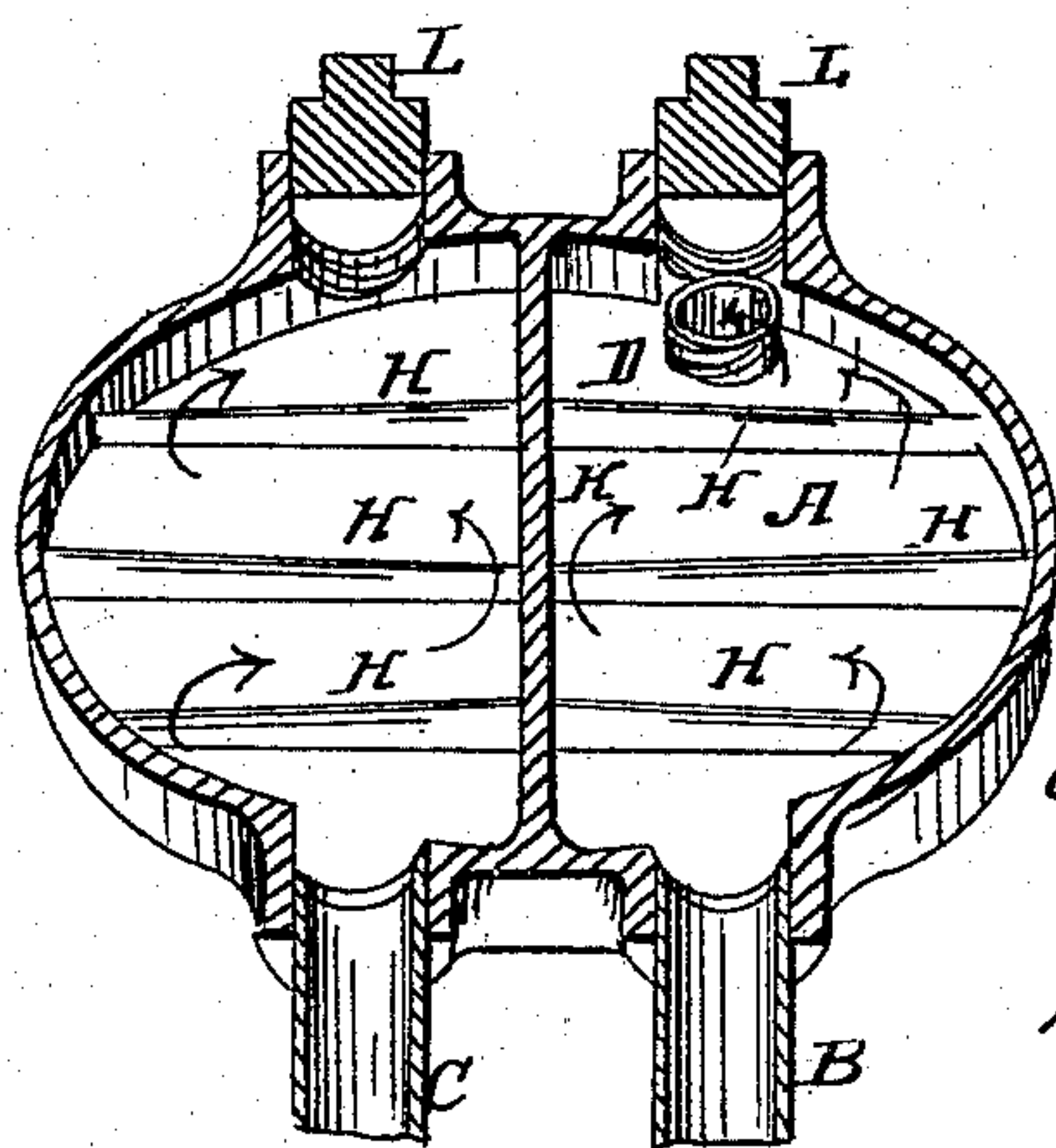
