CLASS 184, LUBRICATION

SECTION I - CLASS DEFINITION

This class is not intended to include the lubrication generally of machines of every kind; but it is intended to include those devices employed to lubricate bearing parts in a machine where such lubricating device forms no part of the machine structure.

Where the lubricating device is a part of the machine, where the structure is modified to admit of lubrication, where the particular or peculiar operation of the machine governs the operation of the lubricating device, or, in other words, where there is a special combination between the lubricating device and the machine in connection with which the lubricating device is used, then such device is classified with the machine to which it belongs.

Exception: Where the machine is operated by air, steam, or water and the same means used to operate the lubricator, then such lubricator belongs to this class, provided the structure of the machine is not modified.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

Where the machine is operated by air, steam, or water and the same means used to operate the lubricator, then such lubricator belongs to this class, provided the structure of the machine is not modified. An example of this exception is in this class (184), subclass 52.

For further search upon this line, see Class 384, Bearings, appropriate subclasses, and also the particular class in which the machine or device itself belongs.

(1) Note. Where the modification of a journal-box is no more than a hole to admit a lubricant or allow it to escape and a lubricating device is used in connection with such a journal-box, the device will go in this class (184) unless there is a particular combination between the journal-box and the lubricating device.

The following classes have the noted subclasses, which are classified on the basis of the lubrication of solid, relatively movable surfaces or the materials used therefor.

SECTION III - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

- 16, Miscellaneous Hardware (e.g., Bushing, Carpet Fastener, Caster, Door Closer, Panel Hanger, Attachable or Adjunct Handle, Hinge, Window Sash Balance, etc.), subclass 36 for caster lubricators and subclass 274 for hinge lubricators
- 19, Textiles: Fiber Preparation, subclass 285.
- 30, Cutlery, subclass 483 for a bench plane with lubricator.
- 57, Textiles: Spinning, Twisting, and Twinning, subclass 120 and subclass 133 and indented subclass.
- 65, Glass Manufacturing, subclass 170 for a glass working machine with apparatus lubricating means.
- 72, Metal Deforming, subclasses 41+ for a method or an apparatus for plastically shaping metal and including a step of or a means for applying a lubricant to the work, and subclass 236 for a rolling mill with roller-lubricating means.
- 73, Measuring and Testing, subclass 280 for structure to oil volume or rate of flow meter diaphragms.
- 74, Machine Element or Mechanism, subclass 467, and indented subclasses 587 and 605.
- 83, Cutting, subclass 169 for means to lubricate a cutting tool or the work.
- 87, Textiles: Braiding, Netting, and Lace Making, subclass 32.
- 92, Expansible Chamber Devices, subclasses 153+ for lubricating means for an expansible chamber device. See the Class Definition of Class 92, in References To Other Classes, under Class 184, for a statement of the line between Class 92 and Class 184.
- 112, Sewing, subclasses 43 and 256.
- 118, Coating Apparatus, appropriate subclasses, for coating apparatus.
- 123, Internal-Combustion Engines, subclasses 90.1+ and 196.
- 137, Fluid Handling, subclasses 246+ for lubricated valves.
- 152, Resilient Tires and Wheels, subclass 2 and indented subclasses for spring wheel lubrication.
- 188, Brakes, subclass 264 for lubricating brake shoes, wheels, or drums.
- 192, Clutches and Power-Stop Control, subclass
 70.12 for an arrangement of opposed clutch
 faces having means to lubricate the elements,

