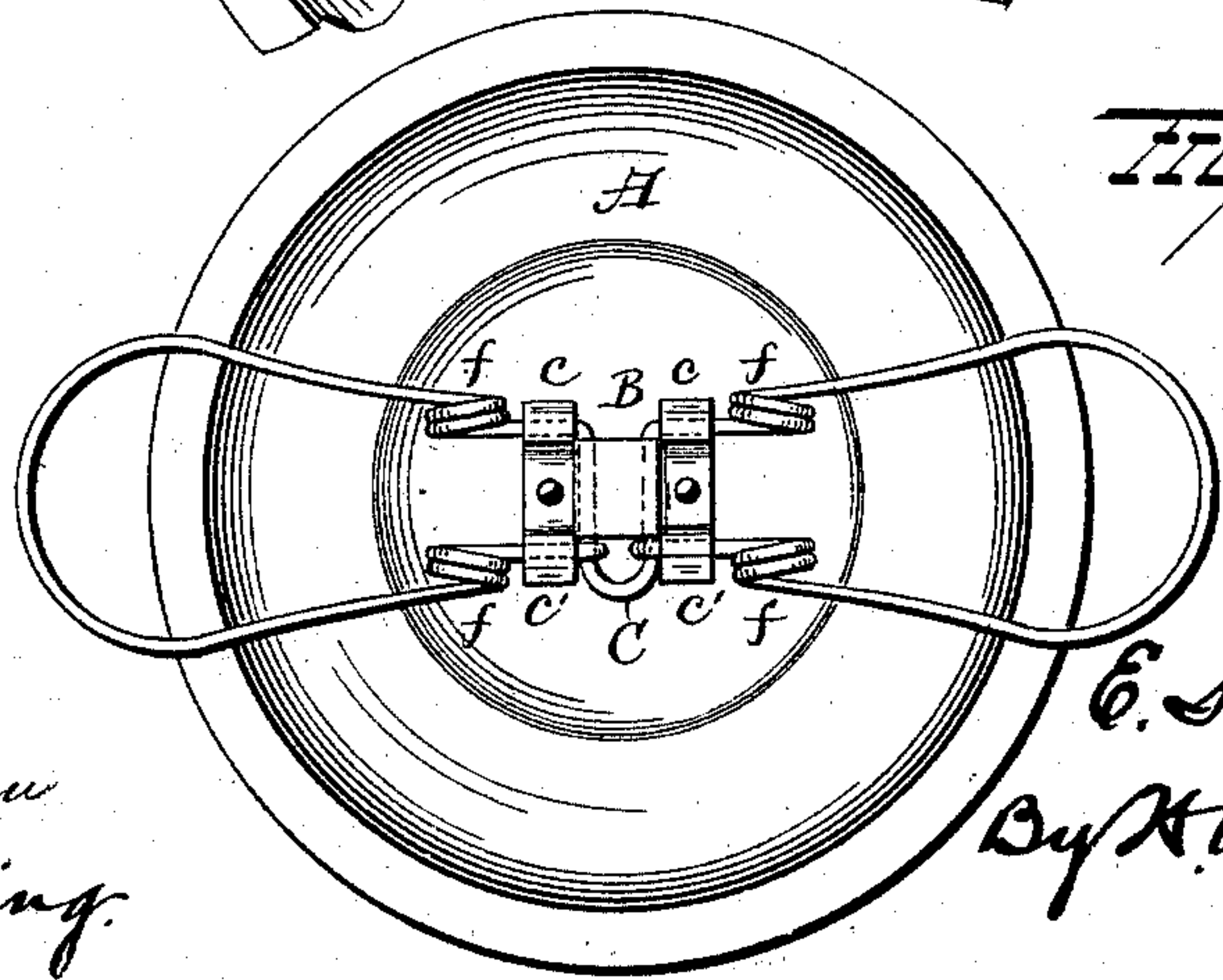