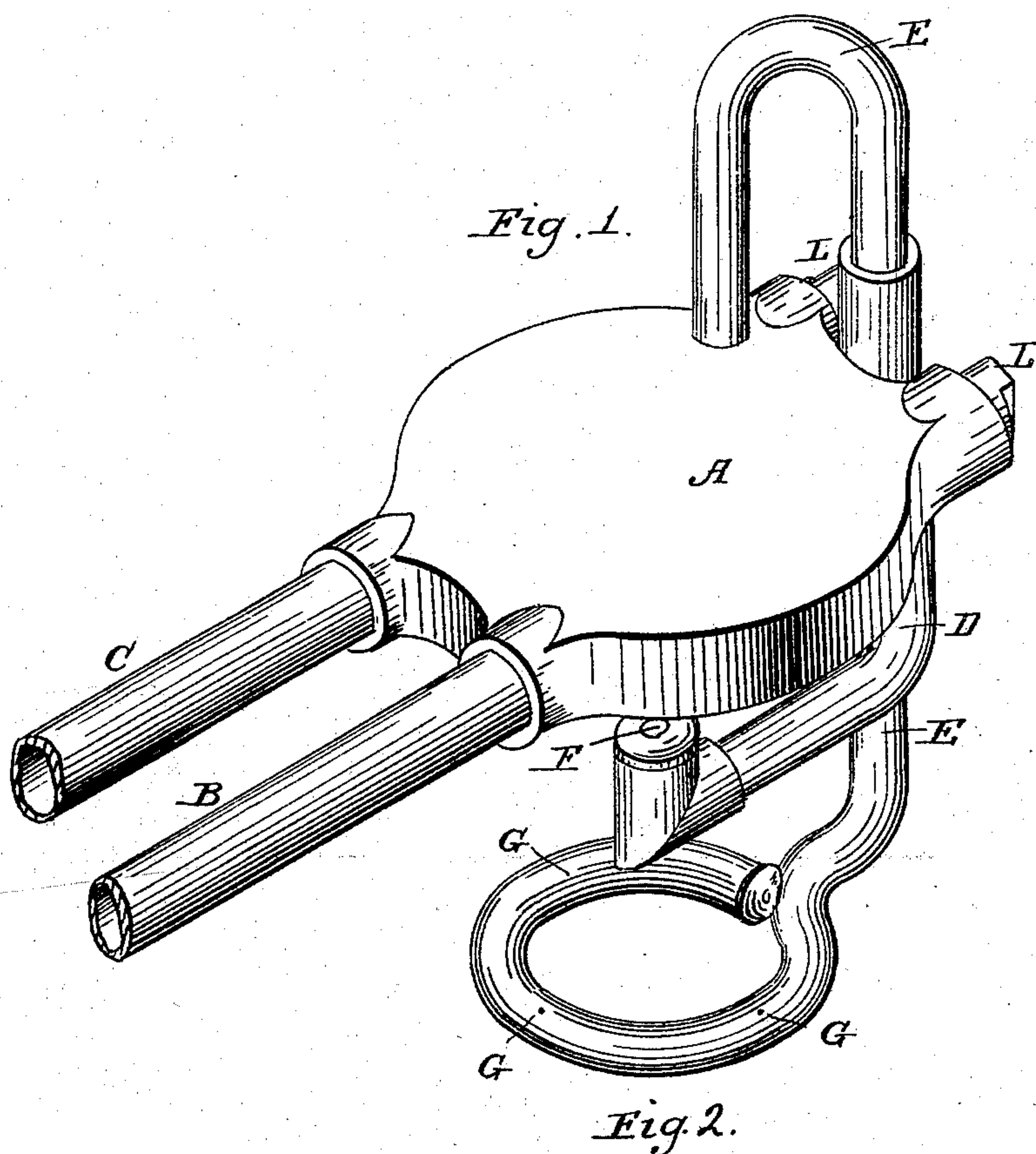


