B21L

MAKING METAL CHAINS (making chains or chain links by casting B22D 25/02; chains in general F16G)

Definition statement

This place covers:
Methods and devices for making metal chains essentially by metal forming operations (e.g. bending, cutting, assembling), eventually by welding.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forging members of endless tracks</td>
<td>B21K 23/02</td>
</tr>
<tr>
<td>Making chains or chain links by casting</td>
<td>B22D 25/02</td>
</tr>
</tbody>
</table>

Informative references

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

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chains in general</td>
<td>F16G</td>
</tr>
</tbody>
</table>

B21L 1/00

Making chains or chain links by bending workpieces of rod, wire, or strip to form links of oval or other simple shape (B21L 3/00, B21L 7/00 take precedence)

Definition statement

This place covers:
Methods and devices for making chains or chain links by bending work-pieces of rod, wire or strip to form links of oval or other simple shape.

Source: GB644151

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making chains or chain links by bending and subsequently welding or soldering the abutting ends.</td>
<td>B21L 3/00</td>
</tr>
<tr>
<td>Making chains or chain links by bending into a coil and cutting single loops or loop parts from said coil</td>
<td>B21L 7/00</td>
</tr>
</tbody>
</table>
**B21L 1/02**

**by bending the ends of the workpieces to abut**

**Definition statement**

*This place covers:*

Methods and devices for making chains or chain links by bending the ends of workpieces to abut.

Source: US4694644

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**B21L 1/04**

**by bending and interconnecting the ends of the workpieces with or without separate jointing members**

**Definition statement**

*This place covers:*

Methods and devices for making chains or chain links by bending and interconnecting the ends of workpieces with or without separate jointing members.

Source: GB2324163
**B21L 3/00**

Making chains or chain links by bending the chain links or link parts and subsequently welding or soldering the abutting ends (*B21L 7/00* takes precedence)

**Definition statement**

*This place covers:*

Methods and devices for making chains or chain links by bending the chain links or link parts and subsequently welding or soldering the abutting ends.

![Fig. 4](image)

Source: EP2219803

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>B21L 3/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making chains or chain links by bending into a coil and cutting single loops or loop parts from coil and subsequently welding</td>
</tr>
</tbody>
</table>

**B21L 3/02**

Machines or devices for welding chain links

**Definition statement**

*This place covers:*

Methods and devices for welding chain links.

![image](image)

Source: DE10331400
**B21L 3/04**

by making use of forge or pressure welding

**Definition statement**

*This place covers:*

Methods and devices for welding chain links by making use of forge or pressure welding.

Source: GB689391

**B21L 5/00**

Making chains or chain links by working the starting material in such a way that integral, i.e. jointless, chains links are formed

**Definition statement**

*This place covers:*

Methods and devices for making chains or chain links by working the starting material in such a way that integral, i.e. jointless, chains links are formed.

**B21L 5/02**

in such a way that interconnected links are formed

**Definition statement**

*This place covers:*

Methods and devices for making chains or chain links by working the starting material in such a way that integral, i.e. jointless, chains links are formed in an interconnected manner.

Source: GB361952
B21L 7/00
Making chains or chain links by cutting single loops or loop-parts from coils, assembling the cut parts and subsequently subjecting same to twisting with or without welding

Definition statement
This place covers:
Methods and devices for making chains or chain links by cutting single loops or loop-parts from coils, assembling the cut parts and subsequently subjecting same to twisting with or without welding.

Source: US6389790

B21L 9/00
Making chains or chain links, the links being composed of two or more different parts, e.g. drive chains (B21L 1/04, B21L 7/00, B21L 11/14, B21L 13/00 take precedence)

Definition statement
This place covers:
Methods and devices for making chains or chain links, the links being composed of two or more different parts, e.g. drive chains.

Source: US4118995
References

Informative references

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

<table>
<thead>
<tr>
<th>Method</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making chains or chain links by bending work-pieces and interconnecting the ends.</td>
<td>B21L 1/04</td>
</tr>
<tr>
<td>Making chains or chain links by bending and cutting single loops or loop parts from coils.</td>
<td>B21L 7/00</td>
</tr>
<tr>
<td>Making chains or chain links with inserted or integrally formed studs</td>
<td>B21L 11/14</td>
</tr>
<tr>
<td>Making terminal or intermediate chain links of special shapes.</td>
<td>B21L 13/00</td>
</tr>
<tr>
<td>Load carrier chains</td>
<td>B65G14/40</td>
</tr>
<tr>
<td>Endless traction elements in conveyors</td>
<td>B65G 17/08</td>
</tr>
</tbody>
</table>

B21L 9/02

of roller-chain or other plate-link type

Definition statement

This place covers:

Methods and devices for making roller-chains or other plate-link type chains.

Source. US2007032325
B21L 9/04

Punching or bending the different parts of the chain links

Definition statement

This place covers:

Methods and devices for punching or bending the different parts of the chain links.

