UNITED STATES PATENT OFFICE.

SOLOMON B. HORTON, OF POWNAL, VERMONT, ASSIGNOR OF ONE-HALF HIS RIGHT TO LYMAN D. JOHNSON, OF ALBANY, NEW YORK.

IMPROVEMENT IN LUBRICATING COMPOUNDS.

Specification forming part of Letters Patent No. **175,986**, dated April 11, 1876; application filed August 2, 1875

To all whom it may concern:

Be it known that I, SOLOMON B. HORTON, of Pownal, in the State of Vermont, have invented a new and Improved Lubricating Compound; and I do hereby declare that the following is a description thereof:

This invention relates to a liquid or fluid compound for lubricating cutting-tools employed to operate with metal, and also journals or shaftings in their bearings, and consists in a composition formed by mixing lard or lard-oil, water, and sal soda.

To prepare this lubricating compound take eight (8) gallons of soft water, heat the same, and while hot stir in one (1) quart of lard or lard-oil and two (2) pounds of sal-soda. Continue the stirring of the body until the several ingredients become thoroughly incorporated and a uniform consistency of body is produced. The liquid thus produced is then to be allowed to cool and settle preferably, although it may be immediately used.

Made with the above-named ingredients, in the proportions above given, this compound may be repeatedly used for lubricating cutting-tools employed to work iron in lathes, planers, screw-cutting machines, or other metal-cutting tools used with machinery, in lieu of oil.

This lubricator may be produced at the cost of a few cents per gallon, and has the advantage of lasting longer than oil before being used up; is more cleanly, and enables the tool to operate for a longer time with its edge preserved in good order than when used with any of the ordinary lubricating oils heretofore employed with cutting-tools. In its use with journals and bearings this compound has the advantage of being clean and free from gumming, and permits the journals to be run at high speed or under immense pressure without becoming heated to any considerable temperature as may be had with animal, vegetable, or mineral oils heretofore employed, while all liability of being fired is wholly removed.

For heavy work, such as in turning chilled iron, steel, or wrought-iron with a heavy chip, the amount of water above stated may be reduced from ten to twenty per cent., while for light work the quantity of water may be increased about the same per cent., without materially affecting the nature of this compound for lubricating.

It should be understood that hard water should in no case be employed, as it will cause a partial precipitation of the soda and lard, and will prevent a uniform consistency of the body of the compound; and that sperm or whale oils should in no case be employed, as they will not become fully incorporated in the body but will eventually rise to the top in part.

This compound is to be applied or used the same as any of the oils heretofore employed for like purposes.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

The metal cutting-tool lubricating compound above described, composed of water, lard or lard-oil, and sal soda, in the proportions above set forth, for the purpose specified.

SOLOMON B. HORTON.

Witnesses:

ALEX. SELKIRK,

LYMAN D. JOHNSON.