

No. 849,593.

PATENTED APR. 9, 1907.

W. H. BLOOD, JR.
ELECTRIC IGNITER.
APPLICATION FILED FEB. 2, 1906.

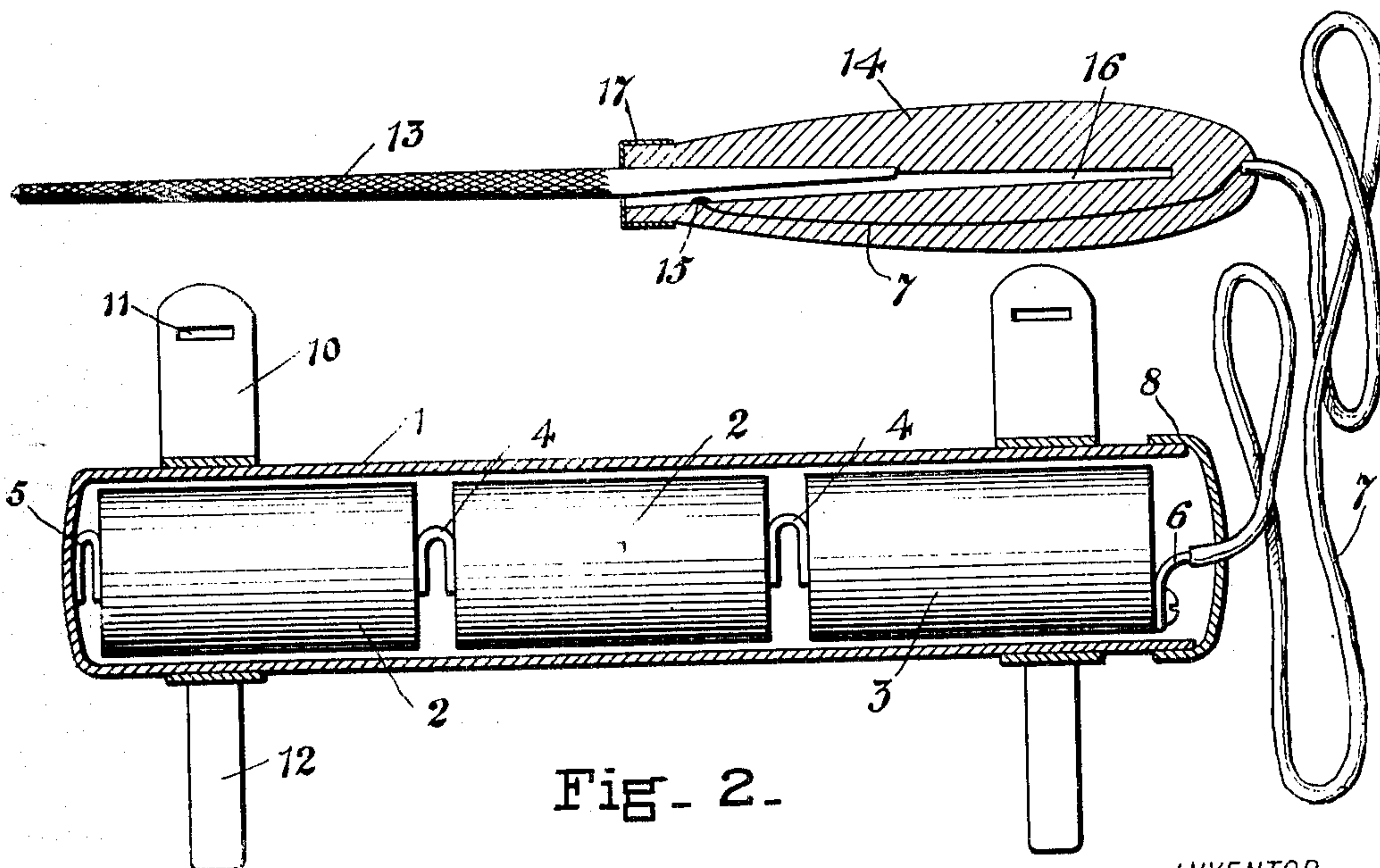
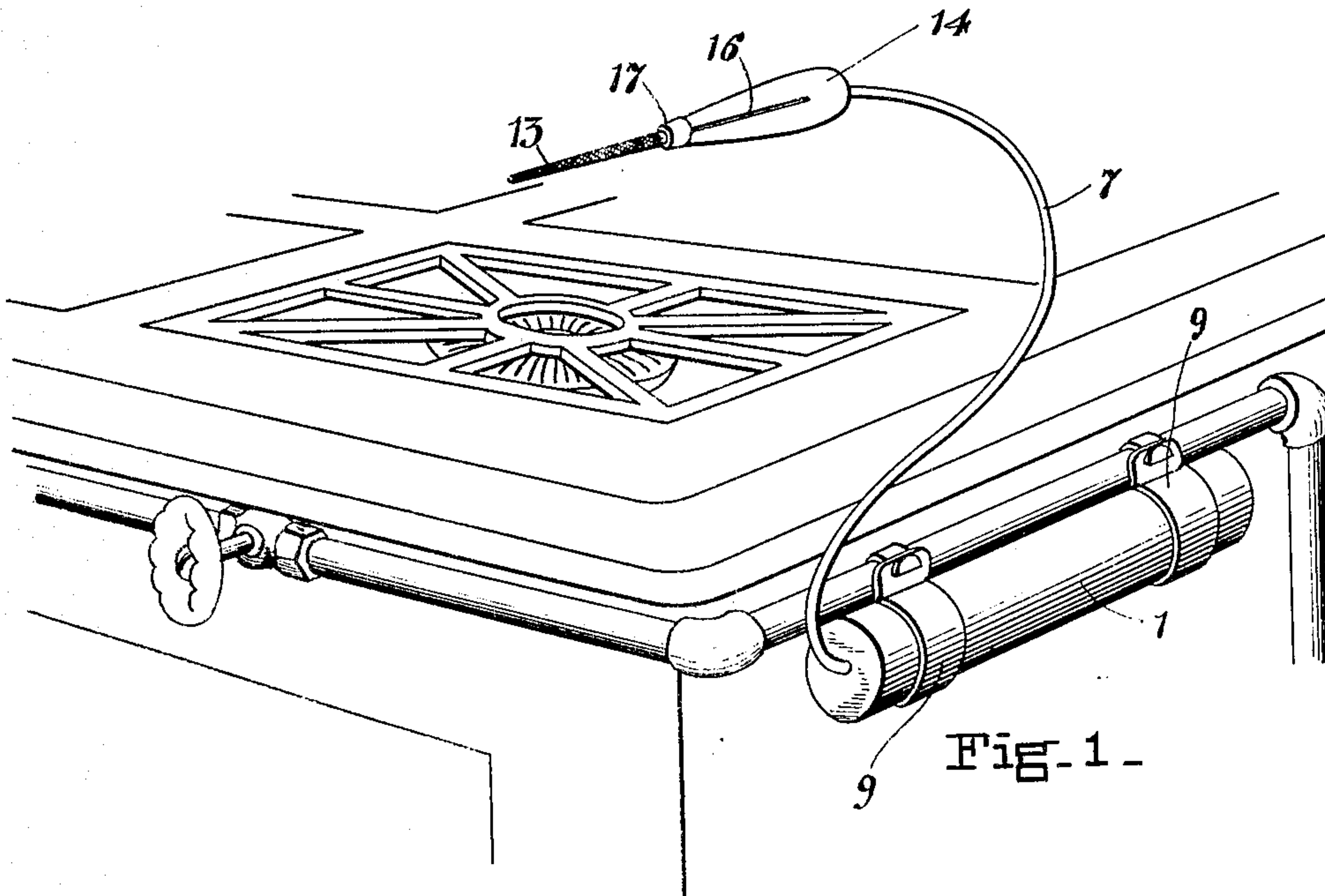


Fig. 2.

