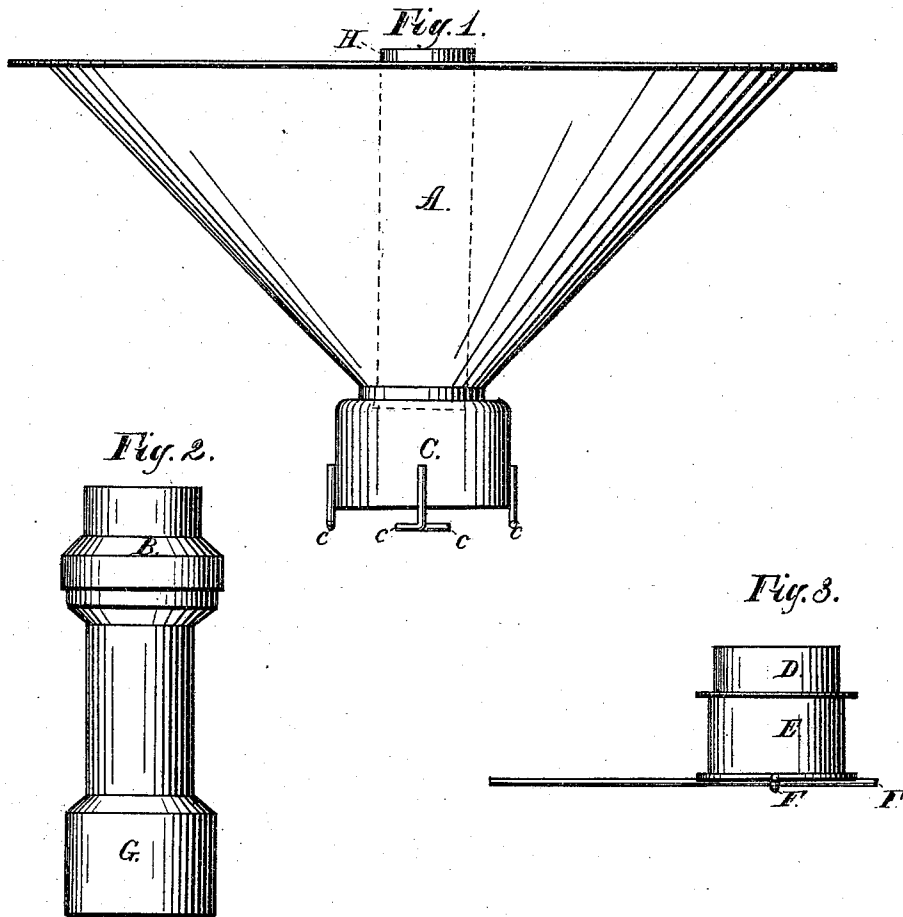


H. McMAHAN.

APPARATUS AND PROCESS FOR THE MANUFACTURE OF FIRE
CHIMNEY-TOPS.

No. 177,735.

Patented May 23, 1876.



Attest:
H. C. Campbell
W. S. Gillen

Inventor:
Hugh M. Mahan.

UNITED STATES PATENT OFFICE.

HUGH McMAHAN, OF NEW CUMBERLAND, WEST VIRGINIA.

IMPROVEMENT IN APPARATUS AND PROCESSES FOR THE MANUFACTURE OF FIRE CHIMNEY-TOPS,

Specification forming part of Letters Patent No. **177,735**, dated May 23, 1876; application filed January 31, 1876.

To all whom it may concern:

Be it known that I, HUGH McMAHAN, of New Cumberland, in the county of Hancock and State of West Virginia, have invented certain new and useful Improvements in Process and Forms for Manufacturing Chimney-Tops; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

The first part of my invention relates to the funnel shaped die, which is made of any substantial material, such as metal, iron, &c., having a neck larger than the opening in the die. This neck is made as large as the base of the chimney-top is desired to be made, and of any shape, round, square, &c. The opening in the die is of the size of the chimney-top. The die is firmly bolted to the end of the steam mud-drum, where the clay or other material is received, mixed, and tempered for use. The end of the steam mud-drum, to which the die is attached, is provided with a core, which extends down into the opening in the die. The end extending into the opening is as large as the inside of the chimney-top sought to be made, thus forming the main part of the top. The lower part of the neck is provided with hooks, which extend below the neck for supporting the form. These are firmly fastened to the neck, and all turned the same way, conforming to the circle or shape of the neck, so that by turning the form it may be hooked or unhooked.

The second part of my invention relates to the process of forming the base and the head of the chimney-top by means of form and collar or ring. The form is made of any durable material of sufficient strength, viz: wood, metal, &c., and larger than the opening in the die, and smaller than the neck of the die. The top of the form is slightly oval or rounding in shape, and fits up against the core of the steam mud-drum. The form is provided with a flange on the lower end as large as the neck of the die, so that when fitted therein

it fills the neck of the die. Underneath the flange, arms or supports are fastened, which cross each other, the ends of which extend beyond the flange, so as to catch on the hooks on the neck of the die. One of these arms is made longer than the others, and is to be used as a lever to turn the form for the purpose of unhooking it. The form is made to rest, when unhooked, upon a shaft that is supported by a cord, pulley, and weight, such as is in common use in the manufacture of sewer-pipe, so as to conform to the pressure of the clay or other material from the steam mud-drum through the dye, and is depressed or pushed downward thereby. When the form is put into the neck of the die, the clay or other material is forced by the steam mud-drum down into the funnel of the die, and through the opening around the end of the core. The clay or other material then strikes the top of the form and is carried out and around the form. The flange on the lower part of the form stops the downward course of the clay or other material, and the base of the chimney-top is thus formed. When the form is full it is then turned by the lever, so as to unhook. The clay or other material then presses it downward, leaving the core in the opening of the die, to form the main part of the top, which can be made any length desired.

The head of the chimney-top is made in two pieces. A collar or ring shorter than the form is made to fit over it. This collar or ring has a flange on the upper end, which fits the neck of the die. This collar or ring is placed over the form, and then put up in the neck of the die and hooked in the same manner as above described for forming the base. The clay or other material is then forced down through the opening in the die, the top of the form spreading it out, and the flange on the collar or ring forms the half of the head of the chimney-top. When full, the form is then taken out and another half made in the same way. The two enlarged ends are joined together while plastic, and the head is formed, which is readily attached to the main part while in a plastic state. The chimney-top is thus made in three pieces by the die, forms, &c., and joined together while in a

plastic state. Any force may be used that is sufficient to press the material through the die, &c.

Figure 1 represents a plan view of the die, neck, and hooks. Fig. 2 is a view of the chimney-top. Fig. 3 is a plan view of form, collar, arms or supports, and levers.

Letter A represents the die, which is attached to the steam mud-drum. B represents the chimney-top. C represents the neck to which the hooks *c* are attached, on which the form D is supported while making or forming the base of the chimney-top B. The collar or ring E fits over the form D to make the head or enlarged top for the chimney-top B. The arms or supports F work on the hooks *c*.

Having thus described my invention, what I claim as new, and wish to protect by Letters Patent, is—

1. The combination of die A, core G, form D, and collar or ring E, in the manufacture of fire chimney-tops, substantially as and for the purposes hereinbefore described.

2. The combination of the die A, form D, collar or ring E, hooks *c*, and arms or supports F, for the purposes hereinbefore specified.

3. The process of manufacturing fire chimney-tops in three parts, arranged and combined as herein described, and for the purposes set forth.

In testimony that I claim the foregoing as my own I have affixed my signature in presence of two witnesses.

HUGH McMAHAN.

Witnesses:

H. C. CAMPBELL,
W. S. GILLEN.