

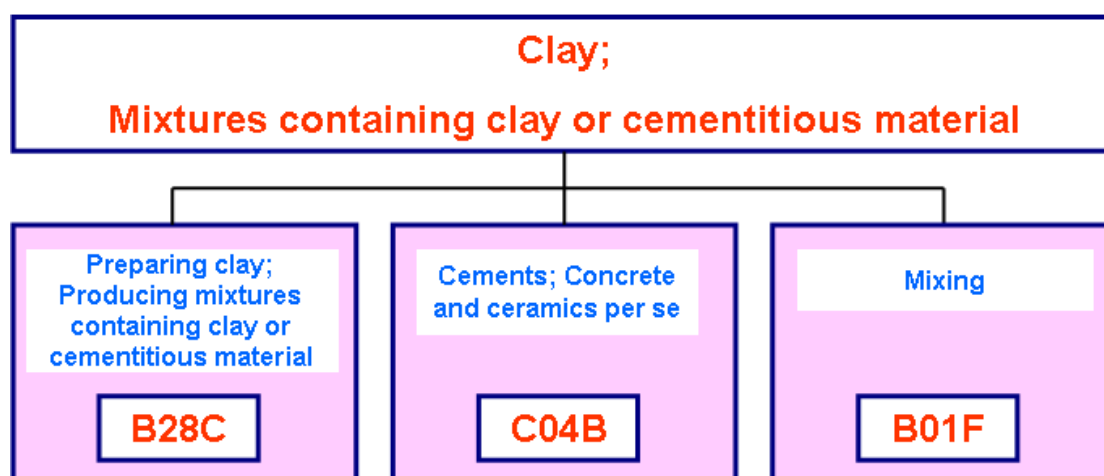
## B28C

**PREPARING CLAY; PRODUCING MIXTURES CONTAINING CLAY OR CEMENTITIOUS MATERIAL, e.g. PLASTER (preparing material for foundry moulds [B22C 5/00](#))**

### Relationships with other classification places

Classification of preparind clay; Producing mixtures containing clay or cementitious material is in this subclass.

Classification of cements; concrete and ceramics per se is classified under [C04B](#). Mixing is classified under [B01F](#).



The preceding image includes references to [B28C](#), [C04B](#), [B01F](#).

### References

#### Limiting references

*This place does not cover:*

Mixers in general	<a href="#">B01F</a>
Concrete paving mixers combined with distributing devices	<a href="#">E01C 19/00</a>
Machines for preparing mixtures of road-metal with bitumen	<a href="#">E01C 19/10</a>

### Glossary of terms

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

Cement	includes plaster
Mixtures of cement with other substances	includes plaster
Clay	includes ceramic compositions

**B28C 1/00**

Apparatus or methods for obtaining or processing clay (filtration in general [B01D](#); separation of solids from solids [B03](#), [B07](#); chemical part [C04B](#); by mining or quarrying [E21C 41/16](#), [E21C 41/26](#), [E21C 47/10](#))

**References****Informative references**

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

Preparing or treating clay; kaolin	<a href="#">C04B 33/04</a>
Treatment of clays	<a href="#">C09C 1/42</a>

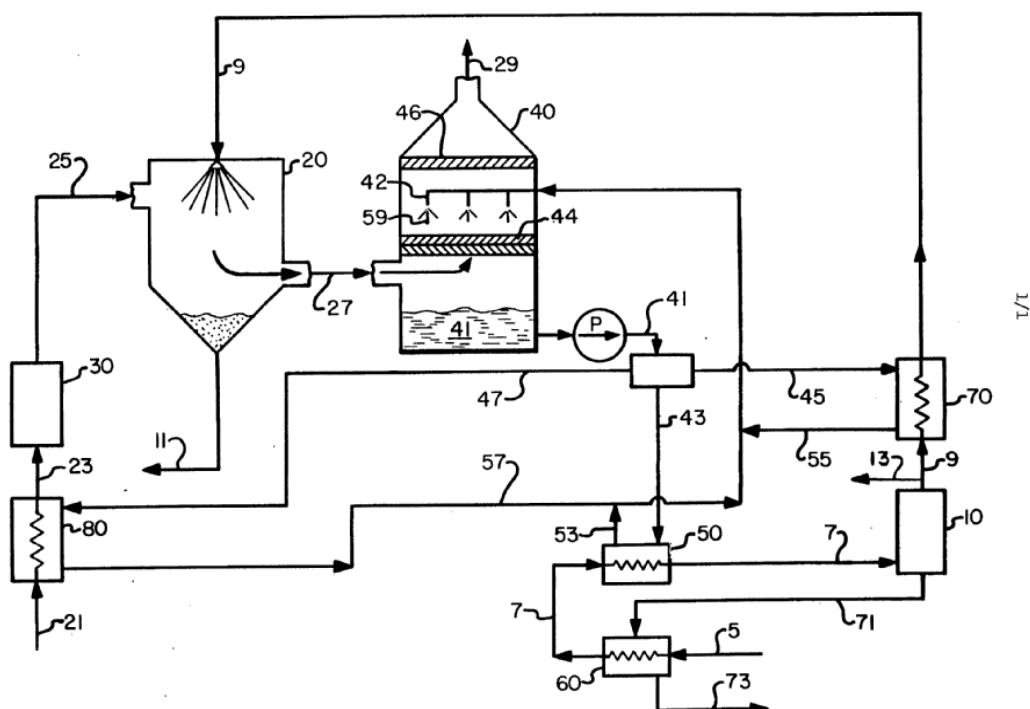
**B28C 1/02**

for producing or processing clay suspensions {, e.g. slip} (producing or processing suspensions in general [B01](#))

**Definition statement**

This place covers:

Illustrative example of subject matter classified in [B28C 1/02](#).



**B28C 1/10**

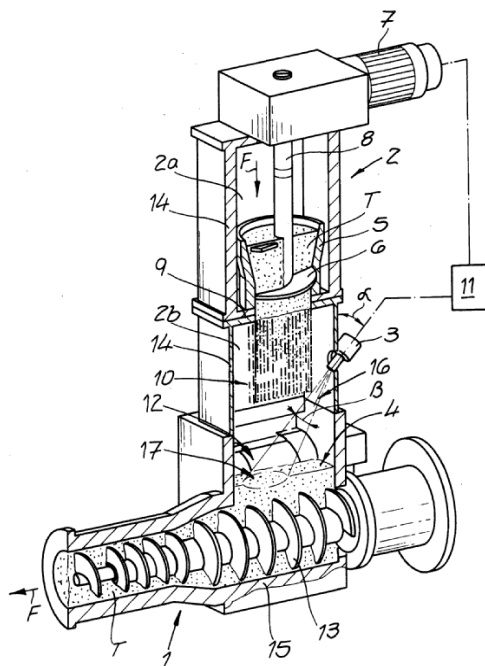
for processing clay-containing substances in non-fluid condition (clay slurries [B28C 1/02](#) ); Plants}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 1/10](#).

DE 20 2009 014 658 U1 2010.03.18  
Anhängende Zeichnungen

**B28C 3/00**

Apparatus or methods for mixing clay with other substances (producing clay suspensions [B28C 1/02](#))

**References****Informative references**

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

Compositions of mortars, concrete or artificial stone containing unburned clay	<a href="#">C04B 28/001</a>
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## B28C 5/00

**Apparatus or methods for producing mixtures of cement with other substances, e.g. slurries, mortars, porous or fibrous compositions (controlling the mixing apparatus and supplying the ingredients [B28C 7/00](#) {; separating cement from waste concrete [B03B 9/063](#)})**

### Special rules of classification

Classification of apparatus or methods for producing mixtures is classified under this subclass.

without using driven mechanical means effecting the mixing is classified under [B28C 5/02](#).

using driven mechanical means effecting the mixing is classified under [B28C 5/08](#).

mixing in containers not actuated is classified under [B28C 5/10](#).

mixing in containers to which motion is imparted is classified under [B28C 5/18](#).

mixing on or by conveyors is classified under [B28C 5/34](#).

