

No. 612,293.

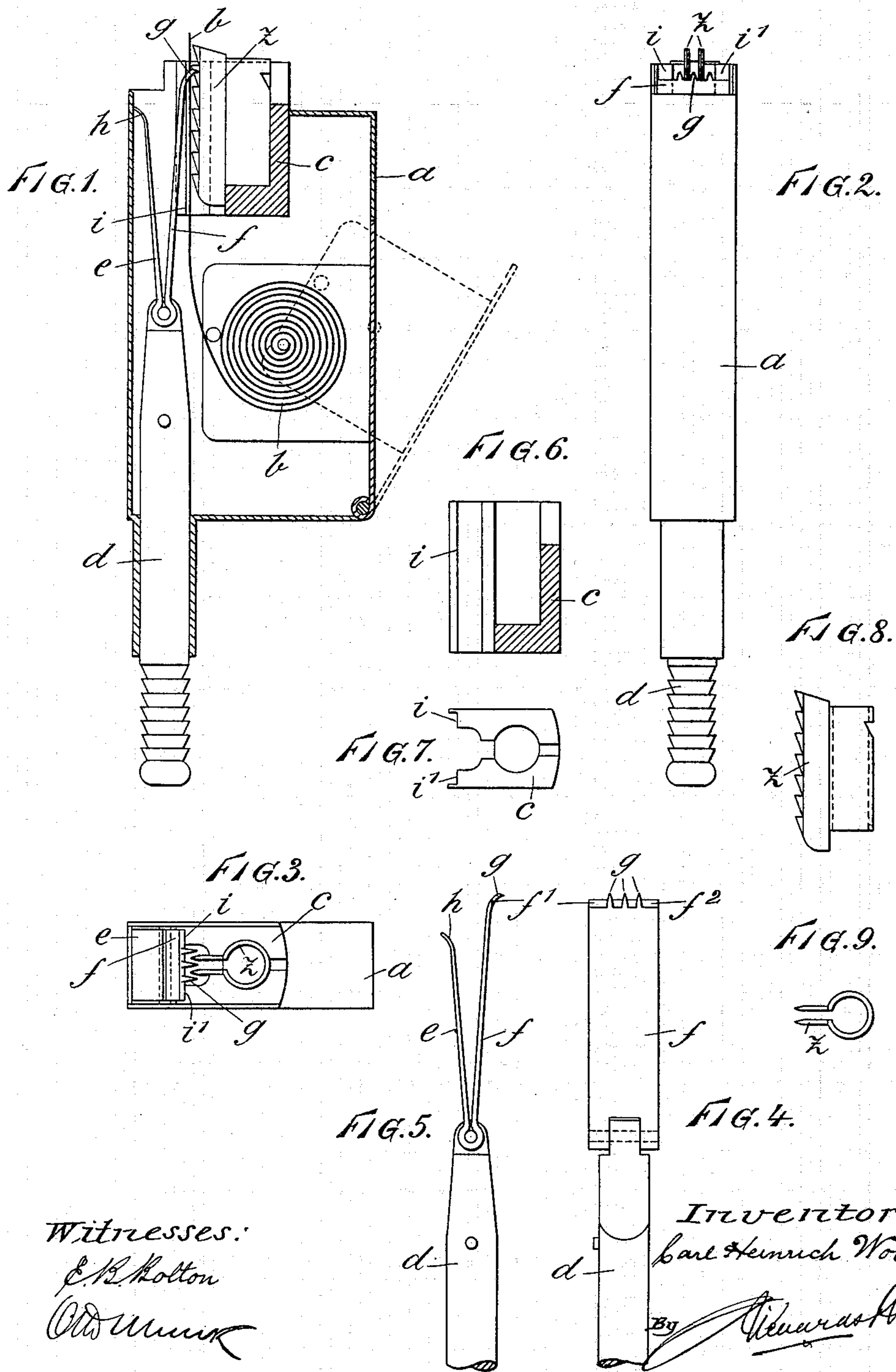
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C. H. WOLF.

IGNITING DEVICE FOR MINERS' LAMPS, &c.

(Application filed Apr. 7, 1898.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

CARL HEINRICH WOLF, OF ZWICKAU, GERMANY.

IGNITING DEVICE FOR MINERS' LAMPS, &c.

