

M. L. STEWART & F. A. CARR.
LUBRICATING PACKING.
APPLICATION FILED MAR. 11, 1908.

923,908.

Patented June 8, 1909.

Fig. 1.

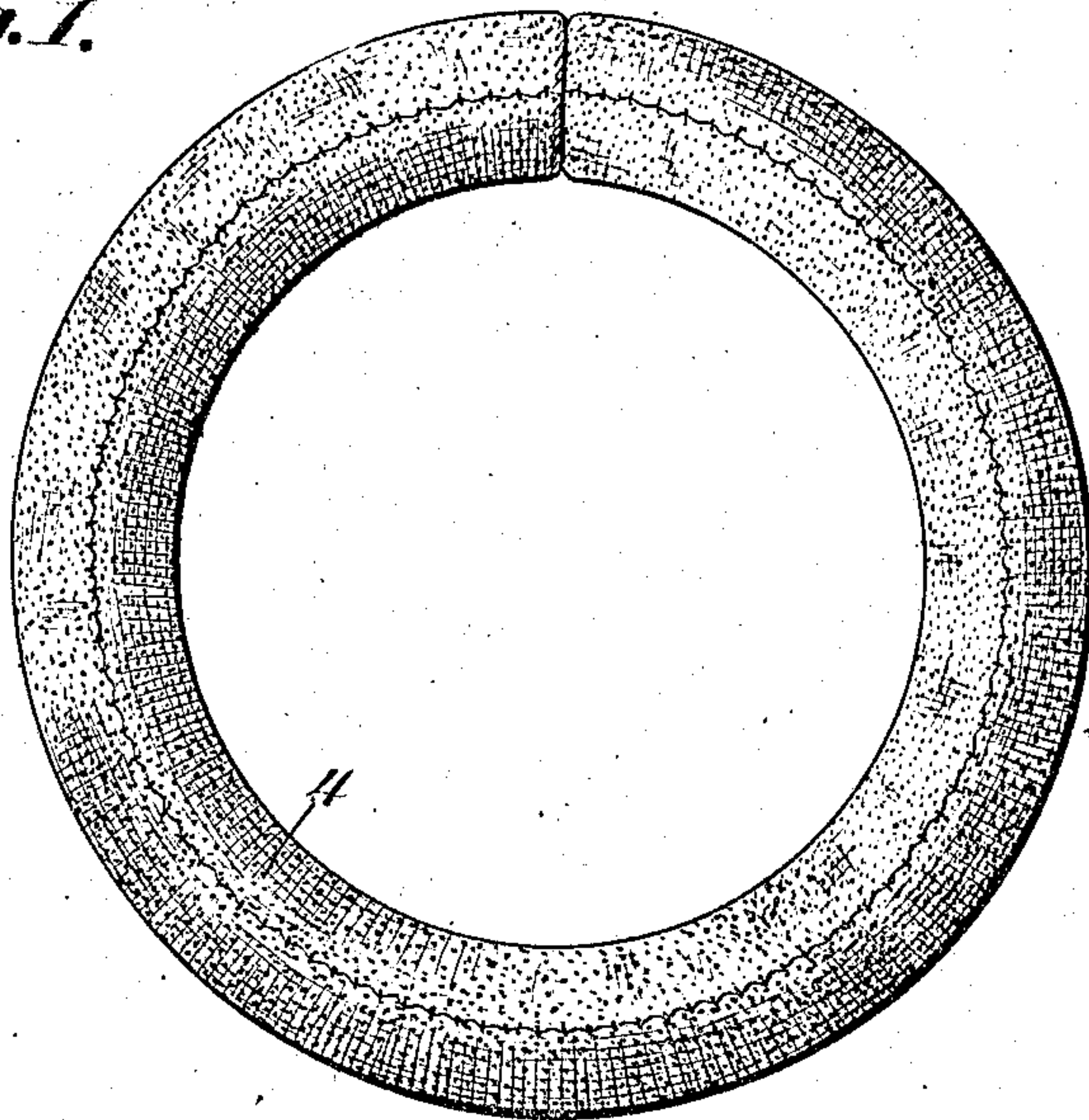
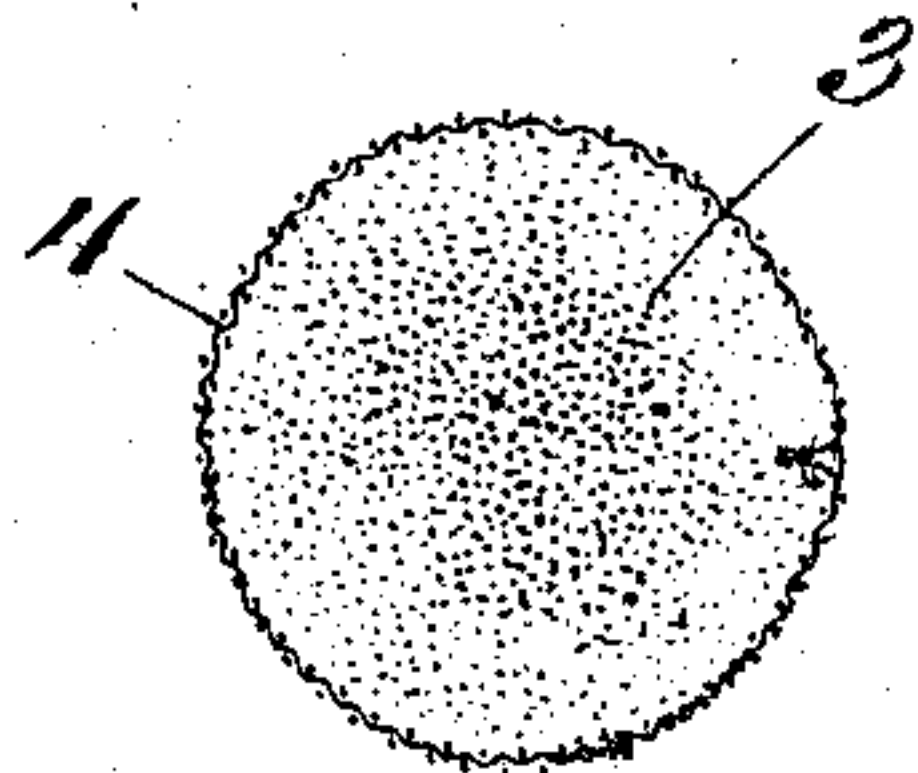


Fig. 2.



