G. W. THOMPSON.

Car. Heater.

No. 16,939. Patented March 31, 1857.

Fig. 2

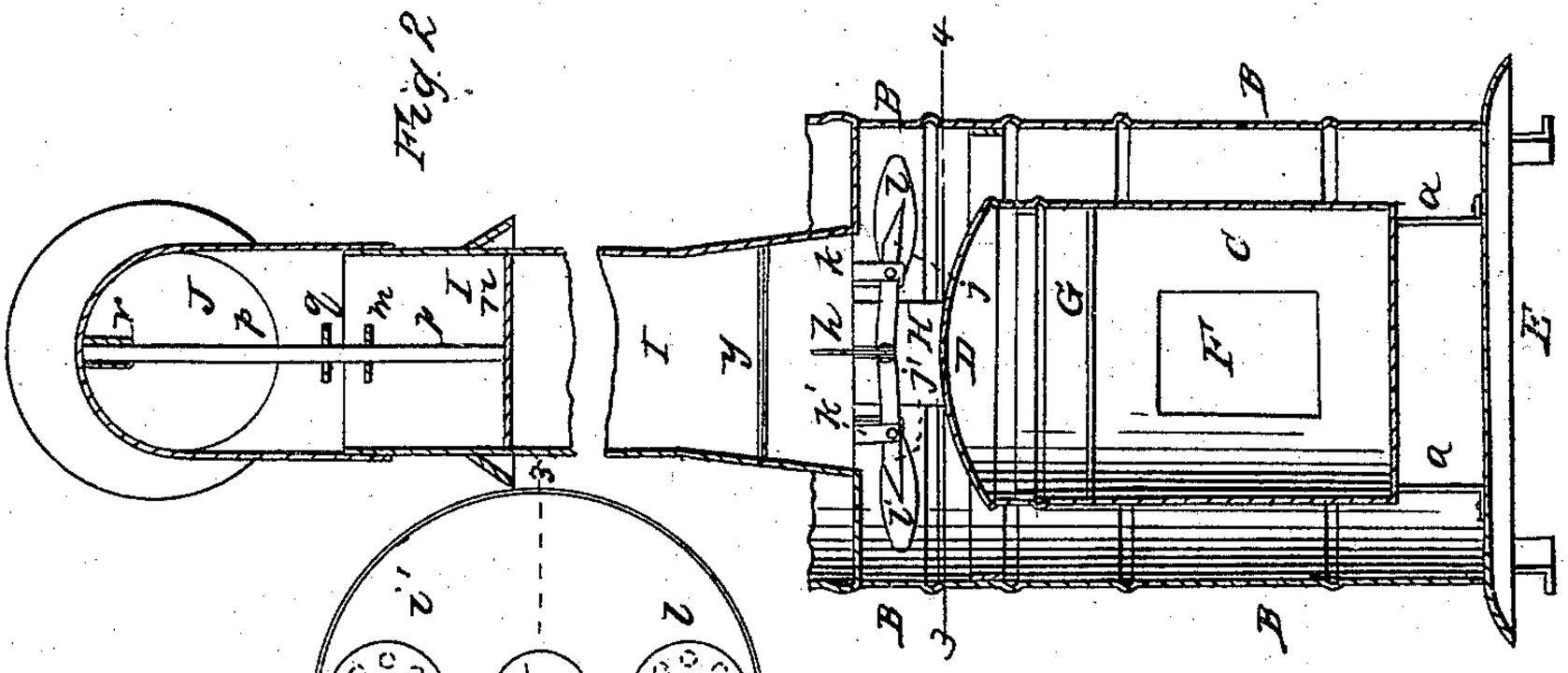


Fig. 3

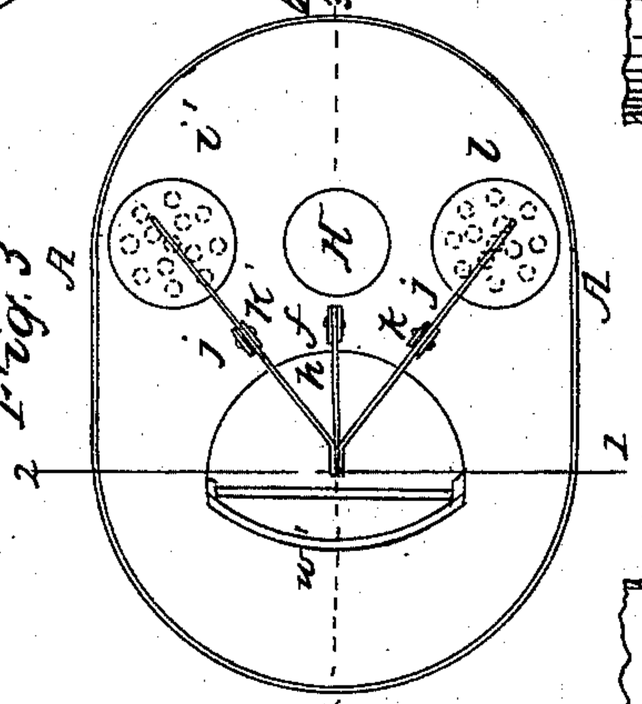
