## CPC

F<br>MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING (NOTE omitted)

## ENGINEERING IN GENERAL

# F16 ENGINEERING ELEMENTS AND UNITS; GENERAL MEASURES FOR PRODUCING AND MAINTAINING EFFECTIVE FUNCTIONING OF MACHINES OR INSTALLATIONS; THERMAL INSULATION IN GENERAL 

\author{
F16M <br> FRAMES, CASINGS OR BEDS OF ENGINES, MACHINES OR APPARATUS,
NOT SPECIFIC TO ENGINES, MACHINES OR APPARATUS PROVIDED FOR

ELSEWHERE; STANDS; SUPPORTS <br> NOTE <br> Attention is drawn to the following places: <br> | B21B 31/02 | Metal-rolling stand frames |
| :--- | :--- |
| G01D 11/30 | Supports specially adapted for indicating or recording instruments. | <br> \section*{WARNING} <br> In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

}

Frames or casings of engines, machines or apparatus; Frames serving as machinery beds

- for reciprocating engines or similar machines
. . for housing crankshafts
- . . of tunnel type, i.e. wherein the crankshaft can only be introduced axially (for engines or machines with star-shaped cylinder arrangement F16M 1/023)
. . . specially adapted for engines or machines with star-shaped cylinder arrangement
. . . facilitating assembly of power-transmitting parts of engines or machines, e.g. of connecting-rods
. . . Assembling bearings in casings, e.g. having anchor bolts
. . for housing movable engine or machine parts other than crankshafts, e.g. valve-gear housings
- for rotary engines or similar machines
. characterised by being built-up of sheet material or welded parts
Portable or wheeled frames or beds, e.g. for emergency power-supply aggregates, compressor sets (construction of vehicles in general B60-B62)

Engine beds, i.e. means for supporting engines or machines on foundations
Details of attaching or adjusting engine beds, frames, or supporting-legs on foundation or base; Attaching non-moving engine parts, e.g. cylinder blocks (elastic or equivalent mounting for absorbing vibrations F16F, especially F16F 15/04)
Special layout of foundations with respect to machinery to be supported (foundations for machinery E02D 27/44)

| 11/00 | Stands or trestles as supports for apparatus or articles placed thereon $\{$; Stands for scientific apparatus such as gravitational force meters\} (without heads F16M 13/00; easels or stands for blackboards or the like A47B 97/04; show-stands A47F 7/00; for workmen E04G 1/32; \{ sockets or holders for poles or posts E04H 12/22; \} supporting or suspending for lighting devices F21V 21/00) |
| :---: | :---: |
| 11/02 | Heads |
| 11/04 | . . Means for attachment of apparatus; Means allowing adjustment of the apparatus relatively to the stand |
| 11/041 | \{Allowing quick release of the apparatus\} |
| 11/043 | - \{Allowing translations\} |
| 11/045 | . \{adapted to left-right translation movement \} |
| 11/046 | . . . . \{adapted to upward-downward translation movement \} |
| 11/048 | . . . . \{adapted to forward-backward translation movement $\}$ |
| 11/06 | allowing pivoting |
| 11/08 | . . . . around a vertical axis $\{$, e.g. panoramic heads (F16M 11/12 takes precedence) $\}$ |
| 11/10 | . . . . around a horizontal axis $\{($ F16M 11/12 takes precedence) $\}$ |
| 11/105 | . . . . . $\{$ the horizontal axis being the roll axis, e.g. for creating a landscape-portrait rotation \} |
| 11/12 | in more than one direction |
| 11/121 | \{constituted of several dependent joints\} |
| 11/123 | . . \{the axis of rotation intersecting in a single point, e.g. by using gimbals \} |
| 11/125 | . \{for tilting and rolling (F16M 11/14 takes precedence) $\}$ |
| 11/126 | . . . . \{for tilting and panning (F16M 11/14 takes precedence) \} |

Stands or trestles as supports for apparatus or ardes placed hereon \{, Stands for scientific (without her F16 13/00; eals or stands blackboards or the like A47B 97/04; show-stands A47F 7/00; for workmen E04G 1/32; \{sockets or holders for poles or posts E04H 12/22;\} supporting or suspending for lighting devices F21V 21/00)

- Heads
. . Means for attachment of apparatus; Means allowing adjustment of the apparatus relatively to the stand
-• . \{Allowing quick release of the apparatus \}
-• . \{Allowing translations \}
. . . . \{adapted to left-right translation movement \}
. . . . \{adapted to upward-downward translation movement $\}$
- . . . \{adapted to forward-backward translation movement $\}$
. . . allowing pivoting
- . . . around a vertical axis \{, e.g. panoramic heads (F16M 11/12 takes precedence) $\}$ precedence) $\}$
. . . . . \{the horizontal axis being the roll axis, e.g. for creating a landscape-portrait rotation\}
. . . . in more than one direction
. . . . . \{constituted of several dependent joints \}
. . . . . . \{the axis of rotation intersecting in a single point, e.g. by using gimbals\} precedence) $\}$
. . . . . \{for tilting and panning (F16M 11/14 takes precedence) $\}$

