A23N

MACHINES OR APPARATUS FOR TREATING HARVESTED FRUIT, VEGETABLES OR FLOWER BULBS IN BULK, NOT OTHERWISE PROVIDED FOR; PEELING VEGETABLES OR FRUIT IN BULK; APPARATUS FOR PREPARING ANIMAL FEEDING- STUFFS (machines for cutting straw or fodder A01F 29/00; disintegrating, e.g. shredding, B02C; severing, e.g. cutting, splitting, slicing B26B, B26D)

Definition statement

This place covers:

Apparatus for post-harvest processing of fruit, vegetables or flower bulbs in bulk, or on an industrial scale (A23N 1/00 - A23N 15/00); Apparatus for preparing fodder for feeding animals (A23N 17/00)

References

Limiting references

This place does not cover:

| Agricultural machinery, such as harvesters | <u>A01D</u> |
|--|-------------|
| Household devices | <u>A47J</u> |
| Treatment of grain | <u>B02B</u> |
| Processing sugar containing produce | <u>C13B</u> |

Informative references

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

| Machines for cutting straw or fodder | A01F 29/00 |
|--|-------------|
| Disintegrating, e.g. shredding in general | B02C |
| Severing, e.g. cutting, splitting, slicing | B26B, B26D |
| Extracting presses in general | <u>B30B</u> |

A23N 1/00

Machines or apparatus for extracting juice (preparation of non-alcoholic beverages, e.g. by adding ingredients to fruit or vegetable juices, <u>A23L 2/00</u>; apparatus for making beverages <u>A47J 31/00</u> {; centrifuges <u>B04B</u>}; extracting presses <u>B30B</u>)

References

Limiting references

| Extraction of juice (processes) | A23L 2/04 |
|--|------------|
| Household devices for extracting juice | A47J 19/00 |
| Production of sugar juices | C13B 10/00 |

Informative references

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

| Preparation of non-alcoholic beverages, e.g. by adding ingredients to fruit or vegetable juices | A23L 2/00 |
|---|-------------|
| Apparatus for making beverages | A47J 31/00 |
| Centrifuges as such | <u>B04B</u> |
| Extracting presses in general | <u>B30B</u> |

Special rules of classification

Apparatus for post-harvest processing of fruit, vegetables or flower bulbs in bulk, or on an industrial scale (A23N 1/00 - A23N 15/00); Apparatus for preparing fodder for feeding animals (A23N 17/00)

A23N 1/003

{especially for citrus fruits}

Definition statement

This place covers:

Machines or apparatus for extracting juice in bulk, or on an industrial scale, dedicated for citrus fruit

References

Limiting references

This place does not cover:

| Extraction processes of juice from citrus fruit | A23L 2/06 |
|---|------------|
| Household devices | A47J 19/00 |

A23N 3/00

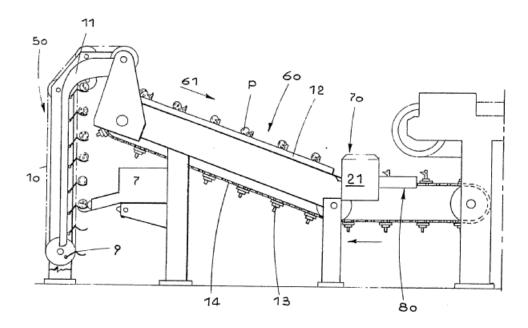
Machines for coring or stoning fruit, characterised by their feeding device (A23N 4/00 takes precedence {; kitchen devices for stoning fruit A47J 25/00})

Definition statement

This place covers:

Machines for coring or stoning fruit in bulk, or on an industrial scale, characterised by their feeding device

Illustrative example of subject matter classified in this group:



(source: Fig. 4 of EP0056790 A1)

References

Limiting references

This place does not cover:

| Machines for coring or stoning characterised by their stoning or seed removing device | A23N 4/00 |
|---|------------|
| Kitchen devices for stoning fruit | A47J 25/00 |

Informative references

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

| | - |
|-----------|--------------|
| Convovore | P65C |
| Conveyors | <u> </u> |
| | |

A23N 3/02

with feeder-drums

References

Informative references

| Screw or rotary spiral conveyors | B65G 33/00 |
|----------------------------------|------------|
|----------------------------------|------------|

