

(No Model.)

H. TUTTLE.
Cone for Stove Grates.

No. 235,830.

Patented Dec. 21, 1880.

Fig. 1.

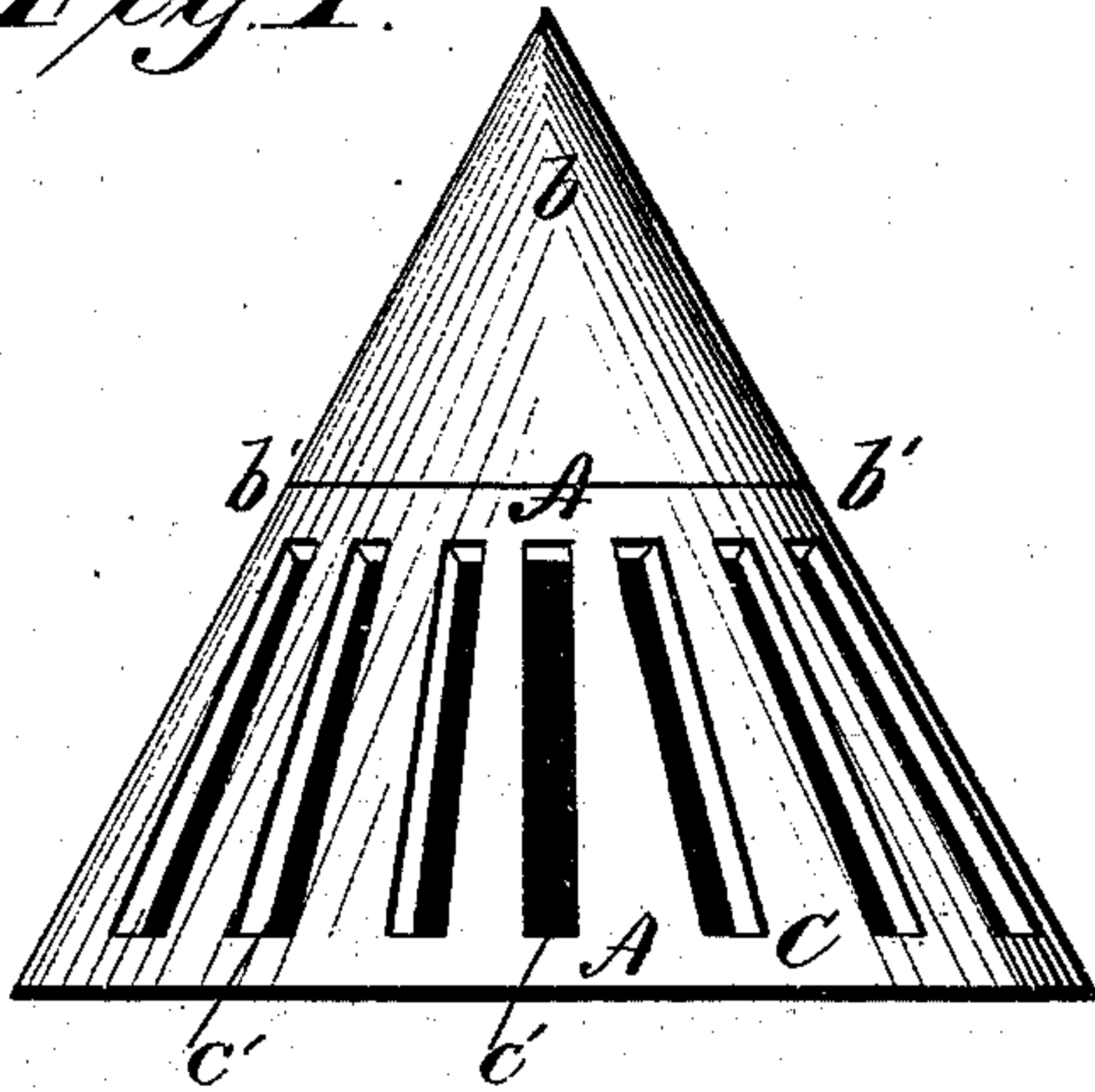


Fig. 2.

