

CPC COOPERATIVE PATENT CLASSIFICATION

F16N LUBRICATING

NOTE

Attention is drawn to the following places:

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

Lubrication devices or arrangements for oil or grease

1/00	Constructional modifications of parts of machines or apparatus for the purpose of lubrication	7/28	. . Dip lubrication
3/00	Devices for supplying lubricant by manual action (draining equipment for liquid containers B65D)	7/30	. the oil being fed or carried along by another fluid (in internal- combustion engines F02F)
3/02	. delivering oil	7/32	. . Mist lubrication (splash lubrication F16N 7/26)
3/04	. . Oil cans; Oil syringes	7/34	. . . Atomising devices for oil (atomising devices in general B05B)
3/06	. . . delivering on squeezing	7/36	. with feed by pumping action of the member to be lubricated or of a shaft of the machine; Centrifugal lubrication
3/08	. . . incorporating a piston-pump	7/363	. . {Centrifugal lubrication}
3/10	. delivering grease	7/366	. . {with feed by pumping action of a vertical shaft of the machine}
3/12	. . Grease guns	7/38	. with a separate pump; Central lubrication systems
5/00	Apparatus with hand-positioned nozzle supplied with lubricant under pressure (F16N 3/00 takes precedence)	7/385	. . {Central lubrication systems}
5/02	. Nozzles or nozzle-valve arrangements therefor, e.g. high-pressure grease guns	7/40	. . in a closed circulation system
7/00	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 B61F 17/00)	9/00	Arrangements for supplying oil or unspecified lubricant from a moving reservoir or the equivalent (also usable with a stationary reservoir F16N 7/00)
7/02	. with gravity feed or drip lubrication	9/02	. with reservoir on or in a rotary member
7/04	. . with oil flow promoted by vibration	9/04	. with reservoir on or in a reciprocating, rocking, or swinging member
7/06	. . Arrangements in which the droplets are visible	11/00	Arrangements for supplying grease from a stationary reservoir or the equivalent in or on the machine or member to be lubricated; Grease cups
7/08	. . controlled by means of the temperature of the member to be lubricated (thermostats G05D)	11/02	. Hand-actuated grease cups, e.g. Stauffer cups
7/10	. . incorporating manually-operated control means, e.g. spindles	11/04	. Spring-loaded devices
7/12	. with feed by capillary action, e.g. by wicks	11/06	. Weight-loaded devices
7/14	. the lubricant being conveyed from the reservoir by mechanical means (by pumping devices F16N 7/36 , F16N 7/38 ; adaptations for lubrication of machines or engines in general, of internal-combustion engines F01M)	11/08	. with mechanical drive, other than directly by springs or weights (lubricating-pumps F16N 13/00)
7/16	. . the oil being carried up by a lifting device (scoop devices in general F04D)	11/10	. by pressure of another fluid
7/18	. . . with one or more feed members fixed on a shaft	11/12	. by centrifugal action
7/20	. . . with one or more members moving around the shaft to be lubricated	13/00	Lubricating-pumps (oil cans with pump F16N 3/08; pumps for liquids in general F04)
7/22 shaped as rings	2013/003	. {Flexible-wall pumps}
7/24	. . . with discs, rollers, belts or the like contacting the shaft to be lubricated	2013/006	. {Jet pumps}
7/26	. . Splash lubrication (mist lubrication F16N 7/32)	13/02	. with reciprocating piston (pumps with distributing equipment F16N 13/22)
		13/04	. . Adjustable reciprocating pumps
		13/06	. . Actuation of lubricating-pumps
		2013/063	. . . {with electrical drive}
		2013/066	. . . {with electromagnetical drive}
		13/08	. . . by hand {or foot}

