

(No Model.)

C. P. WEAVER.  
FURNACE FOR BLUING TACKS.

No. 313,698.

Patented Mar. 10, 1885.

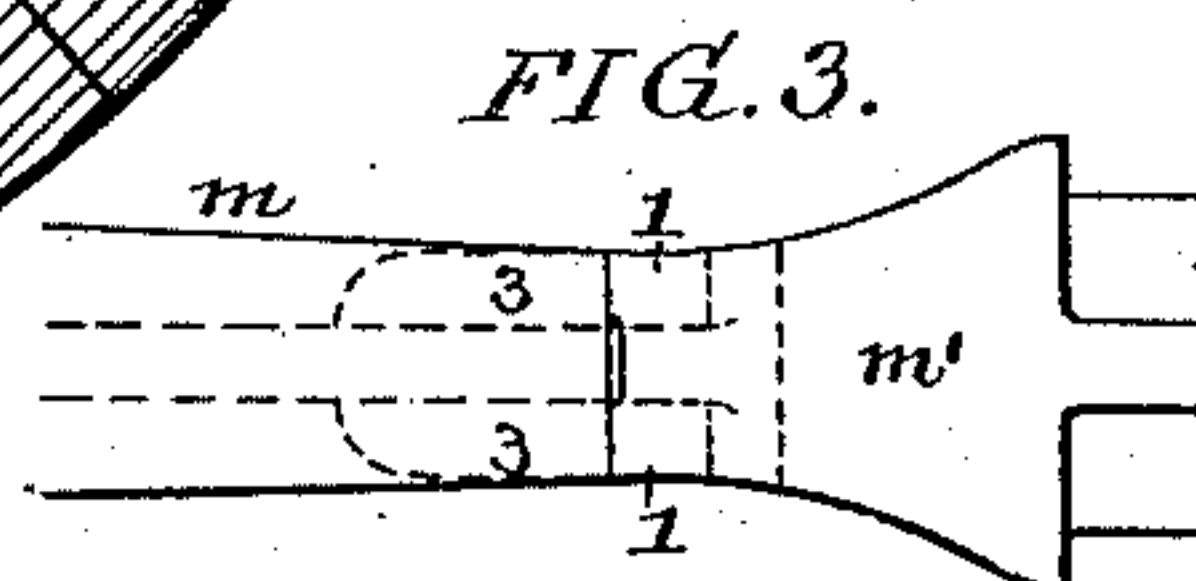
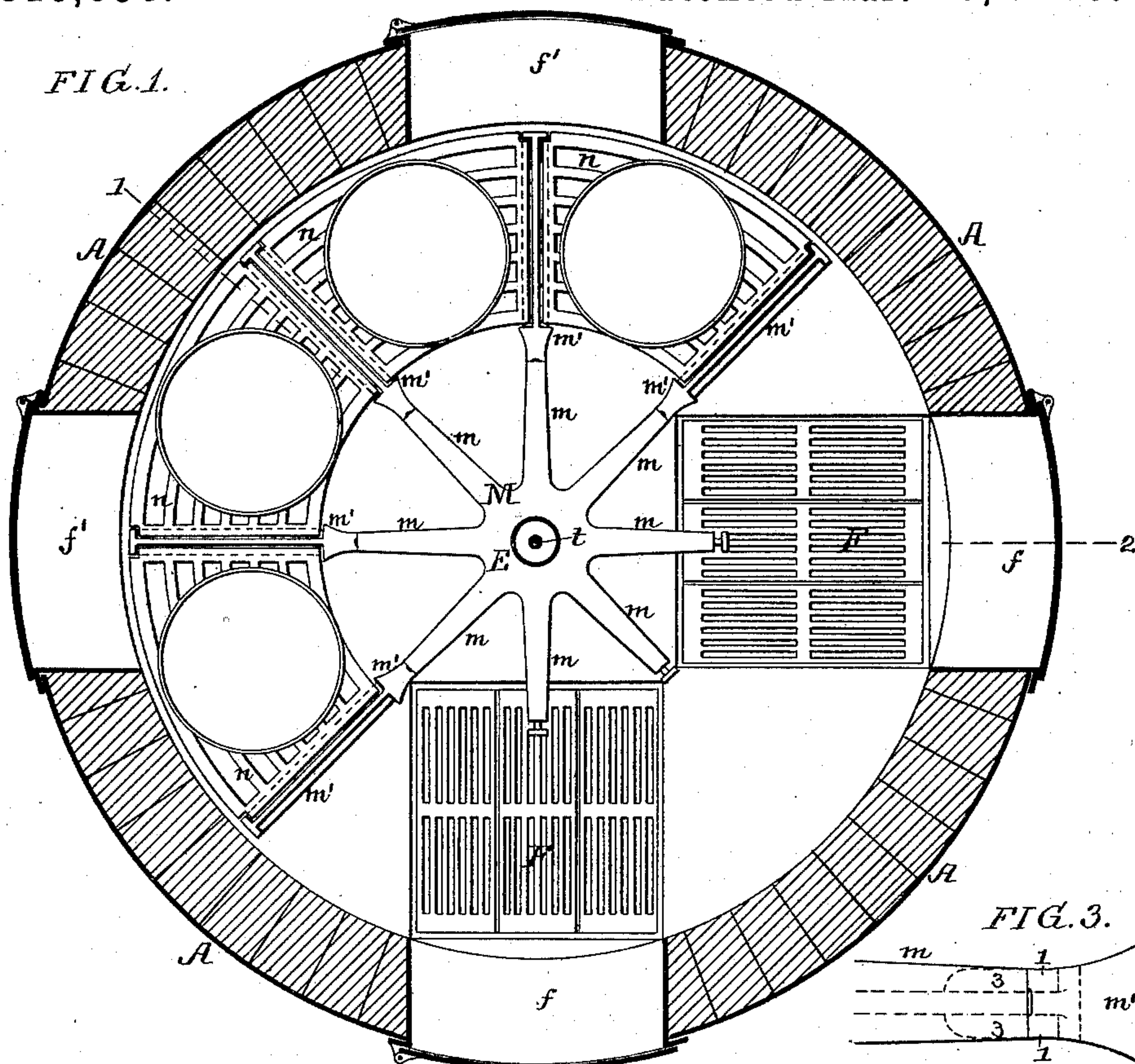