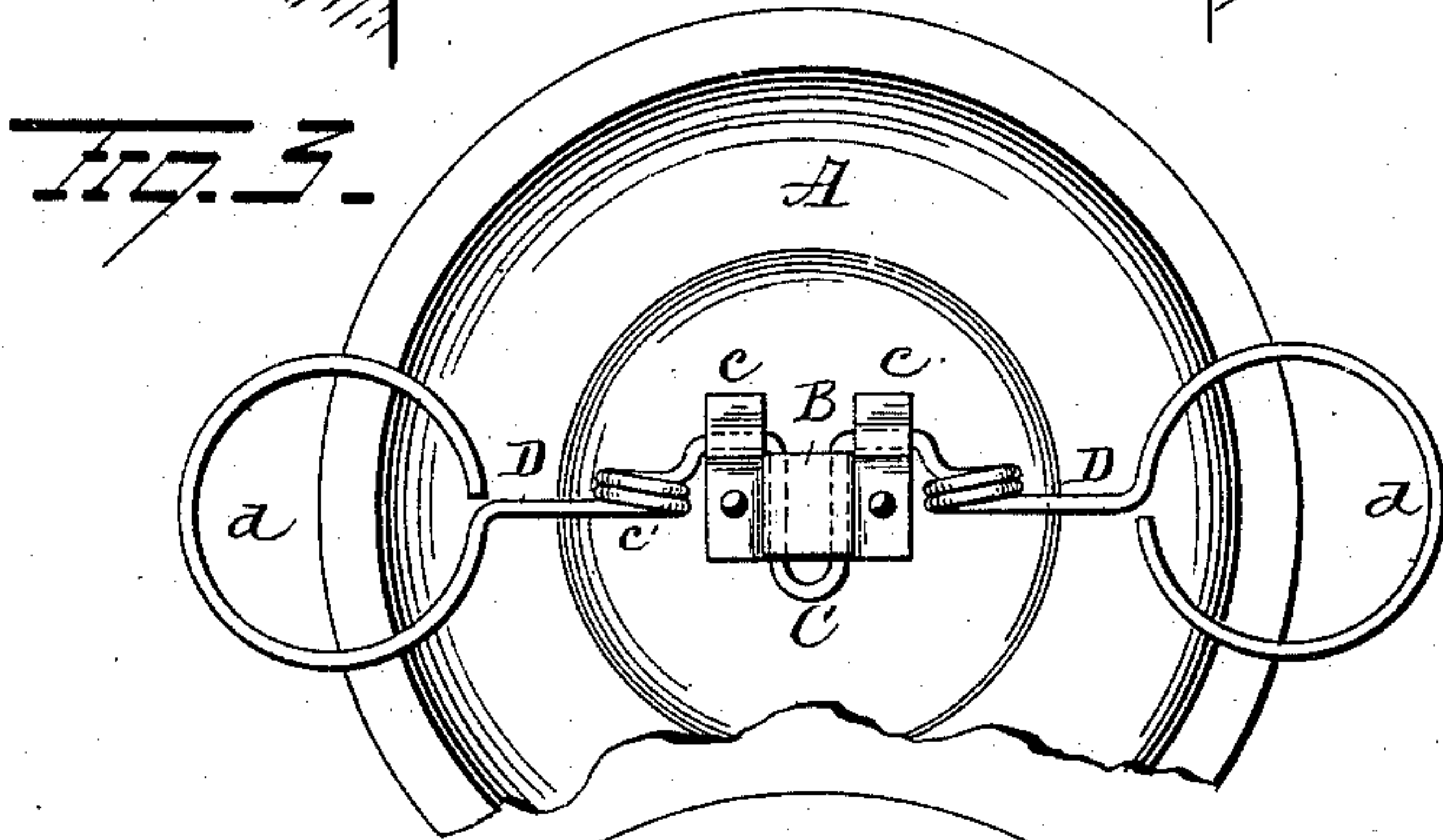
