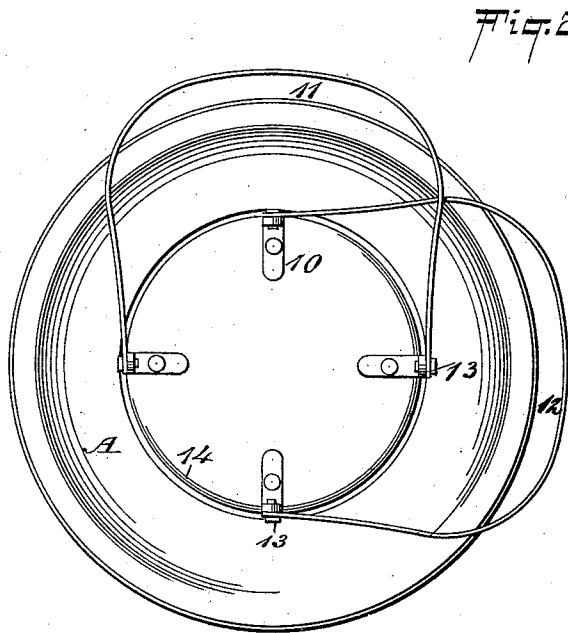
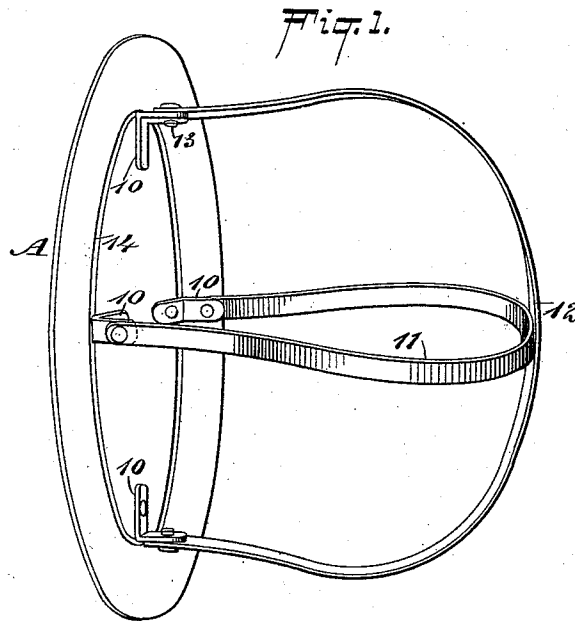


(No Model.)

J. A. BROWN.
FLUE STOPPER.

No. 478,044.

Patented June 28, 1892.



WITNESSES:

William Goebel.
E. M. Clark.

INVENTOR

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH ADDISON BROWN, OF RIVERHEAD, NEW YORK, ASSIGNOR OF ONE-HALF TO CLIFFORD B. ACKERLY, OF SAME PLACE.

FLUE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 478,044, dated June 28, 1892.

Application filed August 28, 1891. Serial No. 403,935. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ADDISON BROWN, of Riverhead, in the county of Suffolk and State of New York, have invented a new and useful Improvement in Flue - Stoppers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in flue-stoppers, and has for its object to provide a means for securing the stopper in the flue and to so construct the devices employed for that purpose that when they are attached to the body of the stopper they may be folded down in engagement with the body in a compact manner, thus rendering it possible for the complete flue-stoppers to be packed one upon the other for transportation or storage.

A further object of the invention is to so construct the fastening devices of the flue-stopper that they may be expeditiously and conveniently carried to an operative position, and whereby the said fastening devices will consist, mainly, of bow-springs so arranged as to cross one another and form substantially a spring-crown.

The invention consists in the novel construction and arrangement of parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in both the views.

Figure 1 is a perspective view of the flue-stopper, showing the fastening devices in operative position; and Fig. 2 is a plan view of the stopper, illustrating the fastening devices as folded down to enable the stoppers to be piled readily one upon another.

The body A of the flue-stopper may be made in the ordinary or in any approved manner, and the fastening devices consist of four angular or essentially L-shaped brackets 10 and two bow-springs 11 and 12, which springs are preferably made of flat steel wire; but the springs may be made of any suitable material or may be of any desired shape in cross-section. The end of each spring is pivotally attached by means of a pin 13, rivet, or the equivalent thereof to one member of a bracket 10, the members of the brackets to which the

springs are attached being those that extend at an angle from the body A of the flue-stopper when the brackets are secured thereto. The bow-springs 11 and 12 are bent somewhat to a U shape; but the members from a point above their centers are curved inward, so that the space between the bow portions of the springs is greater than between the extremities of the members.

The brackets 10 are riveted, soldered, or otherwise secured to the inner face of the body of the flue-stopper A, the outer edges of the brackets being preferably arranged upon the periphery of a circle 14, drawn or produced upon the inner face of the body-section A between its center and its margin. The brackets are so arranged that those attached to one spring—12, for instance—will be vertically disposed upon the body in alignment one with the other and the brackets of the spring 11 horizontally disposed, as is clearly shown in the drawings. By thus locating the brackets of the several springs when the flue-stopper is not in use the spring 12 may be folded down close to the inner face of the flue-stopper and the spring 11 in like manner over one member of the spring 12, as shown in Fig. 2. By thus disposing of the springs the flue-stoppers may be packed in nests or they may be singly placed in smaller spaces than can articles of like description of the ordinary construction.

When the flue-stopper is to be used, the spring 11 is carried upward until its members stand at a right angle to the body A, and then the spring 12 is carried up to the same position, having a bearing upon and crossing the central portion of the spring 11. When the springs are in this position, owing to the bulging of their sides and their position, one at a right angle to the other, they partake of the general contour or shape of a crown, and when forced in the flue-opening they bind against the sides thereof and effectually hold the body A in position as a covering for the opening.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As an improved article of manufacture, a flue-stopper comprising a body portion and two bow-springs pivoted to the body at right angles to each other, as specified.

2. As an improved article of manufacture,
a flue-stopper consisting of a body-section, an-
gle-brackets arranged opposite each other, one
set horizontally and the other vertically and
5 secured to the body, and bow-springs the mem-
bers of each of which are pivotally attached
to one aligning set of the brackets, whereby
the springs may be folded down upon the

body when not in use and carried upward,
crossing one another when required for use, 10
as and for the purpose specified.

JOSEPH ADDISON BROWN.

Witnesses:

CHARLES E. BUNCE,
R. T. SKIDMORE.