- and 113.1+ for lubricating means for a clutch element.
- 198, Conveyors: Power-Driven, subclasses 500+.
- 267, Spring Devices, subclasses 50 and 268, for vehicle spring structure claimed in combination with a lubricator or having a lubrication feature.
- 277, Seal for a Joint or Juncture, for a generic sealing means or process, subclasses 512+ for a dynamic circumferential contact seal for other than a piston intended to be contained or compressed by a gland member in a packing box having means to introduce or direct a fluid or subclass 930 for a seal including means to introduce, circulate, or remove fluid having a heating or cooling feature.
- 384, Bearings, subclasses 322+ and see search notes.
- 407, Cutters, for Shaping, subclass 11 for a lubrication means for a milling machine cutter or for a lathe cutter, combined with such a cutter.
- 408, Cutting by Use of Rotating Axially Moving Tool, subclasses 56+ for means to cut in the manner of that class combined with means to apply fluent lubricating material to the work or to the tool in the vicinity of the cutting edge.
- 417, Pumps, subclasses 228 and 372.
- 418, Rotary Expansible Chamber Devices, subclasses 83+ for rotary expansible chamber devices having nonworking fluid lubrication or seal means.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 107 for a molding machine for nonmetallic materials with means lubricating cooperating apparatus parts.
- 451, Abrading, subclass 554 for a rigid abrading tool having means to supply lubricant to the abrading surface.
- 464, Rotary Shafts, Gudgeons, Housings, and Flexible Couplings for Rotary Shafts, subclasses 7+ for a flexible coupling wherein the structure is modified so as to admit lubrication.
- 474, Endless Belt Power Transmission Systems or Components, subclasses 43+ and 91 for structure wherein a belt, pulley, or guide roll is modified for the specific purpose of facilitating admission of lubricant.
- 475, Planetary Gear Transmission or Components, subclasses 159+.
- 508, Solid Antifriction Devices, Materials Therefor, Lubricant or Separant Compositions for Moving Solid Surfaces, and Miscellaneous Mineral Oil Compositions, particularly subclasses 110+ for lubricant compositions.

SECTION IV - GLOSSARY

MACHINE

The term "machine" includes any device having bearing parts.

SUBCLASSES

1.5 AUTOMOBILE CRANK AND GEAR CASE SERVICE:

This subclass is indented under the class definition. Devices having means for emptying, and replenishing the oil in the crank case, transmission case, or differential casing of an automobile.

(1) Note. This subclass will take devices adapted to perform any one of the above functions alone, unless the device (if for emptying or replenishing) is one which could be used for dispensing or emptying for any purpose. In these instances classification might be in either Class 222, Dispensing, or Class 417, Pumps, respectively.

SEE OR SEARCH CLASS:

Cleaning and Liquid Contact With Solids, the line being: (a) Processes of cleaning crank, transmission or differential casing, per se, are in Class 134 or other appropriate class under the lines with Class 134, even though involving the operation of the apparatus cleaned, where only such operation is claimed as is necessary for the cleaning operation. Processes of combined cleaning and lubricating or lubricating, per se, are in Class 184; and (b) apparatus disclosed for cleaning only of crank, transmission, or differential casings, or for removing of lubricant from the same and cleaning, is in Class 134 or other appropriate class under the lines with Class 134, and even though a combination with the casing is claimed, as well as apparatus disclosed generically for cleaning or lubricating. Class 184 has apparatus disclosed for lubricating only, or combined apparatus for cleaning and lubricating and also apparatus for merely removing lubricant or for removing, cleaning, and returning the cleaned lubricant.

- 222, Dispensing, see (1) Note.
- 417, Pumps, see (1) Note.
- 418, Rotary Expansible Chamber Devices, see (1) Note.

2 MINE-CAR LUBRICATION:

This subclass is indented under the class definition. Devices specifically intended and arranged to lubricate the wheels of mine-cars while in operation.

3.1 Rail or rail vehicle wheel lubricator:

This subclass is indented under the class definition. Subject matter, including apparatus specifically adapted to lubricate the rail or track, or the rail or track vehicle wheels.

 Note. The majority of the devices in this subclass are located adjacent the track or rail on or in the ground. Devices mounted on the vehicle are found in the indented subclass 3.2.

SEE OR SEARCH CLASS:

- 104, Railways, subclass 279 for railway track clearers and lubricators.
- 198, Conveyors: Power-Driven, subclass500 for lubricating devices for conveyor rails or rail wheels.

3.2 On vehicle:

This subclass is indented under subclass 3.1. Subject matter including apparatus mounted on a track or rail vehicle, specifically adapted to lubricate the track or rail, or the track or rail vehicle wheel.

SEE OR SEARCH CLASS:

- 104, Railways, subclass 279 for railway track clearers and lubricators.
- 198, Conveyors: Power-Driven, subclass 500 for lubricating devices for conveyors rails or rail wheels.

4 WINDMILL LUBRICATION:

This subclass is indented under the class definition. Devices which are particularly adapted for use on a windmill to lubricate the bearings.

5 SLIDE-BEARING LUBRICATION:

This subclass is indented under the class definition. Devices for lubricating slide-bearings where the lubricating devices are practically part of the bearings. This subclass is limited to the lubricating of the bearing.

