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UNITED STATES PATENT OFFICE.

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PROCESS FOR THE PRODUCTION OF GELATIN AND GLUE FROM CHROME LEATHER OR ITS SHAVINGS.

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For the production of glue and gelatin from chrome-leather or waste of the same one proceeds according to the present known processes generally in such a manner that the chrome-leather or its shavings or parings are in a preparatory process freed from chrome by being treated first with alkalies, especially lime, and then with acids whereupon the mass which remains after ablution is boiled with water to obtain glue liquor. This process requires much time, it is complicated and presents the inconvenience that it often is impossible in this way to produce glue and the like which is absolutely free from chrome, as the acid penetrates only to a certain depth into the chrome-leather parings or the like so that the chrome remains undissolved in the deepest cellular particles and at the subsequent boiling goes into solution with the glue or gelatin liquor.

It now has been found that it is possible to obtain in a very simple manner gelatin or glue which is technically or even perfectly free from chrome if, instead of removing at first the chrome by dissolution from the leather or the like, viz instead of freeing the leather from chrome, the glue or the like is directly dissolved out of the leather whereas the chrome-compounds remain undissolved in the residue. In this manner it is possible to obtain glue liquor which is practically free from chrome, by simply boiling the chrome leather or the chrome leather parings without any preliminary treatment.

With this object in view the initial material according to the present invention is boiled with weakly alkaline water without special previous treatment. The weak alkalinity may be proved by litmus-paper which just shall be blued by the solution.

Small quantities of burnt magnesite (MgO) are preferably added to the mass to be boiled. At the boiling of the chrome-leather parings or the like with water in presence of only about 1 to 2% (calculated to the raw material) of burnt magnesite it is possible to absolutely prevent a solution of the chrome during the boiling process and thus to obtain directly quite clear glue liquor. The magnesite can serve in this process to produce itself the required weak alkalinity of the boiling liquor, but it is also possible for this purpose to add small quantities of another alkaline means, for instance 0.5 per cent or less of lime, besides the magnesite.

By this addition of magnesite the extracting of glue from the chrome-leather parings is much facilitated and accelerated, the jellifying capability being not prejudiced in the least. In order to gain as much glue as possible from the chrome-leather parings or the like several decoctions can be made the one after the other, fresh additions of magnesite or the like being used for every decoction. The glue liquor obtained by the boiling of the mass is then concentrated in the commonly used manner and the glue is dried as usual.

Instead of burnt magnesite other suitable magnesium compounds as the hydroxide of magnesium or the carbonate of magnesium may be used.

Example.

1800 kilos of chrome-leather shavings or parings and 3000 liters of water are brought into flat open vessels having an intermediate sieve-bottom and heating coils arranged above said sieve-bottom. 54 kilos of burnt magnesite are added and mixed with the other materials. The whole mass now is heated by means of the heating coils to boiling and is boiled for 15 minutes. Then the steam is shut off from the heating coils and the thinly liquid glue liquor is decanted through the sieve-bottom. The heating vessel containing the residue of the chrome-leather parings hereafter is again filled with about 2000 liters of water, whereupon the mass is again boiled for 15 minutes and the obtained thin liquor is decanted in the same manner. A third and fourth decoction may be made if desired. Care must be taken during the process that the heated mass will always have an alkaline reaction. If not so a further small amount of burnt magnesite is to be added. Otherwise chrome would enter into solution. No other control is required during the process. The extracted thinly liquid glue liquor is assembled, filtered and inspissated in vacuo until a concentration to about 40% is obtained. The further treatment of this concentrated liquor for obtaining solid glue is that which is usual in glue manufacture.

Having now particularly described and ascertained the nature of my said invention, I declare that what I claim is:—

1. A process for the production of gelatin or glue, free of chrome, from chrome-leather or shavings thereof, consisting in boiling chrome-leather or chrome-leather parings without special preparation in water in the presence of small quantities of burnt magnesite (MgO) whereupon the obtained liquors are separated from the residue and concentrated in the usual manner to obtain the glue.

2. A process for the production of gelatin or glue, free of chrome, from chrome leather or shavings thereof, consisting in boiling chrome-leather and chrome-leather parings directly and without any preliminary treatment in weakly alkaline water in the presence of such magnesium compounds which have an alkaline character like burnt magnesite (MgO), separating the glue liquor from the residual matter and concentrating the solution thus obtained.

In testimony whereof I have hereunto set my hand.

JAKOB RINCK.