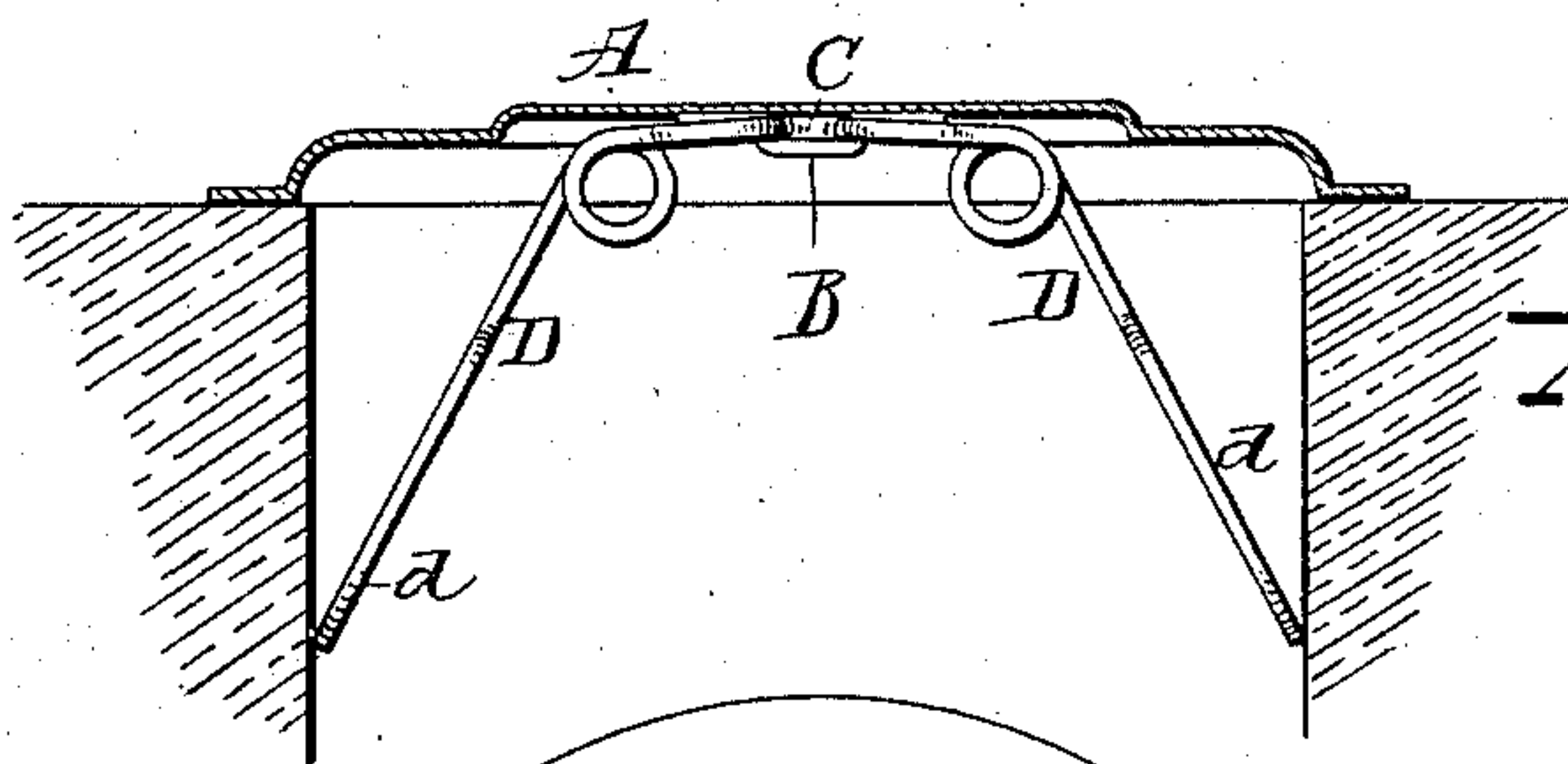
