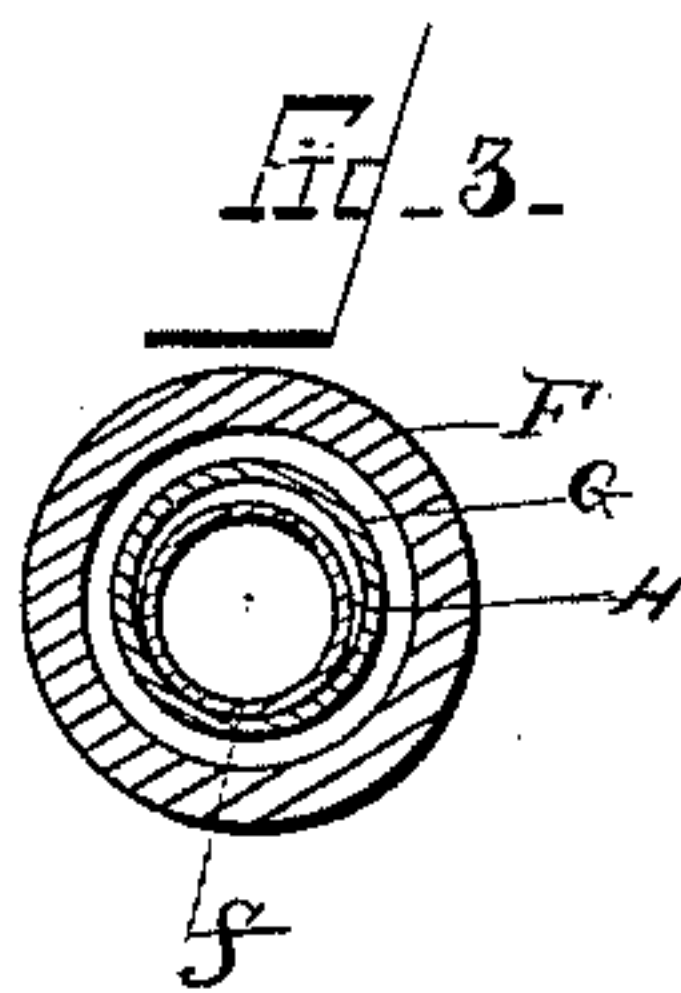
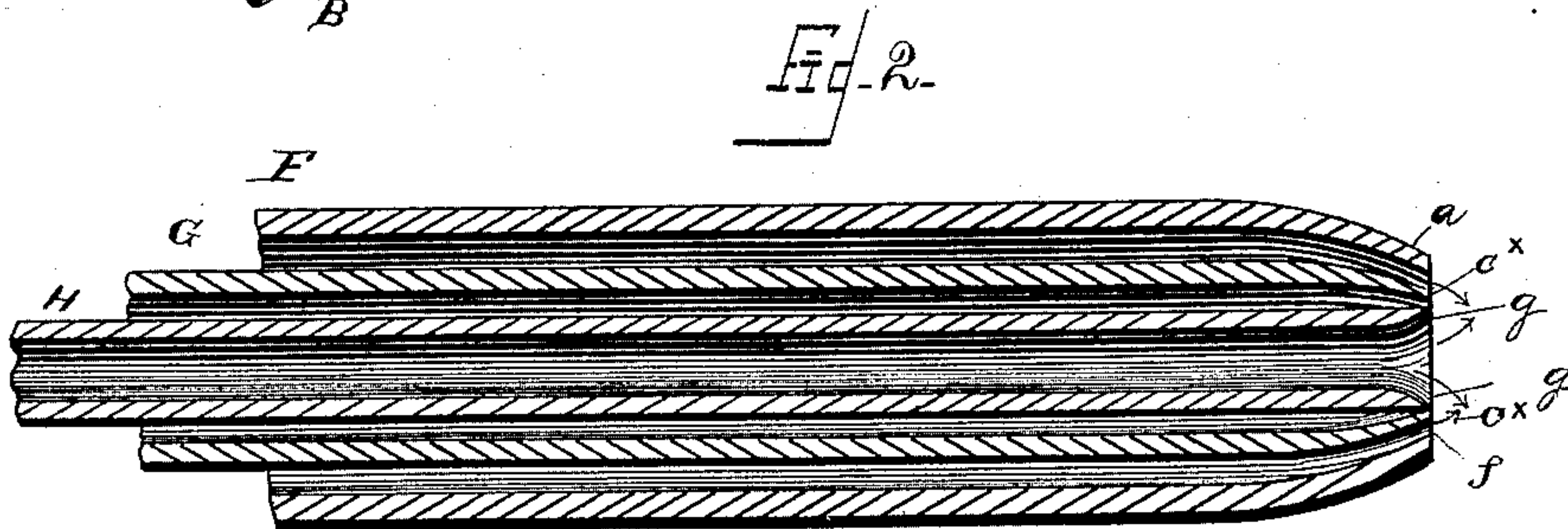
