

UNITED STATES PATENT OFFICE.

WILLIAM SMITH, OF SHARPSBURG, PENNSYLVANIA.

IMPROVEMENT IN LUBRICANTS.

Specification forming part of Letters Patent No. **214,594**, dated April 22, 1879; application filed October 28, 1878.

To all whom it may concern:

Be it known that I, WILLIAM SMITH, of Sharpsburg, in the county of Allegheny, State of Pennsylvania, have invented a new and useful Improvement in Lubricating Compounds; and I do hereby declare that the following is a full and exact description thereof.

My invention consists in a lubricating compound composed of crude petroleum-oil, lard-oil, cotton-seed oil, and palm-oil, in about the proportions hereinafter specified.

I take about four and one-half parts of palm-oil, about ten parts of cotton-seed oil, about ten parts of lard-oil, and about twenty-five parts of crude petroleum-oil. The several oils, in about the proportions stated, are placed in a suitable vessel and gradually heated until the palm-oil is about as liquid as the other oils specified. The operator then increases the heat, stirring the mass thoroughly until its temperature is raised to about 300° Fahrenheit, at which point the light volatile matter in the mass is eliminated. The mass is then allowed to gradually cool, after which it is placed in suitable-sized packages.

By a large number of experiments and tests I have discovered that by the union of cotton-seed oil, lard-oil, and palm-oil with petroleum a lubricating compound equal, if not superior, to the best No. 2 lard-oil is produced.

The palm-oil in the hereinbefore-described compound is the most essential element, for by it the desired body is given to the oil, and it imparts to it that quality which will resist the heating action of revolving journals under pressure and speed; and for the cutting of screw-threads on bolts or pipes it meets every demand, keeping the screw-taps cool and per-

fectly lubricated, and will better preserve the temper in the dies than any of the oils now in use.

Care must be taken in the manufacture of the lubricating compound not to diminish the proportion of the palm-oil too much, otherwise the compound will heat under heavy or great friction, as in the case of cutting screw-threads, and journals subjected to high speed or great pressure; and care must also be taken to heat the mass sufficiently to carry off the light volatile matter in the oils used in forming the compound, and also to thoroughly stir the mass, so as to form a perfect union of the several elements under a high degree of heat, which stirring process should be continued during the process of cooling.

The best result will be obtained by the use of the several oils in the proportions stated and treating them in the manner described; but other proportions may be used and a very good result obtained.

The essentials in the process of making the lubricating compound hereinbefore described are combining the palm-oil with the other oils named at a high temperature of heat and thoroughly stirring them while in the heated state.

Having thus described my improvement, what I claim is—

The herein-described lubricating compound, composed of crude petroleum-oil, lard-oil, cotton-seed oil, and palm-oil, in about the proportions specified.

WM. SMITH.

Witnesses:

A. C. JOHNSTON,
JAMES J. JOHNSTON.