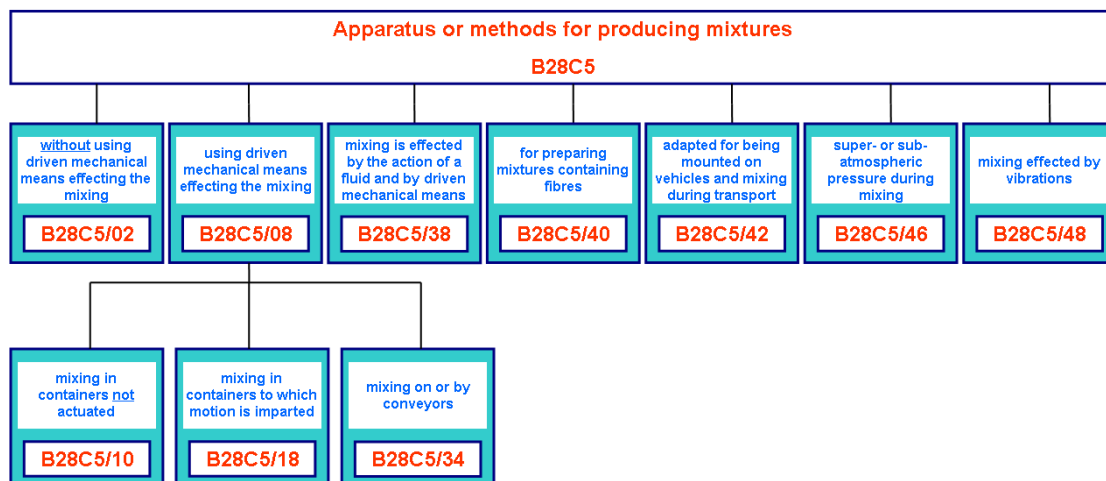
mixing effected by the action of a fluid and by driven mechanical means is classified under [B28C 5/38](#).

for preparing mixtures containing fibres is classified under [B28C 5/40](#).

adapted for being mounted on vehicles and mixing during transport is classified under [B28C 5/42](#).

super-or sub-atmospheric pressure during mixing is classified under [B28C 5/46](#).

mixing effected by vibrations is classified under [B28C 5/48](#).



## B28C 5/02

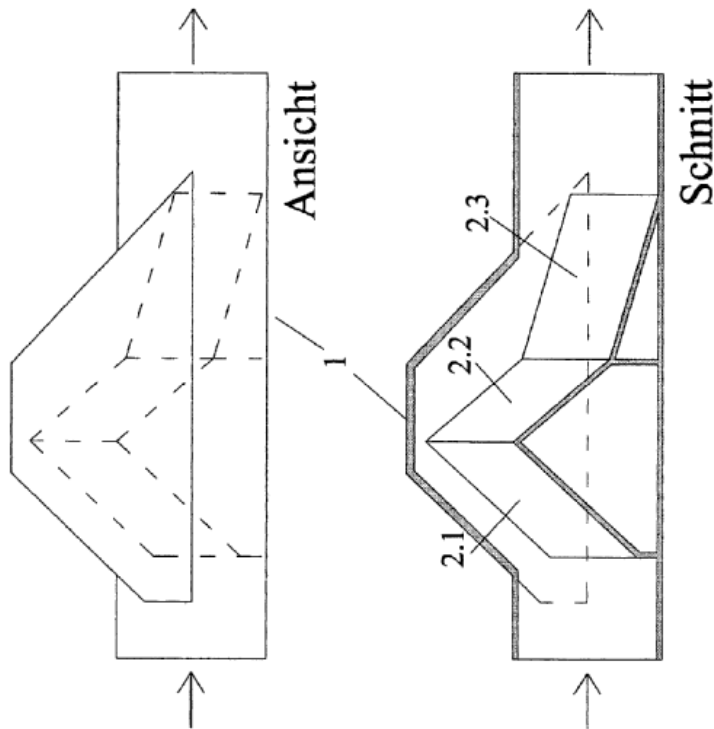
**without using driven mechanical means effecting the mixing ([B28C 5/48](#) takes precedence)**

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/02](#).

EP 1 695 803 A2



## **B28C 5/026**

{Mixing guns or nozzles; Injector mixers (applying plaster by gas pressure [E04F 21/12](#); both conveying and distributing concrete [E04G 21/04](#); conveying concrete [B65G 53/32](#); accelerating or decelerating material flow in troughs or tubes [B65G 53/58](#))}

### **Synonyms and Keywords**

*In patent documents the following words "gunnite", "shotcrete" and "aircrete" are often used.*

## **B28C 5/08**

using driven mechanical means affecting the mixing ([B28C 5/40](#), [B28C 5/42](#), [B28C 5/48](#) take precedence; in combination with the action of a fluid [B28C 5/38](#))

### **Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/08](#).



**B28C 5/10****Mixing in containers not actuated to effect the mixing****Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/10](#).

WO 2009/069162

PCT/IT2007/000840

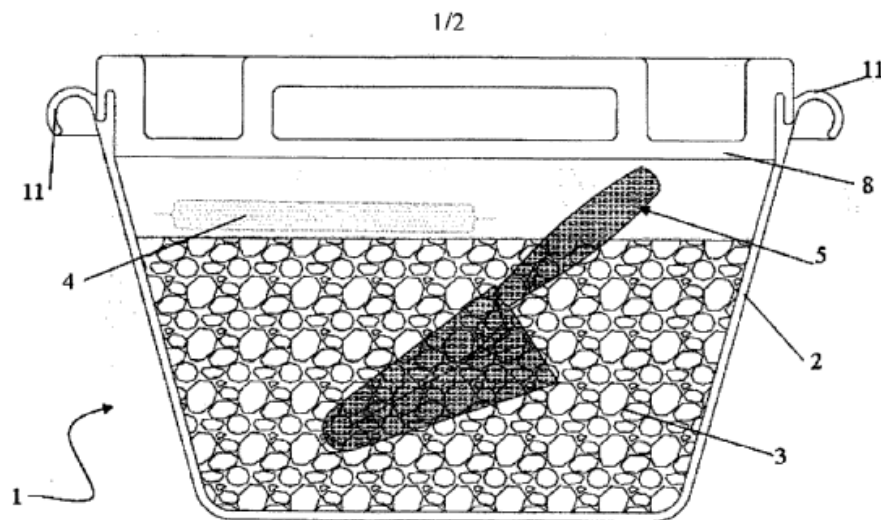


FIG. 1

**Special rules of classification**

Classification of mixing in containers not actuated to effect the mixing is classified in this subclass.

