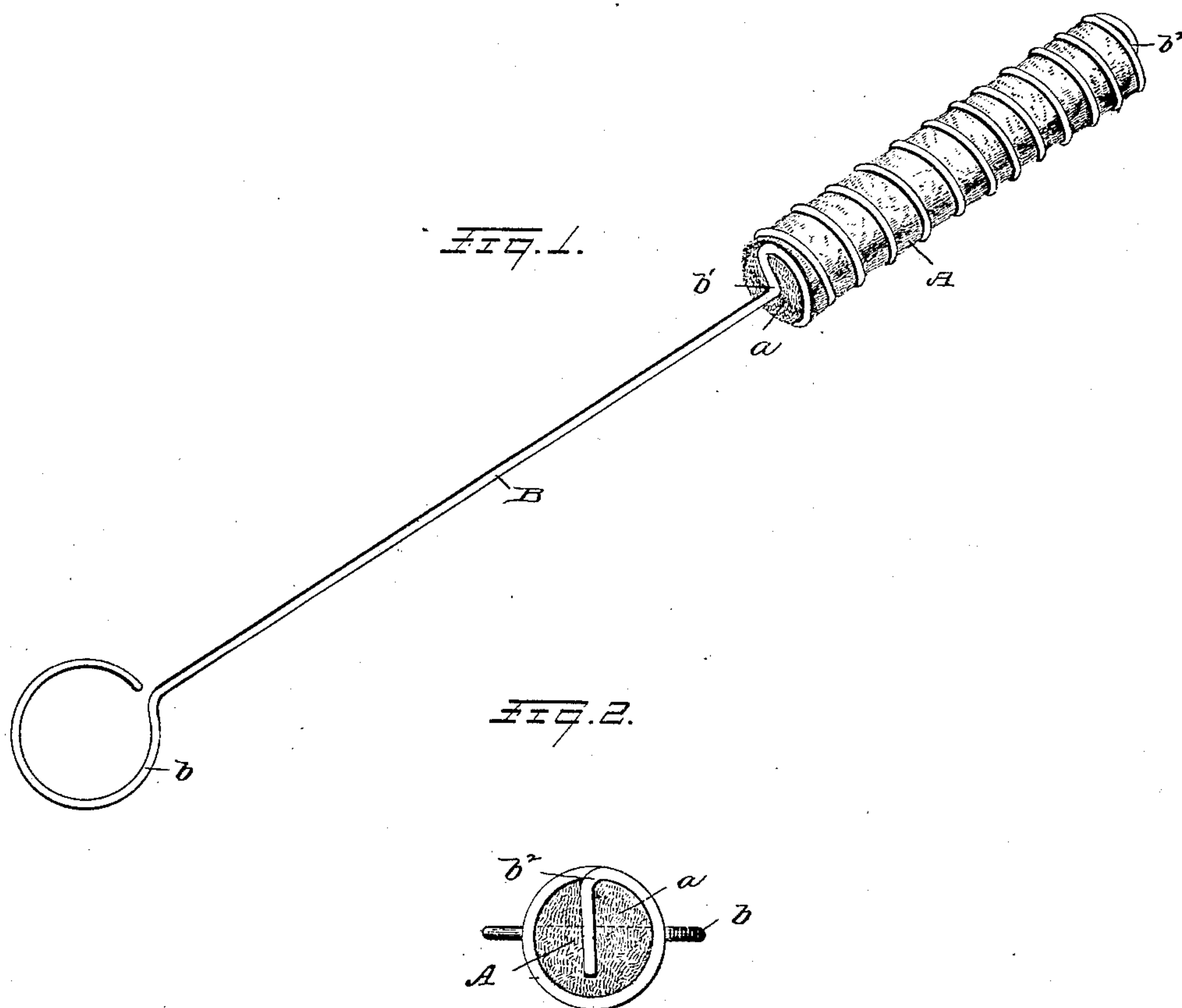


(Model.)

R. MILLER.  
FIRE KINDLER.

No. 359,272.

Patented Mar. 15, 1887.



Witnesses:-

L. B. Foster, Jr.,

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att'y

# UNITED STATES PATENT OFFICE.

RICHARD MILLER, OF JANESVILLE, WISCONSIN.

## FIRE-KINDLER.

SPECIFICATION forming part of Letters Patent No. 359,272, dated March 15, 1887.

Application filed November 3, 1886. Serial No. 217,889. (Model.)

*To all whom it may concern:*

Be it known that I, RICHARD MILLER, of Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Fire-Kindlers; 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 fire-kindlers.