(1) Note. Where the claims are broader and include parts of the machine, the device goes to the machine class.

SEE OR SEARCH CLASS:

- 101, Printing, subclass 2.
- 409, Gear Cutting, Milling, or Planning, for lubricating combined with a machine of that class.

5.1 BEARING PACKER:

This subclass is indented under the class definition. Subject matter including devices specifically intended for lubricating or repacking bearings, e.g., vehicle wheel bearings.

SEE OR SEARCH CLASS:

384, Bearings, appropriate subclasses for bearing lubrication where the lubricating means is a part of the bearing structure.

6 SYSTEMS:

This subclass is indented under the class definition. The combination of conveying-pipes with a source of lubricant-supply and arranged to lubricate the several bearings of a machine or of several machines from a common source of supply.

 Note. In connection with the above there may or may not be an arrangement to return the oil not used to the source of supply.

SEE OR SEARCH CLASS:

- 123, Internal-Combustion Engines, subclasses 90.33+ for poppet valve operating mechanism having a related lubrication feature.
- 210, Liquid Purification or Separation, appropriate subclasses for processes and apparatus for separating a component from a liquid, particularly subclasses 167.02 through 167.09 for liquid purification or separation

means in a structural installation with a closed circulating system for a lubrication system.

6.1 With means to control machine operation:

This subclass is indented under subclass 6. Device provided with means to sense the machine operation (e.g., change of speed, load, temperature, etc.), to affect the operation of the machines lubrication systems.

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclass 196 for synchronous operations of an engine and a lubrication forcing means.

6.11 Gas turbine:

This subclass is indented under subclass 6. Device having means for feeding a lubricant into a hollow shaft in a gas turbine from which the lubricant is fed to the bearings.

6.12 Gearing:

This subclass is indented under subclass 6. Device having means for lubricating a gear surface or a gear shaft.

SEE OR SEARCH CLASS:

- 74, Machine Element or Mechanism, subclasses 467+ for gears specifically modified for purposes of lubrication.
- 475, Planetary Gear Transmission Systems or Components, subclasses 159+, for lubrication of planetary gear transmission.

6.13 Dry sump:

This subclass is indented under subclass 6. Device having means for removing the lubricant from a machine sump.

6.14 Machine tools:

This subclass is indented under subclass 6. Device having means for lubricating machine tools.

6.15 Sewing machines:

This subclass is indented under subclass 6. Device having means for lubricating sewing machines.

SEE OR SEARCH CLASS:

112, Sewing, subclasses 43 and 256 for a sewing machine with apparatus to lubricate it.

6.16 Rotary compressor:

This subclass is indented under subclass 6. Device having means for lubricating the rubbing parts of a rotary type compressor.

(1) Note. Only a minute quantity of lubricant is generally applied.

SEE OR SEARCH CLASS:

418, Rotary Expansible Chamber Devices, subclasses 83+ for lubrication of a rotary expansible chamber device.

6.17 Cylinders parallel to shaft:

This subclass is indented under subclass 6. Device having means for lubricating machines wherein the cylinders are parallel or substantially parallel to a drive shaft.

(1) Note. These machines usually include wobbler can or plate.

6.18 Vertical shaft:

This subclass is indented under subclass 6. Device having means for lubricating a vertical shaft.

6.19 Linkage mechanisms:

This subclass is indented under subclass 6. Device including means for lubricating links which are connected to other bodies.

6.2 With machine tilt compensating means:

This subclass is indented under subclass 6. Device including means to prevent disruption of the machines lubrication system when the machine is tilted.

SEE OR SEARCH CLASS:

244, Aeronautics and Astronautics, subclass 135 for fuel supply systems combined with aircraft.

6.21 With lubricant treatment means:

This subclass is indented under subclass 6. Device including conditioning means for the lubricant while in use in the system.

6.22 Temperature or viscosity:

This subclass is indented under subclass 6.21. Device wherein the conditioning means raises or lowers the temperature of the lubricant or maintains the proper fluidity.

SEE OR SEARCH THIS CLASS, SUBCLASS:

104.1+, for apparatus for heating or cooling a lubricant other than in a system.

