

UNITED STATES PATENT OFFICE.

PHILIP MAGNUS, OF COLLINGWOOD, VICTORIA, AUSTRALIA.

PROCESS OF TREATING LEATHER.

SPECIFICATION forming part of Letters Patent No. 775,839, dated November 22, 1904.

Application filed March 30, 1903. Serial No. 150,309. (No specimens.)

To all whom it may concern:

Be it known that I, PHILIP MAGNUS, a subject of the King of Great Britain and Ireland, residing at 52 Harmsworth street, Collingwood, in the county of Bourke, State of Victoria, and Commonwealth of Australia, have invented certain new and useful Improvements in Processes of Treating Leather, of which the following is a specification.

Many attempts have been made to produce a leather which would be impermeable to moisture, retain its flexibility, acquire resilience, and to a considerable degree be punctureless and be self-healing if punctured, so as to fit such leather particularly for use in pneumatic tires. After many experiments I have discovered that by treating leather as hereinafter described and claimed it acquires all the above-mentioned desirable properties.

My invention therefore consists in the herein-described process for treating leather, which is expeditious and inexpensive and easily performed. My invention applies to leather of any character, but principally to what is commonly known as "chrome" leather. This is first cleaned from all impurities or foreign matter and dried either naturally or artificially. It is then submerged in a cold bath consisting of benzin, about eighty-five parts; benzol, about ten parts; naphtha, about three parts; kerosene, about five parts.

The naphtha I employ is a petroleum product boiling at about 100° centigrade and sometimes called "safety-oil." The benzin is a heavier product, boiling from about 148° to 160° centigrade. The kerosene is commonly known as ordinary "burning" or lamp oil, and the benzol is the well-known benzol of commerce.

After a submersion in such bath for about thirty minutes the leather is removed, and it is then body or inner side up placed upon a bench and the solution worked in with a wire or bristle brush. After the first solution has by the aid of a brush been caused to penetrate the leather it is again submerged for a few minutes and brushed. It is again dipped and brushed and then hung up to allow the mixture that has not been absorbed to drip or evaporate.

The leather is then ready for further treatment by immersion in baths made of the following mixture: Pará rubber; about twenty parts; benzin, about eighty parts; benzol, about ten parts; naphtha, about two parts; isinglass, about one part.

The shredded Pará rubber is first dissolved with the benzin, then the benzol and naphtha are added, and then the isinglass, which has been previously dissolved in enough hot water to form a thick gelatinous solution, is added. The solution of Pará rubber, benzin, benzol, and naphtha is divided into three equal parts or baths. One of the portions I shall call the "thick" bath. To the second portion I add, say, ten parts more of benzin and a fractional (one-eighth) part of naphtha, and I shall call this the "thin" bath, and to the third portion I add, say, ten parts of benzin and one-eighth part of naphtha more than I added to the second bath and shall call this the "thinner" bath. The leather is then treated successively in these baths, being immersed in the thick solution or bath about four hours, in the thin bath about seven days, and in the thinner bath about four days. After each bath the liquid is worked into the leather with a brush, as above described, and hung up to allow any contained free liquid to escape by dripping and evaporation.

The isinglass mentioned is the purest natural gelatin known and imparts to the leather a soft tenacious quality. The isinglass is dissolved in sufficient hot water to render it gelatinous, as before mentioned, and then is incorporated with the rubber, benzin, and naphtha by mechanical mixture, so as to be applied to the leather at the same time therewith.

The leather is finally treated with a third mixture consisting of benzin, about seventy-five parts; benzol, about twenty parts; naphtha, about one part; kerosene, about five parts, rubbed in with the aid of a stiff brush, after which treatment the article is hung till dry.

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

The herein-described process of treating leather consisting in first cleaning and drying the same, immersing it in a bath consisting of

benzin, benzol, naphtha and kerosene, then removing and brushing it; again immersing and brushing it, and then hanging it for dripping and evaporation; second, treating the
5 leather successively in baths, each formed of a mixture of Pará rubber, benzin, benzol, naphtha and dissolved isinglass, the baths being varied by increasing the quantity of benzin and naphtha therein, and after each bath,
10 working in the solution by brushing and finally hanging it for dripping and evaporation; third,

working into the leather a mixture of benzin, benzol, naphtha and kerosene, and then allowing the leather to dry, all substantially as and for the purpose set forth. 15

In witness whereof I have hereunto set my hand to this specification in the presence of two witnesses.

PHILIP MAGNUS.

Witnesses:

EDWIN PHILLIPS,

CECIL W. LE PLASTRIER.