Hitherto in that class of fire-kindlers in which a bunch of asbestos has been supported in a frame and adapted to be saturated with an inflammable oil or fluid and be placed in a position where the flame from the burning oil or fluid will reach the fuel, it has been customary to construct the handle with retaining-points at the ends of its branches for engaging the opposite sides of the roll or bunch of asbestos, and to provide rings, one adapted to slide down over the roll of asbestos and embrace the ends of the branches of the handle and another to slide over the end of the roll farther from the handle; or the bunch of asbestos has been made in conical shape and encaged in a coil of wire, the handle being attached thereto, and a central strengthening-wire being arranged to extend longitudinally through the asbestos; or, again, the asbestos has been encaged in a helical coil and the ends of the roll of asbestos have been protected by metallic heads bound together by tie-rods, the cage being adapted to be handled by the stove-hook or any convenient detached device capable of adjusting it beneath and removing it from the grate. These several devices have failed in a greater or lesser degree to fully satisfy the demands of the general public, because, in the first instance, the asbestos is not sufficiently protected against abrasion by contact with the fuel when placed, as is often desirable, on the fuel side of the grate; in the second instance, because of the failure of the apex of the cone-shaped bunch to supply a flame equally as long time as the thicker portion; and the consequent liability of the retaining-wire to become burned out at the small end while remaining whole at the larger end; in the third instance, because of the inconvenience in inserting it into and removing it

from the fire-pot, and in every instance because of the number of pieces of material required to construct the handle and cage.

The object of my present invention is to provide a kindler which shall be capable of supporting an even flame throughout its entire length, which shall be well protected against injury from the contact of fuel, which may be readily inserted in the ordinary-sized filling-mouth of an oil or fluid can and through an ordinary draft-opening into the fire-pot of a stove, and in which a single piece of wire shall be made to protect both the curved surface of the roll and its squared ends, thereby enabling me to produce an effective durable kindler for general use at a reduced cost.

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

In the accompanying drawings, Figure 1 is a view of the kindler in perspective, and Fig. 2 is an end view showing the manner in which the end of the wire is bent to protect the end of the roll of asbestos.

A represents a roll of asbestos of such length as may be found desirable in practice, and of such diameter as to admit of its insertion through the draft-openings or between the grate-bars of a stove or furnace, and preferably of such diameter as to admit of its insertion into the mouth of an ordinary oil or burning fluid can for the purpose of saturating it with inflammable oil or fluid. The oil or fluid might, however, be poured onto it, and it might be constructed of different sizes, suited to the fuel which it is intended to ignite.

The roll A is preferably constructed of nearly or quite the same diameter throughout its entire length, and has flat or what are commonly called "squared" ends *a*.

The wire which forms the handle and protecting-cage for the roll consists of a single piece bent into a loop, *b*, at one end, for convenience in grasping it; thence extending straight, or nearly so, to the central portion of the end of the roll or to a point a short distance to one side of the center; thence curving, as shown at *b'*, at right angles to the straight portion B, until it reaches the edge of the end *a*; thence extending in an open helical coil



around the roll A to the opposite end,  $a$ , and thence by a short curve,  $b^2$ , extending nearly or quite across the central portion of the end. The roll is thus completely protected against wearing-contact with the fuel. The ends  $a$  are held in abrupt form, and yet the flame from the burning oil or fluid is allowed to issue from the ends as well as the curved surface, and all is accomplished by a single rod or wire, which may be bent into shape in a moment's time.

The end  $b^2$  may be left unbent until the roll of asbestos is inserted, and then bent into position to secure it in place.

The access of air to the encircling wire when the kindler is beneath the fuel on the fuel side of the grate will prevent the melting of the wire while the inflammable oil or fluid is igniting the fuel, and the kindler may be left in position until the fire is well started, and may be withdrawn and laid aside for future use.

It is evident that the length and diameter of the roll might be varied, and that the roll-holder might be bent different shapes at the ends of the roll, and that other slight changes might be resorted to without departing from the spirit and scope of my invention; hence I

do not wish to limit myself strictly to the construction herein set forth; but

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

1. In a fire-kindler, the combination, with a roll of asbestos, of a handle and cage formed in a single piece, the wire encircling the roll of asbestos in helical coils, and bent inwardly at the handle end of the roll in the form of a semi-coil and at the opposite end bent across the end of the roll, for the purpose substantially as set forth.

2. In a fire-kindler, the combination, with a solid roll of asbestos, of a handle and cage formed in one piece, the wire at the ends of the roll of asbestos being bent in circular form to protect the edges in helical coils around the body of the roll, and inwardly at the ends of the roll to protect the ends, substantially as set forth.

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

RICHARD MILLER.

Witnesses:

EDWIN F. CARPENTER,  
M. M. PHELPS.