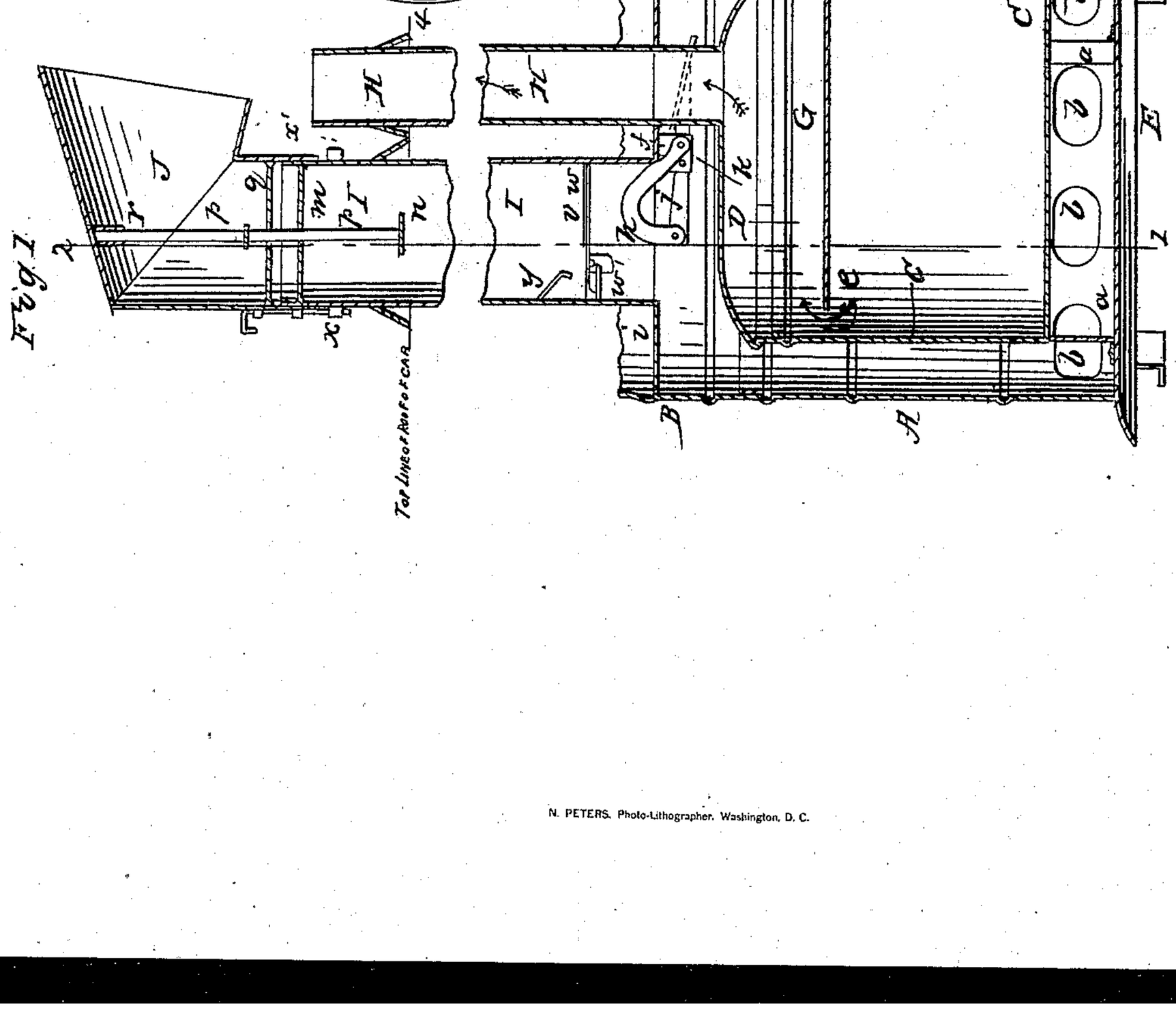


Fig. 1



UNITED STATES PATENT OFFICE.

GEORGE W. THOMPSON, OF BORDENTOWN, NEW JERSEY.

