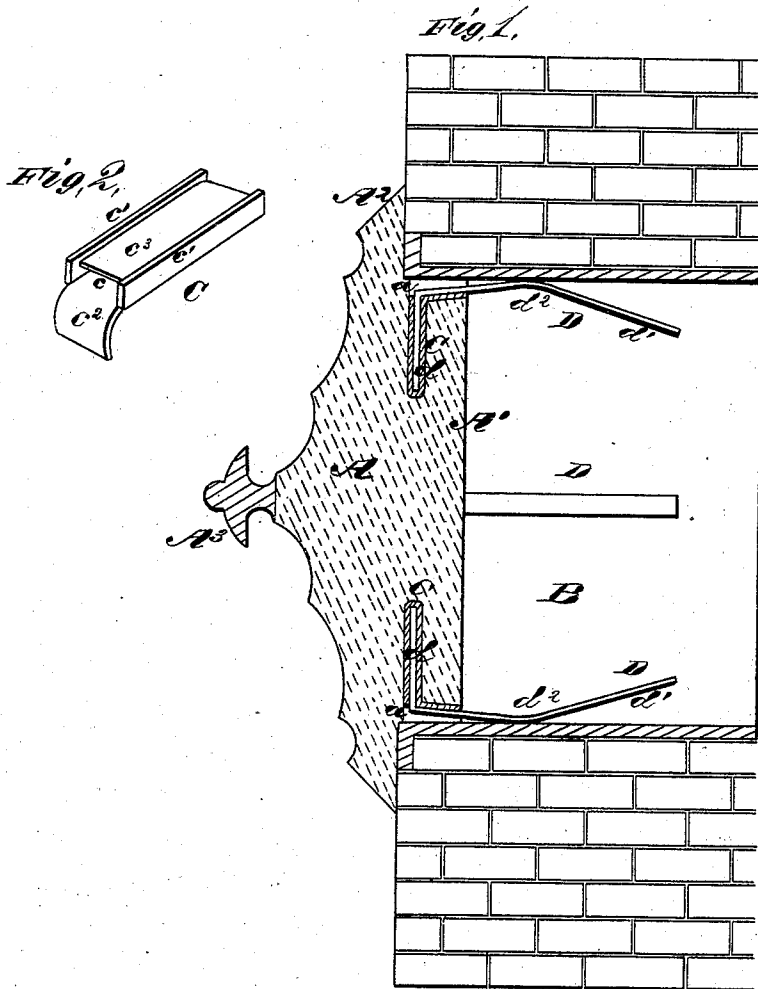


J. R. HIGGINS.
FLUE-STOPPERS.

No. 182,667.

Patented Sept. 26, 1876.



WITNESSES
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UNITED STATES PATENT OFFICE.

JONATHAN R. HIGGINS, OF LIMA, OHIO.

IMPROVEMENT IN FLUE-STOPPERS.

Specification forming part of Letters Patent No. **182,667**, dated September 26, 1876; application filed August 19, 1876.

To all whom it may concern:

Be it known that I, JONATHAN RAY HIGGINS, of Lima, in the county of Allen and State of Ohio, have invented a new and valuable Improvement in Flue or Pipe Stoppers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central vertical section of my molded flue or pipe stoppers, and Fig. 2 is a detail view of the same.

This invention relates to pipe-stoppers or flue-stoppers, whereby the hot air and products of combustion are prevented from escaping from the end of a pipe or flue; and it consists in springs and detachable sockets peculiarly constructed and arranged, as hereinafter set forth.

In the annexed drawings, A designates a stopper composed of plaster-of-paris, or other suitable material, molded to the required form; and B designates the end of the flue, to which said stopper is to be applied. Said stopper is provided with a cylindrical body, A¹, which rests within and fills said flue end B with a flange, A², which rests against the outer face of the wall through which said flue passes, and with a central exterior handle, A³, of metal, wood, or any other suitable material. The exterior surface of said molded stopper is so shaped as to present an ornamental appearance, any suitable design being cast or otherwise formed thereon.

In cylindrical stopper-body A¹, close to its junction with flange A², are made recesses *a*, which are shallow and narrow in proportion to their depth. In each of said recesses is placed a sheet-metal socket or spring-holder, C, (shown in detail in Fig. 2,) which consists of a top-plate, *c*, provided with two longitudinal downward-turned side flanges, *c*¹, and a front upward-turned lip, *c*², and of a bottom plate, *c*³, which is secured at the rear to the

rear of top plate *c*, being in one piece therewith, and folds up between flanges *c*¹ *c*¹. When inserted into recess *a* said socket or holder C almost exactly fills said recess, and the slight spring action of bottom plate *c*³ aids in retaining it in place. Upward-turned lip *c*² protects the surface of stopper-body A¹ to some extent from the spring hereinafter described, and also serves as a handle, whereby the said socket C may be withdrawn, when desired, from recess *a*. D D are flat springs, each of which consists of a straight part, *d*, which sets into one of sockets C and a curved part, *d*¹, which extends longitudinally toward the rear end of flue B, and which presses at the point of greatest curvature, *d*², against the inside of said flue.

The effect of the combined action of said springs is to hold stopper A firmly in its place, so as to prevent any casual displacement, while allowing it to be removed by hand when desired.

What I claim as new, and desire to secure by Letters Patent, is—

1. A pipe-stopper provided with a cylindrical body, A¹, recessed on its sides at *a*, substantially as and for the purpose set forth.

2. A recessed pipe-stopper, provided with detachable sockets or spring-holders, substantially as set forth.

3. Detachable socket C, provided with bottom spring-plate *c*³ and upward-turned front lip *c*¹, substantially as and for the purpose set forth.

4. The combination of recessed stopper A, flue B, and flat springs D D, each of which is provided with a straight part, *d*, and a curved part, *d*¹, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JONATHAN RAY HIGGINS.

Witnesses:

H. S. PROPHET,
J. MCKIBBEN.