

# CPC COOPERATIVE PATENT CLASSIFICATION

## F16N LUBRICATING

### NOTE

Attention is drawn to the following places:

<a href="#">A01D 69/12</a>	Lubrication of harvesters;
<a href="#">B21J 3/00</a>	Lubricating during forging or pressing;
<a href="#">B25D 17/26</a>	Lubricating of portable power-driven percussive tools;
<a href="#">B60R 17/00</a>	Arrangements or adaptations of lubricating; systems or devices in vehicles;
<a href="#">B61C 17/08</a>	Lubrication systems for railway locomotives;
<a href="#">B62D 55/092</a>	Vehicle endless-track units with lubrication means;
<a href="#">D04B 35/28</a>	Devices for lubricating knitting machine parts;
<a href="#">E05B 17/08</a>	Lubricating devices for locks;
<a href="#">E05D 11/02</a>	Lubricating arrangements for hinges;
<a href="#">E21B 10/22</a>	Lubricating details of roller drill bits for earth; drilling.

### Lubrication devices or arrangements for oil or grease

<b>1/00</b>	<b>Constructional modifications of parts of machines or apparatus for the purpose of lubrication</b>	7/26	. . Splash lubrication (mist lubrication <a href="#">F16N 7/32</a> )
		7/28	. . Dip lubrication
		7/30	. the oil being fed or carried along by another fluid (in internal- combustion engines <a href="#">F02F</a> )
<b>3/00</b>	<b>Devices for supplying lubricant by manual action (draining equipment for liquid containers <a href="#">B65D</a>)</b>	7/32	. . Mist lubrication (splash lubrication <a href="#">F16N 7/26</a> )
3/02	. delivering oil	7/34	. . . Atomising devices for oil (atomising devices in general <a href="#">B05B</a> )
3/04	. . Oil cans; Oil syringes	7/36	. with feed by pumping action of the member to be lubricated or of a shaft of the machine; Centrifugal lubrication
3/06	. . . delivering on squeezing	7/363	. . {Centrifugal lubrication}
3/08	. . . incorporating a piston-pump	7/366	. . {with feed by pumping action of a vertical shaft of the machine}
3/10	. delivering grease	7/38	. with a separate pump; Central lubrication systems
3/12	. . Grease guns	7/385	. . {Central lubrication systems}
<b>5/00</b>	<b>Apparatus with hand-positioned nozzle supplied with lubricant under pressure (<a href="#">F16N 3/00</a> takes precedence)</b>	7/40	. . in a closed circulation system
5/02	. Nozzles or nozzle-valve arrangements therefor, e.g. high-pressure grease guns	<b>9/00</b>	<b>Arrangements for supplying oil or unspecified lubricant from a moving reservoir or the equivalent (also usable with a stationary reservoir <a href="#">F16N 7/00</a>)</b>
<b>7/00</b>	<b>Arrangements for supplying oil or unspecified lubricant from a stationary reservoir or the equivalent in or on the machine or member to be lubricated (axle-box lubrication for railway rolling-stock <a href="#">B61F 17/00</a>)</b>	9/02	. with reservoir on or in a rotary member
7/02	. with gravity feed or drip lubrication	9/04	. with reservoir on or in a reciprocating, rocking, or swinging member
7/04	. . with oil flow promoted by vibration	<b>11/00</b>	<b>Arrangements for supplying grease from a stationary reservoir or the equivalent in or on the machine or member to be lubricated; Grease cups</b>
7/06	. . Arrangements in which the droplets are visible	11/02	. Hand-actuated grease cups, e.g. Stauffer cups
7/08	. . controlled by means of the temperature of the member to be lubricated (thermostats <a href="#">G05D</a> )	11/04	. Spring-loaded devices
7/10	. . incorporating manually-operated regulating means, e.g. spindles	11/06	. Weight-loaded devices
7/12	. with feed by capillary action, e.g. by wicks	11/08	. with mechanical drive, other than directly by springs or weights (lubricating-pumps <a href="#">F16N 13/00</a> )
7/14	. the lubricant being conveyed from the reservoir by mechanical means (by pumping devices <a href="#">F16N 7/36</a> , <a href="#">F16N 7/38</a> ; adaptations for lubrication of machines or engines in general, of internal-combustion engines <a href="#">F01M</a> )	11/10	. by pressure of another fluid
		11/12	. by centrifugal action
		<b>13/00</b>	<b>Lubricating-pumps (oil cans with pump <a href="#">F16N 3/08</a>; pumps for liquids in general <a href="#">F04</a>)</b>
7/16	. . the oil being carried up by a lifting device (scoop devices in general <a href="#">F04D</a> )	2013/003	. {Flexible-wall pumps}
7/18	. . . with one or more feed members fixed on a shaft	2013/006	. {Jet pumps}
7/20	. . . with one or more members moving around the shaft to be lubricated	13/02	. with reciprocating piston (pumps with distributing equipment <a href="#">F16N 13/22</a> )
7/22	. . . . shaped as rings	13/04	. . Adjustable reciprocating pumps
7/24	. . . with discs, rollers, belts or the like contacting the shaft to be lubricated	13/06	. . Actuation of lubricating-pumps
		2013/063	. . . {with electrical drive}

