UNITED STATES PATENT OFFICE.

JOHN KRÜSI, OF ST. GALL, SWITZERLAND.

PROCESS OF MAKING EMBROIDERY-LACES.

SPECIFICATION forming part of Letters Patent No. 337,687, dated March 9, 1886.

Application filed July 8, 1885. Serial No. 171,020. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN KRÜSI, a citizen of the Republic of Switzerland, residing at St. Gall, in Switzerland, have invented certain new and useful Improvements in Processes of Making Embroidery-Laces, of which the following is a specification.

My invention has relation to the art of embroidering laces; and it consists in the improved method of manufacturing the same, as hereinafter more fully described and claimed.

In my improved process the base upon which the embroidery is made is a fabric, which, before the pattern has been embroidered upon it, is treated at a comparatively low temperature with suitable chemicals, which render it so tender that after the pattern (which may be embroidered with threads of either animal or vegetable fibers, or thread covered with metal, such as fine gold or silver wire) has been embroidered upon it, the fabric may be destroyed by subjecting it to a high temperature of about 80° centigrade or 176° Fahrenheit, the high temperature thoroughly destroying the fabric which forms the base without injuring in the slightest degree the animal or vegetable fiber threads or the threads covered with metal, which form the pattern.

I will now proceed to describe the process of treating the fabric; this process being the one which I prefer to employ in the manufacture of embroidery-laces, although it will be understood that I do not wish to claim the fabric, *per se*, in this application. The fabric, which is preferably a cotton fabric, is dipped in a bath of diluted sulphuric acid or hydrochloric acid, or any other suitable acid, the said bath being composed of one part concentrated acid and twenty-five parts of water, and the fabric is thereupon dried in a dark place and at a temperature of about 20° centigrade or 68° Fahrenheit. The fabric thus prepared recovers, in the space of a few days, sufficient strength to allow the lace-pattern to be embroidered upon it with any suitable thread—such as cotton, linen, wool, thread covered with metal, or any other kind of thread—the pattern being embroidered in such a manner that the stitches will support each other when the supporting-base fabric is removed, and the thread will in no manner be affected by the prepared fabric. After the fabric has been embroidered it is removed to a place having a temperature of about 80° centigrade or about 176° Fahrenheit, when the fabric will separate and permit the lace-pattern to stand free.

It will be seen that by my improved process of manufacturing embroidery-laces the pattern or lace proper may be embroidered with threads of either animal or vegetable fiber, or of threads covered with fine gold or silver wire, which is sometimes highly desirable, or of combinations of any two or of all three of the above-named classes of threads; something which it is impossible to do where the fabric is subjected to an acid bath after being embroidered, or where it is necessary to treat the threads chemically before embroidering the pattern, as has been heretofore done, as such treatment would infallibly tarnish the threads covered with fine gold or silver wire, while subjecting the embroidered fabric to an acid bath after the pattern has been embroidered upon it would injure either the animal or vegetable threads where the two are employed together in one pattern.

I am aware that in the manufacture of embroidery-laces the threads have been chemically treated before embroidering the pattern for the purpose of enabling them to resist the action of the agent which is employed to destroy the fabric forming the base, after the pattern has been embroidered thereon, and I am also aware that a base fabric composed of vegetable fibers has been embroidered with threads composed of animal fibers, or vice versa, and the base fabric composed entirely of either animal or vegetable fibers has then been chemically incinerated in such a manner or by such chemical agents as will destroy all of the animal or vegetable fibers composing the base fabric; but I am not aware that embroidery-laces have been heretofore manufactured by first chemically preparing the fabric in such a manner that it may be destroyed merely by subjecting it to a certain high degree of temperature, then embroidering it with threads of either animal or vegetable fibers or threads covered with fine gold or silver wire, and at last destroying the base fabric by subjecting

it to a high degree of temperature, as heretofore described.

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

The process of manufacturing embroidery-laces, consisting in dipping the foundation-fabric in a bath of acid and water at a temperature of about 20° centigrade or 68° Fahrenheit, then embroidering the said fabric with suitable threads, and at last exposing the fabric to a dry temperature of about 80° centigrade or 176° Fahrenheit, which will destroy the fabric without subjecting the same to the slightest moisture.

In testimony whereof I sign this specification, in the presence of two subscribing witnesses, this 20th day of June, 1885.

JOHN KRÜSI.

Witnesses:
EMIL BLUM,
WILLIAM SCHNEIDER.