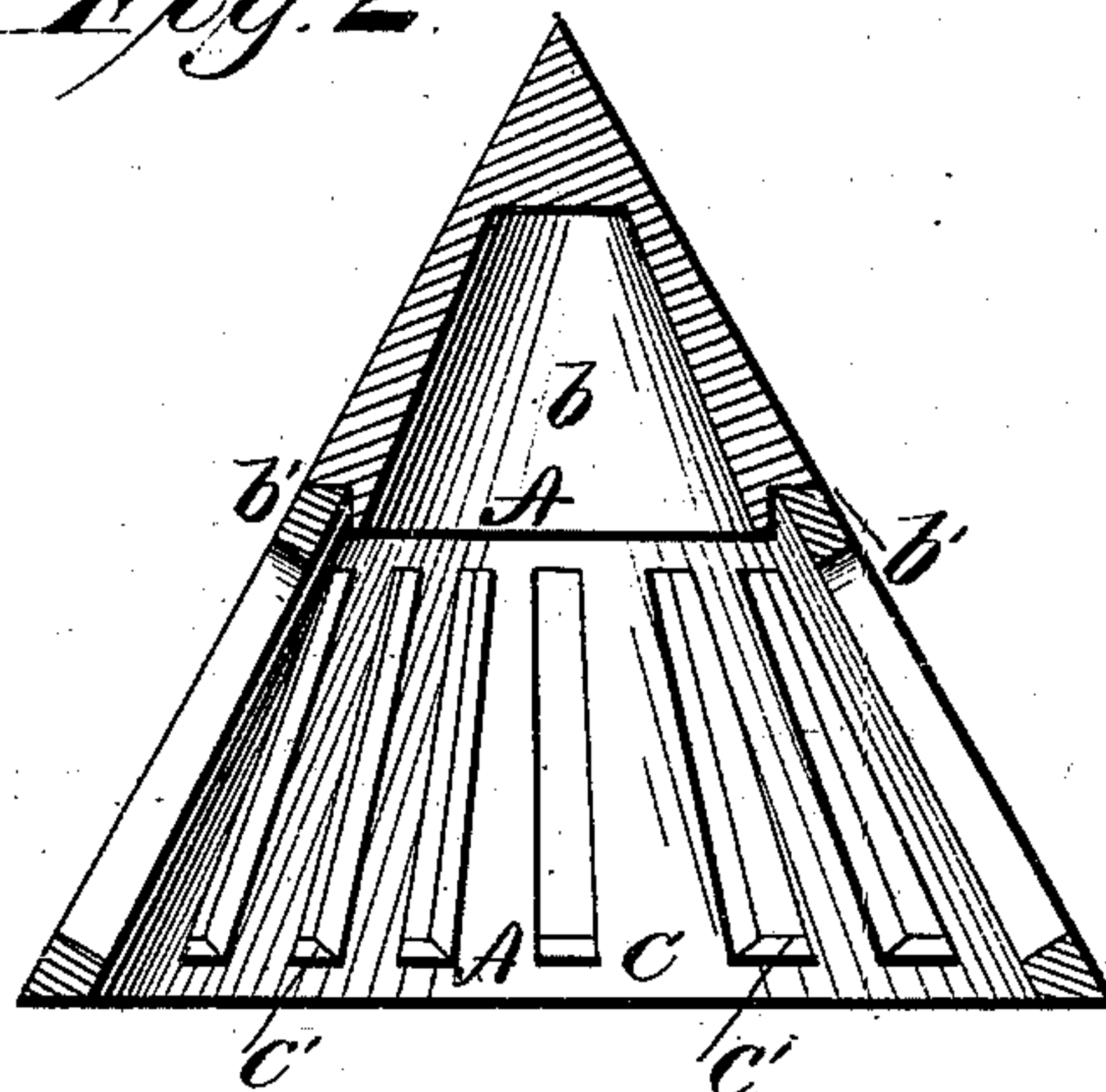