SEE OR SEARCH CLASS:

- 123, Internal-Combustion Engines, subclass 196 for engine lubricators.
- 165, Heat Exchange, for heating or cooling apparatus of general use.
- 236, Automatic Temperature and Humidity Regulation, for temperature and humidity apparatus.

6.23 Foam or air:

This subclass is indented under subclass 6.21. Device including means to destroy or remove gas or vapor bubbles dispersed in the lubricant.

SEE OR SEARCH CLASS:

- 96, Gas Separation: Apparatus, subclasses 155+ for degasifying means for liquid, per se.
- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 115+ for processes of or compositions for or subcombination compositions for the breaking of or inhibiting of foam colloid systems, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

6.24 Purification means:

This subclass is indented under subclass 6.21. Device wherein the conditioning means (e.g., filtering, centrifuging or separating) removes foreign material to purify the lubricant.

SEE OR SEARCH CLASS:

- 210, Liquid Purification or Separation, appropriate subclasses for processes and apparatus for separating a component from a liquid, particularly subclasses 167.02 through 167.09 for liquid purification or separation means in a structural installation with a close circulating system for a lubrication system.
- 494, Imperforate Bowl: Centrifugal Separators, appropriate subclasses for apparatus and process for breaking up a mixture of fluids or fluent substances into two or more components by centrifuging within a generally solid-walled, receptacle-like member.

6.25 Magnetic:

This subclass is indented under subclass 6.21. Device includes magnetic means.

SEE OR SEARCH CLASS:

210, Liquid Purification or Separation, subclass 222 for separators including a magnet of general use.

6.26 With mist or fog means:

This subclass is indented under subclass 6. Device including means to spray a lubricant for creating a mist or fog.

6.27 With guard:

This subclass is indented under subclass 6. Device including means to control spraying or leakage of lubricant to prevent damage to a surface.

(1) Note. The lubricant would cause carbonization or other detrimental effects to a surface.

6.28 Pump or pump systems mounting means:

This subclass is indented under subclass 6. Device including structure for fixing or making fast the position of a lubricant pump or system.

6.3 With machine starting means:

This subclass is indented under subclass 6. Device including means to provide lubrication simultaneously with or prior to starting the machine.

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclass 196 for lubrication systems combined with an engine.

6.4 With safety or indicating means:

This subclass is indented under subclass 6. Device provided with (1) means to sense a change in the operation of a lubrication system and means responsive to said change to affect the operation of the machine, (2) means to prevent abnormal pressures in a lubricating system or (3) means for indicating the operation of the machine or supply.

SEE OR SEARCH CLASS:

- 123, Internal-Combustion Engines, subclass 196 for lubrication systems combined with engines.
- 340, Communications: Electrical, subclass 631 for electric indicator for machine lubricant; and subclasses 679+ for machine condition responsive indicating systems.

6.5 Crank-type machines:

This subclass is indented under subclass 6. Device having means for lubricating crank-type machines.

6.6 Radially extending cylinders:

This subclass is indented under subclass 6.5. Device wherein the machines have cylinders in more than one radial plane or opposed.

6.7 Inverted cylinder:

This subclass is indented under subclass 6.5. Device wherein an expansible chamber of the machine is below the connecting rod.

6.8 Cylinder lubrication:

This subclass is indented under subclass 6.5. Device having means for lubricating a cylinder surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

18, for apparatus for lubricating a cylinder

6.9 With valve lubrication:

This subclass is indented under subclass 6.5. Device including means for lubricating valves of the machine.

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclasses 90+ for valve-operating mechanism in an engine.

7.1 For twister ring or spinning spindle:

This subclass is indented under subclass 6. Subject matter, including apparatus specifically adapted to lubricate twister rings or spinning spindles of textile or similar machines.

SEE OR SEARCH CLASS:

139, Textiles: Weaving, subclasses 1 and 45 for lubricating devices specifically for textile machines.

7.2 For chassis lubrication:

This subclass is indented under subclass 6. Subject matter, including apparatus specifically adapted to lubricate the bearing points in a chassis for a vehicle or other machine.

7.3 With flow regulator:

This subclass is indented under subclass 7.2. Subject matter, including apparatus to control the lubricant flow.

7.4 With measuring or metering value system:

This subclass is indented under subclass 6. With measuring or metering value system: Subject matter, including apparatus to monitor and indicate lubricant flow parameters.

