

(1) Number of pages 18(2) Date of repair Sept(3) Initials of the Referencer lcn

# 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 filled Furnace

1859.

My invention is entirely  
fuel and clearing out ashes or refuse from the  
besides possessing the advantage of occupying less  
up steam very rapidly entirely dispensing  
for stoking purposes. The boiler is either  
a vertical or upright one with interior  
to its size the furnace or furnaces being  
one both containing fuel.

There is also (C) which leads 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 Base plate or frame (F)  
cast iron but which can if required  
and is fitted with circular fire bar  
converging towards the bottom

in the usual way through the Door  
shown at (R) in the drawing by taking  
closing the opening at (C) and allow  
cut through the opening at (A) as  
and useful.

Another modification of the

# ION

mode of supplying  
the furnace of a boiler  
in room and getting  
with manual labour  
is applied in  
furnaces according  
to the shape of the

there is the  
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

is never, may be found  
on the fire grate  
precaution of first  
heated gases to pass  
and most convenient

grate and means of

of stoking (not shown  
having another corner  
or machinery mounted  
the burnt husks or  
fixed grate below  
another. This grate or  
Hopper (A) or

The Fuel  
to give stiffness to  
at (M) the Stop Valve  
cock at (P) and the  
at (S) in the drawing.

In working the  
husk Sawdust is

Hopper (A) a few  
power supplied from  
convenient.

Another view  
a shut, Slide or Valve  
a fire in the furnace  
slide or valve in A  
speed or quantity required.

When the fire is

in the drawing) is a fixed circular grate  
grate on top of it made to revolve by gear  
the 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 feed

are introduced to promote circulation as well as  
force or internal flue. The safety Valve is shown  
J) the Feed Water chest at (O) the Blow off  
Firebars at (R) and Tenter 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