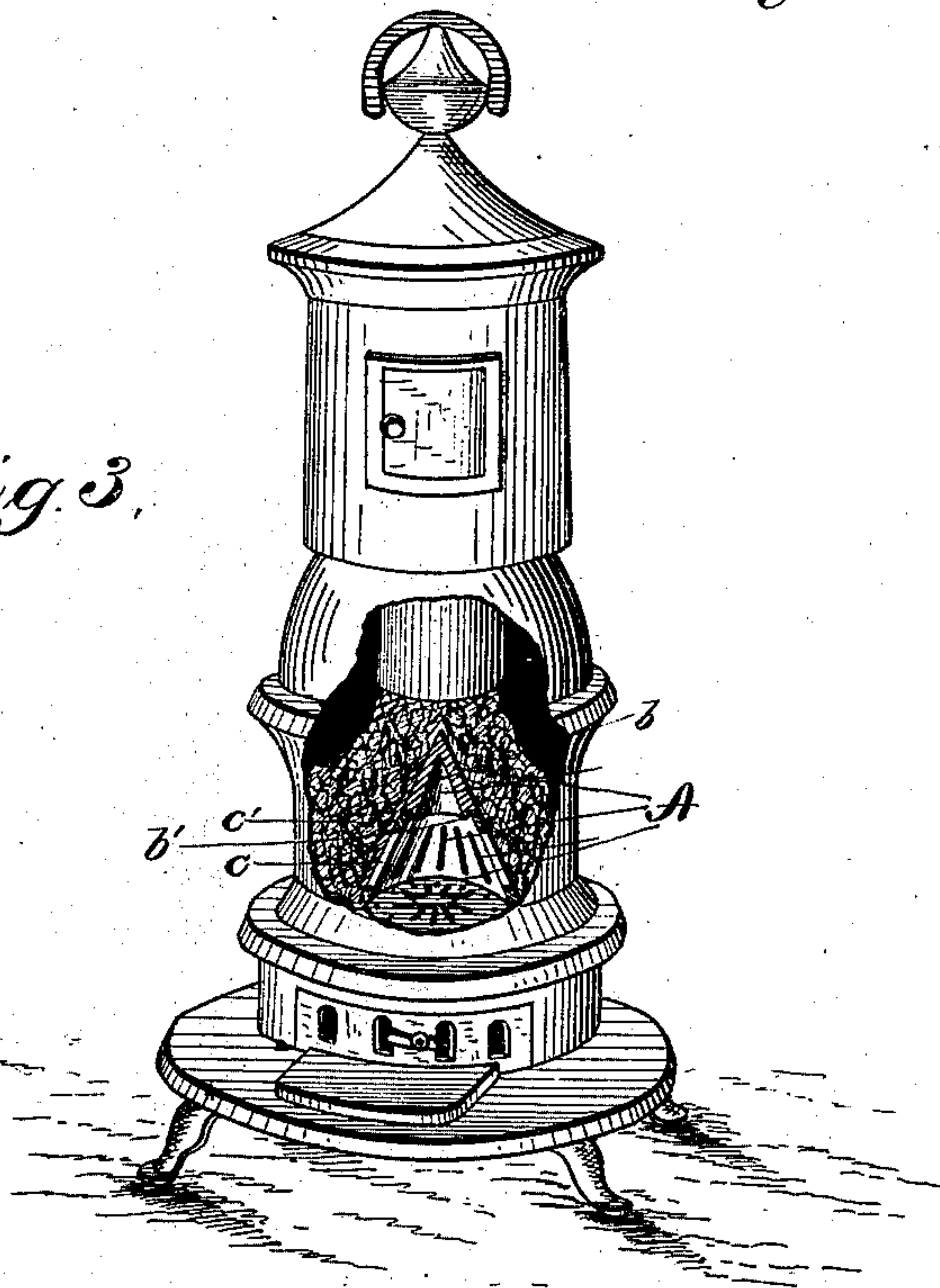


