J. CHEVALLARD.

LIGHTING ATTACHMENT FOR MINERS' LAMPS.

APPLICATION FILED FEB. 9, 1911.

998,466. Patented July 18, 1911.

Fig. 1.

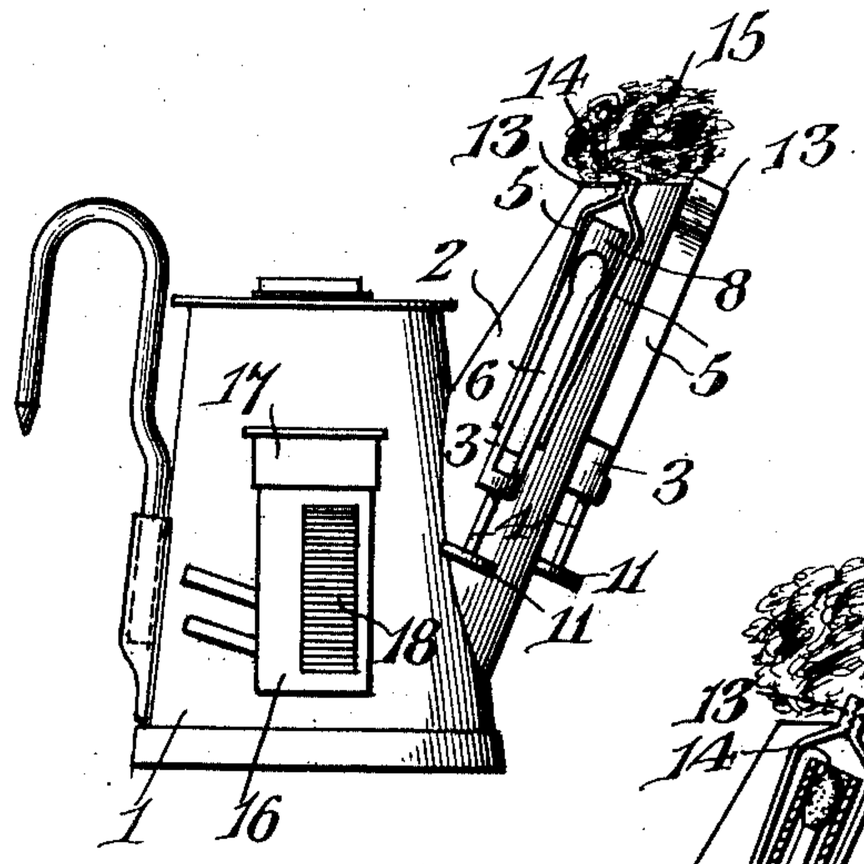


Fig. 2.

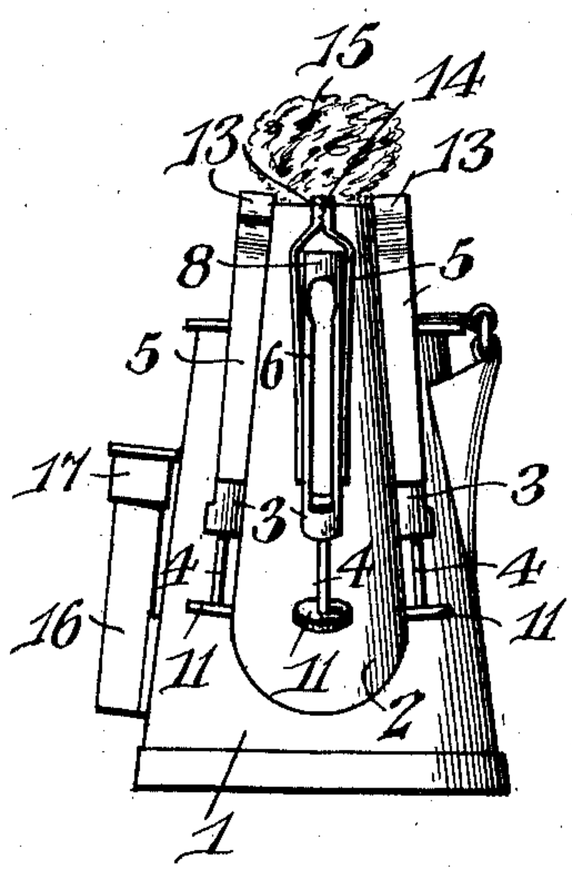


Fig. 3.