| 11/128 | . . . . . \{for panning and rolling (F16M 11/14 takes precedence) $\}$ | 11/38 | . . by folding \{, e.g. pivoting or scissors tong mechanisms $\}$ |
| :---: | :---: | :---: | :---: |
| 11/14 | . . . . . with ball-joint (ball-jointed hinges F16C 11/06 \{; adjustable mountings | 11/40 | . . . by means of coilable or bendable legs $\{$ or spiral shaped legs \} |
|  | employing universal joints for lighting devices F21V 21/26 - F21V 21/30 \}) | 11/42 | - with arrangement for propelling the support $\{$ stands on wheels $\}$ |
| 11/16 | . . Details concerning attachment of head-supporting legs, with or without actuation of locking members thereof | $11 / 425$ $\mathbf{1 3 / 0 0}$ | - . $\{$ along guiding means $\}$ Other supports for positioning apparatus or |
| 11/18 | . . with mechanism for moving the apparatus relatively to the stand |  | articles (heads thereof F16M 11/02 \{; undercarriages thereof F16M 11/20 \} ; adapted to be stuck in the |
| 11/20 | - Undercarriages with or without wheels |  | ground $\underline{\text { A } 45 F} 3 / 44$ \{; sockets or holders for poles or |
| 11/2007 | . . \{comprising means allowing pivoting adjustment \} |  | posts E04H 12/22\}); Means for steadying handheld apparatus or articles $\{$ (supports for measuring |
| 11/2014 | - . . \{around a vertical axis (F16M 11/2035 takes precedence) $\}$ |  | instruments G01D 11/30; supports for casings of remote control switching devices $\mathrm{H} 01 \mathrm{H} 9 / 025$ )\} |
| 11/2021 | - . . \{around a horizontal axis (F16M 11/2035 takes precedence) $\}$ | 13/005 | - \{integral with the apparatus or articles to be supported \} |
| 11/2028 | - . . $\{$ for rolling, i.e. for creating a landscapeportrait rotation $\}$ | $13 / 02$ $13 / 022$ | - for supporting on, or attaching to, an object, e.g. tree, gate, window-frame, cycle |
| 11/2035 | . . . $\{$ in more than one direction $\}$ |  | - |
| 11/2042 | . . . $\{$ constituted of several dependent joints \} |  | - - \{Corner supports |
| 11/205 | . . . . . \{the axis of rotation intersecting in a single point, e.g. gimbals \} | $13 / 027$ $13 / 04$ | - . \{Ceiling supports\} <br> - for supporting on, or holding steady relative to, a |
| 11/2057 | . . . . \{for tilting and rolling (F16M 11/2078 takes precedence) $\}$ |  | person, e.g. by chains \{, e.g. rifle butt or pistol grip supports, supports attached to the chest or head |
| 11/2064 | . . . . \{for tilting and panning (F16M 11/2078 takes precedence) $\}$ | 13/06 | or for projecting or viewing them G03B) \} |
| 11/2071 | . . . . \{for panning and rolling (F16M 11/2078 takes precedence) $\}$ | $13 / 06$ $13 / 08$ | as spade, chair, ski-stick |
| 11/2078 | . . . . \{ with ball-joint (ball-jointed hinges F16C 11/06) | $13 / 08$ $\mathbf{2 2 0 0 / 0 0}$ | - . for use as a walking-cane |
| 11/2085 | - . \{comprising means allowing sideward adjustment, i.e. left-right translation of the head relatively to the undercarriage\} | $\begin{aligned} & 2200 / 02 \\ & 2200 / 021 \end{aligned}$ | - Locking means <br> - . for rotational movement |
| 11/2092 | . . \{comprising means allowing depth adjustment, i.e. forward-backward translation of the head relatively to the undercarriage\} | $\begin{aligned} & 2200 / 022 \\ & 2200 / 024 \end{aligned}$ | . . . by friction <br> . . . by positive interaction, e.g. male-female connections |
| 11/22 | - . with approximately constant height, e.g. with constant length of column or of legs (F16M 11/42 takes precedence) | $\begin{aligned} & 2200 / 025 \\ & 2200 / 027 \\ & 2200 / 028 \end{aligned}$ | . . for translational movement <br> . . . by friction <br> . . . by positive interaction, e.g. male-female |
| 11/24 | - . changeable in height or length of legs, also for transport only, \{e.g. by means of tubes screwed into each other $\}$ (F16M 11/42 takes precedence) | $\begin{aligned} & 2200 / 04 \\ & 2200 / 041 \end{aligned}$ | connections <br> - Balancing means <br> . . for balancing rotational movement of the head |
| 11/242 | . . . \{by spreading of the legs (F16M 11/32 takes precedence) $\}$ | $\begin{aligned} & 2200 / 042 \\ & 2200 / 044 \end{aligned}$ | . . . for panning movement <br> . . for balancing rotational movement of the |
| 11/245 | . . . . \{Members limiting spreading of legs, e.g. "umbrella legs" (for supports with three or more telescoping legs F16M 11/34) \} | $\begin{aligned} & 2200 / 045 \\ & 2200 / 047 \end{aligned}$ | undercarriage <br> . . . for panning movement <br> - . for balancing translational movement of the head |
| 11/247 | . . . . \{Members preventing slipping of the feet (for supports with three or more telescoping legs F16M 11/36) $\}$ | $2200 / 048$ $2200 / 06$ | for balancing translational movement of the undercarriage <br> . Arms |
| 11/26 | . . . by telescoping, with or without folding (details concerning the constructional features of telescoping parts only F16B 7/10) | $\begin{aligned} & 2200 / 061 \\ & 2200 / 063 \\ & 2200 / 065 \end{aligned}$ | - . Scissors arms <br> - Parallelogram arms <br> . . with a special structure, e.g. reinforced or adapted |
| 11/28 | . . . Undercarriages for supports with one single telescoping pillar | 2200/066 | for space reduction <br> . . being part of the head |
| 11/30 | - . . . with co-moving side-struts | 2200/068 | . . being part of the undercarriage |
| 11/32 | . . . Undercarriages for supports with three or more telescoping legs | 2200/08 | . Foot or support base |
| 11/34 | - . . . Members limiting spreading of legs \{, e.g. "umbrella legs" $\}$ |  |  |
| 11/36 | . . . . Members preventing slipping of the feet |  |  |

