

G. H. RUSSELL.  
 DRAFT APPARATUS FOR STOVE-PIPES AND CHIMNEYS.

No. 195,656.

Patented Sept. 25, 1877.

Fig. 1.

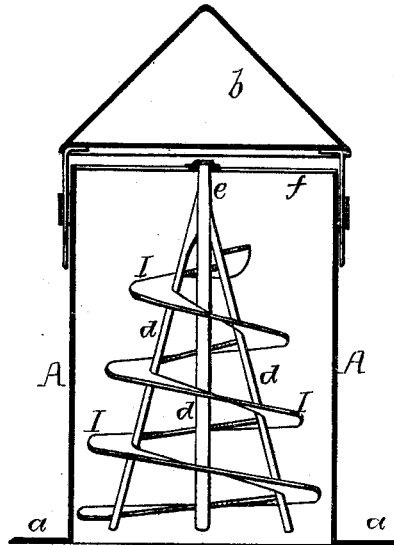


Fig. 3.

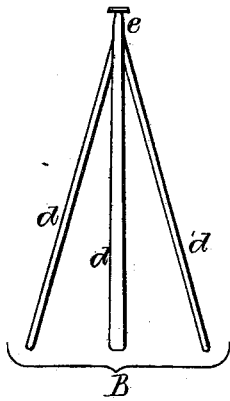


Fig. 2.

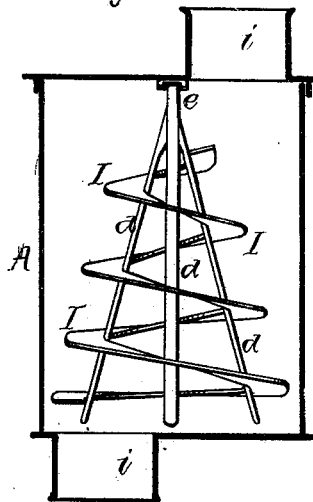
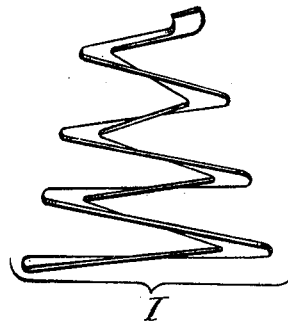


Fig. 4.



Witnesses  
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 Henry Smith.

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# UNITED STATES PATENT OFFICE.

GEORGE H. RUSSELL, OF NEWBURG, PENNSYLVANIA.

## IMPROVEMENT IN DRAFT APPARATUS FOR STOVE-PIPES AND CHIMNEYS.

Specification forming part of Letters Patent No. **195,656**, dated September 25, 1877; application filed July 16, 1877.

*To all whom it may concern:*

Be it known that I, GEORGE H. RUSSELL, of Newburg, Cumberland county, Pennsylvania, have invented a new and useful Improvement in Draft Apparatus, of which the following is a specification:

The object of my invention is to construct a simple, cheap, and effective device to be applied to stove-pipes or chimneys with the view of arresting sparks, preventing downdrafts, and equalizing combustion—an object which I attain in the following manner, reference being had to the accompanying drawing, in which—

Figure 1 is a sectional view of my improved device as applied to a chimney-cap; Fig. 2, the same in the form of a stove-drum; and Figs. 3 and 4, detached views of parts of the device.

In Fig. 1, A represents a cylindrical casing, having at the bottom a flange, *a*, for attachment to the top of a chimney or stack, and provided above with the usual conical cap *b*, a space being left between the upper edge of the casing and the lower edge of the cap for the escape of the products of combustion. Within this casing is arranged a frame, B, (shown detached in Fig. 3,) consisting of a series of inclined arms, *d*, united at the top to a stem, *e*, which is hung to a cross-bar, *f*, at the top of the casing. Around the conical

frame thus formed is coiled spirally a thin plate, I, of sheet metal, (shown detached in Fig. 4,) this spiral coil being secured in any suitable manner to the arms of the frame B at its points of contact therewith.

The device, when combined and applied as in Fig. 1, forms an open spiral flange in the form of a hollow cone, which prevents the ascent of large sparks or the downward passage of volumes of air, while at the same time permitting the free outward passage of the smoke and other products of combustion, the even and uniform draft thus produced tending to equalize the combustion in the furnace, and thus insure a perfect fire without excessive consumption of fuel.

In Fig. 2 the casing A has at each end a tubular extension, *i*, intended for adaptation to the adjacent ends of two lengths of stove-pipe, the casing A thus forming a stove-drum.

I claim as my invention—

The combination, in a draft apparatus or stove-drum, of the casing A, the conical frame B, and the coil I, all substantially as set forth.

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

GEORGE H. RUSSELL.

Witnesses:

JNO. HEFFLEFINGER,  
H. A. BARR.