A23N 3/04

with endless feeder-belts

References

Informative references

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

| Conveyors having endless load-conveying surfaces | B65G 15/00 |
|--|------------|
|--|------------|

A23N 3/06

with feeder-tables

References

Informative references

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

| Conveyors comprising a cyclically-moving, e.g. reciprocating, carrier or | B65G 25/00 |
|--|------------|
| impeller which is disengaged from the load during the return part of its | |
| movement | |

A23N 4/00

Machines for stoning fruit or removing seed-containing sections from fruit, characterised by their stoning or removing device (for peeling fruit and removing seed-containing sections A23N 7/08; domestic devices for stoning fruit A47J 23/00, for coring fruit A47J 25/00)

Definition statement

This place covers:

Machines for stoning fruit or removing seed-containing sections from fruit in bulk, or on an industrial scale, characterised by their stoning or removing device

References

Limiting references

This place does not cover:

| Apparatus for peeling fruit and removing seed-containing sections for coring fruit | A23N 7/08 |
|--|------------|
| Domestic devices for stoning fruit | A47J 23/00 |
| Domestic devices for coring fruit | A47J 25/00 |

Informative references

| Apparatus for peeling fruit and removing seed-containing sections | A23N 7/08 |
|---|------------|
| Arrangements for guiding hand cutting tools in general | B26B 29/06 |

Informative references

| Cutters in general | B26D 1/00 |
|---|-------------|
| Details of apparatus for cutting, cutting-out, stamping-out, punching, perforating, or severing by means other than cutting | B26D 7/00 |
| Punching tools or dies, cutting-out knives or dies in general | <u>B26F</u> |

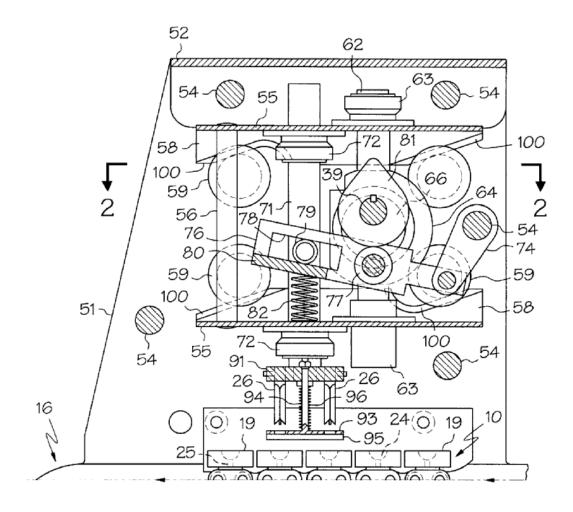
A23N 4/02

for stoning fruit

Definition statement

This place covers:

Machines for stoning fruit in bulk, or on an industrial scale, characterised by their stoning device Illustrative example of subject matter classified in this group:



(source: Fig. 1 of US5992310 A)

References

Limiting references

| Peeling fruit and removing seed-containing sections for coring fruit | A23N 7/08 |
|--|-----------|
|--|-----------|

Limiting references

| Domestic devices for stoning fruit | A47J 23/00 |
|------------------------------------|------------|
|------------------------------------|------------|

Informative references

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

| Peeling fruit and removing seed-containing sections | A23N 7/08 |
|---|-----------|
| Details of apparatus for cutting, cutting-out, stamping-out, punching, perforating, or severing by means other than cutting | B26D 7/00 |

Synonyms and Keywords

| Stone | core, kernel, nut, seed |
|-------|-------------------------|
| | , , , , |

A23N 4/12

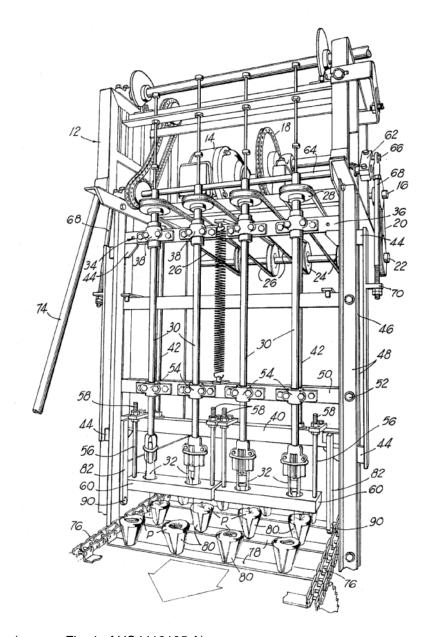
for coring fruit {(for household appliances B26B)}