SPECIFICATION forming part of Letters Patent No. 612,293, dated October 11, 1898.

Application filed April 7, 1898. Serial No. 676,789. (No model.)

To all whom it may concern:

Be it known that I, CARL HEINRICH WOLF, manufacturer, a subject of the Emperor of Germany, residing at Zwickau, in the Empire of Germany, have invented a new and useful Improved Igniting Device for Miners' Lamps and the Like, of which the following is a full, clear, and exact description.

This invention relates to a device for igniting miners' safety-lamps which are adapted to burn benzene, oil, and other inflammable materials.

A strip of linen, cotton, or other suitable material serves as igniting material, which is impregnated with paraffin or wax and provided at equal distances with pellets of a substance which is ignited by friction on the device being operated so that the portion of the strip beyond such ignited substance is set into flame. The projected burning strip ignites the wick of the lamp. This manner of ignition is undoubtedly safer than the so-called "percussion" ignition heretofore employed. There is no possibility of the flame or spark passing through the wire-net mantle when igniting the lamp, since the igniting-flame is developed gradually, whereas by the older method of ignition, which is effected by the explosion of a so-called "amorce pill," it is possible for the flame to penetrate through the wire-gauze chimney of the miner's lamp. This has been proved by some fire-damp explosions which are supposed to have been caused by the above-mentioned circumstance.

The important advantages of this improved igniting device are as follows:

First. The construction is considerably simpler and stronger, so that the miner is able to ignite the extinguished lamp with safety.

Second. The various parts may be readily and quickly changed or substituted by any workman without solder or rivets being employed.

Referring to the accompanying drawings, Figure 1 is a sectional view of the igniting device. Fig. 2 is an end view, and Fig. 3 a plan view, of same. Figs. 4 to 9 represent details of the device.

a represents the receptacle for holding the coiled igniting strip or tape *b*.

c is a piece of the form shown in Fig. 4 in sectional view and plan, which is rigidly secured to the receptacle and adapted to receive the spring-rack *z*, separately shown in Figs. 8 and 9 in elevation and plan. For the purpose of removing this rack for cleaning or changing same it is only necessary to slightly press same together at the free edges by a pointed tool, so that it can be lifted out of the piece *c*.

The igniting strip or tape is firmly held by the rack *z* on being torn and the teeth of the rack are so set or are of such form that they allow the strip to be readily moved upward, whereas they cause a suitable resistance when the strip is pulled downward.

d is a rod or handle provided with a spring pivotally connected therewith, such spring having tongues *e* and *f*. (Separately shown in front and side elevation in Fig. 3.) The tongue *f* is provided with some teeth *g*, which tear the igniting-pellets provided on the igniting-tape *b*, so that by the flame thus produced the strip is set into flame. The tongue *f* is guided with its shoulders *f'* and *f''* in grooves *i i'* of the socket-piece *c*, Fig. 6, so that the teeth are prevented from penetrating too far into the strip. The tongue *e* is provided at its upper end with a bent part *h*. On the tongues being in their most upright position this bent part passes out of the receptacle, so that in order to prevent the spring being weakened the elasticity is diminished, whereas on drawing the tongues downward the spring is strained again and contacts with the igniting-pellet.

In order to cause ignition, the rod or handle *d*, together with the striker, is pulled downward, the igniting-pellet caught, and a slight pressure upward suffices to bring the burning strip out of the receptacle.

Having particularly described and ascertained the nature of this invention, I declare that what I claim, and wish to secure by Letters Patent, is—

1. In an improved igniting device for miners' lamps and the like, the combination with a receptacle for an igniting-strip of a rack holding the strip and a striking device *f* provided with a spring-tongue *e* such strip being ignited and forced in a burning state by the striking device substantially as described and

shown in the drawings, said device f being provided with means for drawing it within the casing so that the spring-tongue e will exert pressure on the device f .

- 5 2. In combination in an igniting device, the receptacle, the socket-piece c carried thereby and having shoulders i, i' , the spring-metal rack z in the said socket-piece, the igniting device f having the teeth g to engage the

strip and the shoulders $f' f^2$ to engage the shoulders on the socket-piece, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

CARL HEINRICH WOLF.

Witnesses:

PAUL WOLF,
CLARA AURICH.