

(No Model.)

G. ROWE.  
NAIL FURNACE.

No. 345,260.

Patented July 6, 1886.

FIG. 1.

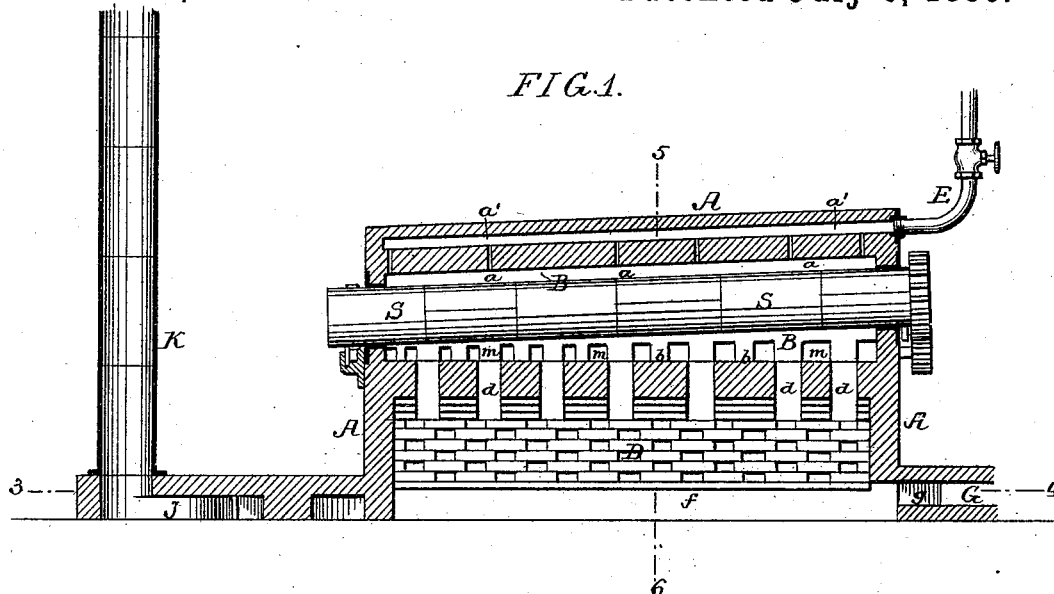


FIG. 2

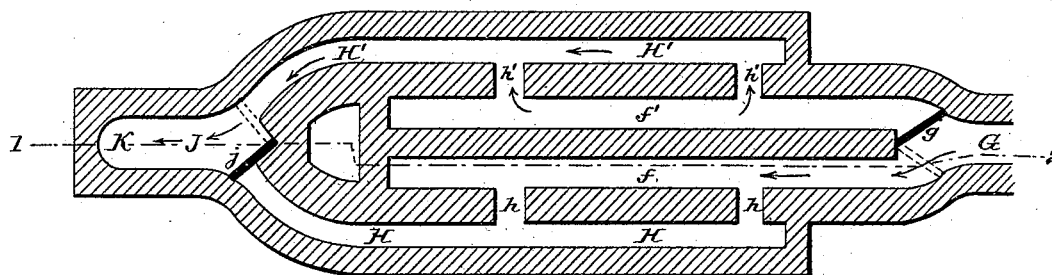


FIG. 3

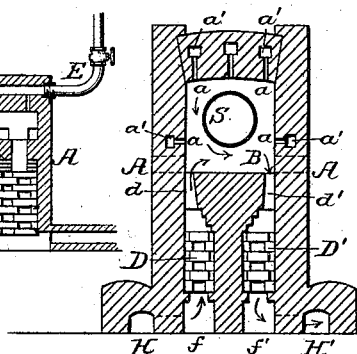
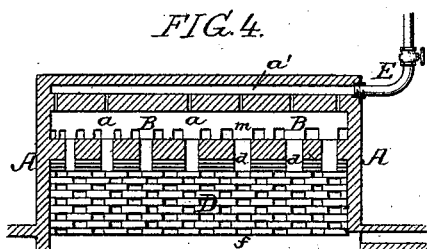
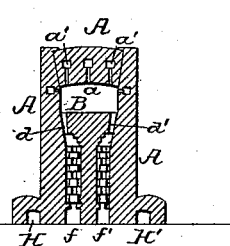


FIG. 5.



Witnesses:  
John E. Parker  
William F. Davis

Inventor:  
Gottlob Rowe  
by his Attorneys  
Hewitt & Samp

# UNITED STATES PATENT OFFICE.

GOTTLOB ROWE, OF DANVILLE, PENNSYLVANIA.

