To all whom it may concern:

Be it known that I, NATHAN E. VARNEY, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Miners' Folding Candlesticks; and I do 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, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in miners' folding candlesticks, my object being to provide a device of this kind which while possessing all the facilities for supporting it upon the various objects accessible in a miner's work, shall at the same time be capable of being folded into small compass whereby it is adapted to be placed in the pocket of the owner and carried about with ease, the point of the spike and that of the hook being so concealed that they will not catch upon the garments nor interfere with the carrying of the device about in the pocket.

The invention possesses certain novel features of construction all of which will be fully understood by reference to the accompanying drawing, in which is illustrated an embodiment of the invention.

In this drawing: Figure 1 is a front elevation of the device with the candle in place. Fig. 2 is a top plan view of the same or a view looking in the direction of arrow 2 of Fig. 1. Fig. 3 is a section taken on the line 3—3 of Fig. 1, looking downwardly or in the direction of the arrow. Fig. 4 is a section taken on the line 4—4 of Fig. 1, looking toward the right or in the direction of the arrow. Fig. 5 is a front view showing the device folded and ready to be inserted in the pocket. Fig. 6 is a top view of the same or a view looking in the direction of arrow 6 of Fig. 5. Fig. 7 is a rear view or a view looking in the direction of arrow 7 of Fig. 6. Fig. 8 is a detail view of the hook removed from its supporting hub. Fig. 9 is a perspective view in detail of the inner extremity of the spike. Fig. 10 is a section taken on the line 10—10 of Fig. 1, looking toward the right or in the direction of the arrow.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the body or handle of the device, which consists of a plate of metal bent laterally at its rear end as shown at 6, and in the same direction at 7. To the handle member is attached a spring 9, one extremity of which is secured to the member 5 near its rear extremity as shown at 9. Intermediate its extremities this spring plate is bent as shown at 10 to form a holder for a candle 12. Beyond the candle holder the spring extends rearwardly as shown at 13, its free end bearing against the member 5 as shown at 14. This spring plate 8 should be made of spring steel and is so constructed that the circular part 10 is normally sufficiently contracted to securely hold the candle. It may, however, be opened to allow the candle to enter easily, by pressing forwardly on the extremity 14 while the member 10 is moved outwardly. This allows the free extremity to be moved forwardly sufficiently for the purpose.

