(No Model.)

R. J. GATLING.

TORCH.

No. 549,122. Patented Nov. 5, 1895.

Fig. 1.

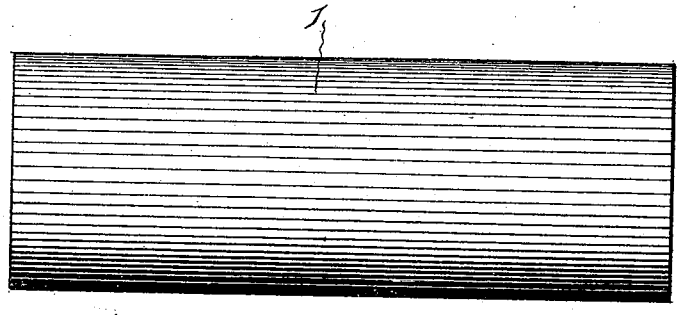


Fig. 2.

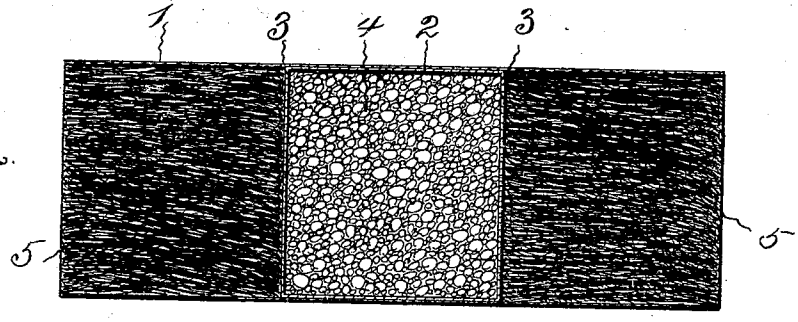


Fig. 3.

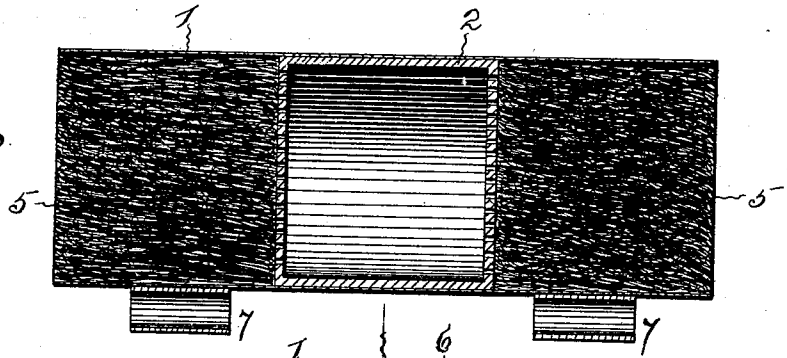
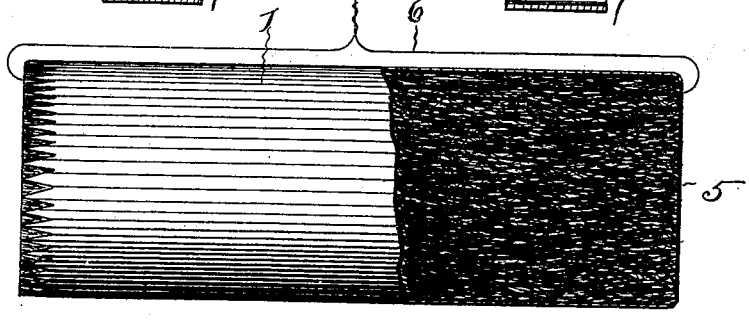


Fig. 4.



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UNITED STATES PATENT OFFICE.

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TORCH.

SPECIFICATION forming part of Letters Patent No. 549,122, dated November 5, 1895.

Application filed May 23, 1895. Serial No. 550,342. (No model.)

To all whom it may concern:

Be it known that I, RICHARD J. GATLING, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Torches, of which the following is a specification.

The invention relates to the class of devices so constructed that a cheap and desirable flame may be produced for a limited period, which may be utilized for kindling fires, for destroying bugs and caterpillars on trees and shrubs, and for any purpose for which a cheap torch-light may be desired.

The object of the invention is to provide a very simple and cheaply-constructed device of this class which will be perfectly safe and which can be utilized to produce a desirable flame for the purpose intended at a small cost.