8 Continuous tube:

This subclass is indented under subclass 6. Subject matter, wherein there is a continuous tube from the source of lubricant to the bearing.

9 Sliding tube:

This subclass is indented under subclass 6. Subject matter, including apparatus comprising two telescoping tubes which slide, where usually one tube is fastened to a stationary part.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclass 580 for fluid distribution systems including a run-

ning joint between movable parts of the system.

10 Wipers:

This subclass is indented under subclass 6. Subject matter, wherein a tube or collecting device is secured to a moving bearing and the tube or collecting device carries a member which at some point in its movement wipes a drop of oil from the outlet of the reservoir of oil which is permanently secured.

SEE OR SEARCH THIS CLASS, SUB-CLASS: 63,

11.1 Splash:

This subclass is indented under subclass 6. Subject matter wherein the lubricant is splashed by some moving part of the machine to be lubricated into one or more receptacles placed so as to feed the lubricant so collected to the part(s) to be lubricated.

(1) Note. This subclass is distinguished from subclass 13.1, in this subclass, by the fact in this subclass there are means to catch the lubricant when splashed and to carry it to the part(s) to be lubricated.

11.2 With conduit:

This subclass is indented under subclass 11.1. Subject matter including a pipe, tube, or the like to transmit lubricant to or from the part(s) to be lubricated.

11.3 For transmission band:

This subclass is indented under subclass 11.1. Subject matter wherein a transmission band is lubricated.

11.4 With connecting rod clippers or scoops:

This subclass is indented under subclass 11.1. Subject matter wherein connecting rod clippers or scoops pick up lubricant from a crankcase during movement of the rod.

11.5 For endless band or chain feed:

This subclass is indented under subclass 11.1. Subject matter wherein an endless band or a chain is lubricated.

12 CONVEYORS:

This subclass is indented under subclass 61. Devices for conveying the lubricant from a reservoir to a bearing. They are more complicated than those of ...

13.1 Splash:

This subclass is indented under the class definition. Subject matter's including apparatus in which a moving part strikes a body of lubricant and spatters it about, so that it comes in contact with a part to be lubricated.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

11.1, for devices which splash lubricant into a catch means, with lubricant then being carried to a part to be lubricated.

14 LUBRICATORS:

This subclass is indented under the class definition. Primarily receptacles for holding lubricant having an outlet, and associated with this receptacle so as practically to be a part of it, is some arrangement which regulates and causes (either one or both) the oil to be delivered through the outlet. These devices as above described are complete in themselves and may be removed as an entirety from one machine and placed on another.

SEE OR SEARCH CLASS:

- 48, Gas: Heating and Illuminating, for pertinent subclass(es) as determined by schedule review.
- 222, Dispensing, for pertinent subclass(es) as determined by schedule review.

14.1 Spring:

This subclass is indented under subclass 14. Subject matter including apparatus specially intended, and arranged, to lubricate a spring (e.g., coil, leaf, spiral, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:

for devices for lubricating vehicle chassis.

15.1 Belt, cable, chain or conveyor:

This subclass is indented under subclass 14. Subject matter, including apparatus for lubricating a belt, cable, chain or conveyor.

SEE OR SEARCH CLASS:

- 30, Cutlery, subclasses 123.4 and 381+ for chain saws, per se.
- 83, Cutting, subclass 169 for chain saw lubrications.
- 198, Conveyors: Power-Driven, subclass 500 for power-driven conveyor lubricators.
- 305, Wheel Substitutes for Land Vehicles, subclasses 117+ for wheel lubricators.

15.2 With injector:

This subclass is indented under subclass 15.1. Subject matter, wherein the lubricant is applied to a belt, cable, chain or conveyor by an injection means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

56, for steam or air injector lubricators.

15.3 With intermittent spray or drip:

This subclass is indented under subclass 15.1. Subject matter, wherein an alternately on and off apparatus supplies lubricant to a belt, cable, chain or conveyor.

16 Swab-applied:

This subclass is indented under subclass 15.1. Devices for applying the lubricant by a swab.

17 Roller-applied:

This subclass is indented under subclass 15.1. Devices for applying the lubricant by roller.

18 Cylinder lubricators:

This subclass is indented under subclass 14. Devices designed and adapted especially for lubricating an engine-cylinder.

SEE OR SEARCH CLASS:

92, Expansible Chamber Devices, subclasses 153+ for lubricating means for the cylinder of an expansible chamber device.

