

United States Patent Office.

PETER R. GOTTSTEIN, OF HOUGHTON, MICHIGAN.

Letters Patent No. 101,857, dated April 12, 1870.

IMPROVED CANDLE FOR MINERS' USE.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, PETER R. GOTTSTEIN, of Houghton, in the county of Houghton, and in the State of Michigan, have invented a new and useful Improvement in Candles for Miners' Use; and do hereby declare that the following is a full, clear, and exact description thereof.

It is a well-known fact that much difficulty is experienced in obtaining a sufficient supply of pure air within mines to enable those employed therein to remain with safety, and any cause that adds to the foulness of the air not only decreases the ability of the miner to perform his required duties, but also shortens his life.

Among the many causes for the vitiated air, the smoke from the oil-lamps or tallow-candles worn by each operative on his hat is the greatest as well as the most common, although, from long endurance, it has almost ceased to be noticed.

To furnish a light which, while superior in brilliancy and duration, shall cause neither smoke nor unpleasant odors, is the object of my invention, which consists in forming a candle, of stearine, by the pro-

cess known as "dipping," by which means an article is produced that is firmer in texture, and will last from one to two hours longer than any candle of an equal size heretofore furnished for miners' use, while, at the same time, costing but little more than those.

A candle thus formed of stearine gives a brilliant flame without producing either smoke or disagreeable odor, and, if exclusively employed within a mine, would leave its air as pure and free from all that is offensive as though no light was used.

Having thus fully set forth the nature and merits of my improvement,

What I claim as my invention, and desire to secure by Letters Patent, is—

As a new article of manufacture, the within-described candle for miners' use.

In testimony that I claim the foregoing, I have hereunto set my hand this 11th day of October, 1869.

PETER R. GOTTSTEIN.

Witnesses:

JAMES O'GRADY,
DAVID S. KENDALL.