

ALIEN PROPERTY CUSTODIAN

PROCESS OF OBTAINING FIBRES FROM BRUSHWOOD, IN PARTICULAR FROM SPARTIUM SCOPARIUM

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No Drawing. Application filed March 28, 1940

The invention relates to a process of obtaining fibres from brushwood, in particular from spartium scoparium (broom).

It is known to obtain fibres from brushwood, such as broom and the like, by digesting the latter through chemical agents. For this purpose, the brushwood is first soaked or boiled, then crushed, and finally treated with decomposing agents to destroy or dissolve the incrusting substances. This process has the disadvantage of requiring a comparatively high expenditure of chemicals, the yield of fibres being unsatisfactory both in quantitative and qualitative respect.

It has also been suggested to mechanically disintegrate wood or woody plants by means of crushing mills prior to their being soaked or boiled in decomposing fluids. To this end, either the plates of wood were fed into, and crushed by, the fluted rollers, the direction of their grain being parallel with the axes of rotation of the rollers, or the wood or woody plant was passed through the rollers transversely or diagonally to the direction of grain. The wood to be worked was crushed between the rollers to form either blocks of greater or smaller lengths or chips, and was subsequently treated, if desired, with decomposing agents. The thus obtained fibres are short and leave much to be desired in other respect.

It is the object of the invention to provide means for obtaining fibres from brushwood, in particular spartium scoparium, economically and at a high output, while retaining their natural length. The feature of the invention is that the brushwood is fed by its tip through the crushing mill and split up in longitudinal direction from the tip towards the sawed end. The term of brushwood comprises also wood carrying still twigs of any ramification. Preferably use is made of the shrubs of broom which sprouts up in the spring and is cut in the autumn after the juice has withdrawn.

The disintegration accomplished by the process according to the invention of other brushwood, too, has proved satisfactory. As an example there may be mentioned: rosella, fir twigs and other twigs, poplar twigs and brushwood of similar kinds of soft wood. It is also possible to disintegrate and utilize vegetable plants, such as, e. g. potato tops, by the process embodying the invention. Furthermore, there may be used hard grasses, such as fern, reed, and the like, and also any sorts of plants lending themselves to obtaining fibres.

Since the brushwood is fed by its tip through the crushing rollers, pressure is first exerted upon the tip of the brushwood and while the latter passes through the rollers, the pressure proceeds toward the thicker cut end. Due to this method of splitting, a high output will be obtained, amounting to, say 80 or 90% and more, for as a result of feeding the tip into the crushing rollers, the tearing off a tip of smaller or greater length will be avoided, thus the fibre will be preserved over its entire length. The brushwood is split up into bunches of fine fibres extending over the whole length. Further the silicate film surrounding the bast is also split up in longitudinal direction, whereby the fibre will be exposed lengthwise.

After being split according to the invention, the fibre bunches are boiled and bleached. Then the fibres may be made into paper. It is also possible to use the recovered fibres as raw material employed for the production of short-fibered rayon.

The crushing rollers handling the brushwood are given preferably a rough surface. They may be fluted or corrugated. The individual twigs of the brushwood fed into the crushing rollers may overlap each other more or less.

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