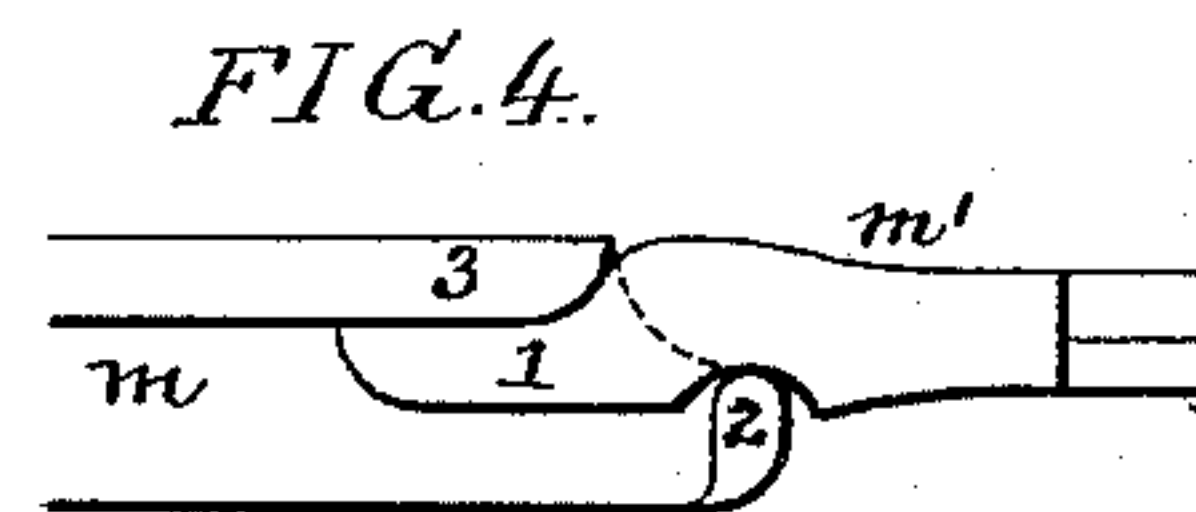
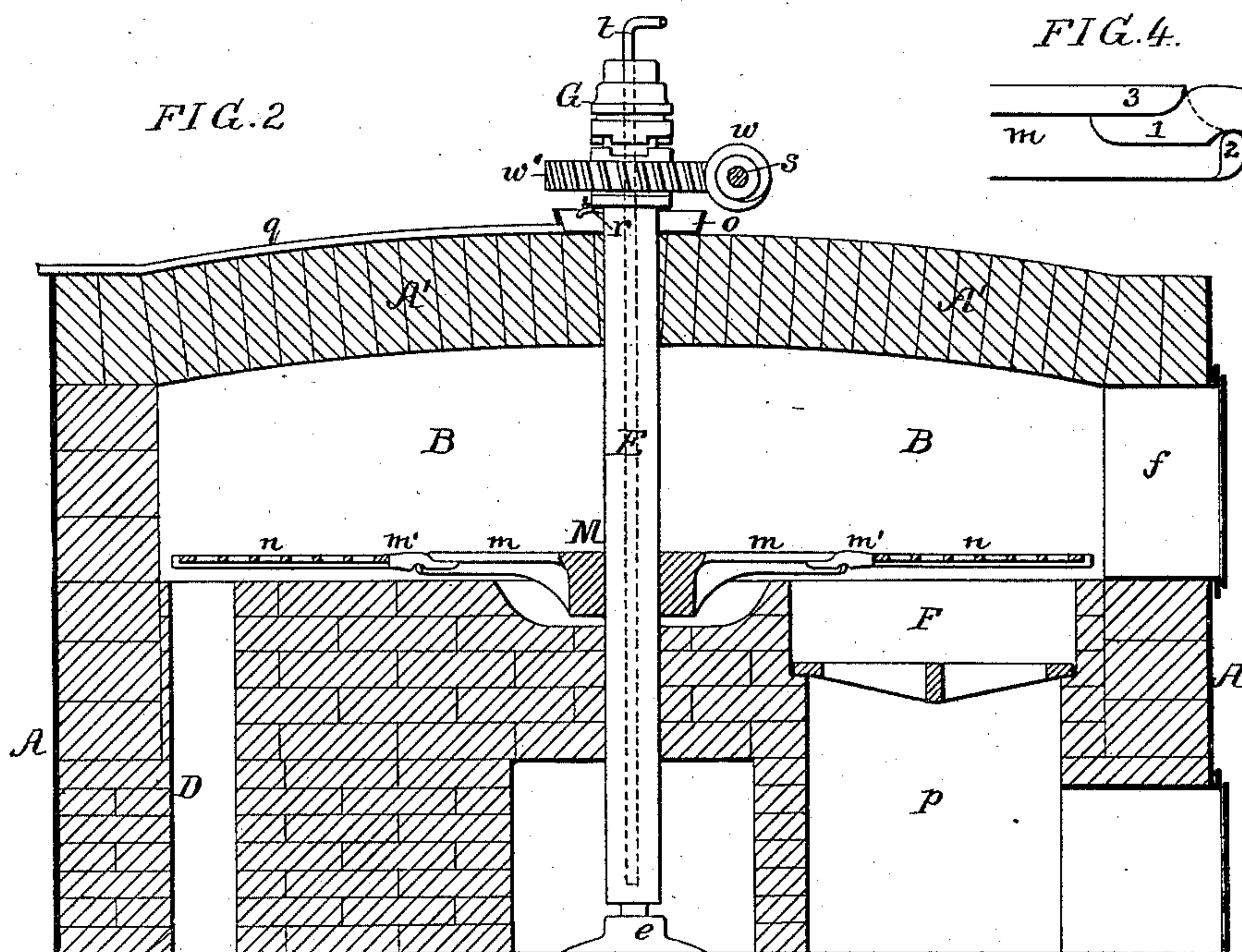