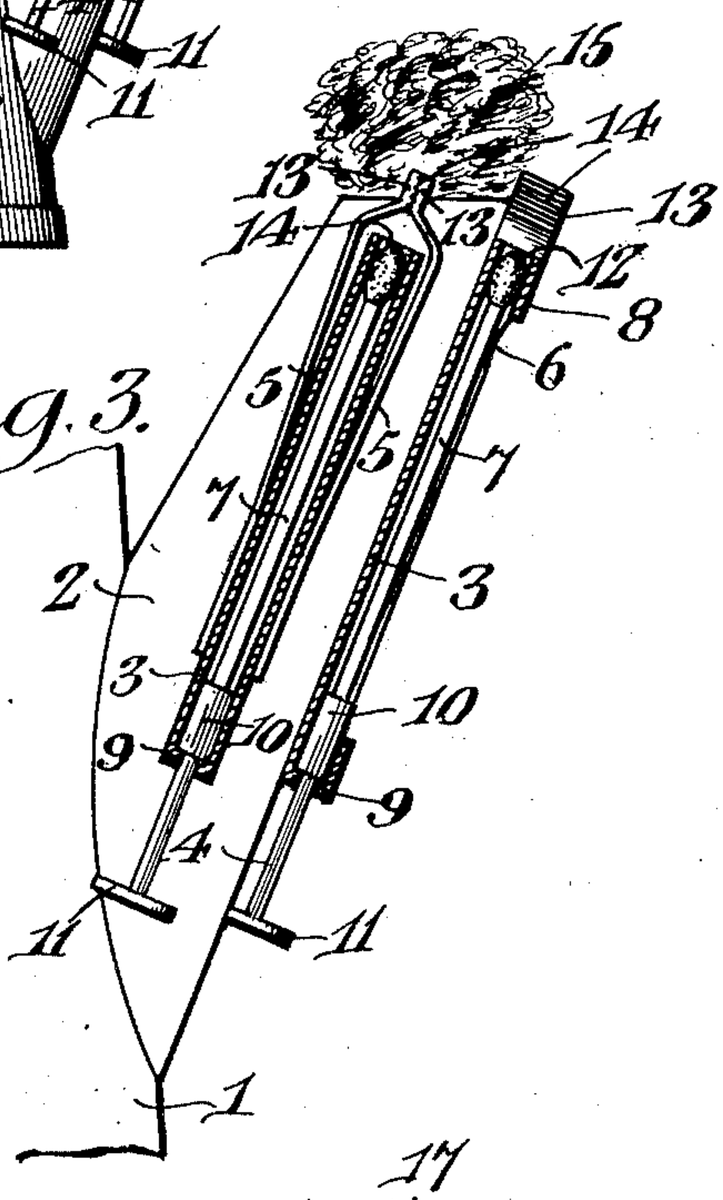
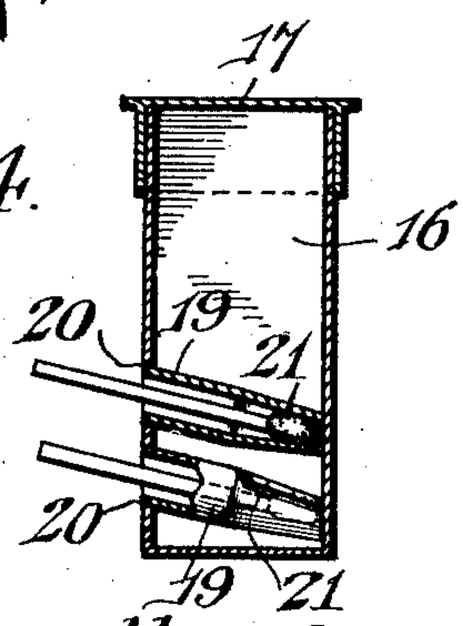


Fig. 4.



WITNESSES

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LIGHTING ATTACHMENT FOR MINERS' LAMPS.

998,466. Specification of Letters Patent. **Patented July 18, 1911.**

Application filed February 9, 1911. Serial No. 607,659.

To all whom it may concern:

Be it known that I, JOHN CHEVALLARD, a citizen of the United States, residing at Millersburg, in the county of Holmes and State of Ohio, have invented a new and useful Lighting Attachment for Miners' Lamps, of which the following is a specification.

The invention relates to a lighting attachment for miners' lamps.

As is well known the clothing worn by miners is usually damp, so that matches cannot be carried in the pockets, and even when carried in match boxes become too damp to be lighted, and as the safety of miners frequently depend upon their having light, the extinguishing of the latter is frequently attended with grave danger.