Pivoted centrally with the forward extremity of the member 5 is the spike 15, which consists of a small metal bar having a sharp point adapted to enter a piece of wood or penetrate soft rock for the purpose of supporting the device in place in a mine. The forward extremity of the handle member where the spike is connected is offset from the body of the member 5 and is designated 16 in the drawing. This part 16 is slotted or bifurcated to receive the rear extremity of the spike, which is connected therewith by a pivot pin 17. The inner extremity of the spike projects rearwardly from the pivot pin 17 as shown at 18, this part of the spike being recessed as shown at 92 at 19 to receive a projection 20 formed on a sort of hub 21, which is pivotally connected with the handle member as shown at 22 and carries a hook 23. This hook is journaled in the pivoted hub as shown at 24, its inner extremity being upset as shown at 25 to retain the hook in place. This inner extremity protrudes through the hub far enough to engage the inner extremity of the spike be-
low the recess 19 as shown at 26. By virtue
of this construction the inner extremities
of the hook and the spike are arranged to
interlock with each other when both are in
position for use as illustrated in Figs. 1 and
2. This interlocking construction is illus-
trated in Fig. 4 of the drawing.
In order to lock the hub of the hook
against turning when the parts are in the
position shown in Figs. 1 and 2, a leaf spring
27 is employed. This spring is secured at
its rear end to the handle as shown at 28
and is adapted to protrude through a slot
29 formed therein. Intermediate its ex-
tremities the spring is provided with a
laterally projecting lug 30, to facilitate the
movement of the spring by the pressure of
the thumb of the user. The forward ex-
tremity of the spring is bent laterally as
shown at 31 so that it normally occupies a
recess 32 formed in a flange 33 with which
the hub 21 is provided, thus locking the hub
against turning, whereby the hook is main-
tained in the position for use or that illus-
trated in Figs. 1 and 2. This spring there-
fore indirectly locks the spike against turn-
ing on its pivot pin, since the spike being
interlocked with the hook cannot fold until
the latter is released by the unlocking of the
hub. This is accomplished by pressing the
forward extremity of the spring 27 into and
through the slot 29 far enough to release
the hub and when this is done, the hub may
be turned so that the free extremity of the
hook shall move rearwardly. As soon as
the hook is disengaged from the spike by
the turning of the hub in the direction just
explained, the hook may turn freely in the
hub and as soon as the hub is in such posi-
tion, the hook is turned to cause its bent
end to occupy a position parallel with the
handle member. The hook may then be
moved or folded to the position which it occu-
pies when the device is in the form
shown in Figs. 5, 6 and 7. When the hook
is in this position, the spike may be turned
freely upon its pivot pin 17 until it occupies
the folded position shown in Figs. 5, 6 and
7. In order to allow the spike to fold, the
forward part of the handle member is
slotted as shown at 34. This is necessary
because of the fact that the inner extremity
18 of the spike protrudes beyond its pivot
and if it were not for the slot 34 this pro-
truding end would engage the handle mem-
ber and prevent the complete folding move-
ment of the spike.
In order to lock the spike in the folded
position, the member 5 is provided with a
laterally projecting retaining device 35
which is angle-shaped, its outer extremity
being bent parallel to the member 5 as
shown at 36, forming a sort of hook under-
neath which the spike is allowed to pass
when completely folded, this being ac-
complished by giving the spike a slight lateral
thrust. In order to permit the spike to
fold to the position just explained, the
candle-holding spring 8 is slotted as shown
at 37, so that as the spike is folded it enters
this slot. The spike also presses the spring
toward the handle member, thus placing the
spring under tension, whereby it has a
tendency to press outwardly upon the spike
and hold the latter tightly against the re-
taining device 35. The position of the
spring and the spike is best illustrated in
Fig. 6. On the contrary when the device is
in position for use and the candle in
place, the candle holding portion of the
spike is held outwardly away from the
hook 23, a considerable distance as shown
in Fig. 2. When the candle is removed
from the spike, the latter occupies approxi-
mately the position shown by dotted lines
in Fig. 2, that is to say, before the spike is
folded. After the spike is folded the spring
is thrust inwardly toward the handle to the
position indicated in Fig. 6, thus indicating
the degree of tension to which the spring
is subjected by the folding of the spike.
The rear laterally bent end 6 of the handle
member is curved as shown at 4 whereby
the point of the spike when the latter is
folded is better protected from possible con-
tact with the clothing when the device is
placed in the pocket.
In order to lock the spike against turning
further on its pivot pin 17 after it has
reached the extended position shown in Figs.
1 and 2, the outer extremity of the part 16
is provided with a stop 38 which extends
across the part forward of its slot and in
the path of the spike when the latter is
moved to its extended position, thus forming
a stop to prevent farther turning as hereto-
fore explained. This device 38 as illus-
trated in the drawing consists of a small
plate applied to the forward end of the
bifurcated part 16, the plate being recessed
110 to receive the spike when in the extended
position, the part which forms the stop to
the farther movement of the spike being off-
set sufficiently beyond the part 16 on one
side to allow the spike to assume the proper
extended position.
From the foregoing description the use
and operation of my improved device will
be readily understood. The object of the
spike and the hook are the same, that is to
say, both members are intended for use in
supporting the device in such a position that
the lighted extremity of the candle will be
uppermost. Under some circumstances it
will be more convenient to use the spike, 125
while under other conditions the hook will
form the better support for the tool. Where
there are wood timbers in the mine the sharp
point of the spike may be made to penetrate the wood sufficiently to support the device in the proper position, while under other circumstances it will be more convenient to suspend the device by the use of the hook 23. However, when a flat support is afforded, the device may be placed thereon and will support the candle in the upright position without employing either the spike or the hook.