A. J. GRIFFIN.

Apparatus for Producing and Burning the Gases from Petroleum and Water.

No. 56,143.

Patented July 3, 1866.



Witnesses:  
L. S. Clouston.  
L. A. Murphy.

Inventor:  
Oliver J. Griffin  
by  
D. P. W. Murray & Co.  
his attys.



# UNITED STATES PATENT OFFICE.

ALVA J. GRIFFIN, OF LOWELL, ASSIGNOR TO HIMSELF AND WILLIAM T. VOSE, OF NEWTONVILLE, MASSACHUSETTS.

APPARATUS FOR PRODUCING AND BURNING THE GASES FROM PETROLEUM AND WATER.

Specification forming part of Letters Patent No. 56,143, dated July 3, 1866.

*To all whom it may concern:*

Be it known that I, ALVA J. GRIFFIN, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful improvement in that class of stoves intended to burn the gas created by the vaporization of petroleum with that created by decomposing water; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, made part of this specification, in which—

Figure 1 is a perspective view of the apparatus; and Fig. 2 is a view of the body of the gas-generator, the top being removed, so as to show the internal structure.

In the different figures the same letters refer to identical parts.

A is a strong case of gun-metal or other suitable material, hollow, and having an internal longitudinal rib or partition, K, by which the chamber A is divided into two equal and entirely separate portions.

B is an iron pipe leading from a reservoir supplied with petroleum, naphtha, or other equivalent combustible fluid, such fluid being regulated in its supply by a stop-cock. For greater security, I place fine screens across the induction-pipe to prevent the passage of flame through the tube to the reservoir, though these screens are not shown in the drawings and model. A similar pipe, C, supplies in like manner water from a reservoir, and in like manner is regulated by a stop-cock.

Across the chambers formed in the chamber A by the partition K lateral ribs H H H extend on each side of the partition to the external rim of the chamber. These ribs fill only a part of the space between the lower and upper faces of the chamber A, and are so arranged that the alternate ribs shall be higher at the end next the partition and lower at the other end, and vice versa. By this means the fluids entering through the pipes B and C are compelled to follow the irregular course indicated by the arrows, and are thus distributed over the heated surface of the bottom.

E and D are pipes leading from the chamber, by which the gases are carried under the chamber for consumption.

The gas generated by the petroleum or its equivalent combustible fluid passing through the pipe D is led immediately under the center of the chamber A, where it is discharged through the minute aperture F.

The pipe E is brought under the lower extremity of the pipe D, and concludes with a coil, as shown, which is parallel with the bottom of the chamber A, and is perforated with minute orifices G G.

L L are tap-bolts closing apertures in the end of the chamber, left for convenience in cleaning the same.

In operating with this apparatus, the combustible is being introduced so as to cover the bottom of the chamber A, appropriated for it, and alcohol or other flame is applied below the chamber, by which the vaporization of the petroleum or other fluid is accomplished, and the gas thus generated, passing through the pipe D and orifice F, is set on fire, and serves thereafter for the continued operation of the apparatus. When the chamber has become highly heated by the action of this flame on the lower surface, the stop-cock is turned, the water is permitted to pass in a thin sheet over the surface of its proper compartment, and is there converted into highly-rarefied steam, which, passing through the pipe F, and being discharged through the orifices G G, and mingling with the flame from the gas formed by the petroleum, is resolved into its gaseous element,  $(2H+1O)$ , in which form it burns with an intense heat.

I have spoken of this apparatus as a stove. It will be perceived that it is applicable to all sorts of heating purposes, and I claim it when employed for any purpose.

Having thus explained the construction and operation of my improved apparatus, what I claim as my invention, and seek to secure by Letters Patent, is—

1. Constructing the chamber A with a longitudinal partition, K, and lateral ribs H,

elevated and depressed at alternate ends, substantially in the manner and for the purpose set forth.

2. In combination with the chamber A, divided into two compartments by a central partition, the pipes D and E, when constructed and arranged in relation to the chamber A and to one another as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

A. J. GRIFFIN.

Witnesses:

DAVID C. FOLWELL,  
C. F. FOLWELL.