19 Swab-applied:

This subclass is indented under subclass 18. The lubricant is applied by a swab usually fastened to the piston-rod.

20 Rotary swab-applied:

This subclass is indented under subclass 18. Cylinder-lubricators in which the lubricant is applied by a rotary swab.

21 Elevator-guide lubricators:

This subclass is indented under subclass 14. Devices intended to be placed upon an elevator-car and in position to lubricate the slideways of the same.

22 Swab:

This subclass is indented under subclass 21. The lubricant is applied by a swab.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

102,

23 Rotary brush or roller:

This subclass is indented under subclass 21. The lubricant is applied by a roller or a rotating brush.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

101,

SEE OR SEARCH CLASS:

492, Roll or Roller, for a roll, per se, not elsewhere provided for, and see the notes thereunder.

24 Piston-rod lubricators:

This subclass is indented under subclass 14. As the name indicates, these devices are adapted to lubricate a piston-rod.

SEE OR SEARCH CLASS:

277, Seal for a Joint or Juncture, for a generic sealing means or process, subclasses 512+ for a dynamic, circumferential, contact seal for other than a piston intended to be contained or compressed by a gland member in a packing box having means to introduce or direct a fluid.

25 Swab:

This subclass is indented under subclass 24. Piston-rod lubricators in which the lubricant is applied by a stationary swab.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

16, 22 and 102.

Lubricators, Force-feed.

In this type the lubricant in the reservoir is placed under pressure by some means, and thus forced to its destination.

SEE OR SEARCH CLASS:

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclasses 311+, particularly subclasses 383+ for dispensers having means to couple to receivers.

26 Pumps:

This subclass is indented under the unnumbered subclass, Force feed. A pump is used to force the lubricant from the container to its destination.

(1) Note. Similar structures are to be found in Class 417, Pumps and Class 418, Rotary Expansible Chamber Devices.

SEE OR SEARCH CLASS:

- 123, Internal-Combustion Engines, subclass 495.
- 222, Dispensing, subclasses 251+, particularly, subclasses 255, 309, 333+, and 372+.

27.1 Mechanically operated:

This subclass is indented under subclass 26. Device wherein the pump is mechanically connected to some source of power, usually a moving part of the machine upon which the lubricant-receptacle is mounted.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71, and 74, for mechanically operated lubricator valves.

27.2 Multiple pumps:

This subclass is indented under subclass 27.1. Device including a plurality of separate, mechanically operated pumping units.

27.3 Pump with sight feed:

This subclass is indented under subclass 27.1. Device having a transparent portion through which the flow of the lubricant can be viewed.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

96, for a lubricator sight feed, per se.

27.4 Oscillating cylinder:

This subclass is indented under subclass 27.1. Device wherein the pump includes elements which undergo angular or swinging movement, rather than linear, to pump the lubricant.

28 Hand-operated:

This subclass is indented under subclass 26. The pump-piston is operated by hand.

29 Fluid-operated:

This subclass is indented under subclass 26. The piston is actuated by intermittent application of fluid under pressure to the said piston.

SEE OR SEARCH THIS CLASS, SUBCLASS:

72. and 76.

30 Pendulum-operated:

This subclass is indented under subclass 26. The piston is actuated by means of a pendulum which is vibrated by the motion of the machinery.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

73. and 78.

31 Rotary:

This subclass is indented under subclass 26. Pumps of the rotary type where the lubricant is forced by the direct pressure of continuously revolving vanes or equivalents.

32 Oscillating piston:

This subclass is indented under subclass 26. The piston is so arranged that by its own oscillation it covers and uncovers ports, so that dur-

ing its forcing stroke a lubricant is forced through an outlet-passage and upon its suctionstroke the lubricant is admitted to the pumpcylinder.

Rotary piston and valve:

This subclass is indented under subclass 35. The pump is mounted upon the valve and both rotate together. In action it is like ..., hereinafter defined.

34 Oscillating distributing valve:

This subclass is indented under subclass 26. The discharge-valve from the pump-cylinder oscillates so that the outlet-passage is in connection with the pump-cylinder during the forcing stroke and the in-take-passage is connected with the pump-cylinder at the suction-stroke of the piston.