13/10	<ul style="list-style-type: none"><ul style="list-style-type: none">with mechanical drive (F16N 13/18 takes precedence)	27/005	<ul style="list-style-type: none"><ul style="list-style-type: none">{using restrictions}
13/12	<ul style="list-style-type: none"><ul style="list-style-type: none"><ul style="list-style-type: none">with ratchet	27/02	<ul style="list-style-type: none">Gating equipment (multiple-way valves F16K; metering cocks G01F)
13/14	<ul style="list-style-type: none"><ul style="list-style-type: none"><ul style="list-style-type: none">with cam or wobble-plate on shaft parallel to the pump cylinder or cylinders	29/00	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 (in bearings F16C; constructions of apparatus outside the lubricating arrangements or systems, see the relevant classes)
13/16	<ul style="list-style-type: none"><ul style="list-style-type: none">with fluid drive	29/02	<ul style="list-style-type: none">for influencing the supply of lubricant
13/18	<ul style="list-style-type: none"><ul style="list-style-type: none">relative movement of pump parts being produced by inertia of one of the parts or of a driving member	29/04	<ul style="list-style-type: none">enabling a warning to be given; enabling moving parts to be stopped
13/20	<ul style="list-style-type: none">Rotary pumps (with distributing equipment F16N 13/22)	31/00	Means for collecting, retaining, or draining-off lubricant in or on machines or apparatus (oil separators for separating oil from exhaust steam F22G)
2013/205	<ul style="list-style-type: none"><ul style="list-style-type: none">{Screw pumps}	31/002	<ul style="list-style-type: none"><ul style="list-style-type: none">{Drain pans}
13/22	<ul style="list-style-type: none">with distributing equipment (separate distributing equipment F16N 25/00)	31/004	<ul style="list-style-type: none"><ul style="list-style-type: none"><ul style="list-style-type: none">{combined with container}
15/00	Lubrication with substances other than oil or grease; Lubrication characterised by the use of particular lubricants in particular apparatus or conditions (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	<ul style="list-style-type: none"><ul style="list-style-type: none">{Drip trays}
15/02	<ul style="list-style-type: none">with graphite or graphite-containing compositions	2031/008	<ul style="list-style-type: none"><ul style="list-style-type: none">{Drain plugs}
15/04	<ul style="list-style-type: none">with water (bearings working in water F16C)	31/02	<ul style="list-style-type: none">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	Lubrication of machines or apparatus working under extreme conditions (additives to lubricating oil or lubricating grease C10M)	2031/025	<ul style="list-style-type: none"><ul style="list-style-type: none">{Oil-slinger}
17/02	<ul style="list-style-type: none">at high temperature (of turbines F01D, F02C; lubrication of machines or engines in general, of internal-combustion engines F01M)	33/00	Mechanical arrangements for cleaning lubricating equipment; Special racks or the like for use in draining lubricant from machine parts
17/04	<ul style="list-style-type: none">at low temperature (lubrication of refrigerating machines F25B)	2033/005	<ul style="list-style-type: none"><ul style="list-style-type: none">{Flushing}
17/06	<ul style="list-style-type: none">in vacuum or under reduced pressure (lubrication of evacuating pumps F04; of rotary anodes of X-ray tubes H01J 35/10)	Care of lubricants	
Details of lubricators or lubrication systems		35/00	Storage of lubricants in engine-rooms or the like (storage containers B65)
19/00	Lubricant containers for use in lubricators or lubrication systems	37/00	Equipment for transferring lubricant from one container to another
19/003	<ul style="list-style-type: none"><ul style="list-style-type: none">{Indicating oil level (measuring liquid level in general G01F)}	37/003	<ul style="list-style-type: none"><ul style="list-style-type: none">{for filling bearings}
19/006	<ul style="list-style-type: none"><ul style="list-style-type: none">{Maintaining oil level (level control in general G05D 9/00)}	2037/006	<ul style="list-style-type: none"><ul style="list-style-type: none">{Filling}
21/00	Conduits; Junctions (in general F16L); Fittings for lubrication apertures	37/02	<ul style="list-style-type: none">for filling grease guns
2021/005	<ul style="list-style-type: none"><ul style="list-style-type: none">{Modulair units}	39/00	Arrangements for conditioning of lubricants in the lubricating system (cleaning of lubricating oil, lubricating compositions C10M)
21/02	<ul style="list-style-type: none">Lubricating nipples	39/002	<ul style="list-style-type: none"><ul style="list-style-type: none">{by deaeration (degasification of liquids B01D 19/00)}
21/04	<ul style="list-style-type: none">Nozzles for connection of lubricating equipment to nipples	39/005	<ul style="list-style-type: none"><ul style="list-style-type: none">{by evaporating or purifying (for heating or cooling of filters B01D 35/18, e.g. comprising a vaporising unit B01D 35/185)}
21/06	<ul style="list-style-type: none">Covering members for nipples, conduits or apertures	2039/007	<ul style="list-style-type: none"><ul style="list-style-type: none">{Using strainers}
23/00	Special adaptations of check valves (check valves in general F16K)	39/02	<ul style="list-style-type: none">by cooling (heat-exchangers in general F28)
25/00	Distributing equipment {with or without proportioning devices}	39/04	<ul style="list-style-type: none">by heating (heat-exchangers in general F28)
25/02	<ul style="list-style-type: none">with reciprocating distributing slide valve	39/06	<ul style="list-style-type: none">by filtration (filters in general B01D; magnetic separators B03C 1/00; {centrifugal separators or filters B04B 5/005})
25/04	<ul style="list-style-type: none">with rotary distributing member (combined with oil pump F16N 13/22)	2039/065	<ul style="list-style-type: none"><ul style="list-style-type: none">{inlet foot filter}
27/00	Proportioning devices (liquid meters G01F)	39/08	<ul style="list-style-type: none">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