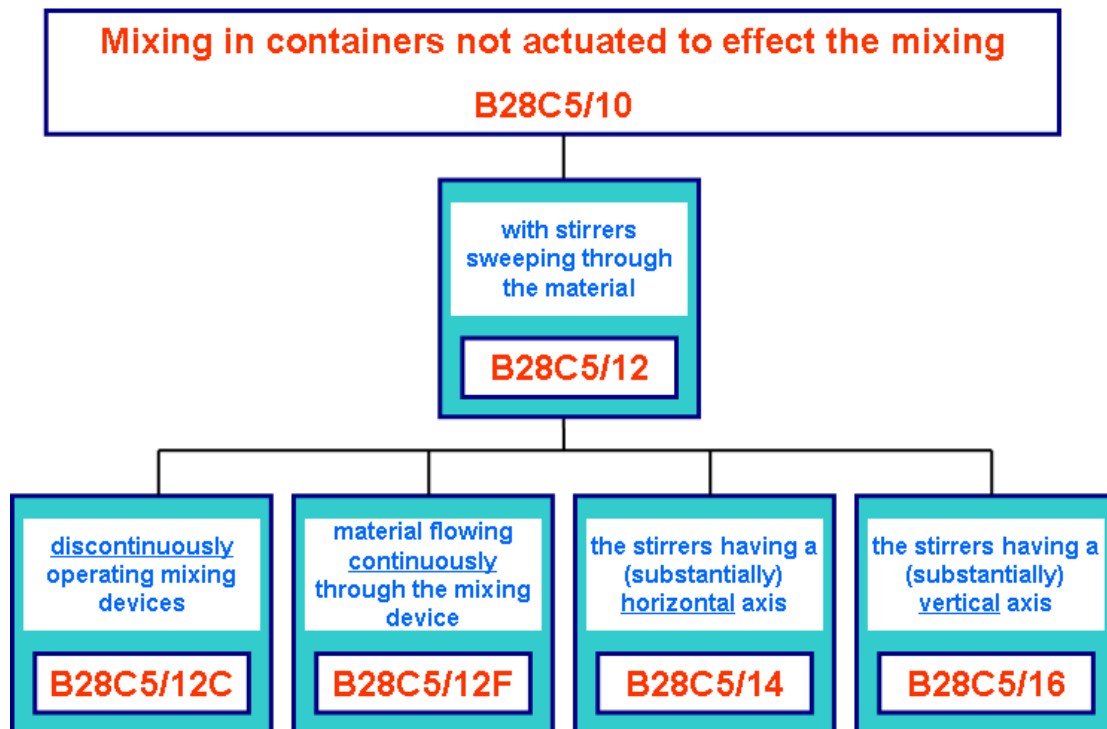
mixing with stirrers sweeping through the material is classified under [B28C 5/12](#).

discontinuously operating mixing devices is classified under [B28C 5/1223](#).

material flowing continuously through the mixing device is classified under [B28C 5/1238](#).

the stirrers having a substantially horizontal axis is classified under [B28C 5/14](#).

the stirrers having a substantially vertical axis is classified under [B28C 5/16](#).



## **B28C 5/12**

with stirrers sweeping through the materials {, e.g. with incorporated feeding or discharging means or with oscillating stirrers}

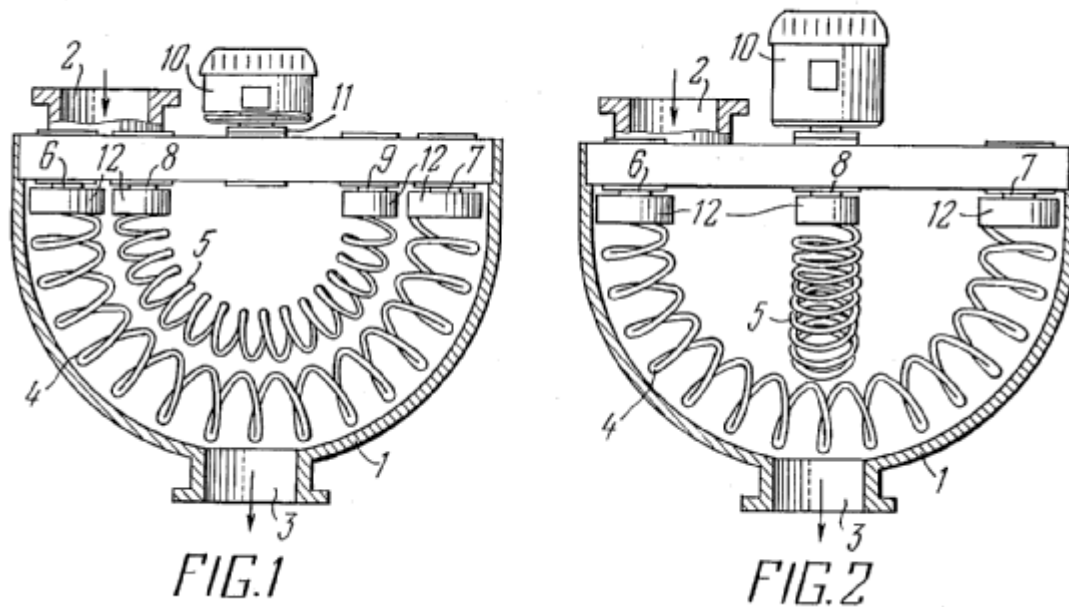
### **Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/12](#).



US 4 827 455 A



## References

### Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Vehicle with moving mixing tools in a stationary container for mixing during transport	<a href="#">B28C 5/4282</a>
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**B28C 5/14**

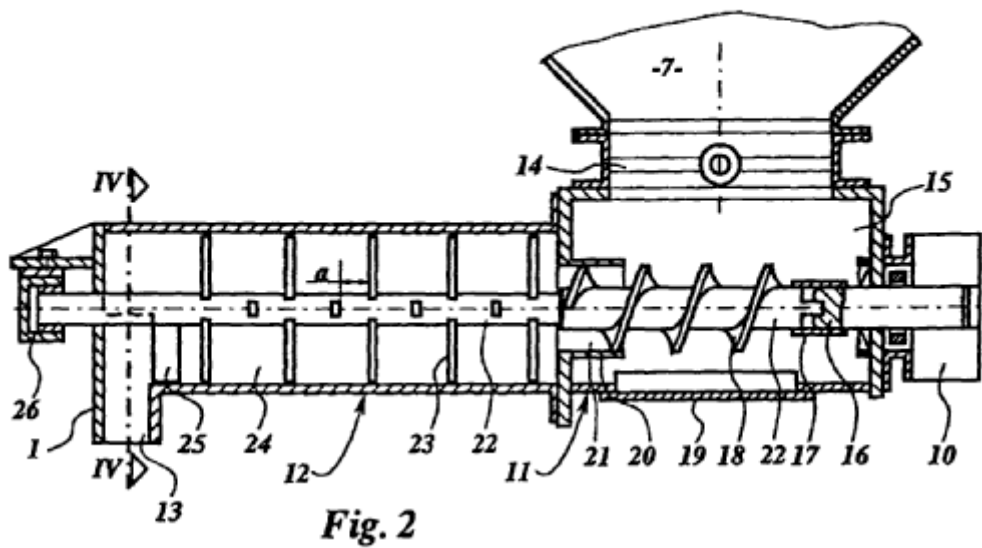
the stirrers having motion about a horizontal or substantially horizontal axis  
 {(with feeding or discharging means [B28C 5/12](#))}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/14](#).

EP 1 023 978 A1



**B28C 5/142**

**{the stirrer shaft carrying screw-blades}**

### Definition statement

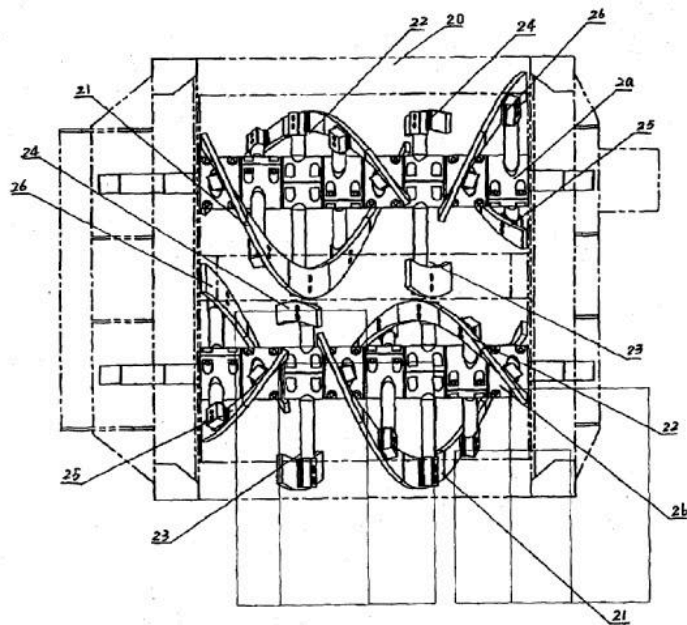
*This place covers:*

Illustrative example of subject matter classified in [B28C 5/142](#).

