

UNITED STATES PATENT OFFICE.

PETER M. PAPIN, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN LUBRICATING COMPOUNDS.

Specification forming part of Letters Patent No. **188,479**, dated March 20, 1877; application filed January 27, 1877.

To all whom it may concern:

Be it known that I, PETER M. PAPIN, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Compound, (Lubricator,) which compound is fully described in the following specification.

This invention relates to that class of compounds, or processes for making a compound, composition, or matter, the nature whereof is adapted for uses of axle and journal grease, or for a lubricant for lubrication purposes.

To prepare the lubricant I take, say, one barrel of crude petroleum, or same quantity of petroleum, tar, or residuum, or same quantity of coal-tar, (the residuum from the distillation of coal,) or same quantity of pine-tar. Any one of the above-named ingredients can be used to effect the same chemical result with the remaining ingredients that I use. In cases where I use the residuum of petroleum or that of coal-tar, or use pine-tar, I add, next, thereto twenty pounds of tallow or other greases, whether animal or vegetable. I dispense with said last-named ingredient when I use the crude petroleum, and augment this in quantity to, say, fifty pounds. I next add about twenty-four pounds of rosin, the quantity being according to the seasons to achieve a harder or softer compound, as will hereinafter appear. I next add six pounds of French chalk, (pulverized soap-stone;) next, two pounds of caustic soda, (or, in place of this, take potash the same quantity,) in order to produce with the rosin a hard or soft compound. Lastly, I use of lime slaked and made liquid, say from three to five buckets.

The above-named ingredients constitute my compound, and the manner of preparation is as follows: The tallow and rosin I melt first, and next amalgamate this with the different tars mentioned; then put in soap-stone and

amalgamate the whole by manual labor or machine, and, lastly, I pour in the lime. The whole is then mixed, agitated until all is fully amalgamated, "set," and combined, forming a semi-solid compound or partial saponification.

The ingredients of French chalk, (or pulverized soap-stone,) also the use of the caustic soda, or the use of the potash when used in combination, as before stated, possesses the following important advantages: The French chalk, by its peculiar soapy nature, being greasy, slippery, smooth, devoid of grittiness, imparts these properties to the compound made. The soda, potash, rosin, I use to obtain the properties of imparting to the compound a hard or soft nature. Thus, the use of the soda, in combination with rosin and foregoing ingredients, produces a hard, solid, and more compact compound, while the vice versa takes place in substituting the potash, by means whereof a soft, more liquid, and less compact compound is achieved.

By the use of the soda and lime, combined with the aforementioned ingredients, (or the use of potash and lime in like manner combined,) a certain amount of water is held in solution, which imparts a cooling effect upon the parts for which the lubricant is used.

What I claim as my invention is—

A lubricating compound composed of French chalk, (pulverized soap-stone,) caustic soda or potash, as herein set forth, mixed with petroleum or tars, greases, rosin, slaked lime, as and for the purposes herein represented.

In testimony of said invention I have hereunto set my hand in presence of two witnesses.

PETER M. PAPIN.

Witnesses:

AMOS H. SHULTZ,

WILLIAM W. HERTHEL.