liquid pass downwards together into the air tight tank or receiver the air being therein collected in the upper part, behind the water or other liquid and the surplus water or other liquid above a certain required level, allowed to escape through an inverted syphon or other suitable org, or to be pumped up to an upper tank and used over again or allowed to run to waste as circumstances may require.

The air thus collected is conducted by a suitable pipe to the gas burners where
by

(3)
by means of a ventable annular Chimney or
Chamber, or spiral coil of pipe over or surrounding
the gas jet or flame, till becomes heated, and
is conveyed from thence to a Chamber filled with
some suitable absorbent material saturated
with Gasoline or other suitable inflammable
oil or spirit from which the air takes up the
vapour of the Gasoline or spirit and becomes
inflammable gas; the gas thus formed is
conducted in the ordinary manner to the
burners for illuminating purposes.

The manner of saturating the air
with the spirit of gasoline or other inflammable
oil or spirit as above described is not new,
and does not form part of the invention, but
the manner of charging the Carburetting Chamber
with gasoline or other inflammable oil or
spirit is new, and forms part of the invention
herein described and is as follows:- The
gasoline or other suitable spirit is put into
a drum or can of suitable material and
dimensions, the drum has a conical
top terminating in a stop cock and an
elbow pipe; the end of the elbow pipe is
fitted with a screw which fits into an
union nut tightly placed and attached
to another stop cock on the Carburetting
Chamber. To charge the Chamber with gasoline
or other suitable spirit the can or drum is
screwed to the Chamber by the union nut,
the drum is then inverted and both stop
cocks opened, at the same time, the gasoline
or

or other oil or spirit then flows by gravity into the carburettor chamber saturating the absorbent material it contains with the gasoline or spirit. The drum is then reversed or brought back to its lower or former position and the surplus gasoline or spirit or that portion which has not been absorbed in the carburettor chamber finds its way back into the drum. The stop cocks are then both closed and the drum unscrewed from the union nut and removed. The union nut as described acts as a swivel and allows the drum or can to be inverted or turned both in upwards and vice versa at pleasure. In this manner the vapour of the gasoline or other inflammable air or spirit cannot escape and both waste of material and risk of taking fire during the operation of charging are effectually avoided and prevented.

Lucknow
Jan 28th 1881

J. H. Cooke

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Public Dept
Register No. 119 of 1887

RECEIVED in the office of the Secretary to the Government of India in the Home, Revenue and Agricultural Department on 25/1/87

F. D. D. D.

Secretary to the Govt. of India.

No. 119

Recd 25/1/87

No. 21

Copy forwarded to the Government of Fort St. George in conformity with Section 10 of Act XV. of 1859.

F. D. D. D.

Secretary to the Govt. of India.

FORT WILLIAM;
HOME, REV. & AGRIC. DEPT.
(PATENTS).
The 25/1/87

Public Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Under the following endorsement of the Assistant Secretary to the Government of India, Home Department.

Here 25/January 1887, No. 19824.

ORDER THEREON 25/January 1887 No. 76.

The following Notice will be published in the Gazette once. Notice is hereby given that there have been received in the Office of the Chief Secretary to Government, where any of them may be inspected at all reasonable times for payment of a fee of one Rupee, copies of the Specification of the inventions which the following are brief descriptions

A Steam Boiler, Furnace for burning Indur, Ash, Saw dust or other vegetable matter, fitted by Mr. J. H. Dudgeon, Engineer, Rangoon. For the application of Carbonated atmospheric air for heating or illuminating purposes generally, and particularly for lighting of Railway stations, Station Signals &c. Invented by Mr. Joseph Cooke, Locomotive & Railway Engineer at Rohilkhand Railway, Lucknow.

Act XV of 1859.

in accordance with Section X,

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25/1/87

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Public (1881) Sept

No 76 Min

Dated 25th Jan'y /81