2013/066	. . . {with electromagnetical drive}	25/04	. with rotary distributing member (combined with oil pump F16N 13/22)
13/08	. . . by hand {or foot}	27/00	<b>Proportioning devices</b> (liquid meters G01F)
13/10	. . . with mechanical drive (F16N 13/18 takes precedence)	27/005	. {using restrictions}
13/12	. . . . with ratchet	27/02	. Gating equipment (multiple-way valves F16K; metering cocks G01F)
13/14	. . . . with cam or wobble-plate on shaft parallel to the pump cylinder or cylinders	29/00	<b>Special means in lubricating arrangements or systems providing for the indication or detection of undesired conditions; Use of devices responsive to conditions in lubricating arrangements or systems</b> (in bearings F16C; constructions of apparatus outside the lubricating arrangements or systems, see the relevant classes)
13/16	. . . with fluid drive	29/02	. for influencing the supply of lubricant
13/18	. . . relative movement of pump parts being produced by inertia of one of the parts or of a driving member	29/04	. enabling a warning to be given; enabling moving parts to be stopped
13/20	. Rotary pumps (with distributing equipment F16N 13/22)	31/00	<b>Means for collecting, retaining, or draining-off lubricant in or on machines or apparatus</b> (oil separators for separating oil from exhaust steam F22G)
2013/205	. . {Screw pumps}	31/002	. {Drain pans}
13/22	. with distributing equipment (separate distributing equipment F16N 25/00)	31/004	. . {combined with container}
15/00	<b>Lubrication with substances other than oil or grease; Lubrication characterised by the use of particular lubricants in particular apparatus or conditions</b> (F16N 17/00 takes precedence; lubricating compositions, selection of particular substances as lubricants in general C10M; bearings with surfaces incorporating lubricant F16C 33/04; lubrication specially adapted to machines or apparatus provided for in a single other class, see the relevant class for the machine or apparatus)	31/006	. {Drip trays}
15/02	. with graphite or graphite-containing compositions	2031/008	. {Drain plugs}
15/04	. with water (bearings working in water F16C)	31/02	. Oil catchers; Oil wipers (oil-scraping rings for pistons F16J 9/20; {cleaning means for indicating or measuring dip members, e.g. dipstick wipers G01F 23/045})
17/00	<b>Lubrication of machines or apparatus working under extreme conditions</b> (additives to lubricating oil or lubricating grease C10M)	2031/025	. . {Oil-slinger}
17/02	. at high temperature (of turbines F01D, F02C; lubrication of machines or engines in general, of internal-combustion engines F01M)	33/00	<b>Mechanical arrangements for cleaning lubricating equipment; Special racks or the like for use in draining lubricant from machine parts</b>
17/04	. at low temperature (lubrication of refrigerating machines F25B)	2033/005	. {Flushing}
17/06	. in vacuum or under reduced pressure (lubrication of evacuating pumps F04; of rotary anodes of X-ray tubes H01J 35/10)	<b>Care of lubricants</b>	
<b>Details of lubricators or lubrication systems</b>		35/00	<b>Storage of lubricants in engine-rooms or the like</b> (storage containers B65)
19/00	<b>Lubricant containers for use in lubricators or lubrication systems</b>	37/00	<b>Equipment for transferring lubricant from one container to another</b>
19/003	. {Indicating oil level (measuring liquid level in general G01F)}	37/003	. {for filling bearings}
19/006	. {Maintaining oil level (level control in general G05D 9/00)}	2037/006	. {Filling}
21/00	<b>Conduits; Junctions</b> (in general F16L); <b>Fittings for lubrication apertures</b>	37/02	. for filling grease guns
2021/005	. {Modulair units}	39/00	<b>Arrangements for conditioning of lubricants in the lubricating system</b> (cleaning of lubricating oil, lubricating compositions C10M)
21/02	. Lubricating nipples	39/002	. {by deaeration (degasification of liquids B01D 19/00)}
21/04	. Nozzles for connection of lubricating equipment to nipples	39/005	. {by evaporating or purifying (for heating or cooling of filters B01D 35/18, e.g. comprising a vaporising unit B01D 35/185)}
21/06	. Covering members for nipples, conduits or apertures	2039/007	. {Using strainers}
23/00	<b>Special adaptations of check valves</b> (check valves in general F16K)	39/02	. by cooling (heat-exchangers in general F28)
25/00	<b>Distributing equipment {with or without proportioning devices}</b>	39/04	. by heating (heat-exchangers in general F28)
25/02	. with reciprocating distributing slide valve	39/06	. by filtration (filters in general B01D; magnetic separators B03C 1/00; {centrifugal separators or filters B04B 5/005})
		2039/065	. . {inlet foot filter}
		39/08	. by diluting, e.g. by addition of fuel (lubrication of machines or engines in general, of internal-combustion engines F01M)