Source: FR2795474

References

Informative references

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

<table>
<thead>
<tr>
<th>Making belts from metal sheet</th>
<th>B21D 53/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forging members of endless tracks</td>
<td>B21K 23/02</td>
</tr>
</tbody>
</table>
B21L 9/06

Sorting, feeding, assembling, riveting, or finishing parts of chains

Definition statement

This place covers:
Methods and devices for sorting, feeding, assembling, riveting, or finishing parts of chains of the type being composed of two or more different parts.

Source: EP1803511

B21L 9/065

{Assembling or disassembling}

Definition statement

This place covers:
Methods and devices for assembling or disassembling parts of chains of the type being composed of two or more different parts.

Source: JP2008188598
B21L 9/08
Combining the chain links with auxiliary parts, e.g. welding-on wear-resistant parts

Definition statement
This place covers:
Methods and devices for making chains of the type being composed of two or more different parts, wherein the chain links are combined with auxiliary parts, e.g. welded-on wear-resistant parts.

Source: US6068568

B21L 11/00
Making chains or chain links of special shape

Definition statement
This place covers:
Methods and devices for making chains or chain links of special shape.

B21L 11/005
{Making ornamental chains (B21L 11/02 - B21L 11/14 take precedence; ornamental chains A44C)}

Definition statement
This place covers:
Methods and devices for making ornamental chains.

Source: US20090241598
References

Limiting references

This place does not cover:

| Making chains or chain links by bending the ends of work-pieces to abut | B21L 11/02 |
| Making chains or chain links with inserted or integrally formed studs | B21L 11/14 |

Informative references

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

| Ornamental chains | A44C |

B21L 11/02

each link being formed of a single member of which both ends are bent or shaped to engage the middle portions of the next link

Definition statement

This place covers:

Methods and devices for making chains or chain links, wherein each link is formed of a single member of which both ends are bent or shaped to engage the middle portions of the next link.

Source: EP0774086
**B21L 11/04**

**the ends being pierced or punched to form eyes**

**Definition statement**

*This place covers:*

Methods and devices for making chains or chain links, wherein the ends of the links are pierced or punched to form eyes.

Source: DE19715707

**B21L 11/06**

**the workpiece being of thin strip metal**

**Definition statement**

*This place covers:*

Methods and devices for making chains or chain links starting from a thin strip of metal.

Source: US3869856

**References**

**Informative references**

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

| Making belts from metal sheet | B21D 53/14 |
**B21L 11/08**

the ends being interengaged with other parts of the same link

**Definition statement**

*This place covers:*

Methods and devices for making chains or chain links, wherein ends are interengaged with other parts of the same link.

Source: WO0246613

**B21L 11/10**

the chain links having opposed correspondingly shaped cylindrical and hook-like parts of which one parts forms a hinge-like support for the adjacent link *(B21L 11/02 takes precedence)*

**Definition statement**

*This place covers:*

Methods and devices for making chains or chain links wherein the chain links have opposed correspondingly shaped cylindrical and hook-like parts of which one parts forms a hinge-like support for the adjacent link.

Source: WO2007017107

**References**

**Limiting references**

*This place does not cover:*

| Making chains or chain links, wherein each link engages the middle portion of the next link. | B21L 11/02 |
**B21L 11/12**

**Forming bead chains**

**Definition statement**

*This place covers:*

Methods and devices for making bead chains.

Source: EP0565379

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**B21L 11/14**

**Making chain links with inserted or integrally-formed studs**

**Definition statement**

*This place covers:*

Methods and devices for making links with inserted or integrally-formed studs.

Source: EP0736348
**B21L 13/00**

Making terminal or intermediate chain links of special shape; Making couplings for chains, e.g. swivels, shackles

**Definition statement**

*This place covers:*

Methods and devices for making terminal or intermediate chain links of special shape or making couplings for chains, e.g. swivels, shackles.

Source: US6230961

**B21L 15/00**

Finishing or dressing chains or chain links, e.g. removing burr material, calibrating (*B21L 9/06* takes precedence)

**Definition statement**

*This place covers:*

Methods and devices for finishing (e.g. pre-stressing) or dressing chains or chain links, e.g. removing burr material, calibrating.

Source: GB1130249; EP1938916

**References**

*Informative references*

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

| Heat treatments for chain links | C21D 9/0087 |
**B21L 15/02**

**Twisting already closed links**

**Definition statement**

*This place covers:*

Methods and devices for twisting already closed links.

Source: WO0228567

**B21L 19/00**

**Appurtenances for chain-making not restricted to any particular process**

**Definition statement**

*This place covers:*

Appurtenances for chain-making not restricted to any particular process, like e.g. chain feeding or cleaning arrangements.

Source: WO0236288
B21L 21/00
Tools or implements for repairing chains using metal-working operations, e.g. for detaching deformed chain links

Definition statement
This place covers:
Tools or implements for repairing chains using metal-working operations, e.g. for detaching deformed chain links.

Source: US20110179761

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

<table>
<thead>
<tr>
<th>Hand tools for positioning and assembling or detaching sprocket chains, endless tracks or antiskid chains by press fit.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B25B 27/22</td>
</tr>
</tbody>
</table>

B21L 99/00
Subject matter not provided for in other groups of this subclass

Definition statement
This place covers:
Methods and devices for making chains or chain links not provided for in the groups B21L 1/00 - B21L 21/00.