

# UNITED STATES PATENT OFFICE.

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FERDINAND W. REIS, OF SAME PLACE.

## INCOMBUSTIBLE WASTE FOR LUBRICATING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 445,889, dated February 3, 1891.

Application filed November 28, 1890. Serial No. 372,909. (No specimens.)

*To all whom it may concern:*

Be it known that I, ROBERT R. GRAF, a citizen of the United States, and a resident of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Incombustible Waste for Lubricating Purposes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in so-called "lubricating-waste," (of cotton or wool,) of which large quantities are used for lubricating the piston-rods of steam-engines, the axles of railway-cars and locomotives, and for numerous other purposes. When used for lubricating purposes in the journal-boxes of railway-cars, this waste, saturated as it is with oil or grease, is very apt to take fire by the heat generated by the rapid revolutions of the journals, which results in what is commonly known as a "hot box," necessitating the stoppage of the train in order to extinguish the fire and allow the box to cool; and the object of my improvement is to produce as an improved article of manufacture a non-combustible lubricating-waste, which shall possess the same absorbent quality for oil or grease as the easily-inflammable waste now in common use, but which cannot take fire, and by the use of which, therefore, the liability of hot boxes on the rapidly-running trains of the present day is avoided.

To prepare my improved non-inflammable or incombustible waste, I take cotton or woolen waste, as may be desired, and segregate or pick it apart a little, so that all portions of it may be thoroughly subjected to the action of the fireproofing composition. The latter consists of a fluid mixture prepared by adding to one hundred and sixty parts of clear water, by weight, seven parts of sulphate of am-

monia, four parts of phosphate of ammonia, seven parts of sodium tungstate, four parts of sal-ammoniac, and four parts of phosphate of sodium. This forms a clear solution. After the waste has been picked and segregated, it is washed with soap and soda to thoroughly remove all traces of grease, the presence of which would prevent proper absorption of the liquid. It is then rinsed in clear cold water and dried in the sun, or by artificial heat, after which it is ready for immersion into and steeping in the fireproofing liquid. In order to make sure of a thorough steeping, so that every particle of fiber may be permeated with the mixture, it should remain immersed in the liquid for at least twenty-four hours, after which it is removed from the bath, passed through a wringer to squeeze out the excess of liquid, and then slowly dried, when it is ready for use. The waste thus prepared will be found to be absolutely non-inflammable and incombustible, possessing the same capacity for absorbing lubricating material as before treatment, while the cost of fireproofing is merely nominal.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

As an improved article of manufacture, incombustible waste for lubricating purposes composed of cotton or woolen fiber steeped in a mixture of sulphate of ammonia, phosphate of ammonia, sodium tungstate, sal-ammoniac, and phosphate of sodium, and water, and subsequently dried, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ROBERT R. GRAF.

Witnesses:

AUGUST PETERSON,  
BENNETT L. JONES.