WITNESSES

J. E. Ripley.
C. H. Wilson

INVENTOR

W. H. Blood, Jr.
BY *Albert Nathan*
ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM HENRY BLOOD, JR., OF WELLESLEY, MASSACHUSETTS.

ELECTRIC IGNITER.

No. 849,593.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed February 2, 1906. Serial No. 299,104.

To all whom it may concern:

Be it known that I, WILLIAM HENRY BLOOD, Jr., a citizen of the United States, residing in Wellesley, in the county of Norfolk and State of Massachusetts, have invented a certain new and useful Electric Igniter, of which the following is a specification.

This invention relates to electrical devices; but it more particularly concerns improvements in an electrical igniting combination whereby in addition to certain other advantageous features the various parts going to make up the same are so devised that they may be more conveniently assembled, so as to constitute a unitary structure well adapted for being handled and applied to its uses as a whole. However, as the invention is applicable with peculiar advantages to gas-burners, particularly as utilized in the ordinary cooking gas-stoves, it will be conducive to clearness to disclose the preferred embodiment thereof in such connection.

In using gas-stoves it has heretofore been necessary to resort to matches as a means of igniting the burners of the same; but this expedient is not only relatively costly, but is attended with considerable inconvenience. For instance, the discarded burned matches tend to accumulate about the burner, thereby littering up the stove and rendering it unsightly. Furthermore, the lighting of the burner by means of the short matches brings the hand into close proximity with the flame, and as a result the hand is likely to be burned by the gas, which generally puffs out at the moment of ignition to the extreme discomfort of the user.

This invention accordingly has in view other objects—the provision of means whereby a gas-burner may be ignited whenever so desired without the employment of matches or other combustible devices.

A further object lying within the contemplation of this invention is to provide an electrical attachment which is particularly applicable to gas-ranges of the ordinary construction and which will constitute a self-contained means adapted to ignite a burner at will.

Another object of this invention is to provide an electrical attachment for gas-ranges which is designed to operate to produce sparks in the path of escaping gas through the contacting of a conducting member with the metallic parts of the burner or other features of the stove which lie within the zone of

the escaping gas. It is the purpose of this invention to so arrange said conducting member that the same will be normally in open circuit with the battery, so that the latter may not be short-circuited by an inadvertent placing of the said conductor in contact with metallic parts of the stove.

A further object is to provide a device as described with an engaging means of simple construction whereby the same may be securely attached both mechanically and electrically to a gas-pipe or other portion of the stove.

Another object is to provide an instrumentality of the class specified which from an operative standpoint will in usage possess a high degree of efficiency and effectiveness and which, structurally considered, will be of the greatest possible simplicity, being composed of but a few parts, all adapted for being made at a minimum of cost and individually so formed as to be capable of being readily assembled in a neat and compact arrangement for accomplishing the purpose intended.

Other objects and advantages will be in part obvious and in part pointed out herein-after.

With these and other ends in view this invention accordingly consists in the features of construction, combination of parts, and arrangement of elements hereinafter more explicitly set forth as an exemplification of the underlying principles involved in the invention.

In order that this invention may be more fully understood and be comprehensible to others skilled in the art, drawings illustrating a convenient means of carrying out the same are pointed out as a part of this specification, and while the controlling principles of the invention may be otherwise applied by modifications falling within the scope of the claims the hereinafter-disclosed embodiment is that which will ordinarily be preferable to employ in practice and is regarded as representing substantial improvements over the many obvious or implied variations of the same. In such drawings it is to be noted that like numerals refer to corresponding parts throughout all the figures, in which—

Figure 1 is a general perspective of a gas-range, showing the invention as affixed to a pipe forming a part of said range. Fig. 2 is a plan view of the preferred embodiment of the

invention, parts being broken away and shown in section to more clearly bring out the salient features of the invention.