WO 2011/098013

1/2

PCT/CN2011/070813



**B28C 5/16**

the stirrers having motion about a vertical or steeply inclined axis {(with feeding or discharging means [B28C 5/12](#))}

**Definition statement**

*This place covers:*

WO 98/43726

PCT/AU98/00209

2/10

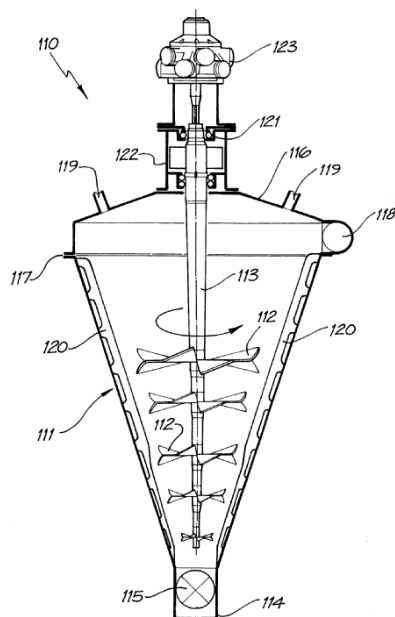


FIG. 2

**B28C 5/18**

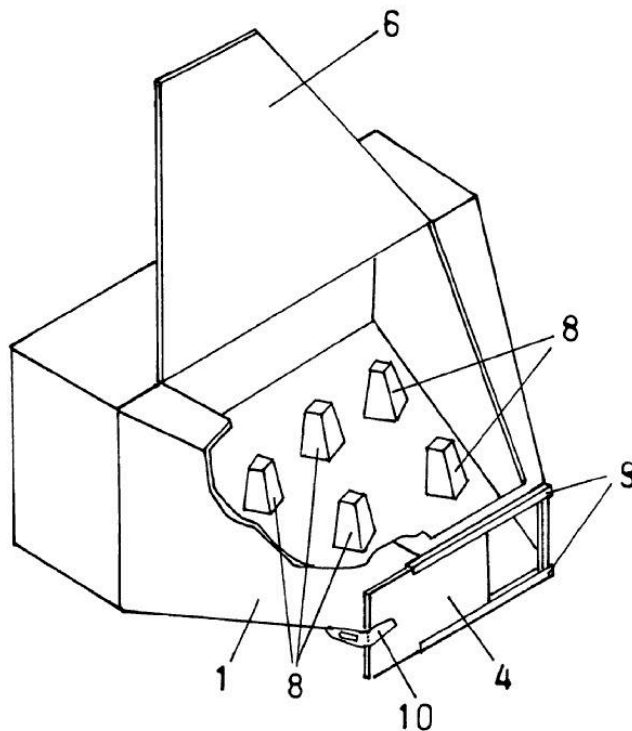
Mixing in containers to which motion is imparted to effect the mixing

**Definition statement**

*This place covers:*

The motion which is imparted to the container to effect the mixing is non-rotational, e.g. rocking back and forth; axial reciprocating movement of the container.

US 2006 227 652 A1



## References

### Application-oriented references

*Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:*

Apparatus specially adapted for being mounted on vehicles with provision for mixing during transport	<a href="#">B28C 5/42</a>
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## Special rules of classification

Mixing in containers to which rotating motion is imparted are to be classified in the hierarchically lower subgroups of the [B28C 5/18](#).

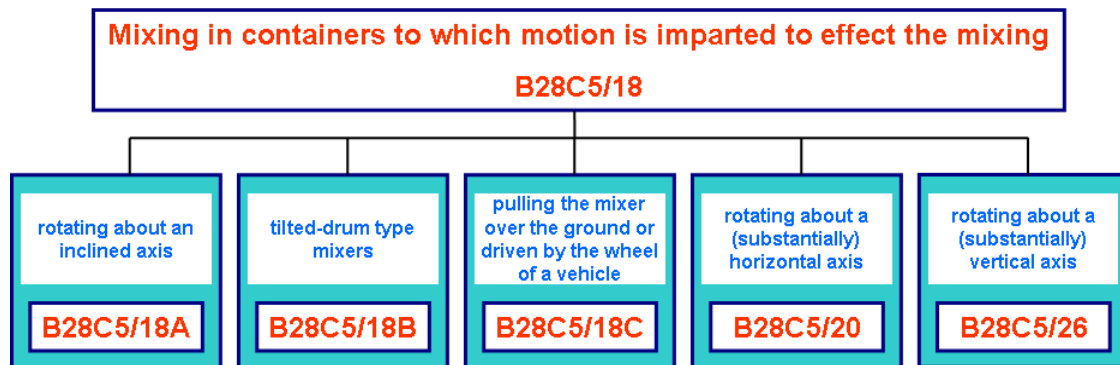
rotating about an inclined axis is classified under [B28C 5/1806](#).

tilted-drum type mixers is classified under [B28C 5/1825](#).

pulling the mixer over the ground or driven by the wheel of a vehicle is classified under [B28C 5/1893](#).

rotating about a (substantially) horizontal axis classified is under [B28C 5/20](#).

rotating about a (substantially) vertical axis is classified under [B28C 5/26](#).



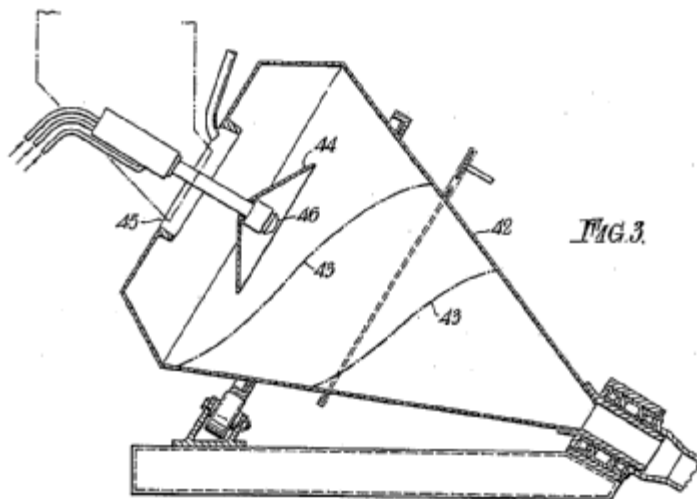
## B28C 5/1806

{rotating about an inclined axis (about a steeply inclined axis [B28C 5/26](#))}

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/1806](#).



