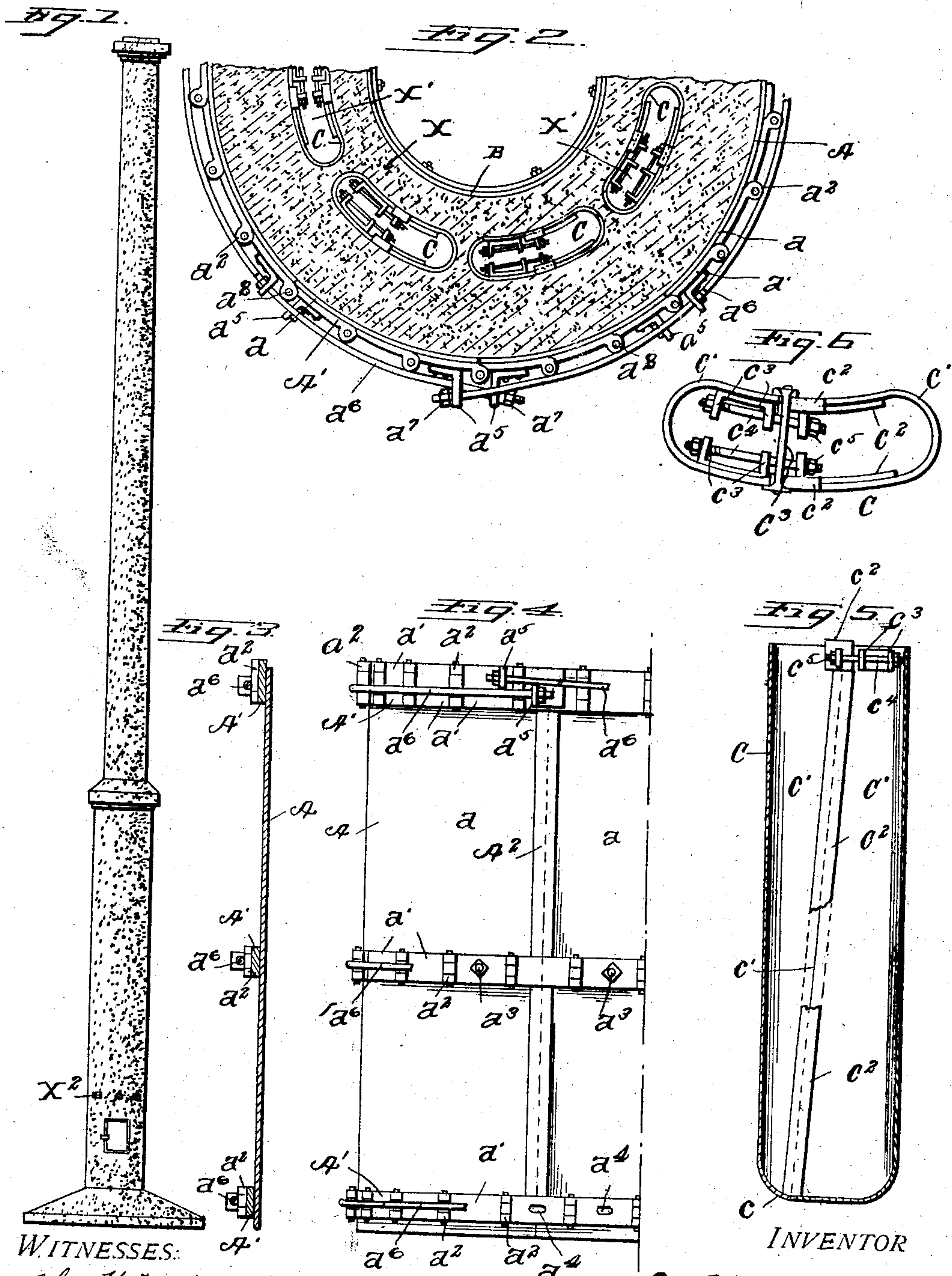


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J. B. COLE.
CHIMNEY MOLD.
APPLICATION FILED AUG. 29, 1905.