Definition statement

This place covers:

Machines for removing seed-containing sections from fruit in bulk, or on an industrial scale, characterised by their removing device, and not suitable for stoning

Illustrative example of subject matter classified in this group:



(source: Fig. 1 of US4416195 A)

References

Limiting references

This place does not cover:

| Peeling fruit and removing seed-containing sections for coring fruit | A23N 7/08 |
|--|------------|
| Domestic devices for stoning fruit | A47J 23/00 |
| Domestic devices for coring fruit | A47J 25/00 |

Informative references

| Peeling fruit and removing seed-containing sections A23N 7/08 | eling fruit and removing seed-containing sections | |
|--|---|--|
|--|---|--|

| For household appliances | <u>B26B</u> |
|---|-------------|
| Details of apparatus for cutting, cutting-out, stamping-out, punching, perforating, or severing by means other than cutting | B26D 7/00 |

A23N 5/00

Machines for hulling, husking or cracking nuts {(household nutcrackers A47J 43/26)}

Definition statement

This place covers:

Machines for hulling, husking or cracking nuts in bulk, or on an industrial scale

References

Limiting references

This place does not cover:

| Household nutcrackers | A47J 43/26 |
|-----------------------|------------|
|-----------------------|------------|

A23N 5/004

{for palmnuts (A23N 5/002 and A23N 5/08 take precedence)}

Definition statement

This place covers:

Machines for hulling, husking or cracking of in particular palmnuts in bulk, or on an industrial scale

References

Limiting references

This place does not cover:

| Machines for skinning nut kernels | A23N 5/002 |
|---|------------|
| Machines for removing fleshy or fibrous hulls of nuts | A23N 5/08 |
| Household nutcrackers | A47J 43/26 |

A23N 5/006

{for chestnuts (A23N 5/002 and A23N 5/08 take precedence)}

Definition statement

This place covers:

Machines for hulling, husking or cracking chestnuts in bulk, or on an industrial scale

Limiting references

This place does not cover:

| Machines for skinning nut kernels | A23N 5/002 |
|---|------------|
| Machines for removing fleshy or fibrous hulls of nuts | A23N 5/08 |
| Household nutcrackers | A47J 43/26 |

A23N 5/008

{for almonds (A23N 5/002 and A23N 5/08 take precedence)}

Definition statement

This place covers:

Machines for hulling, husking for almonds etc. in bulk, or on an industrial scale

References

Limiting references

This place does not cover:

| Machines for skinning nut kernels | A23N 5/002 |
|---|------------|
| Machines for removing fleshy or fibrous hulls of nuts | A23N 5/08 |
| Household nutcrackers | A47J 43/26 |

Special rules of classification

other nuts with like processes: cashew nuts

A23N 5/08

for removing fleshy or fibrous hulls of nuts (for peanuts A23N 5/01)

Definition statement

This place covers:

Machines for removing fleshy or fibrous hulls of nuts in bulk or on an industrial scale

References

Limiting references

| Stoning of fruit in general | A23N 4/02 |
|---|-----------|
| Machines for removing the hull from peanuts | A23N 5/01 |

A23N 7/00

Peeling vegetables or fruit (devices for skinning onions <u>A23N 15/08</u>; {peeling by non-mechanical means <u>A23P</u>}; peeling machines of the household type <u>A47J 17/00</u>)

Definition statement

This place covers:

Machines for peeling vegetables or fruit in bulk, or on an industrial scale

References

Limiting references

This place does not cover:

| Devices for skinning onions | A23N 15/08 |
|--|-------------|
| Peeling by non-mechanical means | <u>A23P</u> |
| Peeling machines of the household type | A47J 17/00 |

Informative references

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

| Splitting layers from work by peeling off | B26D 3/28 |
|---|-----------|
|---|-----------|

Synonyms and Keywords

| Peel | outer skin of fruit and vegetables |
|------|------------------------------------|
|------|------------------------------------|

A23N 7/002

{Peeling pinaeapples (A23N 7/005 and A23N 7/01 take precedence)}

Definition statement

This place covers:

Machines for peeling pineapples, in bulk, or on an industrial scale

References

Limiting references

This place does not cover:

| Peeling machines of the household type | A47J 17/00 |
|--|------------|
|--|------------|

Informative references

| Peeling with steam | A23N 7/005 |
|--|------------|
| Peeling using chemical substances, e.g.lye | A23N 7/01 |

A23N 7/02

Peeling potatoes, apples or similarly shaped vegetables or fruit ({A23N 7/005 and} A23N 7/01 take precedence)

Definition statement

This place covers:

Machines for peeling potatoes, apples or similarly shaped vegetables or fruit in bulk, or on an industrial scale

References

Limiting references

This place does not cover:

| Dealth, and the office is a shall the | A 47 L 47/00 |
|--|--------------|
| Peeling machines of the household type | A47J 17/00 |

Informative references

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

| Peeling with steam | A23N 7/005 |
|--|------------|
| Peeling using chemical substances, e.g.lye | A23N 7/01 |
| Cutting of fruit | B26D 3/26 |

A23N 7/04

Peeling asparagus ({A23N 7/005 and} A23N 7/01 take precedence)

Definition statement

This place covers:

Machines for peeling asparagus in bulk, or on an industrial scale

References

Limiting references

This place does not cover:

| Peeling with steam | A23N 7/005 |
|--|------------|
| Peeling using chemical substances, e.g.lye | A23N 7/01 |
| Peeling machines of the household type | A47J 17/00 |

Informative references

| | * |
|------------------|------------------|
| Cutting of fruit | <u>B26D 3/26</u> |

A23N 7/10

Driving mechanisms

Definition statement

This place covers:

Driving mechanisms used in machines for peeling vegetables or fruit in bulk, or on an industrial scale

Relationships with other classification places

Cutting devices in general **B26D**

References

Limiting references

This place does not cover:

| Peeling machines of the household type | A47J 17/00 |
|--|------------|
|--|------------|

A23N 11/00

Removing pith from stems

Definition statement

This place covers:

Apparatus for removing pith from stems

References

Limiting references

This place does not cover:

| Coring of fruit or vegetables | A23N 4/12 |
|-------------------------------|-----------|

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| Pith | The soft internal tissue of a plant part; esp. a central cylinder of |
|------|--|
| | parenchyma in a stem or root |

A23N 12/00

Machines for cleaning, blanching, drying or roasting fruits or vegetables, e.g. coffee, cocoa, nuts (methods for treating, e.g. roasting, coffee or cocoa, A23F, A23G; cleaning, e.g. washing, or drying grain B02B 1/00; separating solids from solids for cleaning B07B; cleaning in general B08B; heating devices per se, see the relevant classes, e.g. F24; drying machines in general F26B)

Definition statement

This place covers:

Machines for cleaning, blanching, drying or roasting fruits or vegetables, e.g. coffee, cocoa, nuts in bulk, or on an industrial scale

Relationships with other classification places

Devices and methods for treating, e.g. roasting, coffee or cocoa, <u>A23F</u>, <u>A23G</u>, as far as they also allow processing other matter of plant origin

References

Informative references

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

| Roasting, coffee or cocoa | <u>A23F</u> , <u>A23G</u> |
|--|---------------------------|
| Cleaning, e.g. washing, or drying grain | B02B 1/00 |
| Separating solids from solids for cleaning | <u>B07B</u> |
| Cleaning in general | <u>B08B</u> |
| Heating devices per se, see the relevant classes | <u>F24</u> |
| Drying machines in general | <u>F26B</u> |

A23N 12/02

for washing or blanching (<u>A23N 12/06</u> takes precedence; blanching methods A23B 7/06)

Definition statement

This place covers:

Machines for washing or blanching fruits or vegetables on an industrial scale; with or without washing aids, such as brushes etc.