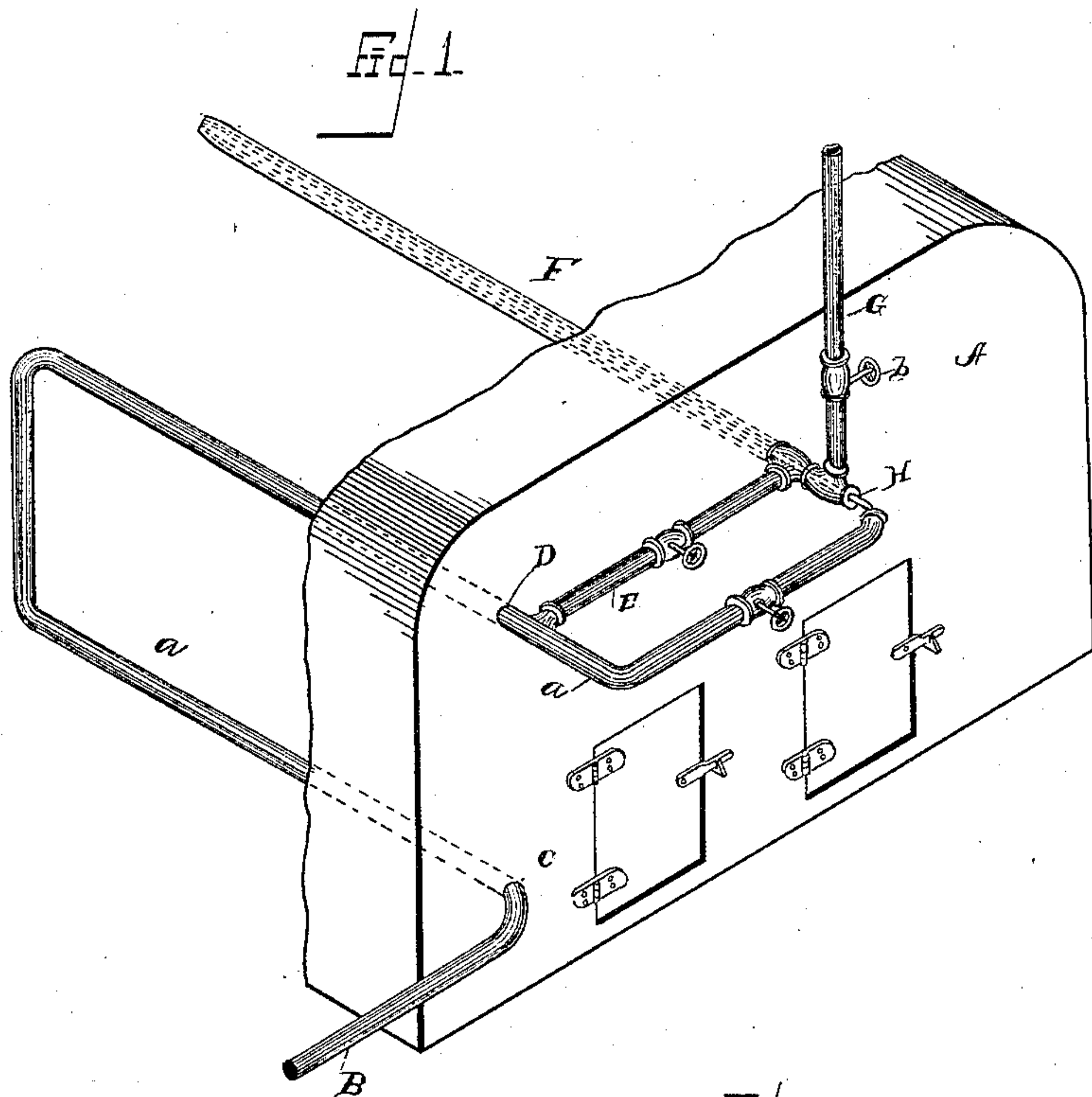