## B28C 5/1825

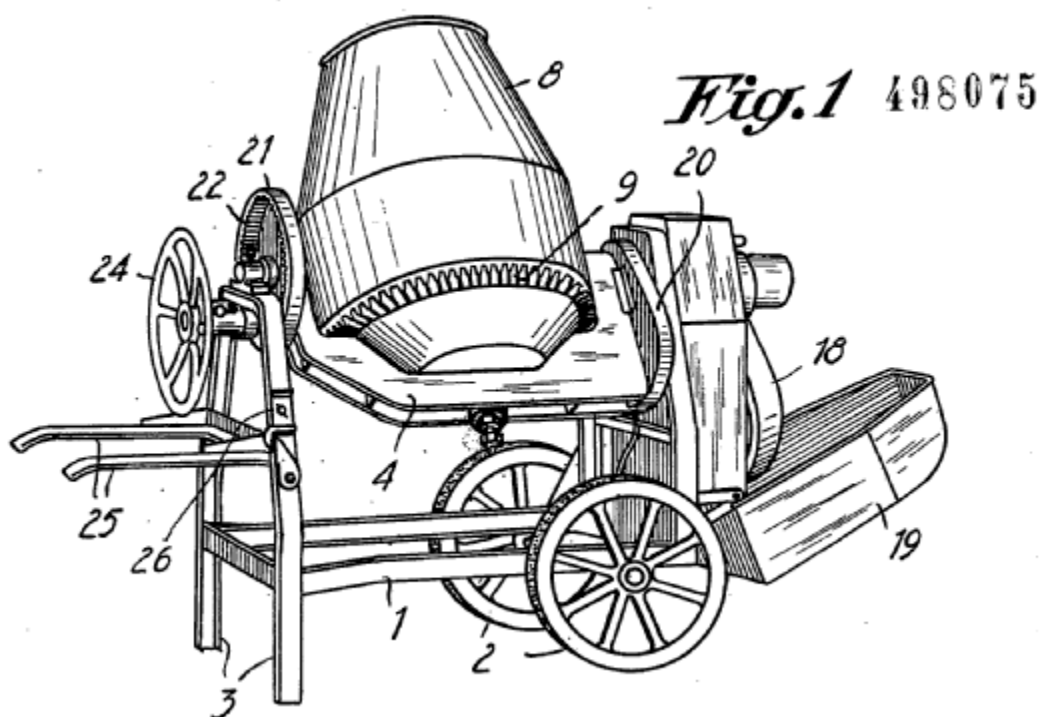
{Mixers of the tilted-drum type, e.g. mixers pivotable about an axis perpendicular to the axis of rotation for emptying}

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/1825](#).

BE 498 075 A



## **B28C 5/1843**

**{having several drums}**

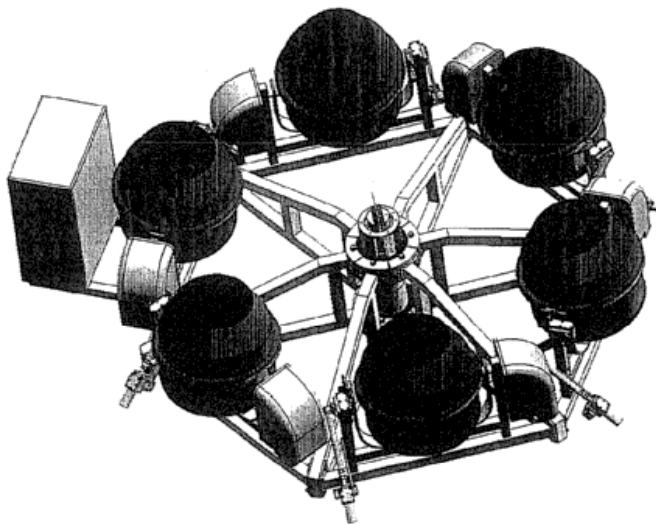
### **Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/1843](#).

CH 699 889 A2

**Fig. 1.1**



## **B28C 5/1893**

**{the mixing drum being rotated by pulling it over the ground; the mixing drum or the stirrer being driven by movement of the wheel of a vehicle}**

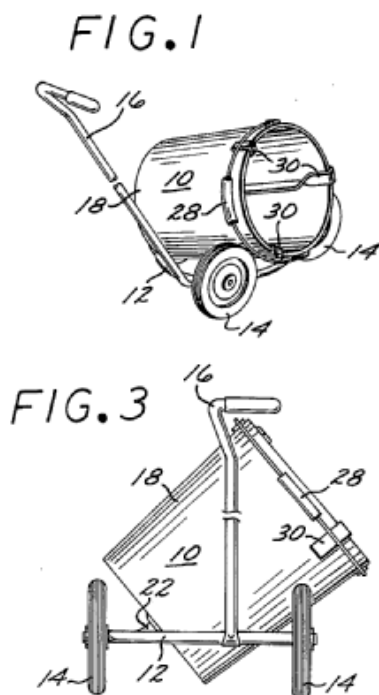
### **Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/1893](#).



US 4 078 263 A



## **B28C 5/20**

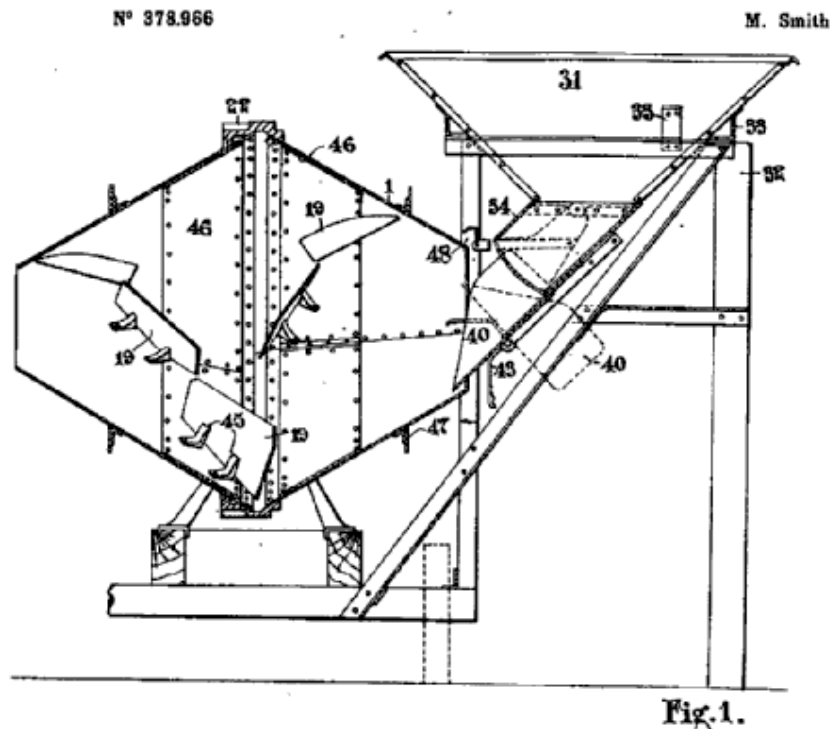
rotating about a horizontal or substantially horizontal axis during mixing, e.g. without independent stirrers

### **Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/20](#).

FR 378 966 A

**B28C 5/26**

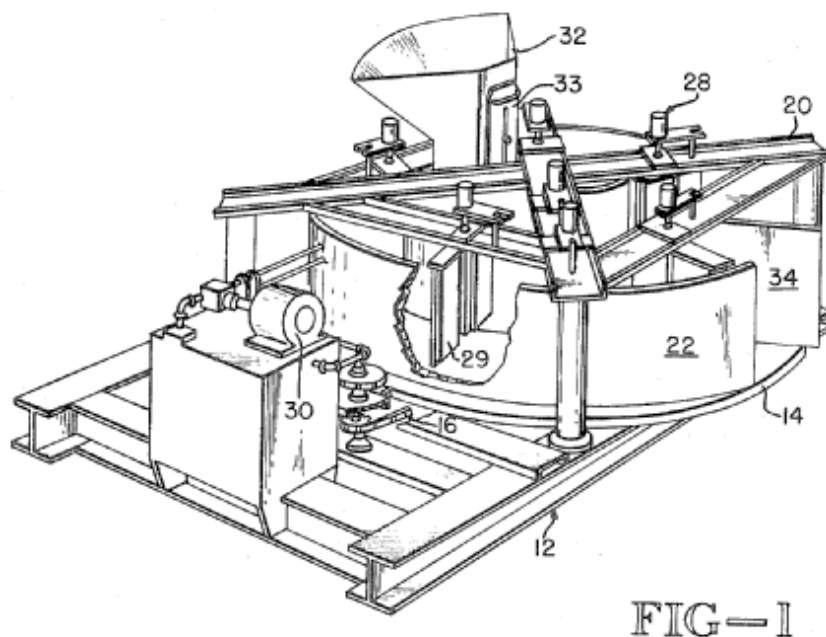
rotating about a vertical or steeply inclined axis during the mixing {, e.g. comprising a flat bottomplate rotating about a vertical axis, co-operating with blades or stirrers}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/26](#).