is a 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

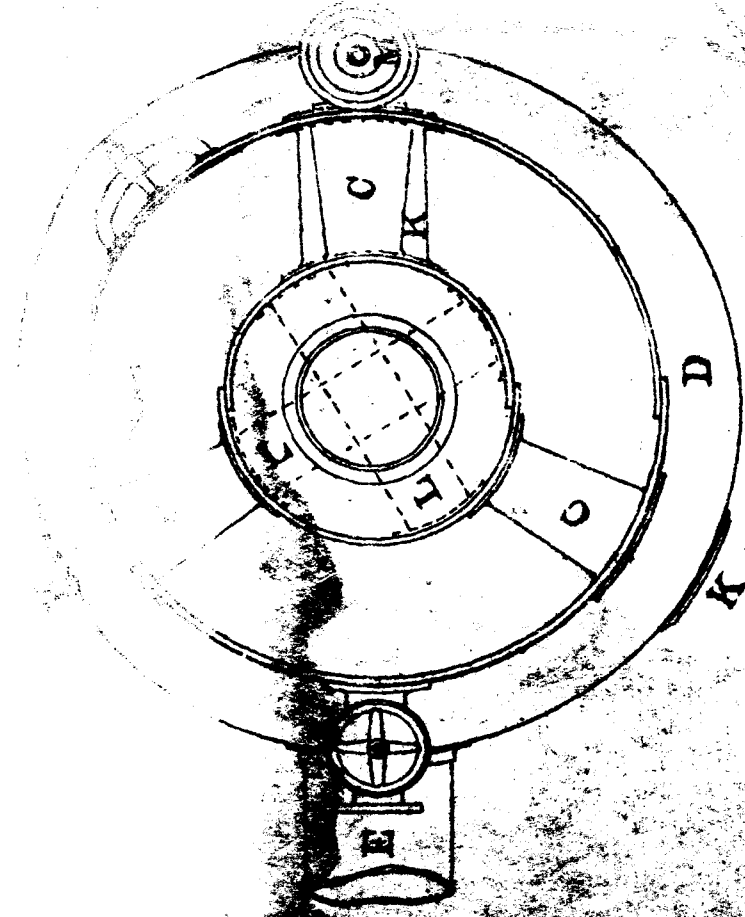
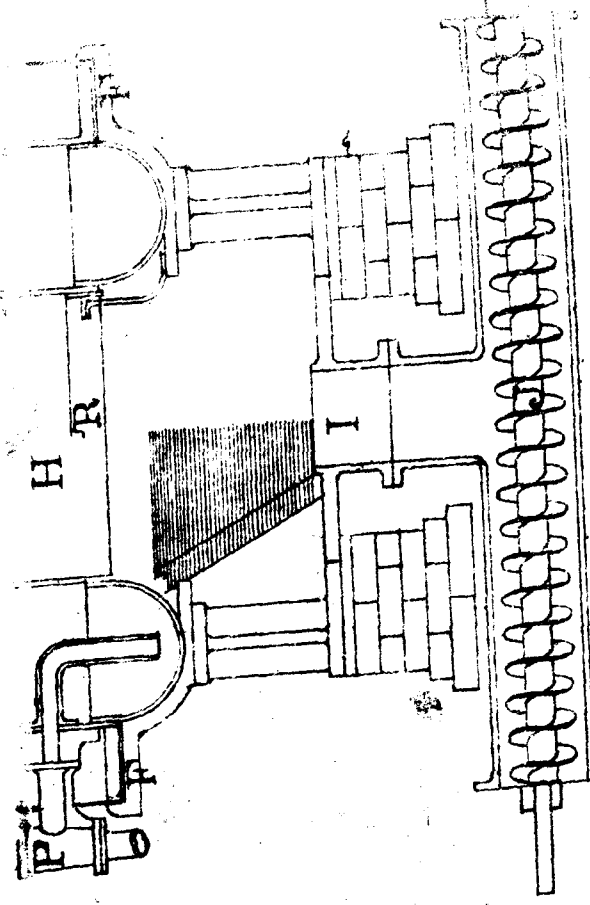
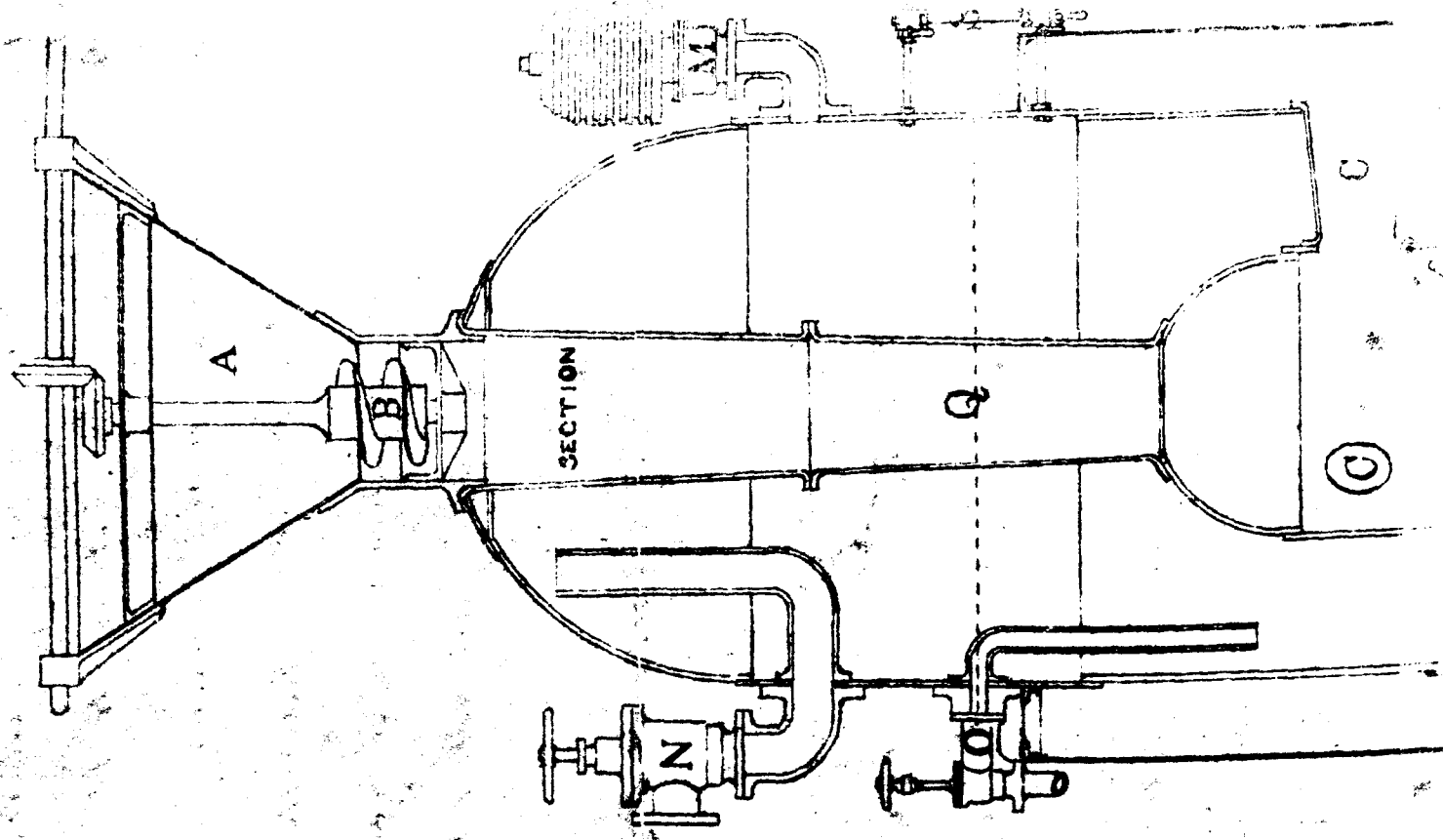
the fire is