WITNESSES:
Chas. H. Davis.
C. Bailey.

J. B. Cole.
By *Shepherd and Parker.*
Attorneys

UNITED STATES PATENT OFFICE.

JAMES B. COLE, OF MARCELINE, MISSOURI.

CHIMNEY-MOLD.

No. 829,571.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES B. COLE, a citizen of the United States, residing at Marceline, in the county of Linn and State of Missouri, have invented certain new and useful Improvements in Chimney-Molds, of which the following is a specification.

This invention relates to certain improvements in molds adapted to be used in the erection of concrete and metal smoke-stacks, water-towers, and like structures; and it consists in certain novel combinations of elements and in certain peculiarities in the construction and arrangement of its parts, substantially as hereinafter described, and particularly pointed out in the subjoined claims.

One object of the invention is to provide a mold which will enable smoke-stacks and like structures to be most economically produced with a series of disconnected openings vertically within or through it, which will provide for a circulation of air within the body of the structure without unduly weakening said structure.

Other objects of the invention are to provide mold-sections of inexpensive construction and yet of the highest durability and which, while capable of being readily varied as to their diameters to produce structures of different diameters and readily adjusted into and out of operative shape, will at the same time possess in a maximum degree when adjusted into shape for use the rigidity essential to the best results.

These objects of the invention are well accomplished by the construction illustrated in the accompanying drawings, wherein like letters of reference designate like parts, and in which drawings—

Figure 1 is an elevation of a smoke-stack or chimney such as may be produced by the present invention. Fig. 2 is a plan view of a portion of the mold in use. Fig. 3 is a longitudinal section through one of the mold sections or parts. Fig. 4 is an elevation of the mold section or part which surrounds the structure in the production of the latter. Fig. 5 is a longitudinal section through one of the mold-sections for producing the air-spaces in the structure. Fig. 6 is a detail view showing an air-space mold having a handle.

The mold is composed of a plurality of parts or sections, as follows: an outside one, A; an inside one, B, and a series of intermediate ones, C. The description of details of the construction of the sections A and B will

be confined to the outside section A, for the reason that the detail construction of the two sections is or may be identical, the only essential difference being that they are of different diameters and the strengthening and holding means on the outside section A is on the outer side thereof, while the similar means on the inner section B is within its interior.

The body of the outside mold-section A is made of body-sections a , preferably formed of sheet-iron and of suitable height and diameter, and said mold-section A may be made up of any number or width of such body-sections, according to the diameter of the stack to be produced thereby. One or more of the body-sections a are detachable in order to facilitate variation of the diameter of the mold-section A. At suitable places, preferably at the top, bottom, and center thereof, said mold-section is encircled by strengthening-ribs A' , each composed of a series of plates or sections a' , which are hingedly connected together, as shown at a^2 , and are secured to said mold-section A by means of bolts a^3 , extending into the body of the latter through openings a^4 in the rib-sections a' . At intervals around each rib there are placed projections a^5 , preferably in the form of angle-irons, adapted to receive tie-rods or holding-rods a^6 , which encircle the mold-section and serve to enable it to maintain its shape and resist the outward pressure to which it is subjected in use. The angle-irons or projections a^5 are arranged on the respective ribs at places contiguous to the ends of the body-sections a , and there may be one of such angle-irons at each edge of said body-section. The tie-rods or holding-rods a^6 extend through the outwardly-projecting members of the angle-irons and are secured thereto, preferably by nuts a^7 , threaded over their ends. Their relative arrangement is such that when the parts are assembled they will extend around the mold-section A and preferably cross the junctions of the body-sections a . The body-sections a are hingedly connected with each other by the strengthening-ribs A' , and the pins or pivots a^8 of the hinges at the junctions of the body-sections are preferably removable to permit disconnection of said body-sections from each other. The junctions of the body-sections a are covered by a strip A^2 , which further stiffens the structure of the mold-section A by preventing bulging at the joints between the body-sections a .

