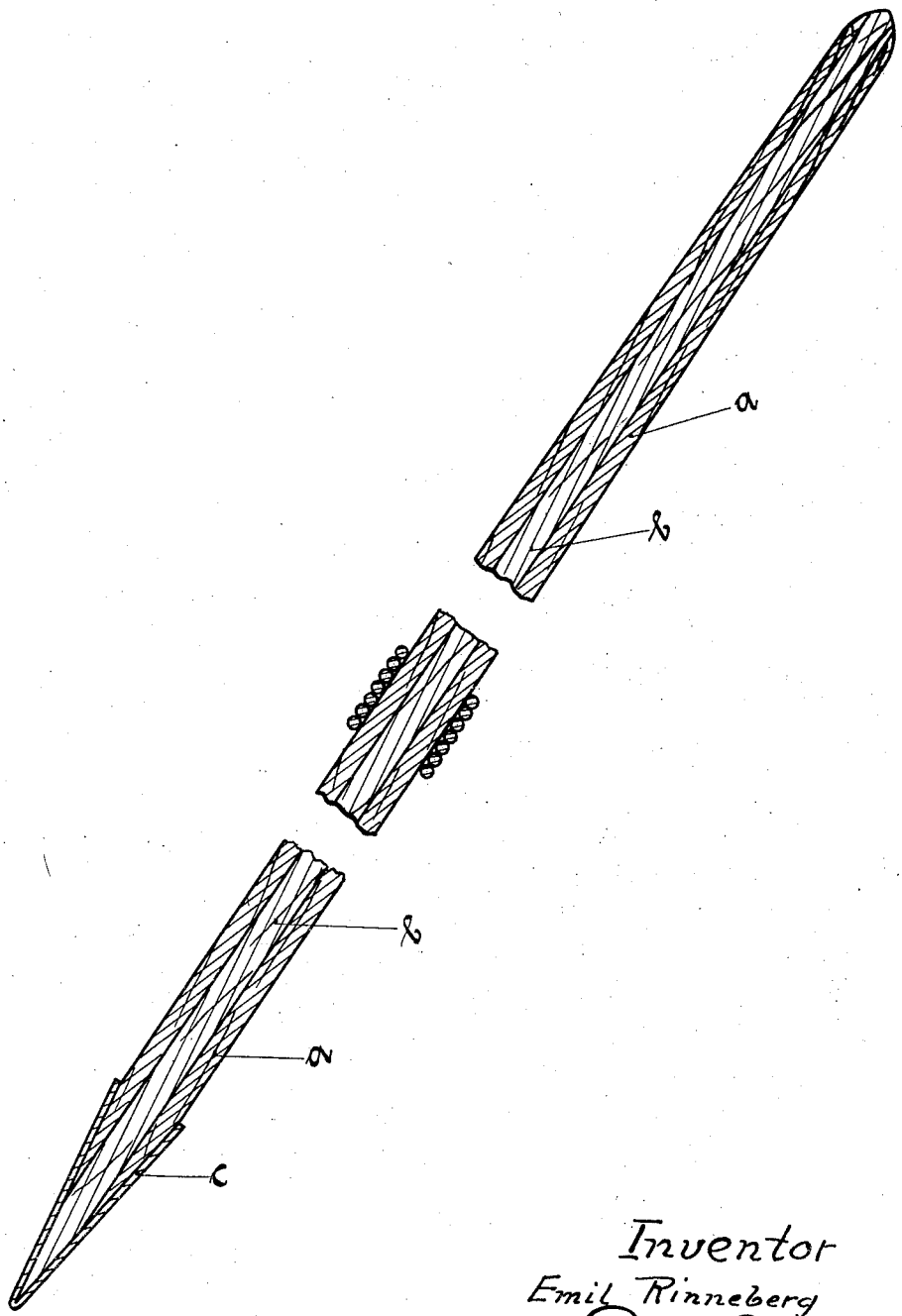
Oct. 15, 1929. E. RINNEBERG 1,731,686

JAVELIN

Filed Oct. 11, 1927



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UNITED STATES PATENT OFFICE

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JAVELIN

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The present invention has reference to javelins and relates more particularly to a new javelin structure the main components of which have approximately the same modulus of elasticity.

It is well known in this art that a javelin, when thrown, is apt to vibrate about its normal axis, and attempts have been heretofore made to overcome this drawback which seriously interferes with the proper flight of the spear, as well as to improve the rigidity of the javelin against fractures and breakage, by axially boring out the wooden javelin shaft and providing it with a light metal lining or core. The use of, such a metal insertion, while reducing the natural vibrations of the javelin in flight to an appreciable degree, is, however, objectionable, because it considerably increases the danger of fracture, due to the fact that the metal core and the wooden mantle shaft have different degrees of elasticity, and such a combination of materials is difficult to produce without unfavorably affecting the "balance" of the javelin.

The present invention effectively obviates this disadvantage by using for the core of the javelin a material the elasticity of which is substantially the same as that of the mantle material.

My invention will readily be understood from the accompanying drawing which shows a javelin of my improved manufacture in longitudinal section, with the middle portions broken out to save space.

The javelin comprises the mantle tube or shaft *a* of a suitable wood, into whose interior is closely fitted the core *b* of a material the elasticity coefficient of which is the same as, or at least closely approximates that of, the mantle material.

The front shaft end may conventionally be provided with a metal tip *c*.

I have found that the so-called Spanish reed (*Arundo donax*), rattan or cane, is an eminently suitable material for this purpose. For use the reed rod is decorticated and is then suitably cemented in place in the wooden mantle shaft. Such reed material is light of weight, is highly flexible, is cheap and can readily be shaped to fit the mantle bore, and, its elasticity coefficient substantially coinciding with that of the wooden shaft, a practically fracture-proof javelin structure, very steady in flight, is the result.

What I claim is:—

1. A javelin comprising a hollow wooden shaft and a core therein of Spanish reed.

2. A javelin, comprising a wooden shaft having an axial bore, and a core cemented into this bore and formed of decorticated Spanish reed.

In testimony whereof I affix my signature.

EMIL RINNEBERG.