(No Model.)

W. M. JENNINGS.
INJECTOR OIL BURNER.

No. 422,222.

Patented Feb. 25, 1890.



Witnesses

J. M. Fowler Jr.
C. E. O'Connor

Inventor

W. M. Jennings

By his Attorney

E. W. Garabau

UNITED STATES PATENT OFFICE.

WELLINGTON MARCELLUS JENNINGS, OF BUFFALO, NEW YORK.

INJECTOR OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 422,222, dated February 25, 1890.

Application filed August 20, 1889. Serial No. 321,401. (No model.)

To all whom it may concern:

Be it known that I, WELLINGTON MARCELLUS JENNINGS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Injector Oil-Burners; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in oil-burners, and pertains more particularly to that class wherein coal-oil or other liquid hydrocarbon is used as a fuel in steam-boilers or other furnaces.

The object of my invention is to provide a burner which will spray the oil and mingle with the same superheated steam, so as to effect a complete combustion of the gases formed by the union of the oil and steam.

In the drawings, Figure 1 is a view in perspective of a portion of a furnace with my improved burner located therein. Fig. 2 is a longitudinal sectional view of the pipes forming the burner; Fig. 3 is an end view of the devices shown in Fig. 2.

A indicates the front portion of the furnace, which may be of any suitable or desirable construction.

B is a steam-pipe leading from a steam-boiler or other suitable source of supply, said pipe entering the furnace at C. The object of passing the pipe B through the furnace is to superheat the steam and get it thoroughly dry before coming in contact with the oil.

E is a pipe leading from the pipe B across the front of the furnace and connecting with the pipe F, said pipe F being contracted at its end to form a nozzle, as shown at Figs. 1 and 2.

G is an oil-supply pipe provided with a suitable cock *b*, by which the supply of oil is regulated, and being somewhat smaller than the pipe F it passes thereinto. This pipe G is also contracted at its end, as shown at *c*^x, Fig. 2, so as to form a nozzle.

The end of the pipe B connects with a smaller pipe H, which is passed into the oil-

supply pipe G, the pipe H being made adjustable in a longitudinal direction in any suitable manner to vary the size of the opening where the oil is discharged. This gives another means of regulating the oil-supply and also enables the operator to free the nozzle of any clot of oil which might have collected at the end of the oil-pipe.

The end of the steam-pipe H is made flaring, as shown at *g*, so as to spread the steam-jet as it emerges therefrom.

It will be noticed that the inner steam-pipe H and the oil-supply pipe G are so arranged at the end that they touch at the lower side, as indicated at *f*, Figs. 2 and 3. This prevents any dripping of the oil.

The steam from the inner pipe H spreads out and the steam from the outer pipe strikes inward toward the oil, as indicated by the arrows, so that the two jets of steam make a conical flame.

What I claim, and desire to secure by Letters Patent, is—

1. In a device for burning coal-oil or other liquid hydrocarbon, an outer steam-pipe, an intermediate oil-pipe, and an inner steam-pipe within said oil-pipe, the outer steam-pipe and the oil-pipe having inward tapered or bent discharge ends, and the inner steam-pipe having a flared discharge end, the discharge end of the inner steam-pipe resting at its lower edge upon the inside of the oil-pipe, closing the lower portion of the oil-pipe, said discharge ends of the pipes converging and standing in the same vertical plane, substantially as specified.

2. In a device for burning coal-oil or other liquid hydrocarbon, an oil-supply pipe having a steam-supply pipe located therein, the steam-supply pipe being arranged to rest at its lower front end on the inside of the oil-pipe, whereby the lower portion of the oil-pipe is closed and a dripping of the oil is prevented.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

WELLINGTON MARCELLUS JENNINGS.

Witnesses:

M. B. SPENCER,
JOHN FALLABEE.