

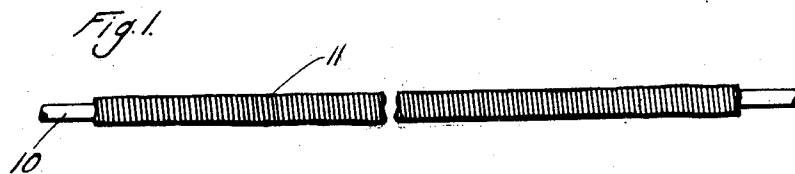
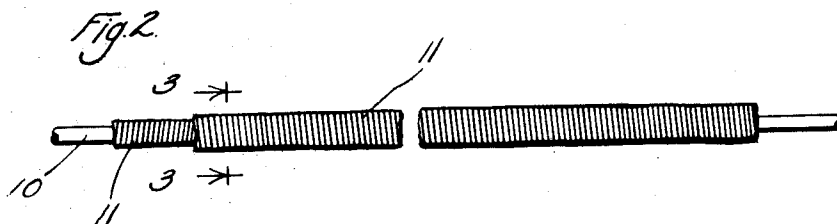
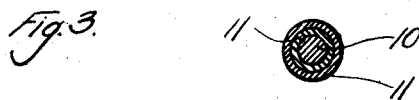
Aug. 12, 1930.

V. SPOLIDORO

1,772,846

STRING FOR MUSICAL INSTRUMENTS

Filed Oct. 30, 1928



Inventor
Vincent Spolidoro
by *W. H. K. [Signature]*
his Attorney

UNITED STATES PATENT OFFICE

VINCENT SPOLIDORO, OF LOS ANGELES, CALIFORNIA

STRING FOR MUSICAL INSTRUMENTS

Application filed October 30, 1928. Serial No. 315,944.

This invention has to do with a string for a musical instrument and it is a general object of the invention to provide an improved string suitable for use in various musical instruments, say, for instance, in harps, violins, mandolins, guitars, etc.

Wrapped strings for musical instruments have certain recognized advantages over solid strings, this being particularly true in strings for producing low or deep notes. In accordance with the prior art, strings for musical instruments have been wrapped with metal, such material making it possible to produce a string substantially uniform throughout its length. In many cases, however, metal is not altogether desirable for the production of the desired tones or musical notes.

It is a general object of the present invention to provide a wrapped string of improved tone or musical value.

It is another object of the invention to provide a musical string having a wrapping of silk. The preferred form of the invention provides a metal strand or wire wrapped throughout its length with silk.

It is a further object of the invention to provide a string of the character mentioned having a wrapping of silk held by a binder which not only holds the silk against fraying or unravelling but also improves the musical qualities of the string.

Another object of the invention is to provide a string of the character mentioned having a silk wrapping held by a binder and finished so that it is particularly effective and adapted for use in musical instruments.

The various objects and features of my invention will be best and more fully understood from the following detailed description of the manner in which the invention is carried out, throughout which description I refer to the accompanying drawings, in which:

Fig. 1 is a side elevation illustrating the invention being a view showing a metal strand of wire wrapped in accordance with the present invention. Fig. 2 is a view similar to Fig. 1 with certain parts broken away to show a feature of the invention, and Fig. 3

is an enlarged transverse sectional view taken as indicated by line 3—3 on Fig. 2.

My present invention provides, primarily, a musical string comprising a metal, for instance steel, core 10, a wrapping of silk 11 on the core, and a binder in connection with the silk. The invention further provides for finishing the string to make it particularly applicable for use in certain classes of stringed musical instruments.

In accordance with the preferred form of the invention, I form the core 10 of steel wire, for instance of the grade of wire ordinarily employed for the strings of musical instruments. I use a plain, smooth wire round in cross section as I have found that the most satisfactory results are obtained with the use of a wire which has not been plated or otherwise coated as the strings of musical instruments frequently are. Further, I prefer to employ a wire which is uniform throughout its length as I have found that variations in the size or diameter of a wire materially affects its musical qualities when used in a stringed instrument.