STOVE FOR RAILWAY-CARS.

Specification of Letters Patent No. 16,939, dated March 31, 1857.

To all whom it may concern:

Be it known that I, GEORGE W. THOMPSON, of Bordentown, county of Burlington, and State of New Jersey, have invented certain new and useful Improvements in Stoves for Railway-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to improvements in stoves for heating railroad cars and consists in the employment (in conjunction with the exterior casing and interior casing or fireplace) of a pipe communicating with the space intervening between the two casings, and passing upward through the roof of the car above which it is furnished with an adjustable hood so that by the rapid motion of the train a current of air may pass down the pipe, and being thoroughly heated by contact with the hot casings, may be forced out through openings near the bottom of the stove and thereby afford greater comfort to the passengers in cold weather than can be derived from stoves of the ordinary construction.

In the pipe through which the current of air passes is a valve which, when the cars are in motion is open and so acts on levers and other valves, fully described hereafter, that the heated air cannot pass into the car through any other than the lowest openings but when the cars stop the valve closes, the levers alter their position and the heated air passes into the car through openings at the top of the stove which are exposed by the movement of the said levers, so that when the cars are either moving or stationary none of the heat from the fire is lost.

On reference to the drawing which forms a part of this specification, Figure 1 is a sectional elevation of my improved railroad car stove; Fig. 2 a transverse section of the same on the line 1, 2 Fig. 1; Fig. 3 a sectional plan on the line 3, 4, Fig. 2 showing the cap of the stove inverted.

Similar letters refer to similar parts throughout the several views.

A is the exterior shell or casing of the stove, B the cap fitted to the top of the same and E the base. To the latter is attached by means of legs *a*, *a*, *a*, the interior casing or fireplace C, to the top of which is attached the cap D.

F is the opening for admitting the fuel to the fireplace, and *d* is an ordinary door hinged to the exterior casing and furnished with the usual latch.

G is a partition separating the interior casing into two compartments and *e* is an opening through which pass the products of combustion to the chimney H the latter passing upward and projecting through the roof of the car as usual.

To a lug *f* attached to the underside of the cap B is jointed a bent lever *h* and to the end of this lever are secured two other levers *j* and *j'* which are also jointed to lugs *k* and *k'* on the cap B (see Fig. 3). The levers *j* and *j'* are furnished at the end with disks *l* and *l'* above which the cap B is perforated with holes.

I is a pipe communicating with the space between the interior and exterior casings and passing upward through the roof of the car. To the strips *m* and *n* in the top of this pipe is secured the vertical spindle *p* which passes through a strip *q* in the hood J and terminates in the socket *r*, so that the hood can be readily turned around and its funnel shaped opening adjusted to the direction in which the cars are intended to run. In order to maintain it in its proper position the hood is furnished with a latch which may be slid into one or other of two staples *x* and *x'* secured to the pipe I.

Above the cap B of the stove and hinged to the interior of the pipe I is a balanced valve *v* which when closed bears against the strips *w* and *w'*, the extent of opening being limited by the stop *y*. On the side and near the bottom of the exterior casing are a series of openings *b b* for the exit of heated air when the valve *v* is open, and for the entrance of cold air when it is closed.

The rapid motion of the cars causes a strong current of air to enter the opening of the hood to pass downward through the pipe I and to open the valve *v* which depresses the lever *h* and with it the levers *j* and *j'* thereby bringing the valves in contact with the underside of the cap B and closing the perforations in the same. The current of air being thoroughly heated by being brought in contact with the interior and exterior casing is discharged through the openings *b*, *b*, to the interior of the car and as these openings are situated near the floor of the car it is evident that much more warmth must be imparted to the lower extremities of the passengers than can be

derived from stoves of the ordinary construction. When the cars stop the current of air ceases to pass through the pipe I, the balanced valve *v* closes and the lever *h*, being free from the pressure of the valve, rises, and the disks *l* and *l'* become depressed, allowing the heated air to pass into the interior of the car through the small perforations in the cap B, the cold air entering the openings *b b*. As soon as the cars are in motion again the valve *v* is opened, the orifices in the cap closed and the openings *b b* again afford exits for the discharge of a current of heated air. When the direction of the cars is changed the brakeman turns the hood J and secures it in its proper position by its latch.

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

The balanced valve *v* as hinged to the interior of the pipe I in combination with the lever *h*, levers *j* and *j'* their disks *l* and the perforations in the cap B, the whole being arranged and constructed substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

GEO. W. THOMPSON.

Witnesses:
HENRY HOWSON,
WILLIAM E. WALTON.