To this end the invention consists in a torch having a shell of simple shape packed with an incombustible absorbent material that can be easily impregnated with a readily-combustible material which will burn slowly when ignited, as more particularly hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a side view of one form of torch. Fig. 2 is a central section of the same. Fig. 3 is a central section of a modified form, and Fig. 4 is a side view with a portion cut in section to illustrate still another feature of the invention.

In the views 1, indicates the cylindrical shell of the torch, which shell is made circular in cross-section and is somewhat longer than the length of its diameter. This shell is preferably made by cutting off suitable lengths from a tube of thin sheet metal, as iron, that has been rolled or otherwise cheaply formed into the shape of a tube. Usually in the center of this tube is located a cylindrical receptacle 2 for retaining a quantity of combustible fluid, which is preferably coal-oil or kerosene. This receptacle may be formed of a section of tube or thin sheet metal and slipped within the larger shell, the interior receptacle preferably having its ends closed by perforated disks 3 or other material through which the fluid can percolate. The chamber in this receptacle may be filled with pebbles 4, gravel, metal chips, or other granular material, as shown in Fig. 2, which material will not absorb the fluid, but will aid in occupying the space, so that a large quantity of fluid will not collect in this interior in a position in which it might be subjected to abnormal heat and thereby become vaporized and explode.

If desired, the central receptacle may be formed of a molded or pressed material which is porous, such as clay, and the ends of this material may be provided with a number of small perforations, as shown in Fig. 3, or otherwise made porous.

Packed loosely into the circular shell from each end is a filling 5, of absorbent material, preferably mineral wool, although fibrous asbestos may be utilized for this filling, if desired. This filling is loosely but firmly packed in position, and being of a comparatively soft, flocculent, and fibrous nature it readily absorbs and holds a considerable quantity of the combustible material which is poured in for producing the flame.

If desired the ends of the cylindrical shell may be slitted or made in the form of saw-teeth, the points of which are bent over, so as to aid in holding the filling material in the interior of the shell. A wire 6 may be passed through the shell and provided with an end which forms a handle, by means of which the device can be dipped into a reservoir or can of fluid with which it is to be soaked or by means of which it may be placed in or withdrawn from a stove when the device is to be utilized as a fire-kindler. One or more tubes or ferrules 7 may be secured to the outside of the shell, if desired, to furnish means for attachment to the end of a rod or pole when the device is to be used for destroying insects.

This device is very simple and very cheap. The shells may be formed by cutting off into suitable lengths any common form of sheet-metal tubes, and these shells can be readily packed with the filling. They are durable, and they are of such a shape that they can be readily stored or transported. The filling material is cheap and easily placed in the interior of the shells, and is practically incombustible. The filling material when properly soaked or impregnated with coal-oil or a similar fluid will readily absorb and retain a con-

siderable amount of such fluid and will part with the same when ignited quite slowly, but with a desirable flame. When the ends of the shell are slitted, as shown in Fig. 4, a larger flame can be produced, for the material will burn out at the sides as well as at the ends in that case. The chambers in the interior of the shell will hold a desirable quantity of fluid, which will percolate slowly through the end walls and the fibers for burning when the torch is lighted, and when one end is burned out the device may be turned end for end and the other end lighted.

The device is perfectly safe, for the combustible fluid is so distributed throughout the interior of the shell that it will not explode or burn furiously, and the walls of the shell, where the most liquid is retained, are thicker than at the other points, which gives strength to the shell, and also makes the shell where the fluid is less heat-conducting so there will not be a tendency for the liquid in the chamber to vaporize. This is particularly so in the case of the cylindrical receptacle which is shown in Fig. 3 as made of clay or a similar earthy material. The filling for the shell is practically indestructible and can be rapidly filled, so that a torch can be used again and again for kindling fires, for destroying insects or caterpillars on fruit or other trees or shrubs, or under circumstances where it is desirable to provide a cheap torch for light or heat, as in a camp.

I claim as my invention—

1. A torch consisting of a cylindrical sheet metal shell with solid parallel side walls, said shell being open at both ends only and having a central inner chamber, and with a filling of mineral fibers within the shell on each side of the chamber, substantially as specified.

2. A torch consisting of a cylindrical sheet metal shell with solid parallel side walls, said shell being open at both ends only and having a central chamber containing a non-absorbent granular material, and with a filling of mineral fibers on each side of the chamber, substantially as specified.

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Witnesses:
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