References

Limiting references

| Combined with subsequent drying | A23N 12/06 |
|---|------------|
| Domestic devices for washing vegetables or the like | A47J 43/24 |
| Washing grain | B02B 1/04 |

Informative references

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

| Blanching methods | A23B 7/06 |
|--|-----------|
| Washing granular, powdered or lumpy materials or wet separating in general | B03B 5/00 |

A23N 12/04

for blanching

Definition statement

This place covers:

Machines for blanching (exclusively)

Relationships with other classification places

Documents relating to blanching methods in <u>A23B 7/06</u> may also comprise claims to blanching machines

References

Limiting references

This place does not cover:

|--|

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| Blanching | short term heating for inactivating enzymes, removing gas |
|-----------|---|
| | inclusions, etc. |

Synonyms and Keywords

| Inactivating de-activating, de-naturing | Inactivating | de-activating, de-naturing |
|---|--------------|----------------------------|
|---|--------------|----------------------------|

A23N 12/08

for drying or roasting (A23N 12/06 takes precedence)

Definition statement

This place covers:

Machines for drying or roasting of fruit and vegetables in bulk, or on an industrial scale

References

Limiting references

| Machines for washing or blanching, combined with subsequent drying | A23N 12/06 |
|--|---------------|
| macrimide for macriming of blandining, combined man cabecquerit drying | 7 12011 12/00 |

Limiting references

| Beverage-making apparatus with incorporated grinding or roasting means for coffee | A47J 31/42 |
|---|------------|
| Coffee mills combined with roasting devices | A47J 42/52 |

Informative references

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

| Domestic devices for roasting | <u>A47J 37/00</u> |
|-------------------------------|-------------------|
|-------------------------------|-------------------|

A23N 15/00

Machines or apparatus for other treatment of fruits or vegetables for human purposes; Machines or apparatus for topping or skinning flower bulbs {(treatment of coffee, other than drying or roasting A23F; treatment of cocoa A23G 1/02)}

References

Limiting references

This place does not cover:

| Machines for processing fruit or vegetables, as defined therein | A23N 12/00 |
|---|------------|
| Machines for treatment of cocoa | A23G 1/02 |

Informative references

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

| Treatment of tea or coffee, other than drying or roasting | <u>A23F</u> |
|---|-------------|
|---|-------------|

Special rules of classification

Machines or apparatus for other treatment of fruits or vegetables for human purposes in bulk, or on an industrial scale, not provided for in other subclasses (A23N 15/02 - A23N 15/06);

Machines or apparatus for topping or skinning flower bulbs in bulk, or on an industrial scale (A23N 15/08)

A23N 15/02

for stemming, piercing, or stripping fruit {(for household appliances A47J 21/00)}; Removing sprouts of potatoes

Definition statement

This place covers:

Machines for stemming, piercing, or stripping fruit in bulk, or on an industrial scale; Removing sprouts of potatoes

Limiting references

This place does not cover:

| Vintaging machines | A01D 46/28 |
|--|------------|
| Household appliances for removing stalks | A47J 21/00 |

Informative references

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

| Separating solids in general | <u>B07B</u> |
|------------------------------|-------------|
| 1 | |

A23N 15/04

Devices for topping fruit or vegetables (topping onions A23N 15/08)

Definition statement

This place covers:

Devices for topping fruit or vegetables in bulk, or on an industrial scale

Relationships with other classification places

Cutting in general **B26D**

References

Limiting references

This place does not cover:

| Machines for topping onions | A23N 15/08 |
|-----------------------------|------------|
|-----------------------------|------------|

Informative references

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

| Cutting fruit or vegetables in general | B26D 3/26 |
|--|-----------|
|--|-----------|

A23N 15/06

Devices for other treatment of fruit, e.g. marking, maturing, polishing

Definition statement

This place covers:

Devices for other post-harvest treatment of fruit e.g. marking, maturing, polishing in bulk, or on an industrial scale

Limiting references

This place does not cover:

| , | A23N 15/00 - A23N 15/04; A23N 15/08 |
|---|--|
| | - <u>A23N 15/10</u> |

Special rules of classification

Only to be used when none of the other classes in A23N, A01D applies, and the document is directed to processing fruit or vegetables only

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| polishing | providing the surface with a smoother and, if possible, shiny |
|-----------|---|
| | appearance, in particular by polishing aids such as cloths etc. |

A23N 15/08

Devices for topping or skinning onions or flower bulbs

Definition statement

This place covers:

Devices for topping or skinning onions or flower bulbs in bulk, or on an industrial scale

Relationships with other classification places

Cutting in general B26D

References

Informative references

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

| Topping fruit or vegetables in general | A23N 15/04 |
|--|------------|
| Cutting fruit or vegetables in general | B26D 3/26 |

A23N 15/10

for shelling peas or beans

Definition statement

This place covers:

Devices for shelling peas or beans

Relationships with other classification places

Combine harvesters: A01D 41/00, may comprise shelling devices

Limiting references

This place does not cover:

| Apparatus for shelling peanuts <u>A23N 5/01</u> |
|---|
|---|

Informative references

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

| Apparatus for shelling of nuts | A23N 5/00 |
|--------------------------------|-----------|
|--------------------------------|-----------|

A23N 17/00

Apparatus specially adapted for preparing animal feeding-stuffs {(automatic devices for the distribution of liquid fodder for stock or game A01K 5/0216; sucking apparatus for young stock A01K 9/00)}

Definition statement

This place covers:

Apparatus specially adapted for preparing animal feeding-stuffs in bulk, or on industrial scale

Relationships with other classification places

apparatus for working or shaping of foodstuff in general: A23P

References

Limiting references

This place does not cover:

| Preparation methods for animal feeding-stuffs, and their products: | <u>A23K</u> |
|--|-------------|
| | |

Informative references

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

| Automatic devices for the distribution of liquid fodder for stock or game | A01K 5/0216 |
|---|-------------|
| Sucking apparatus for young stock | A01K 9/00 |

A23N 17/001

{by treating with chemicals, e.g. ammoniac, sodium hydroxide (processes A23K 10/32)}

Definition statement

This place covers:

Apparatus specially adapted for preparing animal feeding-stuffs in bulk, by treating with chemicals, e.g. ammoniac, sodium hydroxide

Informative references

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

| Related processes | A23K 10/32- A23K 20/30, |
|-------------------|-------------------------|
| | A23K 50/00- A23K 50/90 |

A23N 17/002

{for treating of meat, fish waste or the like}

Definition statement

This place covers:

Apparatus specially adapted for treating of meat, fish waste or the like for preparing animal feedingstuffs in bulk

Relationships with other classification places

Apparatus for processing meat, fish etc. for human consumption: A22C

References

Limiting references

This place does not cover:

| Animal feeding stuffs from meat, fish or bones | A23K 10/20- A23K 10/26 |
|--|------------------------|
|--|------------------------|

A23N 17/004

{for treating by application of heat, e.g. by means of potato cookers (drying F26B)}

Definition statement

This place covers:

Apparatus specially adapted for preparing animal feeding-stuffs with treating by application of heat, e.g. by means of potato cookers

References

Limiting references

This place does not cover:

| Proportion of materials to produce enimal feeding stuffs | A23K 30/00 |
|--|------------|
| Preservation of materials to produce animal feeding-stuffs | A23K 30/00 |

Informative references

| Drying and roasting of fruit or vegetables | A23N 12/08 |
|--|-------------|
| Drying apparatus in general | <u>F26B</u> |

A23N 17/005

{for shaping by moulding, extrusion, pressing, e.g. pellet-mills (processes A23K 40/00; presses in general B30B)}

Definition statement

This place covers:

Apparatus specially adapted for preparing animal feeding-stuffs with shaping by moulding, extrusion, pressing, e.g. pellet-mills

References

Limiting references

This place does not cover:

| Processes for shaping animal foods and their products | A23K 40/00 |
|---|------------|

Informative references

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

| Apparatus for shaping or moulding of foodstuff in general | A23P 30/00 |
|---|-------------|
| Shaping of materials in general: | <u>B29C</u> |
| Presses in general | <u>B30B</u> |

A23N 17/007

{for mixing feeding-stuff components}

Definition statement

This place covers:

Apparatus specially adapted for mixing feeding-stuff components in bulk

References

Limiting references

This place does not cover:

| Fodder distributors with mixers or shredders | A01K 5/001 |
|--|------------|

Informative references

| Mixing in general | <u>B01F</u> |
|-------------------|-------------|
|-------------------|-------------|

A23N 17/02

Fodder mashers (household implements for mashing potatoes or other foodstuffs A47J 19/04)

Definition statement

This place covers:

Fodder mashers for producing animal foodstuffs in bulk, e.g. in industrial scale

References

Limiting references

This place does not cover:

| Household implements for mashing potatoes or other foodstuffs | A47J 19/04 |
|---|------------|
|---|------------|

Informative references

| Crushing or disintegrating in general | <u>B02C</u> |
|---------------------------------------|-------------|
|---------------------------------------|-------------|