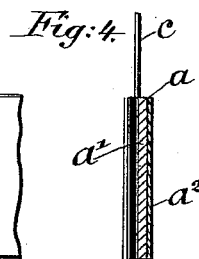
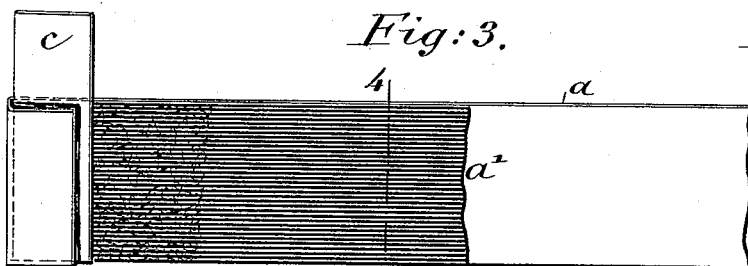
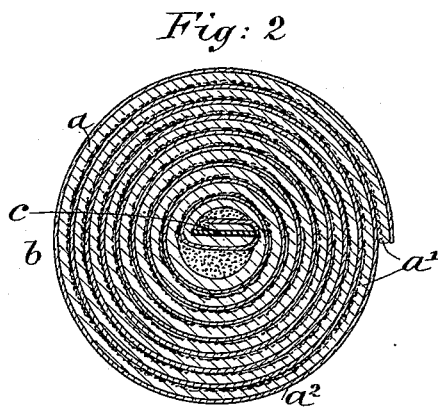
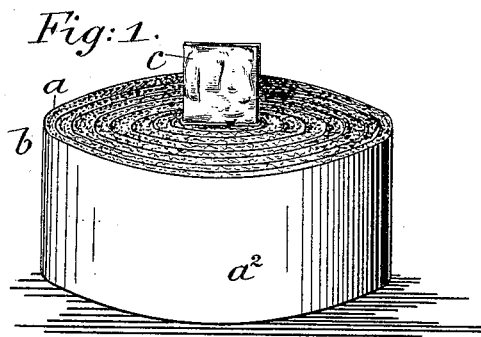


(No Model.)

E. LUDDE.  
FIRE KINDLER.

No. 525,912.

Patented Sept. 11, 1894.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ELARD LUDDE, OF MASPETH, NEW YORK.

## FIRE-KINDLER.

SPECIFICATION forming part of Letters Patent No. 525,912, dated September 11, 1894.

Application filed January 8, 1894. Serial No. 496,098. (No model.)

*To all whom it may concern:*

Be it known that I, ELARD LUDDE, a citizen of the United States, residing at Maspeth, in the county of Queens and State of New York, have invented certain new and useful Improvements in Fire-Kindlers, of which the following is a specification.

My invention relates to an improved fire-kindler, and its object is to provide a fire-kindler, which is cheap and effective for starting either a wood or coal fire.

The invention consists of a fire-kindler, composed of a closely-wound spiral foundation-strip of combustible material, which is coated with a suitable mixture of hydrocarbons and covered with a layer of sawdust, such kindler having an ignition-strip attached to the inner convolution, which latter is filled in with saw-dust, so that a quickly-ignitable kindler is produced.

In the accompanying drawings: Figure 1 is a perspective view of the improved kindler. Fig. 2 is a horizontal section through the same. Fig. 3 is a view, showing a portion of a coated foundation-strip and an ignition-strip about to be rolled into the foundation-strip. Fig. 4 is a transverse section, on line 4—4, Fig. 3.

A brief description of the preferred process of making the fire-kindler, in connection with the description and illustration of the article itself will be understood without special illustration.

A long web or strip of rolled paper is unwound and conducted into a vessel containing a liquefied mixture of heavy hydrocarbons, such as varnish-drips, resin, coal-tar or the like, such mixture being kept sufficiently thin by adding from time to time, as occasion demands, a supply of crude petroleum. As the coated web is drawn out of the vessel, one

side is scraped as clean as can be, and the same passed through a receptacle containing saw-dust, which adheres to the coated side of the same. The web is now drawn out of the saw-dust by the attendant, and cut into strips such as *a*, sufficient in size to produce a convolute kindler *b*. Each strip *a*, when cut off, has applied to one end of its coated side *a'*, a thin projecting sulphur-coated ignition-strip *c* of highly combustible material, the extremity *d* of said strip *a* being lapped or bent over upon the ignition-strip, so that when the strip *a* is rolled into compact form around the latter with the uncoated side *a''* outward, the whole will assume the form shown in Figs. 1 and 2, whereby a substantially solid fire-kindler provided with a central ignition-strip is produced. In order to more firmly hold the ignition-strip in position, the center convolution of the kindler is packed with a saw-dust filling, as shown.

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

A fire-kindler, composed of a foundation-strip of combustible material, having a convolute or spiral form, a coating of hydrocarbon, a layer of saw-dust applied to the coating, and a centrally projecting ignition-strip of thin material, the same being firmly retained within the central convolution of the kindler, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ELARD LUDDE.

Witnesses:

PAUL GOEPEL,  
GEO. L. WHELOCK.