US 3 635 449 A



## B28C 5/34

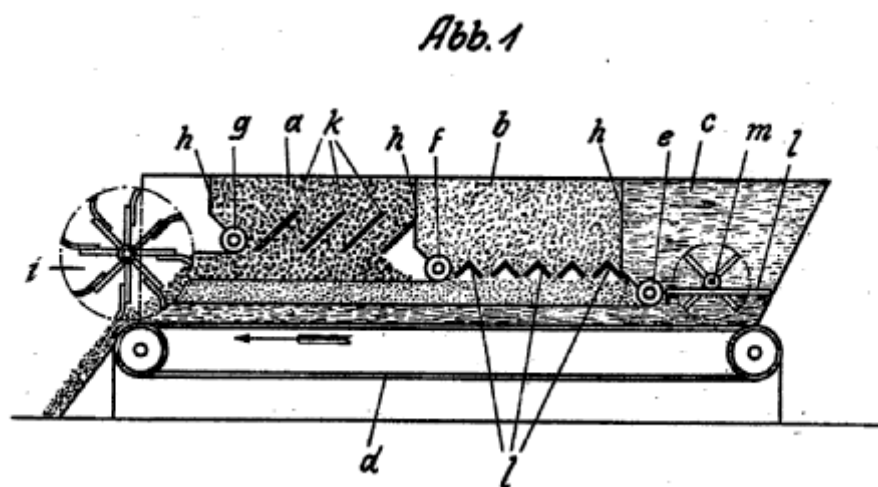
Mixing on or by conveyors {, e.g. by belts or chains provided with mixing elements}

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/34](#).

DE 477 968 C



**B28C 5/38**

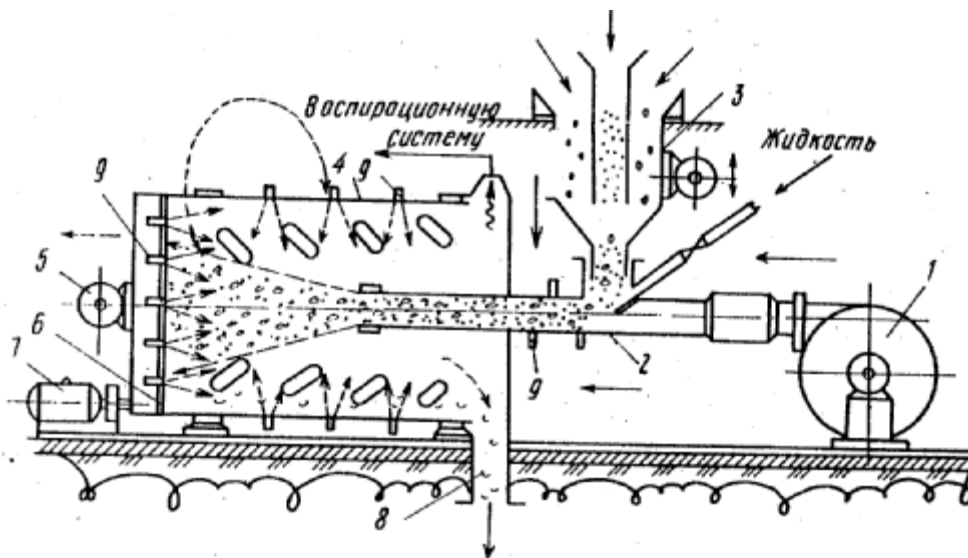
wherein the mixing is effected both by the action of a fluid and by directly-acting driven mechanical means, e.g. stirring means {; Producing cellular concrete}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/38](#).

SU 1 691 110 A1

**B28C 5/40**

Mixing specially adapted for preparing mixtures containing fibres

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/40](#).

WO2009 043 833 A1

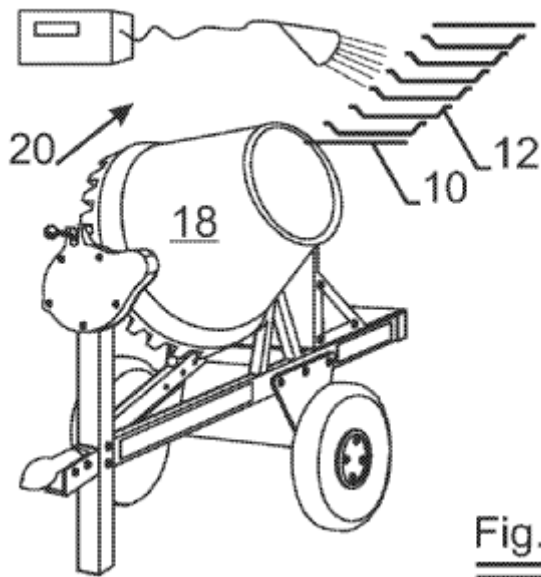


Fig. 3

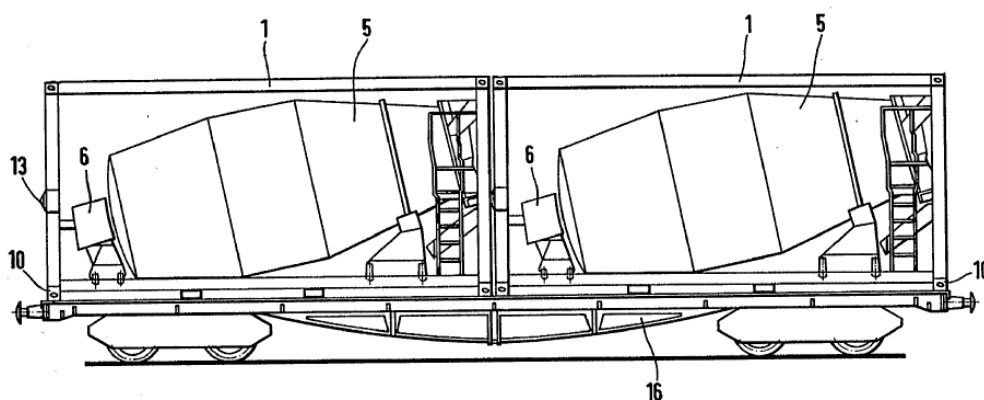
## B28C 5/42

Apparatus specially adapted for being mounted on vehicles with provision for mixing during transport ({[B28C 5/1893](#) takes precedence; mounted on a wheelbarrow [B28C 5/1215](#), [B28C 5/1818](#), [B28C 5/2018](#); } vehicle aspect [B60P 3/16](#))