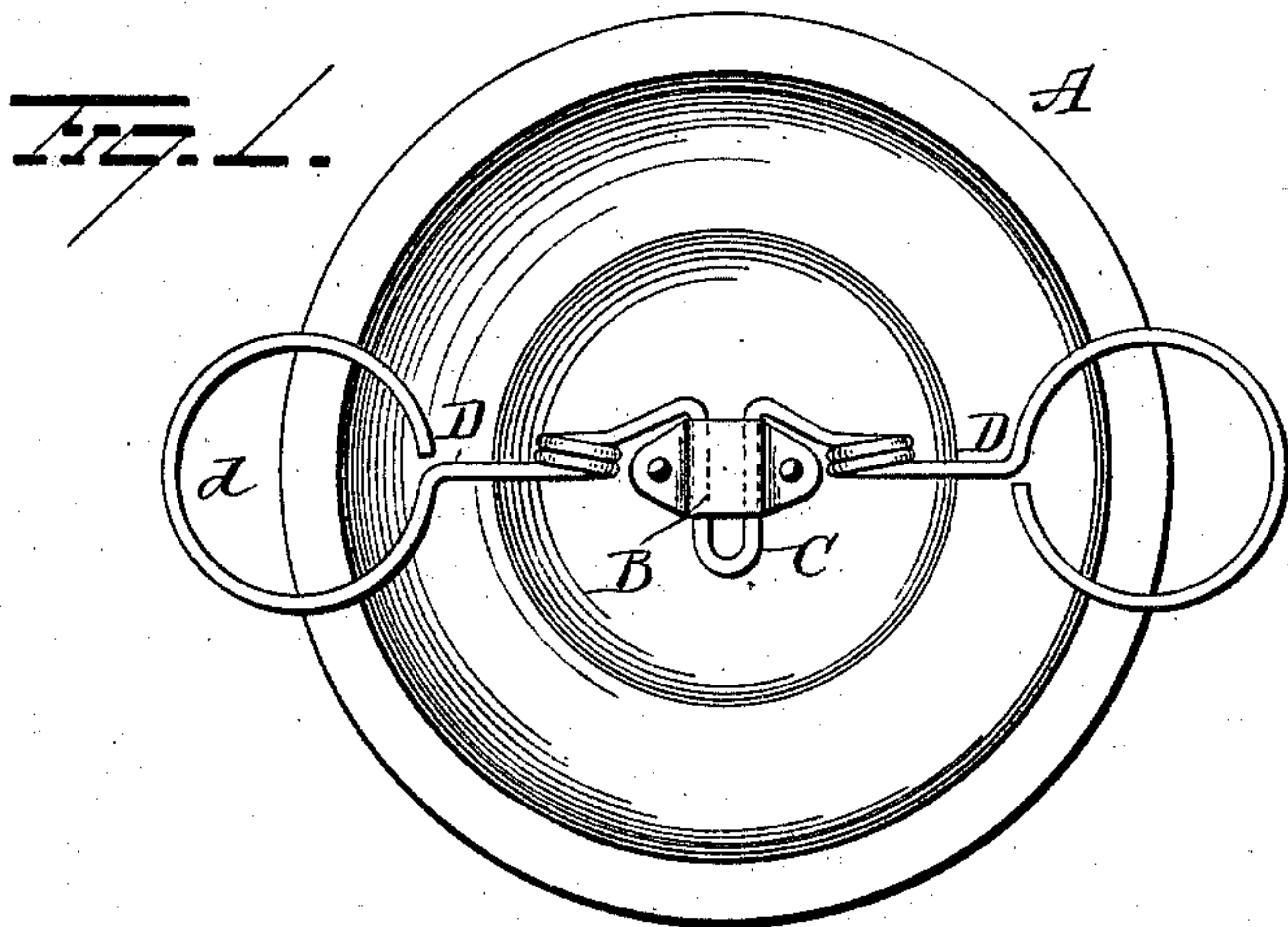


