SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B22 CASTING; POWDER METALLURGY

B22F WORKING METALLIC POWDER; MANUFACTURE OF ARTICLES FROM METALLIC POWDER; MAKING METALLIC POWDER (making alloys by powder metallurgy C22C); APPARATUS OR DEVICES SPECIALLY ADAPTED FOR METALLIC POWDER

Note(s)

1. This subclass covers the making of metallic powder only insofar as powder with specific physical characteristics is made.
2. In this subclass, the following terms or expressions are used with the meanings indicated:
   - "metallic powder" covers powders containing a substantial proportion of non-metallic material;
   - "powder" includes somewhat larger particles which are worked, obtained or behave in a manner similar to powder, e.g. fibres.

1/00 Special treatment of metallic powder, e.g. to facilitate working, to improve properties; Metallic powders per se, e.g. mixtures of particles of different composition

1/02 • comprising coating of the powder **[2]**

3/00 Manufacture of workpieces or articles from metallic powder characterised by the manner of compacting or sintering; Apparatus specially adapted therefor

3/02 • Compacting only
3/03 • • Press-moulding apparatus therefor **[6]**
3/035 • • • with one or more of the parts thereof being pivotally mounted **[6]**
3/04 • • by applying fluid pressure
3/06 • • by centrifugal forces
3/08 • • by explosive forces
3/087 • • using high energy impulses, e.g. magnetic field impulses **[6]**
3/093 • • using vibration **[6]**
3/10 • Sintering only
3/105 • • by using electric current, laser radiation or plasma (B22F 3/11 takes precedence) **[6]**
3/11 • • Making porous workpieces or articles **[6]**
3/115 • by spraying molten metal, i.e. spray sintering, spray casting **[6]**
3/12 • Both compacting and sintering (by forging B22F 3/17) **[6]**
3/14 • • simultaneously
3/15 • • • Hot isostatic pressing **[6]**
3/16 • • in successive or repeated steps
3/17 • by forging **[6]**
3/18 • by using pressure rollers **[6]**
3/20 • by extruding
3/22 • for producing castings from a slip
3/23 • involving a self-propagating high-temperature synthesis or reaction sintering step **[6]**
3/24 • After-treatment of workpieces or articles
3/26 • • Impregnating

5/00 Manufacture of workpieces or articles from metallic powder characterised by the special shape of the product

5/02 • of piston rings
5/04 • of turbine blades
5/06 • of threaded articles, e.g. nuts
5/08 • of toothed articles, e.g. gear wheels; of cam discs
5/10 • of articles with cavities or holes, not otherwise provided for in the preceding subgroups **[6]**
5/12 • of tubes or wires **[6]**

7/00 Manufacture of composite layers, workpieces, or articles, comprising metallic powder, by sintering the powder, with or without compacting

7/02 • of composite layers
7/04 • • with one or more layers not made from powder, e.g. made from solid metal
7/06 • of composite workpieces or articles from parts, e.g. to form tipped tools
7/08 • • with one or more parts not made from powder

8/00 Manufacture of articles from scrap or waste metal particles [6]

9/00 Making metallic powder or suspensions thereof; Apparatus or devices specially adapted therefor

9/02 • using physical processes **[3]**
9/04 • • starting from solid material, e.g. by crushing, grinding or milling **[3]**
9/06 • • starting from liquid material **[3]**
9/08 • • • by casting, e.g. through sieves or in water, by atomising or spraying (using electric discharge B22F 9/14) **[3]**
9/10 • • • • using centrifugal force **[3]**
9/12 • • starting from gaseous material **[3]**
9/14 • • using electric discharge **[3]**
9/16 • using chemical processes **[3]**
9/18 • • with reduction of metal compounds **[3]**
9/20 • • • starting from solid metal compounds **[3]**
9/22 • • • • using gaseous reductors **[3]**
9/24 • • • starting from liquid metal compounds, e.g. solutions **[3]**
9/26 • • • • using gaseous reductors **[3]**
9/28 • • • starting from gaseous metal compounds **[3]**
9/30 • • with decomposition of metal compounds, e.g. by pyrolysis **[3]**