## NAIL-FURNACE.

SPECIFICATION forming part of Letters Patent No. 345,260, dated July 6, 1886.

Application filed November 9, 1885. Serial No. 182,904. (No model.)

*To all whom it may concern:*

Be it known that I, GOTTLOB ROWE, a citizen of the United States, residing in Danville, Montour county, Pennsylvania, have invented certain Improvements in Nail-Furnaces, of which the following is a specification.

My invention consists of an improved construction of heating-furnace, more especially designed for use in the manufacture of nails and tacks, the furnace being applicable both for the heating of plates and bluing of tacks, as fully described hereinafter.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved furnace on the line 1 2, Fig. 2. Fig. 2 is a sectional plan on the line 3 4, Fig. 1. Fig. 3 is a vertical section on the line 5 6, Fig. 1; and Figs. 4 and 5 are longitudinal and transverse sections of a modified form of furnace.

A A are the outer walls of the furnace, containing in its upper part the combustion or heating chamber B, into which air is supplied from above, and preferably at the sides also, through openings *a* throughout the length of the chamber and leading from longitudinal passages *a'*, provided with a valved supply pipe or pipes, E, for the air-blast.

In the floor *b* of the furnace adjacent to the side walls are arranged at suitable distances apart, a number of vertical passages, *d d'*, leading from two regenerative chambers, DD', on opposite sides of the central wall, F, Fig. 3, and below these regenerative chambers are longitudinal gas-flues *f f'*, leading from a common gas-supply flue, G, and provided with a common damper or valve, *g*. The flues *f f'* communicate through openings *h h'* with outlet-flues H H', connecting with a common flue, J, provided with a damper, *j*, and leading to the chimney K. By adjusting the dampers *g* and *j* to the position shown in Fig. 2 the incoming gas is caused to enter the flue *f* and the flue H, which, however, is closed at its outer end, and thence to pass up through the regenerative chamber D, Fig. 3, into the combustion-chamber, where it meets the air-supply, and combustion takes place. The products of combustion then pass down through the regenerative chamber D' and flues *h'* and H' to the chimney. When the brick-work in the regenerative chamber D' has become heated by the escaping products of combustion, the

dampers *g* and *j* are reversed to the positions indicated by dotted lines in Fig. 2, so that the supply of gas will pass up through the hot regenerative chamber D' and become heated on its way to the combustion-chamber, while the products of combustion will pass down through the regenerative chamber D on their way to the chimney. When the regenerative-chamber D in its turn becomes heated, and the chamber D' cold, the dampers are reversed again to their first positions.

It will be observed that the flues H H' extend alongside the flues *f f'* for a great part of their length, and two or more passages, *h h'*, are provided forming communications at different points between the flues. By this means a more uniform combustion is maintained in the chamber B than if the draft were from one point only.

In the side walls of the furnace are provided openings *m m*, of suitable size for the introduction of the nail-plates onto and their removal from the floor *b* of the chamber where they are to be heated. I also provide the furnace with an attachment whereby it may be used for bluing tacks, as illustrated in Figs. 1 and 3, although I have shown the furnace in Figs. 4 and 5 without the attachment. This attachment consists of a hollow cylinder, S, extending longitudinally through the combustion-chamber, and through the front and back walls, and mounted on anti-friction rollers *s s*, so as to lie at a slight inclination, as illustrated in Fig. 1. The hollow cylinder or drum is provided with gearing *r* or other means whereby a rotary motion may be imparted to it, so that the tacks being introduced into the cylinder at the upper end are caused to slowly roll over and over down to the lower end, while subjected to the surrounding heat of the combustion-chamber, so that they will at length fall from the lower end of the hollow cylinder in the desired blued condition.

I claim as my invention—

1. The combination of the combustion-chamber and communicating regenerative chambers with flues *f f'* and adjacent flues H H', communicating with the said flues *f f'* at different points along the flues, all substantially as and for the purpose specified.

2. A nail and tack furnace having a combustion-chamber provided with a plate-heat-

ing floor, and having a bluing-cylinder in the combustion-chamber, all substantially as set forth.

3. The combination of the combustion-chamber of a nail-furnace with a rotary bluing-cylinder extending through said chamber, as set forth.

4. The combination of the combustion-chamber of a nail-furnace with a rotary bluing-cyl-

inder extending at an inclination through said combustion-chamber.

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

GOTTLOB ROWE.

Witnesses:

ROBERT ADAMS,  
SWARTZ MILLER.