

D21B

FIBROUS RAW MATERIALS OR THEIR MECHANICAL TREATMENT

Definition statement

This place covers:

The preparation of fibrous raw materials, e.g. wood, rags, waste paper or pulp bales and their mechanical treatment to obtain mechanical pulp, in particular for paper-making and the production of fibreboard, comprises pretreating raw materials before pulp preparation, pulp preparation by dividing raw materials into small particles, e.g. by dry or wet methods of mechanical defibrating (cutting, grinding, kneading in mills or pulpers), conserving the obtained finely-divided cellulosic material (wood chips).

Relationships with other classification places

Subclass [B27L](#) covers process steps which take place before those steps provided for in subclass [D21B](#). Examples of subject matter provided for in subclass [B27L](#) include debarking and removing vestiges of branches from trees or logs, splitting wood and manufacture of wood shavings, chips, powder and wood fibres.

Subclass [D21B](#) covers the treatment of raw materials, which may be wood, in preparation for paper-making or cellulose production.

Subclass [D21C](#) covers further processes resulting in cellulose pulp, usually by chemical means.

Subclass [D21D](#) covers further mechanical processing after initial pulp preparation to cellulose and before the resulting materials are passed to the paper-making machines.

Subclass [D21F](#) covers methods of producing paper.

Subclass [D21H](#) covers pulp compositions.

Subclass [D21J](#) covers manufacture of articles from cellulosic fibres by wet processes while subclass [B27N](#) covers this by dry processes.

Subclass [D01B](#), specifically main group [D01B 1/00](#), covers the mechanical separation of fibres from plant material, e.g. seeds, leaves or stalks, in order to obtain fibres normally used in textiles.

References

Limiting references

This place does not cover:

Splitting wood; Manufacture of veneer, wooden sticks, wood shavings, wood fibres or wood powder	B27L
Obtaining fibres from plant material (mechanical separation)	D01B 1/00
Hackling or heckling machines	D01B 5/00
Pretreatment of the finely-divided materials before digesting	D21C 1/00
Methods of beating or refining pulp	D21D 1/00
Purification of the pulp suspension by mechanical means	D21D 5/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Disintegration in mills; Milling devices in general	B02C
Flotation in general	B03D
Dry sorting of waste	B07B
Disposal of solid waste	B09B
Manufacture by dry processes of articles, with or without organic binding agents, made from fibres consisting of wood or other lignocellulosic or like organic material	B27N
Treatment of water from the processing of plants or parts thereof	C02F 2103/26
Treatment of water from the paper or cellulose industry	C02F 2103/28
Cellulose derivatives and their preparation	C08B 1/00
Macromolecular compounds derived from lignocellulosic materials	C08H 8/00
Disintegrating peat	C10F 7/02
Preparation of ethanol by fermentation or enzyme-using process of cellulosic material substrate	C12P 7/10
Preparation of polysaccharide by fermentation or enzyme-using process	C12P 19/04
Mechanical removal of impurities from animal fibres	D01B 3/00
Obtaining silk fibres or filaments	D01B 7/00
Chemical features in the manufacture of artificial filaments, threads, fibres, bristles or ribbons	D01F
Working-up waste paper (chemical part)	D21C 5/02
Methods of producing paper in paper-machines	D21F
Flotation of white water, recovering fibres from suspensions	D21F 1/70
Pulp compositions	D21H
Manufacture of articles from cellulosic fibrous suspensions	D21J

Special rules of classification

Subgroups and main group

If a document concerns embodiments which are covered by several subgroups dependent on a higher hierarchy group, the following rules apply:

- the specific technical information relevant for some of the subgroups is classified in all said subgroups;
- if relevant, the structural association (e.g. the combination) of the elements covered by the subgroups is classified in the head group;
- analogously, if generic technical information common to all of the subgroups is disclosed and only schematic embodiments of the specific subgroup embodiments are represented, the documents is classified in the head group only.

Synonyms and Keywords

In patent documents, the word/expression in the first column is often used instead of the word/expression in the second column, which is used in the classification scheme of this place:

lignocellulosic biomass materials	fibrous raw materials
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D21B 1/02

Pretreatment of the raw materials by chemical or physical means (removal of bark [B27L](#))

Definition statement

This place covers:

Pretreatment of the raw materials by chemical or physical means, for example steaming or heating of wood chips.

D21B 1/021

{by chemical means}

Definition statement

This place covers:

Impregnation of wood chips with chemical or biological (enzymatic) substances.

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Chemical aspects of pulp preparation	D21C
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D21B 1/30

Defibrating by other means

Definition statement

This place covers:

Defibrating by means not explicitly defined before, for example between cooperating rotating screw members in drums.

D21B 1/306

{using microwaves}

Definition statement

This place covers:

Defibrating by the use of microwaves, for example by ultrasound treatments.