In carrying out this invention it will be preferable to embody the same into a semi-portable arrangement in order that it may be conveniently carried by a purchaser desiring to subsequently affix the same upon the gas-stove. To this end an outer tube 1, which may be made of any suitable material, either metallic or non-metallic, as may best accord with the specific construction adopted, is arranged so as to include the means of generating or supplying electricity, which means may preferably consist of a suitable number of batteries 2, arranged in conjunction with an induction-coil 3. Such batteries, which may be of storage or other systems, are preferably so inclosed that the escape of chemicals therefrom will be prevented, and for the same may be employed the ordinary dry cells well known to those familiar with the art. In order that electrical connection may be made between the batteries and induction-coil, a series of spring-clips 4 will be interposed, and the end battery may conveniently be in direct contact with the inclosing tube by means of a similar clip 5. From the opposite terminal 6 of the induction-coil leads a suitable flexible conductor 7, which passes through an orifice in an end cap 8, and at its other end attaches to a handle of peculiar construction, which will be presently described. In practice it will probably be found to be of advantage to provide that end of the tube opposite the induction-coil with a removable cover, so that the batteries may be replaced without disturbing the induction-coil and conductor leading therefrom. It is desirable that such conductor 7 be provided with an insulated cover in order that a short-circuiting of the batteries may not occur through contact of such conductor with the metallic parts of the stove.

As it is essential that the foregoing tube may be attached to the stove in a good mechanical as well as electrical manner and as it is very desirable that such means be of the utmost simplicity in order that the device may be made as cheaply as possible, a metallic band 9 is permanently affixed to the inclosing tube, preferably by encircling the same after the manner shown in Fig. 1, and the ends of such band are of such length that they may similarly encircle a gas-pipe or other suitable portion of the stove in some convenient manner, such as shown by the said figure. To this end it is convenient to provide one of the ends 10 with a slot 11 of such form that the opposite end 12 may be inserted therethrough and secured against withdrawal by a simple overlapping of the protruding end. This arrangement is not only the essence of simplicity, but will be found to be very serviceable and effective in

use and capable of insuring a good electrical contact with the metallic part of the range. Of course while this invention in its most complete sense comprises this preferred clamping device it will be understood that the employment of the same is not essential to the utilization of many of the advantages arising out of the other features of the invention.

An important feature of this invention resides in the means of making and breaking the circuit adjacent the burner, so as to produce the necessary sparks for causing an ignition of the escaping gas. A metallic rod 13 of sufficient length for being brought into contact with the metallic burner may be scraped over the same to cause the desired current interruptions, and a most satisfactory expedient for this purpose will be found to be a roughened steel member, such as the ordinary rat-tail file. Not only does steel possess the peculiar property of vigorously sparking under current interruptions, but when hardened and scored, as in the case of a file, it insures a good contact when scraping over the normally tarnished surface of the metallic burner or other part within the gas zone. This does away with the necessity of providing clean bright metallic surface for contact purposes, as the file serves to automatically clean the same at the instant of use. Furthermore, the sharp points afforded by the file tend to greatly increase the size of the spark, and thus more certainly insure a lighting of the gas. In using an appliance of this nature one is likely to set the contacting end 13 upon the metallic stove parts, an act which would in ordinary cases will cause an immediate short circuit through the battery, to the ruination thereof. As a consequence devices of this nature have had their practical value greatly impaired; but by the expedient now to be described this difficulty has been entirely obviated in a most simple yet wholly effective manner. What is perhaps the simplest manner of embodying this feature of the invention is illustrated on the drawings, in which 14 designates a handle, which may be of wood or other insulating material, which handle is provided with a lengthwise-extending slit 16, so as to give to the same a bifurcated form having legs normally spread apart, as shown by the section in Fig. 2. The rat-tail file 13 is securely attached to the one leg of such handle, and through the other extends the conductor 7, so as to terminate at 15 in a contact which may be brought into touch with the shank of the file through a pressure on the handle. As will be readily perceived by those skilled in the art, the spark-rod 13 may be mounted in the handle 14 in a great variety of ways, all of which may lie within the ordinary daily skill of an artisan. Thus the spark-rod may be cemented in place, or