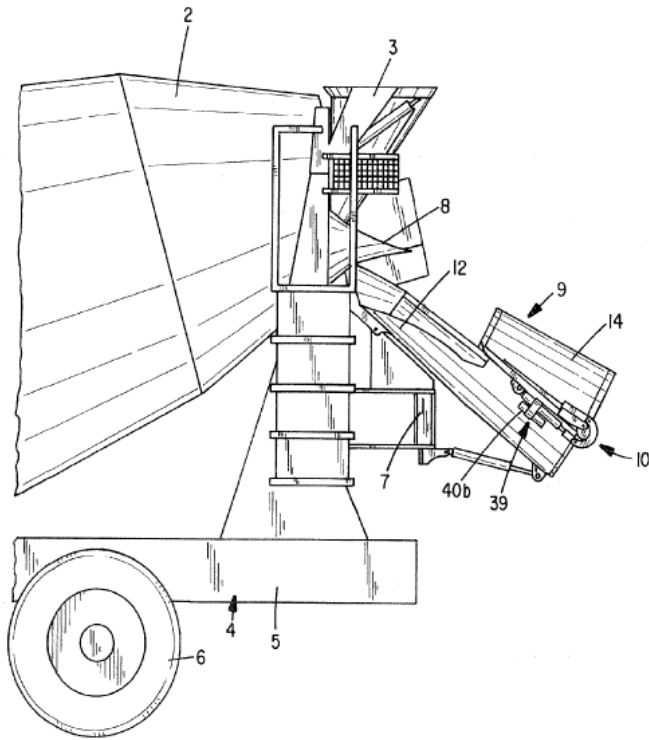
### Definition statement

*This place covers:*

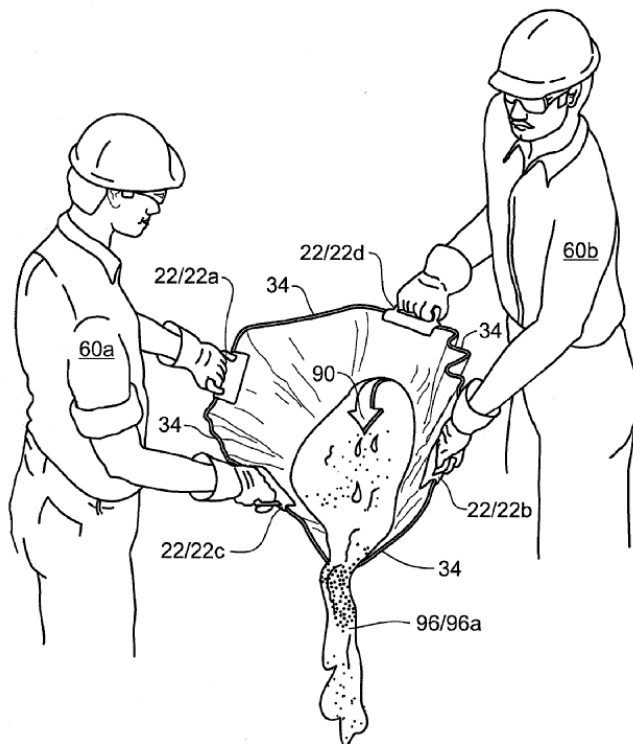
Illustrative example of subject matter classified in [B28C 5/42](#).



Numer.:  
Int. Cl. e.:  
Offenlegungstag:  
DE 44 03 793 A1  
B 28 C 5/42  
10. August 1995

**B28C 5/4251****{telescopic or foldable chutes}****Definition statement***This place covers:*Illustrative example of subject matter classified in [B28C 5/4251](#).**B28C 5/44****Apparatus specially adapted for drive by muscle power****Definition statement***This place covers:*Illustrative example of subject matter classified in [B28C 5/44](#).

US2007 297 275 A1



**B28C 5/46**

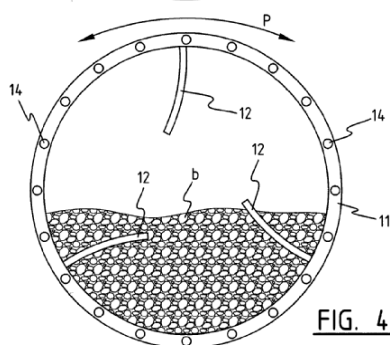
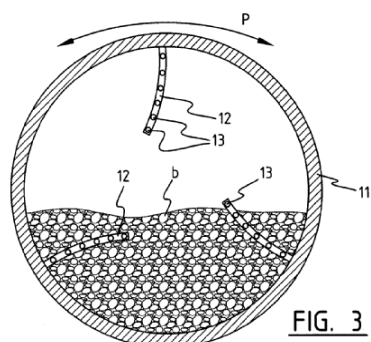
**Arrangements for applying super- or sub-atmospheric pressure during mixing;  
Arrangements for cooling or heating during mixing {, e.g. by introducing  
vapour}**

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/46](#).

EP 1 447 192 A1





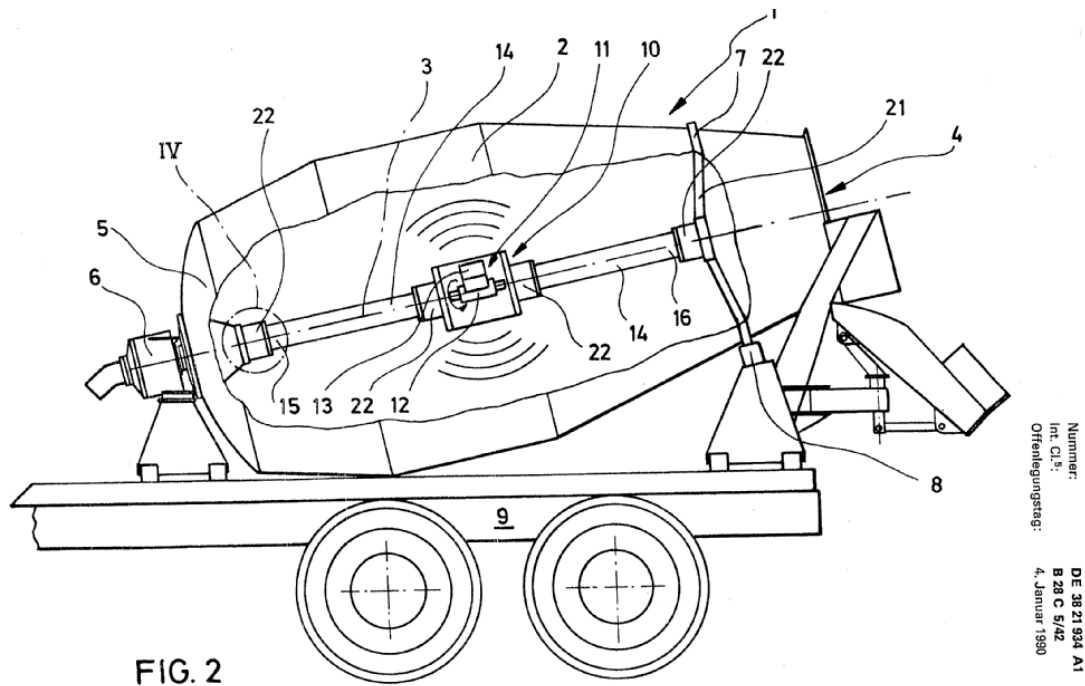
**B28C 5/48**

wherein the mixing is effected by vibrations (mixers with vibrating mechanisms in general [B01F 31/00](#))

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/48](#).

**B28C 7/0046**

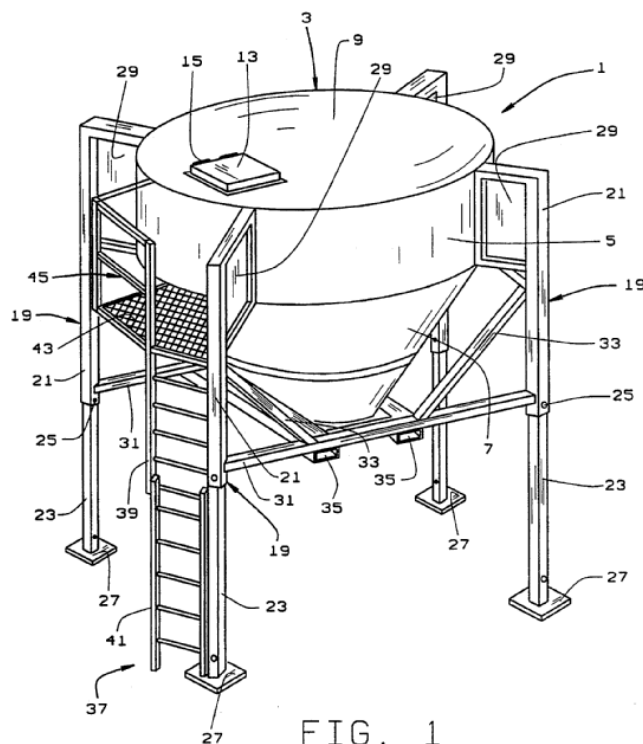
{Storage or weighing apparatus for supplying ingredients ([B28C 7/04](#) takes precedence)}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 7/0046](#).