(No Model.)

E. H. HUENEFELD.
FLUE COVER.

No. 578,748.

Patented Mar. 16, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

ERNST H. HUENEFELD, OF CINCINNATI, OHIO.

FLUE-COVER.

SPECIFICATION forming part of Letters Patent No. 578,748, dated March 16, 1897.

Application filed November 5, 1896. Serial No. 611,102. (No model.)

To all whom it may concern:

Be it known that I, ERNST H. HUENEFELD, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Flue-Covers; 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.

My invention relates to an improvement in flue covers or stoppers, the object being to provide the flue-cover with a spring-retaining device secured to the inner face of the stopper or cover, the retaining device being so constructed that it can freely enter and accommodate itself to any-sized flue.

A further object is to provide a simple and cheap retaining device for the flue cover or stopper that can be easily and quickly applied to the cover or stopper.

With these ends in view my invention consists in certain novel features of construction and combinations of parts, as will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a flue stopper or cover having my retaining device secured thereto. Fig. 2 is a view of the retaining device removed, and Figs. 3 and 4 are plan views of modified forms.

A represents a flue stopper or cover of any desired size and shape, ornamented or not, as desired, and provided centrally on its inner face with the sheet-metal loop or pocket B. This loop or pocket is open at both ends and is designed to receive the central spring-tongue C of the spring-retaining arms D. These retaining-arms are made from a single piece of wire bent centrally to form the tongue C, after which the wires are bent upwardly and outwardly and are then bent into the form of helical springs, the top coils of which are then bent outwardly and bent into the form of circles *d*. The spring-tongue C is slightly wider than the loop or pocket B, and hence after it is once inserted in the pocket the expansion of tongue C therein causes sufficient frictional contact between the tongue and loop to securely hold the former in place. When the spring-retaining arms are in their normal position, the circles at the ends there-

of extend beyond the periphery of the cover or stopper. To apply the stopper or cover to a flue, the circular ends of the spring-retaining arms are forced toward each other until the circular ends can be introduced into the flue. After they have been so introduced and after they are in engagement with the side walls of the flue the stopper or cover can by a pressure on its outer face be pushed up into contact with the wall, the spring-retaining arms being retained in their compressed position by the side walls of the flue. After the cover or stopper has been applied, as above described, the spring-arms by their frictional contact with the flue absolutely prevent a displacement of the flue cover or stopper.

In the construction shown in Fig. 3 I have provided the metal loop or pocket B on the inner face of the cover or stopper with the upwardly-projecting lips *c*, which latter overlap straight sections of the spring-retaining arms between the tongue C and the helical springs, which lips, besides affording a more extended bearing for the spring-retaining arms, can be bent down over said arms, thus locking the spring-retaining arms to the cover or stopper. With such a construction as this it is not necessary to make the spring-tongue C of greater width than the pocket or loop and thus depend on the frictional contact to hold the parts in place, as the lips *c* when turned down over the spring-arms absolutely prevent the withdrawal of spring-tongue C from the loop or pocket.

In the construction shown in Fig. 4 I have formed the spring-retaining arms of a single piece of wire bent to form a tongue and helical springs, as before explained, but instead of bending the ends of the wires into circular form, as in the two devices above described, I have bent the ends around to form an elongated loop, near the ends of which I have formed helical springs *f*, and at the extreme ends have formed hooks which engage the closed end of the tongue C at a point below the loop or pocket. I have also provided the loop or pocket with the integral lips *c* and *c'*, the former being located above the latter.

When the parts are secured as above explained, the spring-retaining arms can be locked to the stopper or cover against the possibility of accidental displacement by simply

turning the lips *c* and *c'* down over the wires constituting the spring-retaining arms. It is not necessary, however, that the tongues or lips *c* of the device shown in Fig. 3; nor the 5 tongues or lips *c* and *c'* of Fig. 4, be turned down over the wires, as previously explained, as they can be employed simply for giving an extended bearing for the spring-retaining arms without locking or assisting in locking 10 the latter in place. To apply this construction, it is simply necessary to force the spring-retaining arms toward each other until they can freely enter the flue, after which the stopper or cover can be forced against the wall, 15 as before explained.

It is evident that changes in the construction and relative arrangement of the several parts might be made without departing from my invention, and hence I would have it understood 20 that I do not restrict myself to the particular construction and arrangement of parts shown and described; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters 25 Patent, is—

1. The combination with a flue-stopper having a loop or pocket on its rear face, of a spring-retaining device comprising two spring-arms and a centrally-located tongue 30 integral with the arms, the said tongue adapted to enter the loop or pocket, substantially as set forth.

2. The combination with a flue stopper or

cover provided on its rear face with a loop or pocket, the latter having projecting lips, of 35 a spring-retaining device comprising two spring-arms and a centrally-located tongue, the said tongue adapted to be secured within the loop or pocket with portions of the spring-arms resting under the lips, substantially as 40 set forth.

3. The combination with a flue stopper or cover provided on its rear face with a loop or pocket, of a spring-retaining device comprising two spring-arms and a centrally-located 45 integral tongue adapted to enter the loop or pocket, the ends of the spring-arms being provided with hooks adapted to engage the lower end of the tongue, substantially as set forth. 50

4. The combination with a flue-stopper provided on its rear face with a loop or pocket, the latter having projecting lips, of a spring-retaining device comprising two spring-arms and a centrally-located tongue, which latter 55 is retained in the loop or pocket by the projecting lips, the spring-arms being provided at their free ends with hooks adapted to engage the tongue, substantially as set forth.

In testimony whereof I have signed this 60 specification in the presence of two subscribing witnesses.

ERNST H. HUENEFELD.

Witnesses:

CHARLES E. PFAU,
JOHN R. CARTER.