To all whom it may concern:

Be it known that I, ERNEST EDWARD MUNRO PAYNE, a subject of the King of England, and residing at Aylesbury, in the county of Buckingham, England, have invented certain new and useful Improvements in the Production of Leather, of which the following is a specification.

The present invention relates to improvements in the production of leather, and is divided from the application Serial No. 226,024, filed September 28, 1904.

The characteristic feature of this invention is the use, in the production of leather, of a solution of humus which consists of humic acid, ulmic acid and certain compounds thereof. A convenient source of this material, which in practice is found useful and advantageous, is peat or turf, such as is used for fuel and other purposes, and which is generally known and widely distributed in nature.

According to this invention, in producing leather from skin, the skin is prepared as for tanning and is thereafter treated with a solution of humus in alkali and with an acid. For example, the prepared skin may be treated with a solution extracted from peat by an alkali, and also with an acid.

In order to produce leather of good commercial quality according to this invention, the skins are prepared in the usual way for tanning, that is to say, the ordinary methods of soaking and liming are used in the preparation of the raw hides or skins for the purpose of unhairing and swelling, and, after the usual mechanical and washing processes have taken place, the hides are boiled in the ordinary manner according to the final result desired. Having obtained the hides or skins in this prepared state, they are then submitted to the action of the humus-containing extract or material, which is preferably prepared as follows:—Ordinary peat is comminuted or disintegrated and is macerated in a solution of alkali, such as a solution of caustic soda, caustic potash, alkaline carbonate or the like (preferably a caustic soda solution of about 1% strength). This treatment takes place at the ordinary atmospheric temperature, the amount of peat varying according to its age and composition. Generally about 100 gallons of liquor are employed for 100 pounds of peat. Digestion is allowed to take place during 48 to 72 hours, after which the liquor is pressed out and allowed to drain or percolate so that a fairly clear or bright product is obtained. This liquor is generally slightly alkaline in reaction but sometimes neutral. It may be treated with a suitable quantity of acid, such as sulfuric acid, to neutralize the liquor without precipitating the humus therefrom. The skins prepared as for tanning, as above described, are immersed in or treated with this liquor in the same way as a skin is generally treated with a tanning solution and when sufficient penetration and saturation has occurred, the hides or skins are subsequently treated with a bath of acid, and leather is thereby produced and can be finished in the ordinary manner.

The process of producing leather described above, may also be used in what is known as “combination tanning”; and where several leather-producing agents are employed together, and a very great variety of valuable and useful leather is produced by various combinations, that is to say, the skins prepared as for tanning may be treated with a solution extracted from peat by an alkali and with an acid and with a tanning agent.

I claim:

1. Process for producing leather from skin which consists in first preparing the skin as for tanning and thereupon subjecting the prepared skin to the combined action of an alkali peat extract and a neutralizing agent.

2. Process for producing leather from skin which consists in first preparing the skin as for tanning and thereupon soaking the prepared skin in an alkali peat extract and then treating the skin with a neutralizing agent.

3. Process for producing leather from skin which consists in first preparing the skin as for tanning and thereupon soaking the prepared skin in an alkali peat extract and then treating the skin with an acid.

4. Process for producing leather from hides which consists in first preparing the
hide as for tanning, impregnating the prepared hide in an alkali solution of peat and subjecting the hide to an acid solution, whereby the humus will be precipitated into the fibers of the leather.

5. Process for producing leather from hides which consists in preparing the hides as for tanning subjecting the prepared hides to the combined action of an alkali peat extract and neutralizing acid, together with any leather producing agent.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ERNEST EDWARD MUNRO PAYNE.

Witnesses:
WALTER W. BALL,
F. HOOD.