From the foregoing it will be seen that I have provided a mold-section of simple and inexpensive construction, the elements of which may be assembled to form a mold-section of any required diameter and of great strength, and similarly said elements may be readily disconnected from each other to whatever extent is necessary (whether it be the freeing only of two contiguous body-sections from each other or the disassembling of the entire mold-section, according to particular detail arrangement of parts) to remove said mold-section from the portion of the stack which has been formed and has hardened therein.

As hitherto stated, the inner mold B is or may be of construction similar to that of the outer mold-section A, already described, except that its holding and strengthening members are on the inside thereof instead of upon the outside.

The sections C, which form air-spaces vertically in or through the wall of the stack, are of peculiar construction. Each is hollow and is preferably formed with a closed bottom c , rounded, as shown, to facilitate its replacement, if desired. It is formed in two longitudinal parts or sections C' , the abutting edges of which are correspondingly inclined from the top to the bottom of the section C, as shown at c' , whereby when said sections are moved longitudinally relatively to each other, one down or the other up from their assembled position, the diameter of the body of the mold-section C will be reduced, thus facilitating its removal from the air-space which it has formed. Its joint c' is covered on the inside by a strip C^2 . It is provided at its top and contiguous to the abutting edges of its sections C' with lugs c^2 , which project over the top edges of said sections at their junctions with each other and form stops which determine the proper positions of said sections. Said section C' also has contiguous to its upper end and at opposite sides of its inner surface two series of lugs c^3 , each of which receives a bolt c^4 , having a nut or nuts c^5 , by which the sections are drawn together and are held detachably in position for use. Each mold-section C is further provided with a handle C^3 for convenience in handling it, as shown in Fig. 6, said handle being omitted from the other figures of the drawings in order to avoid confusion.

It will be understood that in practice the mold-sections B are arranged one within the other and are of such relative diameters as to leave between their inner and outer surfaces, respectively, a space in which is formed the wall of the stack or other structure being erected and that within this space the series of air-space sections C are located out of contact with each other and with the walls of

said outer and inner mold-sections. The plastic material X is inserted in the space between the inner and outer mold-sections A and B and around the several air-space sections C, whereby the stack formed by said sections has in its wall a series of air-spaces X' , disconnected from each other by the material which filled the spaces between the confronting ends of said section C. These air-spaces X' may extend continuously throughout the length of the stack and preferably have communication with the outer air through inlet-openings X^2 , suitably produced and arranged near the lower end of said stack, whereby there will be a continuous circulation of air through said spaces, which will serve to keep the wall of the stack cool.

Having thus described the invention, what I believe to be new, and desire to secure by Letters Patent, is—

1. In a mold of the kind described, a mold-section composed of a plurality of body-sections, a plurality of strengthening-ribs extending around said mold-section and secured thereto and each formed of hingedly-connected sections, lugs carried by said sections, holding-rods extending around the mold-sections and passing through said lugs, and means for tightening said rods.

2. In a mold of the kind described, an air-space section comprising a pair of hollow sections adjustable with relation to each other and having their abutting edges inclined longitudinally of said sections, means for securing said sections detachably together and a stop-lug carried by one of said members adapted to abut against the other of said members to limit the movement of said members with relation to each other in one direction.

3. In a mold of the kind described, a mold-section composed of a plurality of body-sections, a plurality of strengthening-ribs extending around said mold-section and secured thereto and each formed of hingedly-connected sections, and holding-rods extending around the mold-section.

4. A mold-section comprising a plurality of body-sections, a plurality of strengthening-ribs extending around and secured to it, each of said strengthening-ribs being formed of a plurality of hingedly-connected sections and provided with projections and holding-rods extending around the mold-sections and detachably secured to said projections.

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

JAMES B. COLE.

Witnesses:

A. RUHLANDER,
A. H. KELLOGG.