The object of the present invention is to provide a lighting attachment for miners' lamps of simple, efficient and inexpensive construction, adapted to maintain a plurality of matches in a dry condition, and capable of ready operation to afford instantaneous light should the light of a lamp blow out or otherwise become extinguished.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a side elevation of a miner's lamp provided with a lighting device, constructed in accordance with this invention. Fig. 2 is a front elevation of the same. Fig. 3 is an enlarged side view of a portion of the miner's lamp, two of the lighting devices being in section. Fig. 4 is a vertical sectional view of the combined match safe and match holder.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates a miner's lamp of the usual construction, provided at its wick spout or tube 2 with a plurality of lighting devices, each consisting of a tubular guide 3, a plunger 4 operating in the guide, and a pair of match igniting springs 5. The tubular guide, which is soldered or otherwise secured to the wick spout or tube, is provided at the front or outer side with an opening 6 of substantially the shape of a match, and consisting of a long narrow portion and an enlarged upper end portion to permit the head of a match 7 to be passed through it. The match opening 6 extends upwardly from within a short distance of the lower end of the tubular guide and terminates short of the upper end to leave an upper imperforate match head receiving and protecting portion 8.

The plunger 4 consists of a stem operating through an opening 9 in the lower end of the tubular guide and provided at its upper end with a match engaging head 10, and having a finger piece 11 at its lower end. The head 10 is cylindrical and snugly fits the interior of the tubular guide, so as to positively engage the match when the plunger is forced upwardly or inwardly. The finger piece preferably consists of a disk, suitably secured to the lower end of the stem. When the plunger is moved upwardly or inwardly, the head of the match is carried through the upper open end 12 of the tubular guide and forced between the igniting springs and thereby lighted.

The igniting springs 5, which extend longitudinally of the tubular guide, are suitably secured at their lower portions to the same, and they extend upwardly and inwardly over the open end of the tubular guide, and are spaced from the same and are provided at their upper terminals with upwardly or outwardly extending jaws 13, fitted together and provided at their inner faces with serrations or teeth 14, forming rough surfaces to positively ignite the match when the same is forced between them. The springs are of a width equal to the diameter of the tubular match holding guide, and they form a protecting hood, which is arranged over the upper open end of the same to prevent the flame of the lamp from lighting a match held in the tubular guide. By this construction and arrangement, it is possible to equip the wick spout or tube with a plurality of lighting devices, as a match may be held in each of such devices without being ignited by the flame of the lamp. Also the construction enables the lighting devices to be placed contiguous to the wick so as to insure a positive lighting of the lamp. The jaws 13 are arranged contiguous to the upper or outer end of the wick

15 of the lamp, so that when the match is ignited the flame will come in contact with the wick and positively light the lamp. Also the slight heating of the upper ends of the springs will serve to maintain the matches in a dry condition and prevent any dampness in the mine from interfering with the positive operation of the lighting devices. As it is only necessary to force the plunger upwardly, it will be apparent that in event of the light of the lamp blowing out, or becoming otherwise extinguished, the lamp may be instantly relighted in much less time than could be done were it possible to carry dry matches in the pockets. The miner's lamp is also equipped at one side with an oblong match safe 16, having a removable cover 17 and provided at the front with a striking surface 18. The match safe is provided with a plurality of inclined transversely disposed match holding tubes 19, extending inwardly from openings 20 into one of the side walls of the match safe, and constructed of sheet metal, or other suitable material. Each of the tubes 19 is split longitudinally at its inner portion, and the edges formed by severing the metal are overlapped to provide a tapered resilient inner portion 21, adapted to hold a match with sufficient force to prevent it from dropping out of the tubes. The matches when arranged in the tubes project from the open ends of the same and are in position to be readily grasped, and are held in position for instant use. The matches may be placed in the tubes and be removed therefrom without danger of lighting them, as the inner surfaces of the tubes are smooth.

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

1. A miner's lamp provided with a lighting device including a tubular match holding guide mounted on and extending longitudinally of the wick spout and having an open upper end, match igniting springs extending inwardly over the open upper end of the tubular guide and having jaws located at the upper end of the wick spout so as to be contiguous to the wick, and means for forcing a match outwardly from the tube and between the jaws of the springs, said springs forming a closed hood for the upper end of the tube to prevent the flame of the lamp from igniting a match within the tube.

2. A miner's lamp provided at its wick spout with a plurality of lighting devices, each including a match receiving tube open at the upper end, and a pair of springs mounted at opposite sides of the tube and extending inward over the open upper end of the same and fitted against each other to form a protecting hood to prevent the flame of the lamp from igniting a match in the tube, and a plunger operable in the tube for moving a match outwardly therefrom to force the head of the match between the contacting portions of the springs.

3. A miner's lamp provided with a match safe having an upper match receiving portion and provided below the same with a transversely disposed match receiving tube having an open outer end at one side of the match safe and provided with an inner tapered resilient portion for yieldably engaging the head of a match to prevent the same from dropping out of the tube.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN CHEVALLARD.

Witnesses:

ALBERT DUCOMMERS,

WM. N. CROW.