UNITED STATES PATENT OFFICE.

THOMAS J. MAYALL, OF READING, MASSACHUSETTS; LUCY A. MAYALL, OF SAME PLACE, EXECUTRIX OF SAID THOMAS J. MAYALL, DECEASED.

ANTI-FRICTION COMPOUND.

SPECIFICATION forming part of Letters Patent No. 384,920, dated June 19, 1888.

Application filed June 21, 1887. Serial No. 242,034. (Specimens.)

To all whom it may concern:

Be it known that I, THOMAS J. MAYALL, of Reading, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Anti-Friction Compounds, which is fully set forth in the following specification.

The object of this invention is the production of an anti-friction or self-lubricating compound or material that is at the same time tough and durable.

Such compound or material is useful for a great many purposes—such as for journal-boxes, pneumatic tubes, sliding ways or tracks, packing for stuffing-boxes, &c.—and is a valuable substitute for metal in most cases where friction and the heat incident thereto are to be eliminated as far as possible.

The compound is composed of rubber, sulphide of antimony, graphite, oxide of iron, and asbestus, which substances are thoroughly mixed and vulcanized in the well-known manner of preparing rubber compounds.

The compound may be made hard or soft and flexible, according to the purpose for which it is designed to be used.

In order that my invention may be fully understood, I will give an example of the manner of carrying the same into effect.

I take the substances above named in the proportion of two parts each, by weight, of rubber, sulphide of antimony, and graphite, to one part each of oxide of iron, preferably that known as "Venetian red," and asbestus very finely pulverized. These are thoroughly mixed together, run through a grinder, and sheeted or put into molds of the desired form. The compound is then vulcanized at a temperature of about 300° Fahrenheit for about four hours. This process produces a hard compound. Where extra hardness is desired, I add to the composition a small proportion of sulphur.

A soft and flexible material suitable for packing may be made by either diminishing the quantity of sulphide of antimony or by vulcanizing at a lower temperate—say from 270° to 280° Fahrenheit—for from two (2) to three (3) hours. The powdered asbestus imparts to the composition great toughness and durability, contributes to the formation of a hard polished anti-friction surface, and, further, gives the composition the power of withstanding the effects of great heat. I employ oxide of iron in the composition, because I find it assists in effecting the thorough incorporation and union of the other elements.

Of course the ingredients and proportions indicated may be varied within certain limits without departing from the spirit of the invention.

I claim—

The anti-friction compound herein described, consisting of rubber, sulphide of antimony, graphite, oxide of iron, and asbestus, in substantially the proportions hereinbefore set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOS. J. MAYALL.

Witnesses:

PHILIP MAURO,

C. J. HEDRICK.