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

**2200/00 Condition of lubricant**

- 2200/02 . Oxidation
- 2200/04 . Detecting debris, chips, swarfs
- 2200/06 . Film thickness
- 2200/08 . Acidity, pH-value
- 2200/10 . Temperature
- 2200/12 . Viscosity
- 2200/14 . Treating with electricity
- 2200/16 . using tracers
- 2200/18 . Detecting foaming
- 2200/20 . Detecting water

**Care of lubricants**

**2210/00 Applications**

- 2210/02 . Turbines
- 2210/025 . . Wind Turbines
- 2210/04 . Vehicles
- 2210/06 . Marine
- 2210/08 . Aircraft
- 2210/09 . . for inverted flight
- 2210/10 . Refrigerators
- 2210/12 . Gearings
- 2210/14 . Bearings
- 2210/16 . Pumps
- 2210/18 . Electric motors
- 2210/20 . Electric generators
- 2210/22 . Centrifuges
- 2210/24 . Conveyors
- 2210/26 . Spinning spindles
- 2210/28 . submerged
- 2210/30 . for reversed rotation
- 2210/32 . Sewing machines
- 2210/33 . Chains
- 2210/34 . Cables and wires

**2230/00 Signal processing**

- 2230/02 . Microprocessor; Microcomputer
- 2230/06 . using mapping techniques
- 2230/10 . Timing network
- 2230/12 . . with pneumatic elements
- 2230/13 . . with hydraulic elements
- 2230/14 . . with bimetallic elements
- 2230/16 . . with capacitors
- 2230/18 . Switches
- 2230/19 . . Photo sensor
- 2230/20 . . Reed relays
- 2230/22 . using counters

**2250/00 Measuring**

- 2250/04 . Pressure
- 2250/05 . . Atmospheric pressure
- 2250/06 . . for determining flow
- 2250/08 . Temperature
- 2250/11 . . Ambient temperature
- 2250/16 . Number of revolutions, RPM
- 2250/18 . Level
- 2250/30 . Dielectricum
- 2250/32 . Inductive

- 2250/34 . Transparency; Light; Photo sensor
- 2250/36 . Viscosity
- 2250/38 . Piezo; x-tal
- 2250/40 . Flow
- 2250/42 . Friction
- 2250/50 . Sampling
- 2250/52 . . magnetic

**2260/00 Fail safe**

- 2260/02 . Indicating
- 2260/04 . . Oil level
- 2260/05 . . Oil flow
- 2260/06 . . Temperature
- 2260/065 . . . by means of colours or dye
- 2260/08 . . Pressure
- 2260/12 . . using warning lamps
- 2260/14 . . using sound
- 2260/16 . . using recording
- 2260/18 . . necessity of changing oil
- 2260/20 . Emergency
- 2260/21 . . limping home
- 2260/22 . . Rupture
- 2260/24 . . using accumulator
- 2260/30 . Clogging filter
- 2260/32 . Pump failure
- 2260/40 . Pre-lubrication
- 2260/50 . After-lubrication
- 2260/60 . Limping home

**2270/00 Controlling**

- 2270/10 . Level
- 2270/12 . . using overflow ([F16N 2270/18](#) takes precedence)
- 2270/14 . . using float device
- 2270/18 . . using overflow by filling
- 2270/20 . Amount of lubricant
- 2270/22 . . with restrictions
- 2270/24 . . . using porous, felt, ceramic, or sintered material
- 2270/26 . . . variable
- 2270/30 . . intermittent
- 2270/32 . . . Fixed pulse, fixed length, fixed amplitude
- 2270/48 . . . pressure-controlled
- 2270/50 . Condition
- 2270/52 . . Viscosity
- 2270/54 . . pH; Acidity
- 2270/56 . . Temperature
- 2270/60 . Pressure
- 2270/62 . . Limit
- 2270/64 . . Set-pressure
- 2270/70 . Supply
- 2270/72 . . on-off
- 2270/74 . . . only during use

**2280/00 Valves**

- 2280/02 . electromagnetically operated
- 2280/04 . Variable-flow or proportional valves