The wrapping 11 provided by the present invention is of silk and is applied by wrapping a thread of silk around the core and advancing it longitudinally of the core so that it is helically disposed on the core. I prefer to use a strand or thread of silk which is uniform in size and texture and I wrap it on the core with uniform tension, or pressure, so that the finished string is uniform throughout its length. In practice I may provide one or more layers or wrappings of silk 11. I have found that from one to four wrappings of silk on a core provides strings which will satisfactorily cover the normal range of musical instruments. If more than one layer or wrapping 11 of silk is applied to the core it is preferred that the successive wrappings be applied so that they are pitched or wrapped in opposite directions along the core. This is illustrated in Fig. 2 of the drawings.

In accordance with my present invention, a binder is provided for the silk. This binder may vary in composition, for example in certain cases I use a binder of pure shellac,

while in other cases I have found it advantageous to use a binder formed of a mixture of shellac and oil. The binder is in direct contact with the silk and also contacts with the core 10 as in forming the wire I pass the silk through a body of the binder immediately before it is wrapped onto the core. The silk is thus allowed to take up the binder and carry it so that it operates to bind or cement the silk to the core as well as cement or bind successive wrappings of silk together. In practice I use a pure, clear shellac sufficiently thin to be readily taken up by the silk so that the body of silk on the core is thoroughly bound by the set shellac after the shellac has dried.

For a string to be used in a violin or other bow instrument, I prefer to use shellac alone as a binder as I have found that the most satisfactory results are obtained when such strings are free of oil, however, for strings to be used in picked instruments, for instance in mandolin, harps, etc., I use a binder of shellac and oil, preferably a high-grade vegetable oil. In practice I have used pure olive oil and have obtained satisfactory results with various proportionings of shellac and oil. I have obtained good results by using from one-eighth part by volume to one-half part by volume of oil with the shellac. It is to be understood, of course, that the shellac or binder is applied to the silk in such quantities as to prevent clotting or its accumulation in large bodies or drops. In actual practice I wipe the excess binder from the silk immediately before the silk is wrapped onto the core.

The string, after being wrapped with the liquid binder, is allowed to stand until the binder has set or hardened. The period necessary for drying will, of course, vary with numerous factors such, for example as the number of wrappings of silk on the string, the weight or size of the strand of silk used on the string, the character of the binder, etc. In most cases the binder is completely set within a period of 24 to 30 hours.

The string can then be used although it is preferred to finish it by polishing. In accordance with the invention, I polish the string lengthwise, that is rub it lengthwise with a cloth. This removes minor irregularities and puts the string in finished condition. The string may be further finished by waxing it although it is preferred not to apply wax to the portion of the string to be engaged by a bow. When wax has been applied to the string, the string is again polished, giving it a final finish.

The string provided by my invention has unusual tone or musical values and is generally superior to strings available for musical instruments. The string is particularly serviceable or durable due to the action of the binder which holds the silk against fray-

ing or coming loose. I have found that the string will give satisfactory results until the silk has been completely worn from one side where it is rubbed with a bow. It is to be particularly noted that the invention provides a string which is simple and inexpensive of manufacture making it of economical and of commercial value.

Having described only a typical preferred form and application of the invention, I do not wish to limit myself to the specific details set forth, but wish to reserve to myself any changes or variations that may appear to those skilled in the art or fall within the scope of the following claims.

Having described my invention, I claim:

1. A string for a musical instrument including, a core, superimposed wrappings of silk on the core, the successive wrappings being pitched in opposite directions and a binder of shellac and oil for the silk.

2. A string for a musical instrument including, a core, a wrapping of silk on the core, and a binder of shellac and vegetable oil for the silk, the outer surface of the wrapping being polished and waxed.

3. A string for a musical instrument including, a plain metal core, superimposed wrappings of silk on the core, successive wrappings being pitched in opposite directions, and a binder of shellac and olive oil on the silk, the exterior of the string being polished longitudinally and waxed.

4. A string for a musical instrument including, a metal core, superimposed windings of silk on the core, the silk of each winding carrying a binder of shellac and vegetable oil, the successive windings being pitched in opposite directions, and wax on the exterior of the string.

In witness that I claim the foregoing I have hereunto subscribed my name this 23rd day of October, 1928.

VINCENT SPOLIDORO.