

(No Model.)

C. E. MARTIN.
SAFETY FLUE.

No. 517,471.

Patented Apr. 3, 1894.

Fig. 2.

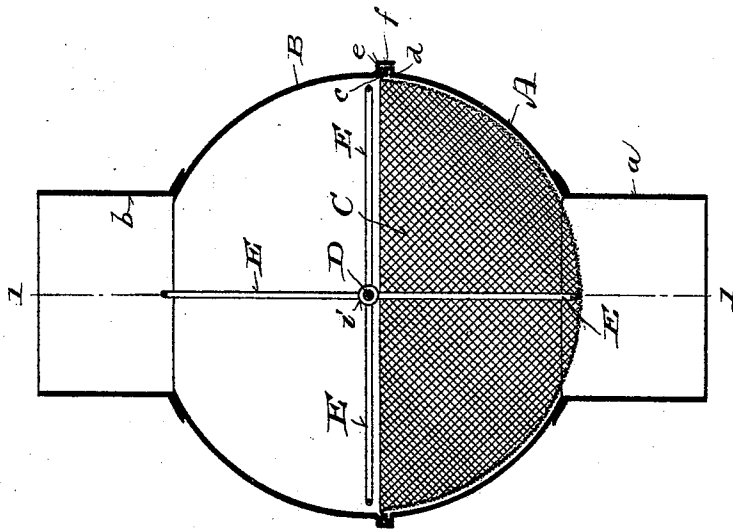
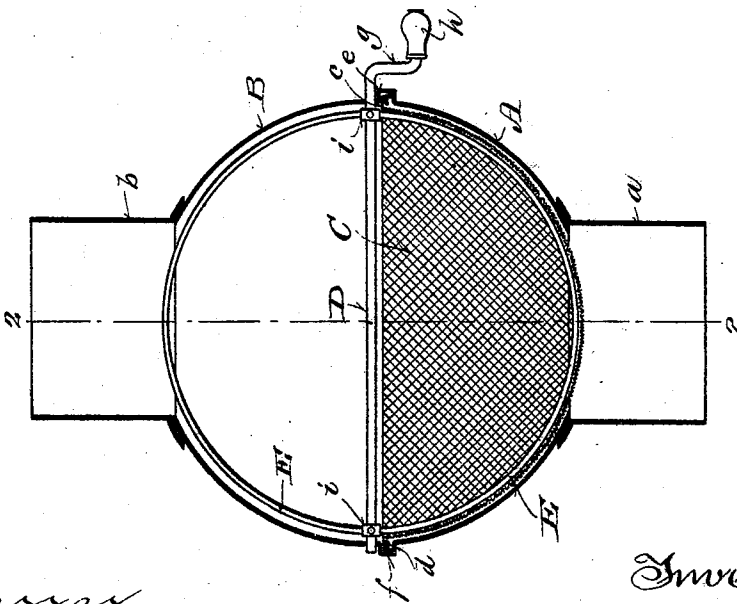


Fig. 1.



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SAFETY-FLUE.

SPECIFICATION forming part of Letters Patent No. 517,471, dated April 3, 1894.

Application filed September 14, 1892. Serial No. 445,868. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. MARTIN, a citizen of the United States, residing at the town of Baraboo, in the county of Sauk and State of Wisconsin, have invented a new and useful Safety-Flue, of which the following is a specification.

My invention relates to improvements in the flues of stoves, furnaces, and the like, and consists in certain peculiarities of construction and combination of parts, as will be hereinafter more fully set forth, and subsequently claimed.

In the drawings: Figure 1 is a vertical central section through my device, on the line 1—1 of Fig. 2, and Fig. 2 is a like section, on the line 2—2 of Fig. 1.

My flue section consists, primarily, of two semi-spherical hollow bodies A, B, with cylindrical terminals, *a* and *b*, respectively. These bodies and terminals are made of any suitable material, such as cast or sheet iron, the latter material being represented in the drawings. The described cylindrical terminals *a* and *b* are designed to connect with the smoke-pipe of the stove or furnace, in the usual manner of jointing sections of stove-pipe.

In order to secure a proper fit to the two bodies A B when they are brought together to form a sphere, as shown, as well as to properly support the screen C, hereinafter described, the body A is preferably formed with an annular flange *d* around its upper edge, this flange being shown, in the construction illustrated in the drawings, as being formed of the edge of the sheet metal being drawn or pressed out and then bent back upon itself forming a double thickness of the metal all around the top edge thereof. Correspondingly, the lower edge of the body B is shaped into a right-angular annular flange, comprising a horizontal portion, *e*, adapted to rest on the flange *d* and a vertical portion or band *f*, encircling and embracing said flange *d*, and making the desired tight fit of the two parts A B. The screen C is semi-spherical in form, corresponding in size to one of the said semi-spherical bodies, as A, and being preferably formed with a horizontal flange *c*, whereby said screen may be supported on the described

flange *d* and securely held in place between this flange and the part *e* of the flange of the upper body B.

D is a shaft extending through the horizontal central line of the sphere formed by the two bodies A B, and in the form illustrated this shaft extends also through the walls of the upper body B, so that it may be removed from the latter, when the said body is lifted off the body A. To accomplish this result the body A must of course be somewhat less in height than the body B, but if both are made of the same height, the shaft D can be made to pass through openings in the flanges of the two bodies, so as to remain undisturbed when the upper body is removed, this being a mere matter of detail or convenience in the construction of the device. One projecting end of this shaft D is either bent into crank form as shown at *g*, and fitted with a suitable handle, *h*, or a crank-handle is fitted to said shaft in any desired manner. To the said shaft D are fitted rigidly in any suitable manner (as by the collars *i i*) wires or rods E E, bent into semi-circular form, corresponding in outline to that of the described screen C and adapted to lightly scrape the inner surface thereof when the shaft D is revolved, and thus always keep said surface clean. This screen C is of fine mesh, so as to prevent flame or sparks from passing through, and to confine all combustion to a point below the screen, as well as to economize heat by retarding its upward passage through the flue, thereby effecting a saving in fuel.

Although I have shown the screen in the lower body A it will be understood that when desired the same may be placed in the upper body B, so that the material scraped from said screen may fall downward free therefrom, and it will be also understood that when desired one of these screens may be placed in each of the bodies A B, as the cleaner D E E will work equally well in any of these described arrangements.

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

1. The combination with the upper and lower semi-spherical flue-sections, provided

with cylindrical terminations, of a semi-spherical screen fitting within one of said flue-sections and held in place between them, substantially as set forth.

- 5 2. The combination with the upper and lower semi-spherical flue-sections provided with cylindrical terminations, of a semi-spherical screen fitting within one of said flue-sections, a horizontal central revoluble

shaft, and a series of semi-circular wires or 10 rods, secured to said shaft, and adapted to lightly scrape the inner surface of said screen, substantially as set forth.

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Witnesses:

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