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 Glasgow  
the 31<sup>st</sup> day of  
1880

A. P. Russell

# BOILER FOR BLENNING PADDY-HUSK SAW-DUST OR OTHER VEGETABLE MATERIAL



Scale 1/4 foot

each

2  
185-9

D

e

4

3/85-7

3/85-7

Public (1881) Sept  
Register No. 128 of 1880.

RECEIVED in the Office of the Secretary  
Government of India in the Home, Revenue  
Agricultural Department on the 5<sup>th</sup> of January  
1881.

F. Danks

10/9/81

Secretary to the Govt. of India.

Recd 19 Jan 1881.

No. 118.

No. 19

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

F. Danks

Secretary to the Govt. of Ind

FORT WILLIAM;  
HOME, REV. & AGRI. DEPT.  
(PATENTS),  
The 14<sup>th</sup> of January 1881.

7 H  
105-10

Joseph Green Cooke Locomotive  
and Carriage Superintendent and  
Nottingham Railway Locomotive  
and sincerely declare that I am in  
possession of an invention for the application  
of Carbonated Atmospheric air for lighting  
or illumination purposes generally, and  
particularly for lighting Railway Carriages  
Stations, Signals &c. which invention I  
believe will be of public utility; that I  
am the inventor thereof, and that the same  
is not published, known or used in India  
or in any part of the United Kingdom  
of Great Britain and Ireland to the best  
of my knowledge and belief; and that to the  
best of my belief the instrument in writing  
under my hand hereunto annexed particularly  
describes and ascertains the nature of the  
said invention, and in what manner the  
same is to be performed.

The 14<sup>th</sup> day of January 1881  
J. G. Cooke

185

4/13/88  
4/13/88  
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.

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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

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 airtight 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 airtight tank or receiver, the air being therein collected in the upper part, above 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

125 123  
(3)  
by means of a suitable annular chimney or  
chamber, or spiral coil of pipe over or surrounding  
the gas jet or flame, it 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, which 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 suitably 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. If desired 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 ~~is~~ 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.

Lucas

Jan 24<sup>th</sup> 1881

J. H. Cooper

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Call 100 / Dept  
Register No. 119 of 1876.

Received in the office of the Secretary to the  
Government of India in the Home, Revenue and  
Agricultural Department on 25/1/81  
1876

F. D. D. D.

Secretary to the Govt. of India.

No. 119

Recd 25/1/81

No. 274

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. & AGRI. DEPT.  
(PATENTS).  
The 25/1/81 1876

Public Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

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

Hereby January 1881, No. 19224.

ORDER THEREON 25 January 1881 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, a copy of a fee of one Rupee, copies of the  
Specification of the invention, which the following are brief descriptions

A Steam Boiler, Furnace for burning Paddy  
Husk, Saw dust or other vegetable matters  
for the application of Carbonated atmos-  
phere air for lighting or illuminating  
purposes generally, and particularly for light-  
ing Railway stations, Station Signals &c.  
Inventor, Mr. Joseph C. Cooke, Locomotive &  
Engineering Dept. C. & Rohilkhand Railway, Lucknow

in accordance with Section X,

Act XV of 1859.

24.1.81

25/1/81

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Public (1887) Sept

No 76 mi

Sailed 25<sup>th</sup> Jan'y /87