FIG. 2.



Witnesses { John E. Carter  
James F. Jobin

Inventor { C. P. Weaver  
by his attys  
Harrison & Sons



# UNITED STATES PATENT OFFICE.

CHARLES P. WEAVER, OF NORRISTOWN, PENNSYLVANIA.

## FURNACE FOR BLUING TACKS.

SPECIFICATION forming part of Letters Patent No. 313,698, dated March 10, 1885.

Application filed March 10, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES P. WEAVER, a citizen of the United States, and a resident of Norristown, Montgomery county, Pennsylvania, have invented certain Improvements in Furnaces for Bluing Tacks, &c., of which the following is a specification.

My invention consists of an improved construction of furnace, more especially designed for the bluing of tacks, nails, and other metal articles, as more fully described hereinafter.

In the accompanying drawings, Figure 1 is a sectional plan view of my improved furnace. Fig. 2 is a vertical section on the line 1 2, and Figs. 3 and 4 enlarged detached views of a portion of the improvement.

I prefer to construct the body A of the furnace of the cylindrical form shown in Fig. 1, the structure being built of brick with metal sheathing, as is common in metallurgic furnaces. The crown or roof A' of the furnace incloses the large circular chamber B, through which circulate the products of combustion from one or more fire-places, F, two being shown in the present instance, arranged at right angles to each other. Opposite each fire-place is a fire-door, f, and below the fire-grate the usual ash-pit, p. Besides the fire-doors f, I provide on a level therewith in the sides of the furnace one or more openings, f', f', through which the pans containing the tacks or other articles may be introduced and withdrawn. The fire-doors f may, if desired, also be used for the same purpose. The products of combustion make their exit through a down-flue, D, (shown by dotted lines in Fig. 2,) and thence to the chimney. In the center of the furnace is a vertical hollow shaft, E, mounted in a step-bearing, e, on the foundation, and passing upward through the crown of the furnace, where it is provided with a free worm-wheel, w', gearing into a worm, w, on a suitable horizontal driving-shaft, S.

Engaged with the shaft E is a sliding clutch, G, by moving which into gear with the wheel w' a rotary motion may be imparted to the shaft E from the driving-shaft S.

To the vertical shaft E is secured the horizontal table M, within the combustion-chamber B. This table consists of a series of arms, m—eight in the present instance—radiating from a central hub, and each having a detach-

able extension, m', and between and on each adjacent part of these extensions is fitted and rests a segmental grating, n, all these segments forming together a complete annular grating as part of the open table M, which rotates with the shaft E.

The construction of the joint by which the extensions m' are fitted to the arms m is illustrated in the enlarged detached views, Figs. 3 and 4. Each extension-piece m' has forked jaws 1 1, which embrace the rib of the arm m, and bear on the under side of the flanges 3 3, and rest on the T-head 2 of the arm. I prefer to make the table of detachable pieces in this way, which can be easily replaced in case of breakage, and which permit the fire-places and the bottom of the combustion-chamber to be readily got at whenever desired. As I have said, the shaft E is hollow and closed at the lower end, and projecting downward into it is a water-supply pipe, t, which, as shown by dotted lines in Fig. 2, extends nearly to the bottom, while at the upper end, outside the furnace, is an outlet-cock r, from which the water can flow into an annular pan, o, with a waste-pipe, q.

When the furnace is in operation for the bluing of tacks, and the fires have been lighted, a slow rotary motion is imparted to the table M at the rate of about one revolution a minute, and shallow pans carrying the tacks are introduced through any of the doors f or f', and placed on the annular grating of the table, as shown in the drawings.

The products of combustion impinge directly on the tacks in the pans, all the tacks being uniformly "blued."

As the contents of each pan become blued, the latter is withdrawn and replaced by a new one without stopping the apparatus.

I claim as my invention—

1. The combination of a furnace having openings in the side walls of the combustion-chamber, a vertical rotating shaft carrying a horizontal table within the said combustion-chamber, pans supported on the table and removable through said openings, and a fire-place below the table, all substantially as set forth.
2. The combination of the fire-place and combustion-chamber of a furnace with an open rotary table built up of detachable sections.
3. The combination of the furnace with a

rotary table consisting of radial arms, extension-pieces  $m'$ , and segmental gratings  $n$ , supported thereon.

4. The combination of the furnace with vertical hollow shaft, inlet-pipe  $t$ , outlet  $r$ , receiving-pan, and waste-pipe, substantially as set forth.

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

C. P. WEAVER.

Witnesses:

JOHN E. PARKER,  
HARRY SMITH.