

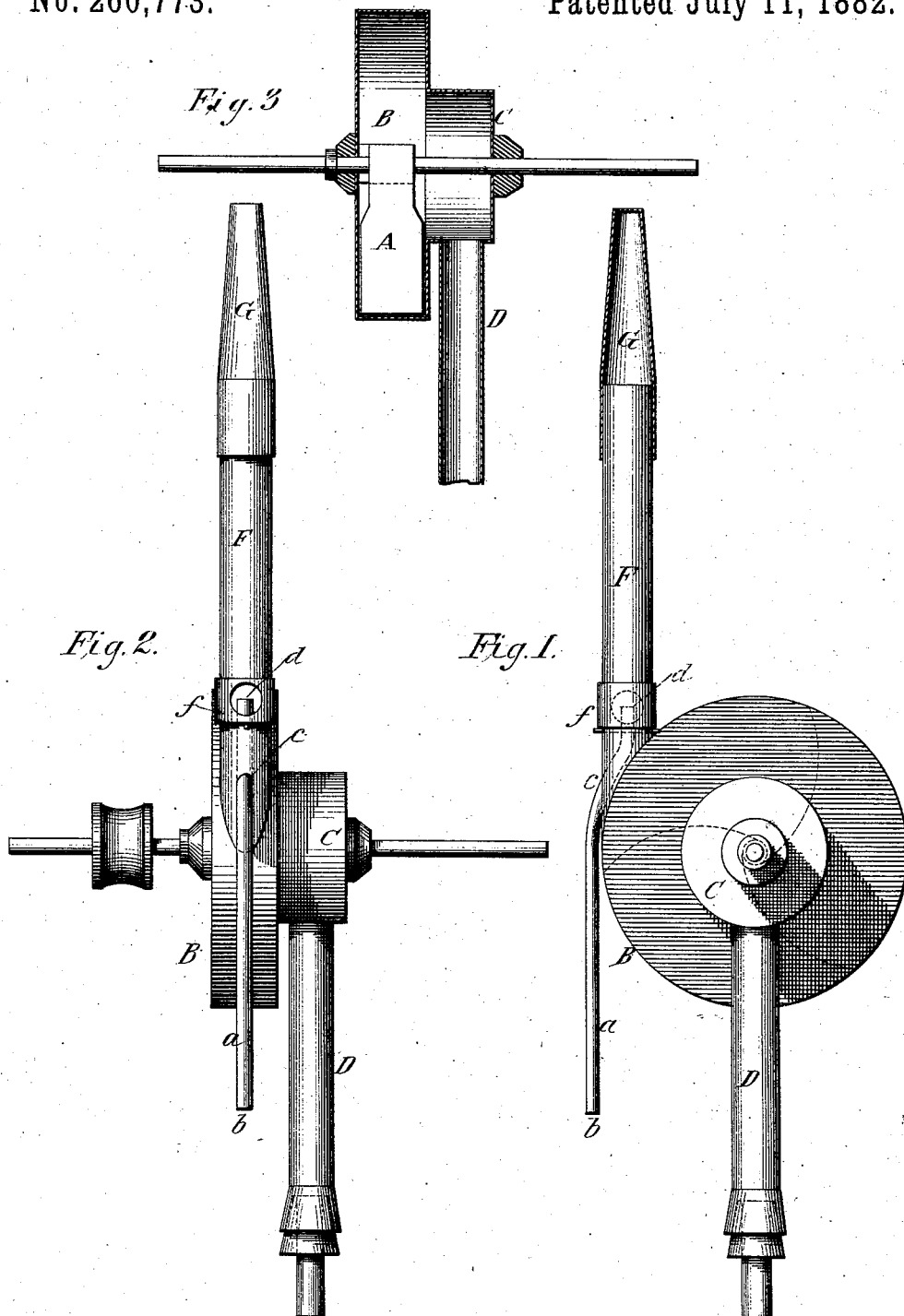
(No Model.)

T. T. MORRELL

BLOW PIPE.

No. 260,773.

Patented July 11, 1882.



Witnesses:
Lynns bledin
James M. Duwaut, Jr.

Inventor:
Thomas T. Morrell

UNITED STATES PATENT OFFICE.

THOMAS T. MORRELL, OF JOHNSTOWN, PENNSYLVANIA.

BLOW-PIPE.

SPECIFICATION forming part of Letters Patent No. 260,773, dated July 11, 1882.

Application filed March 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS T. MORRELL, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain
5 Improvements in Blow-Pipes, of which the following is a specification.

My invention relates to and is an improvement upon the blow-pipe for which Letters Patent of the United States No. 243,597 were
10 issued to me the 28th day of June, A. D. 1881.

The object of my invention is to combine with my blow-pipe apparatus for producing a less intense and easily-regulated flame to be employed in the earlier stages of chemical operations and before the fan-blast is used. It
15 is well known that in the initial stages of chemical operations it is desirable to use a less degree of heat, to be increased as the operation progresses, and by means of my improved appliances this is readily accomplished.

In the drawings accompanying this application, Figure 1 is a side view of my patented blow-pipe provided with my improvement on the same. Fig. 2 is an edge elevation of the
25 same. Fig. 3 is a section of the fan-chamber and valve-chamber of said blow-pipe.

The principal parts of said blow-pipe, as shown in said drawings, consist of fan A, fan-chamber B, valve-chamber C, inlet-pipe D,
30 outlet-pipe F, and nozzle G, which, together with other parts, are described more fully in my said patent of June 28, A. D. 1881.

My invention consists in providing said

blow-pipe with an independent gas-supply by means of the apparatus following:

a is a small metallic gas-pipe, taking gas by means of a flexible tube, or otherwise, at its end *b*. It enters the outlet-pipe F of the fan-chamber B at *c*, and extends into this outlet-pipe a short distance, as shown in Fig. 1, having at its end *d*, which is closed, one or more small perforations for the escape of gas into the outlet-pipe F. For the purpose of supplying air the outlet-pipe F is provided with the register *f*, placed at a point near the end *d* of the gas-pipe *a*, and so constructed that it may be closed, or more or less opened, at pleasure, and when closed will be gas-tight. In the initial or other stage of the operation, when a comparatively low degree of heat is required, this independent gas-pipe *a* will be used without the fan-blast. When a higher degree of heat is required the gas will be turned off from gas-pipe *a*, the register *f* will be closed, and the fan-blast will be used.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The gas-pipe *a* and register *f*, in combination with the blow-pipe, substantially as described, and for the purposes set forth.

THOMAS T. MORRELL.

Witnesses:

CYRUS ELDER,

JAMES M. SWANK, Jr.