it may be partially embedded in the material of the handle, so as to leave exposed a portion for contact purposes. Again, it will be understood that it may have its attached end embedded wholly in the material of the handle at a distance from the slot thereof, and a short conductor may lead to the point of contact. Since, however, all this is merely a matter of the most elementary knowledge of the art, it is thought that a further elaboration and recitation along this line will serve no useful purpose either in promoting the art or assisting in the carrying out of this invention. A suitable ferrule 17 on the end of the handle serves to properly restrict the outward movement of the legs of the handle and otherwise strengthen the device. Such ferrule may be rigidly affixed to the shank of the file, if so preferred, in order to securely retain the latter in place. In an alternative construction, which is well within the scope of this invention, the file may be mounted in the ordinary way and the handle be split from its opposite end, thus forming two legs whose inner surfaces would be provided with two contact-points, respectively, one of which is electrically attached to the file and the other to the conductor.

It will thus be seen that the invention herein disclosed is one well adapted to attain the various ends and objects apparent from the foregoing description. The device is simple and capable of being made at a very low cost and is such that it may be readily attached to any ordinary stove by any person and when so attached is capable of properly performing its functions. It does not require a knowledge of the proper mode of making electrical connections and in other respects embodies many eminent advantages fitting it for practical use.

In carrying out this invention details of construction may be varied from those shown, and yet the essence of the invention be retained. Some parts might be employed without others, and new features thereof might be combined with elements old in the art in diverse ways, although the herein-described type is regarded as embodying substantial improvements over such modifications.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted in an illustrative and not a limiting sense. It is furthermore desired to be understood that the language used in the following claims is intended to cover all of the

generic and specific features of the invention herein described and all statements of the scope of the invention which as a matter of language might be said to fall therebetween.

I accordingly claim, and desire to secure by Letters Patent, the following:

1. In an electrical igniter, in combination, a suitable inclosure, fastening means in connection with said inclosure and terminating in ends adapted to be affixed to a part of a gas-stove, one or more batteries within said inclosure and in electrical contact with said means, an induction-coil within said inclosure and connected with said batteries, a flexible insulated conductor leading from said induction-coil, a suitable handle within which said conductor terminates, said handle comprising two relatively movable members, said conductor terminating a contact on the inner face of one of said members, and a metallic rod rigidly mounted in said handle and in electrical connection with a contact on said other member, whereby upon pressure said members may be brought together to establish an electrical connection between said rod and conductor.

2. In an electrical igniter, in combination, a suitable inclosure, means whereby said inclosure may be affixed to a part of a gas-stove, a source of electricity, a flexible insulated conductor leading from one terminal of said source, a suitable handle within which said conductor terminates, said handle comprising two relatively movable members, said conductor terminating on a face of one of said members, and a metallic rod mounted on said handle in electrical connection with a contact exposed on the opposite face of the other member, whereby upon pressure said members may be brought together to establish an electrical connection between said rod and conductor.

3. In a device of the class described, a handle comprising two relatively movable members normally spaced apart, a conductor terminating in a contact movable with one of said members, a spark-rod having a terminal movable with the other of said members adjacent and in the path of the aforesaid contact, whereby upon closing said members an electrical contact will be made and said spark-rod will be put in closed circuit with said conductor, and means for enabling said spark-rod to make sparks at a point distant from its circuit-closing contact.

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

WILLIAM HENRY BLOOD, JR.

Witnesses:

C. H. WILSON,

ALBERT F. NATHAN.