US 5 339 996 A



## References

### Informative references

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

Large containers	<a href="#">B65D 88/00</a>
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## B28C 7/02

### Controlling the operation of the mixing

## References

### Informative references

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

Controlling; Testing; Measuring	<a href="#">B01F 35/20</a>
Methods, systems and apparatus for controlling in general	<a href="#">G05</a>

## B28C 7/04

Supplying or proportioning the ingredients {([B28C 7/022](#) takes precedence;  
forming a predetermined ratio of the components to be mixed, in general  
[B01F 35/80](#))}

## Special rules of classification

Classification of supplying or proportioning the ingredients is in this subclass.

proportioning is classified under [B28C 7/0404](#).

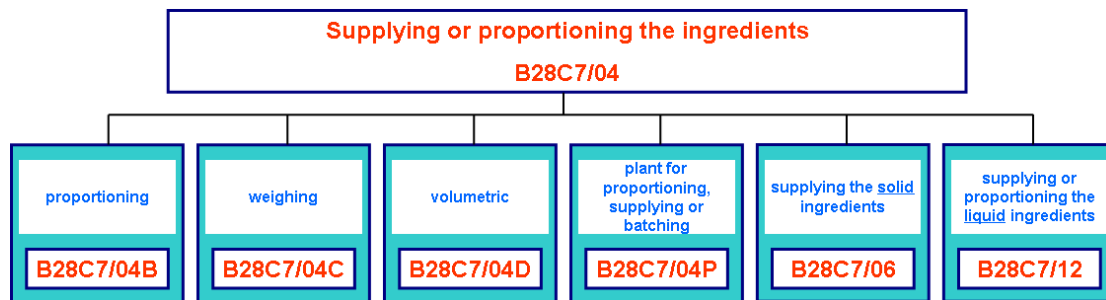
weighing is classified under [B28C 7/0422](#).

volumetric is classified under [B28C 7/0454](#).

plant for proportioning supplying or batching is classified under [B28C 7/0481](#).

supplying the solid ingredients is classified under [B28C 7/06](#).

supplying or proportioning the liquid ingredients is classified under [B28C 7/12](#).



## **B28C 7/0431**

{using a weighing belt or the like}

### **References**

#### **Informative references**

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

Conveyor belt weighers	<a href="#">G01G 11/00</a>
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## **B28C 7/16**

Discharge means {, e.g. with intermediate storage of fresh concrete}

### **Definition statement**

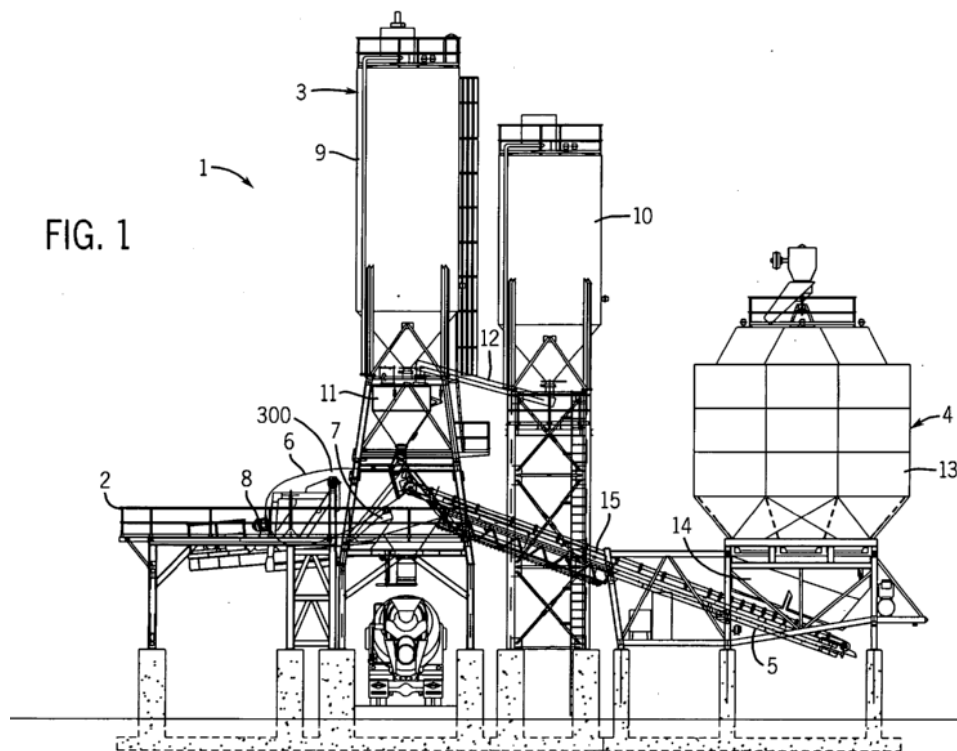
*This place covers:*

Illustrative example of subject matter classified in [B28C 7/16](#).

[illegible]

Illustrative example of subject matter classified in [B28C 9/00](#).

WO2005 113 211 A1



## References

### Informative references

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

Mixing plant in general	<a href="#">B01F 33/80</a>
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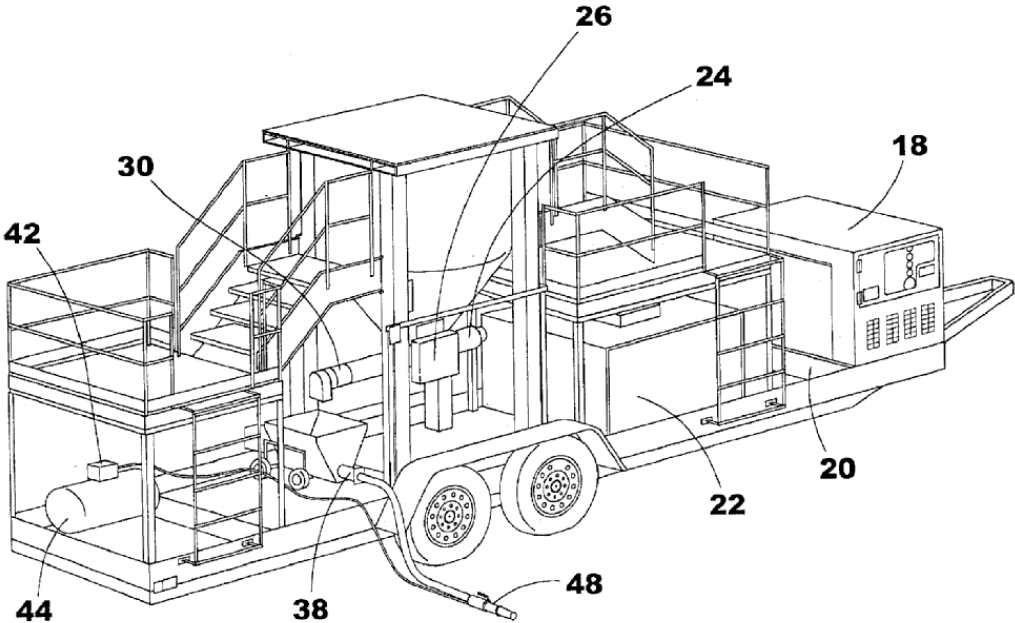
**B28C 9/04**

the plant being mobile, {e.g. mounted on a carriage or a set of carriages}  
([B28C 5/42](#), {[B28C 9/004](#), [B28C 9/006](#)} take precedence)

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 9/04](#).



**FIG. 7**

May 8, 2003 Sheet 4 of 4 US 2003/0085299 A1

**References**

**Informative references**

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

Hydraulic cement concrete mixers combined with distributing means specially adapted for road building	<a href="#">E01C 19/47</a>
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