Fig. 3.



Witnesses:

Frank L. Ouraud,
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Inventor:

Hosmer Tuttle,
by L. Deane,
his Atty.

UNITED STATES PATENT OFFICE.

HOSMER TUTTLE, OF CEDAR RAPIDS, IOWA.

CONE FOR STOVE-GRATES.

SPECIFICATION forming part of Letters Patent No. 235,830, dated December 21, 1880.

Application filed November 11, 1880. (No model.)

To all whom it may concern:

Be it known that I, HOSMER TUTTLE, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Cones for Stove-Grates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a view, in perspective, showing the invention as ready for use. Fig. 2 is a vertical central section of the device as shown in Fig. 1; Fig. 3, perspective view, with parts broken away, showing the device as in use in a stove.

This device is designed to afford means for securing a better combustion of coal, and at the same time effecting very considerable saving in the quantity of fuel needed to keep up the requisite amount of fire; and the novelty of the invention consists more particularly in providing a conical supplemental central piece or grate made in two parts and adapted to be applied readily and quickly to and on the surface of any ordinary flat or nearly-flat grate used in a heating-stove. This device is more especially intended for use in a base-burning stove, but it is evident that it can be applied to any other kind of heating-stove.

In the accompanying drawings, A denotes a hollow conical structure, made in two parts, *b* and *c*. The upper part, *b*, of these, which constitutes the crown or cap of this cone A, is imperforate and is rabbeted at its lower edge, *b'*, so that it will, when placed upon the lower part, *c*, have its face flush with the outer wall of said lower part. This lower and larger part, *c*, is perforated, as illustrated by the slots *c'*, but it is not necessary that these should be vertical or of any other particular shape or form, so long as they afford a proper amount of opening for the circulation of air through the device when used on the grate of a stove. If desired, there may be at the lower edge of

c inside ears or lugs or any like and suitable means by which the device may be fastened to and upon the grate. This device is preferably made of cast-iron.

It is intended to use this device on the flat grate of any ordinary heating-stove; but it is evident that it can readily and as advantageously be applied to a grate that is a little crowning or a little dishing. Being in two parts, it can be readily separated and put through the stove-window, and then set together and in place on the grate, preferably in the center, and directly under the lower end of the reservoir.

While I deem it best to secure the cone to and upon the grate-surface, it is not absolutely essential that it should be fastened thereto, for, otherwise, when in use its weight and the weight of the coal about it will generally tend to retain it in proper place. When in this position and in use the descending coal will readily fall down the inclined sides of the cone, no opportunity for lodgment being afforded, and coming about and around the perforated parts will supply a sufficient thickness of coal between the cone and the sides of the stove or fire-pot to maintain free combustion. The slope of the cone will materially aid in widening the space or surface over which the inflowing currents of air will spread.

This device is of especial value in preventing the formation of clinkers in the stove, since it will afford such full and free circulation of air up through the sides or lower part of the incandescent fuel and through the body of the coal above as to render the combustion around its body *c* especially most thorough. It will also reduce essentially the amount of coal necessary to be used in the stove.

In some instances it may be found advisable to make the crown or top of the cone solid.

In use it will sometimes be found that the one or the other part wears out, and the worn piece can be readily replaced at small cost.

I am aware that heretofore supplemental devices have been put into stoves for the same general purpose now sought to be attained; but in some of these the top has been flat and generally perforated, while others have had a

broad rose at the top, to diffuse through open or perforated edges a stream of air into the fuel, while, again, structures of a generally conical shape and perforated along the whole
5 length have also been used; but not one of these is a distinctively independent device capable of adaptation to any ordinary stove-grate, nor can any of them be readily applied to a grate through the usual window, as can
10 be done with mine, nor will the operation of these aforesaid devices in the stove be the same as mine, since, by the peculiar shape of my device, the conical top will afford no chance for the coals to lodge, and so it will freely pass
15 down the sides, while the inflow of the air through the perforations will reach a very large portion of the ignited surface.

Having thus described my invention, what

I consider new, and desire to secure by Letters Patent, is—

1. The hollow conical supplemental center grate, A, made in two parts, the upper one, *b*, of which is imperforate and the lower one, *c*, perforated, substantially as and for the purposes shown. 20

2. In the hollow cone A for stove-grates, the combination of the imperforate top or crown *b*, having rabbet *b'*, with the lower part, *c*, having perforations *c'*, substantially as and for the purposes described. 25

In testimony whereof I affix my signature in presence of two witnesses. 30

HOSMER TUTTLE.

Witnesses:

G. W. BALLOCH,
GEORGE CORNELL.