Witnesses

Howard W. Carr.

Bl. Fort.

M. L. Stewart
and *F. A. Carr.*

Inventors

By

E. J. Siggers.

Attorney

UNITED STATES PATENT OFFICE.

MARTIN L. STEWART AND FRANK A. CARR, OF EL PASO, TEXAS.

LUBRICATING-PACKING.

No. 923,908.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed March 11, 1908. Serial No. 420,434.

To all whom it may concern:

Be it known that we, MARTIN L. STEWART and FRANK A. CARR, citizens of the United States, residing at El Paso, in the county of El Paso and State of Texas, have invented a new and useful Lubricating-Packing, of which the following is a specification.

The primary object of the present invention is to produce by a novel and simple method, an effective packing that will withstand high pressure and constant service, and will constitute an excellent lubricant for the rod or other packing device that moves through or past it.

In the drawings, Figure 1 is a plan view of a packing ring constructed in accordance with the present invention. Fig. 2 is a cross sectional view therethrough.

In carrying out the invention, we take seventy-six parts of lead, fifteen parts of tin and four parts of antimony. These are separately melted, and while molten, are thoroughly mixed together. The composition is then molded into bars or bricks about three-fourths of an inch by six inches, by twelve inches in size, and after the same have hardened, they are rasped or otherwise reduced to granular form. The granular composition is thereupon mixed with substantially five parts of graphite, and the mixture designated in the drawings by the reference numeral 3, is placed in a tubular casing 4 of porous or open mesh fabric, formed in any suitable manner. The article thus produced, is then placed in a good grade of cylinder oil, and allowed to remain therein for from twenty-four hours to thirty-six hours, whereupon it is ready to be placed in use.

It will be noted that in the above description the composition is described as being reduced to granular form by rasping. Rasping with a file or otherwise granulating the composition by means of a cutting tool turns out the granular particles with cut faces and not with crystalline facets. The particles, therefore, not being crystalline in structure, will not cut the bearing to which the lubricant is applied, while the cut faces will readily become covered or engaged with the particles of graphite, which would not be the case were the particles of a crystalline character.

It will be observed that we mix the graphite with the particles of composition after the latter have entirely cooled and do not

mix the graphite with any molten material. This is of importance inasmuch as the lubricating properties of graphite are much deteriorated by high temperature, and it is extremely difficult to mix graphite with molten material so as to get a uniform mixture.

Experience has demonstrated that a packing so constructed will resist high temperature and high pressure, and will not wear out or become inactive for a comparatively long period of time. For example, the packing herein described has been in continuous use on the high pressure rod of an air compressor for over three months, and notwithstanding that the machine has been run on an average of eighteen hours per day under a pressure of 150 pounds of steam, the packing shows no material signs of wear, and the rod that passes through it is in excellent condition. As against this, heretofore it has been necessary to pack the same rod on an average of from two to four weeks. Moreover the method of producing the packing is exceedingly simple, requiring no expensive machinery or skilled labor, while the materials employed are cheap. When inclosed in the porous envelop or casing, the packing can be bent or shaped to fit the rod and box which it is desired to pack. It provides a packing which is practically frictionless.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is:—

1. As an article of manufacture, a packing comprising a porous casing and a lubricant located in the casing and consisting of granular particles of a composition of lead, tin and antimony, said particles having cut faces, graphite intimately mixed with said granular particles, and lubricating oil saturating the casing and the mixture of said composition and graphite.

2. As an article of manufacture, a packing comprising a flexible porous casing that can be bent about a packing rod, and a lubricant located in the casing and comprising substantially five parts of graphite intimately mixed with granulated particles of a composition consisting of substantially 76 parts of lead, fifteen parts of tin and 4 parts of antimony, and lubricating oil saturating the casing and the mixture of said granulated composition and graphite.

3. The method of producing a lubricating

packing which consists in thoroughly mixing together while in a molten state, lead, tin and antimony, casting the composition and granulating the same when hardened, 5 mixing graphite with the particles of composition after said granulation, placing the same in a porous casing and soaking the whole after being incased in lubricating oil.

4. The method of producing lubricating 10 packing which consists in thoroughly mixing together while in a molten state, lead, tin and antimony, casting the composition and granulating the same when hardened by a cutting tool whereby the granular particles 15 are given cut faces, mixing graphite with the particles of composition after said granulation, placing the same in a porous casing and soaking the whole after being incased in lubricating oil.

20 5. The method of producing lubricating

packing which consists in thoroughly mixing together while in a molten state, substantially 76 parts of lead, 15 parts of tin and 4 parts of antimony, casting the composition and granulating the same when it has 25 hardened, intermixing with the particles of composition after said granulation, substantially 5 parts of graphite, placing the mixture in a tubular casing of porous fabric, and soaking the completed article in lubricating oil. 30

In testimony, that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

MARTIN L. STEWART.
FRANK A. CARR.

Witnesses:

NEWEL F. OWEN,
EDWIN A. MCINTYRE.