Attention is called to the fact that when the spring 27 is pressed to the hub-releasing position whereby the hook-carrying hub is allowed to turn, the flange 33 of the hub moves to a position which prevents the spring from again assuming the locking position until after the hook is returned to the position shown in Figs. 1 and 2. The recess 32 of the hub flange 33 is only of sufficient width to receive the locking extremity 31 of the spring and as soon as the said extremity is pressed to the position to release the hub, the turning of the latter to cause the hook to assume the folded position, causes the flange 33 to cover the forward extremity of the slot 29 and thus preventing the locking extremity 31 of the spring from resuming its normal position. Hence the hub when the hook is in the folded position may be turned to extend the hook without any movement of the locking spring 27. Attention is further called to the fact that in moving the hook from the folded position to the extended position it is first moved outwardly far enough from the handle to allow it to turn in the hub, after which it is turned to a position at right angles to the folded position. The outward movement may then be continued, since the inner extremity of the hook is then in position to interlock with the adjacent extremity of the spike. It will be understood that in unfolding the device, the spike must be first unfolded or extended, after which a corresponding movement is imparted to the hook.

Having thus described my invention, what I claim is:

1. A miner's candlestick, including a handle member, a hub pivotally mounted thereon and provided with an opening, a spring secured to the handle at one extremity, and provided with a projection at its opposite extremity adapted to enter the opening formed in the hub for locking the hub against turning, and a hook connected in operative relation with the hub, substantially as described.

2. A miner's candlestick, including a handle member, a hub pivotally mounted thereon, a spring secured to the handle and adapted to engage the hub for locking the same against turning, the handle being provided with a slot adjacent the spring, through which slot the spring is adapted to be depressed for releasing the hub, and a hook journaled in the hub on an axis extending at right angles to the axis of the hub, substantially as described.

3. A miner's candlestick including a handle member, a hub pivotally mounted thereon and provided with a flange having a perforation, a spring member having a projection adapted to enter the said perforation to lock the hub against turning, a hook journaled in the hub on an axis extending at right angles to the axis of the hub, and a candle holding device also carried by the handle member, substantially as described.

4. A miner's candlestick, including a handle member, a hub pivotally mounted thereon and provided with a flange, a hook journaled in the hub on an axis at right angles to the axis of the hub, the inner extremity of the hook protruding beyond the hub, a spike also mounted on the handle member, its inner extremity protruding beyond the pivot, and recessed to receive the flange of the hub when the hook and spike are in position for use, the protruding extremity of the spike being also constructed to interlock with the adjacent extremity of the hook when the members are in position for use.

5. A miner's candlestick comprising a handle member, a hub pivotally mounted thereon, a hook carried by the hub, its inner extremity protruding beyond the hub, the latter also having a flange or projection extending beyond the body portion thereof, and a spike pivotally mounted on the handle member, its inner extremity protruding beyond the pivot and being recessed to receive the flange of the hub, while the protruding part of the hook also engages the protruding extremity of the spike which in this event has a part located between the flange of the hub and the protruding end of the hook, for the purpose set forth.

6. A miner's candlestick comprising a handle member, and a candle-holding part mounted thereon and composed of a spring having one extremity rigidly secured to the handle member and its opposite extremity free and engaging the handle, the spring being bent intermediate its extremities to form a loop, the loop being shaped to fit the candle.

7. A miner's candlestick including a handle member and a candle-holding part mounted thereon, and composed of a spring, one extremity of which is secured to the handle member, while the other extremity is free and bears against the handle member, the spring being shaped intermediate its extremities to receive and retain the candle, substantially as described.

8. A miner's candlestick including a handle member, a candle-holding device com-
prising a spring having one extremity secured to the handle member, while its other extremity is free and bears against the handle member, the spring being shaped intermediate its extremities to receive the candle, and a spike pivotally mounted on the handle member and adapted to fold against the candle-holding spring, the latter being slotted to receive the spike when in the folded position.

9. A miner’s candlestick including a handle member, a candle-holding device mounted thereon and composed of a spring having one extremity secured to the handle member, while the other extremity is free, and a spike pivotally mounted on the handle member and adapted to fold against the candle retaining spring, which is placed under tension by the spike when in the folded position, substantially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

NATHAN E. VARNEY.

Witnesses:

F. E. BOWEN,
A. EBERT O’BRIEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."