No. 687,849. Patented Dec. 3, 1901.

J. P. NEALON.

ARTIFICIAL LEATHER.

(Application filed Dec. 6, 1900.)

(No Model.)

Fig. 1.

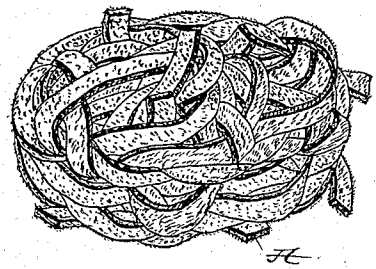


Fig. 2.

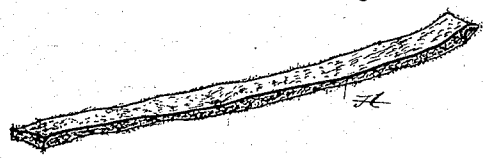
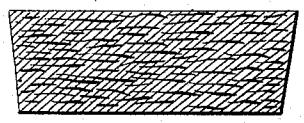


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ARTIFICIAL LEATHER.

SPECIFICATION forming part of Letters Patent No. 687,849, dated December 3, 1901.

Application filed December 6, 1900. Serial No. 38,951. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN P. NEALON, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Artificial Leather, of which the following is a specification.

My invention relates to improvements in artificial leather for the manufacture of the soles and heels of boots or shoes and other articles; and, broadly stated, it consists in an artificial leather made up of strips intermixed, commingled, or irregularly interwoven in all directions and a suitable binder, the intermixing or commingling of the strips in all directions being advantageous in that it materially assists the binder in holding them together and renders the product tenacious and not liable to check or be disintegrated or pulled apart in any direction.

The invention also consists of an artificial leather made up of strips which are previously passed through a skiver, splitter, or other machine or treated by any process calculated to destroy the grain side thereof and render all of the sides fibrous or like the original flesh side and a binder, such as a mild adhesive containing glue, paste, or similar matter, the strips having all of their sides fibrous or rough, like the original flesh side, being advantageous because such sides are porous, and consequently adapted to absorb and be securely held by the adhesive, cement, or other binder and when the mass is rolled or subjected to pressure enable the strips to hold together and the mass to remain hard and intact until all of the same is worn away.

With the foregoing in mind the invention will be fully understood from the following description and claims when taken in connection with the accompanying drawings, in which—

Figure 1 is a view illustrative of a mass of leather strips intermixed or irregularly interwoven or tumbled together in accordance with my invention and as they appear combined with a binder precedent to being subjected to pressure to form the improved artificial leather. Fig. 2 is a perspective view of one of the leather strips of the kind which I prefer to employ. Fig. 3 is an edge elevation of a piece of the artificial leather made in accordance with my invention.

Similar letters of reference designate corresponding parts in all of the views of the drawings.

The leather strips or pieces of leather comprised in my improved artificial leather may be of any character, provided they are adapted to be intermixed, irregularly interwoven, or interlaced in all directions, this to enable them to hold together and against strain in all directions and assist the binder, which may also be of any suitable character, in preventing checking or disintegration of the finished product or artificial leather. By preference they each have all of their sides porous; but they may be of any other description, provided they are susceptible of being tumbled together and intermixed or irregularly interwoven, as stated.

In the preferred embodiment of the invention I take scraps or pieces of leather that are absolutely worthless, and those that are not in the form of strips or are not adapted to be intermixed or irregularly interwoven are cut or otherwise reduced to the form of strips, these strips or pieces of leather having passed through a skiver, splitter, or other machine adapted to render all of their sides fibrous or porous or having been subjected to any treatment capable of accomplishing such purpose. A strip such as described is shown in Fig. 2 and designated by A, and a plurality of such strips are shown in Fig. 1 as intermixed or irregularly interwoven in all directions. The binder employed is preferably a mild adhesive which contains no rubber or similar ingredient, and hence is capable of receiving a high polish, such as is desirable in the soles and heels of boots and shoes.

In making the artificial leather the binder is first prepared and the strips of leather are intermixed or irregularly interwoven in all directions therein. A sufficient quantity of the mass is placed in molds of desired form and subjected to pressure, or the mass is rolled or pressed into sheets of any desired thickness or size and cut by dies or other suitable means into the blanks desired.

In the product described the intermixing or irregular interweaving of the strips in all di-

rections enables the said strips to hold together and materially assist the binder in preventing checking of the heel or other article or disintegration or breaking thereof in any direction. Again, when the strips are of the preferred kind—that is to say, have all of their sides fibrous or porous—they are calculated to absorb and be securely held together by the adhesive or binder, which contributes very materially to the tenacity of the product.

It will be appreciated from the foregoing that my improved material when subjected to pressure is rendered hard, durable, and practically waterproof and that it is capable of withstanding much more than the ordinary usage to which boot and shoe heels and soles are subjected and is adapted to be used to advantage in many other connections. It will also be appreciated that the leather strips or pieces employed are absolutely worthless for any other purpose, and therefore my improved product is extremely cheap.

When all of the sides of each strip embraced in the product are fibrous, a very large fibrous and porous surface is afforded to absorb and be tenaciously held by the binder or adhesive, which feature contributes very materially to the integrity of the product.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An artificial leather comprising strips or pieces of leather intermixed or interwoven whereby they are connected, and a binder mixed with and holding the said strips or pieces of leather together.

2. An artificial leather comprising strips or pieces of leather intermixed or irregularly interwoven in all directions whereby they are held together and against strain in all directions, and enabled to assist a binder in preventing disintegration of the leather, and the said binder mixed with and holding the said strips or pieces of leather together.

3. An artificial leather comprising a body of strips or pieces of leather intermixed or interwoven whereby they are connected, and a binder mixed with and holding the strips or pieces of leather together; the said strips or pieces of leather each having all of their sides fibrous and porous whereby they are adapted to present a large surface to and absorb the binder and be better held thereby.

4. The artificial leather described comprising a body of strips or pieces of leather intermixed or interwoven in an irregular manner in all directions whereby they are held together and against strain in all directions, and enabled to assist a binder in preventing disintegration of the leather, and the said binder mixed with and holding the strips or pieces of leather together; the said strips or pieces of leather each having all of their sides fibrous and porous whereby they are adapted to present a large surface to and absorb the binder and be better held thereby, and the whole being subjected to pressure.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN P. NEALON.

Witnesses:

BERNARD J. MCLAUGHLIN,

GEO. W. SPAULDING.