35 Rotary distributing valve:

This subclass is indented under subclass 26. The discharge-valve from the pump-cylinder rotates continuously, and the ports are so arranged that upon the forcing stroke of the piston oil is distributed to a single outlet or several outlets and upon the suction-stroke the valve is in position to allow the lubricant to enter the pump-cylinder from a source of supply.

(1) Note. Search indented subclasses under Lubricators, Gravity-feed, Automatic cutoff, Rotatable valve.

36 Attachments:

This subclass is indented under subclass 26. Things not part of the lubricator-proper, but used in connection with the same, such as special valves, etc.

Lubricators, Force-feed, Followers.

Lubricators wherein the lubricant is forced by a piston, which follows and pushes the lubricant from the receptacle.

37 Mechanically operated:

This subclass is indented under the unnumbered subclass, Followers. The follower is moved by a mechanical connection between it and some actuating source.

38.1 Hand-operated:

This subclass is indented under the unnumbered subclass, Followers. The piston-follower is actuated by hand to force the lubricant out of its receptacle.

38.2 Follower rod threaded to receptacle:

This subclass is indented under subclass 38.1. Device wherein the piston-follower is attached to a rod which is joined to the lubricant-receptacle by a threaded connection for relative movement.

38.3 Follower threaded to receptacle:

This subclass is indented under subclass 38.1. Device wherein the piston-follower, itself, is joined to the lubricant-receptacle by a threaded connection for relative movement.

38.4 Follower threaded to rod:

This subclass is indented under subclass 38.1. Device wherein the piston-follower is attached to a rod by a threaded connection for relative movement.

39 Fluid-operated:

This subclass is indented under the unnumbered subclass, Followers. The piston-follower is actuated by fluid pressure which urges it to move in one direction to force the lubricant out of its receptacle.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

54, and 55.1+, for lubricators wherein the lubricant is subjected directly to a fluid pressure.

SEE OR SEARCH CLASS:

- 123, Internal-Combustion Engines, subclasses 434+ for a charge forming device.
- 222, Dispensing, subclasses 389+ for a fluid pressure actuated discharge assistant.

39.1 Cyclical-type metered injector:

This subclass is indented under subclass 39. Device wherein the piston-follower is subjected to a pulse of fluid pressure to force a given amount of lubricant from its receptacle in one shot, the piston-follower subsequently returning to its initial position and the recepta-

cle being refilled from a reservoir to complete the cycle and await the next pulse.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

7.4, for a similar device included in a system.

SEE OR SEARCH CLASS:

- 123, Internal Combustion Engines, subclasses 446+ for an internal combustion engine having a fuel injection device.
- 239, Fluid Sprinkling, Spraying, and Diffusing, subclasses 88+ for an injection nozzle and pump.
- 261, Gas and Liquid Contact Apparatus, subclasses 34+ for a liquid pump of that class type.

40 Fluid return:

This subclass is indented under subclass 39. Fluid operated followers which are returned by fluid-pressure.

41 Spring-assisted:

This subclass is indented under subclass 39. Fluid-operated followers which are assisted by the expansive force of a spring.

42 Spring return:

This subclass is indented under subclass 39. Fluid-operated followers which are returned by a spring.

43 Centrifugal:

This subclass is indented under the unnumbered subclass, Followers. Followers actuated by centrifugal force, due to the rotation of the object upon which the lubricator is placed.

44 Pendulum-operated:

This subclass is indented under the unnumbered subclass, Followers. Followers actuated by mechanism operated by a pendulum, which pendulum is swung by the motion of the machine.

45.1 Spring-operated:

This subclass is indented under the unnumbered subclass, Followers. The piston-follower is actuated by a spring to force the lubricant out of its receptacle.

45.2 Spiral spring:

This subclass is indented under subclass 45.1. Device wherein the spring element is a coil-spring.

Weight-operated:

This subclass is indented under the unnumbered subclass, Followers. A weight upon the follower moves the same.

47 Balance piston:

This subclass is indented under the unnumbered subclass, Followers. There are two receptacles, and the followers are connected so that when one follower moves in one direction the other follower moves in the opposite direction.

48.1 Locking devices:

This subclass is indented under the unnumbered subclass, Followers. The piston-follower is engaged by means which inhibit or prevent it from moving away from the lubricant.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

45.1+, and 46, for spring and gravity operated devices which urge the piston-follower toward the lubricant.

48.2 Friction type:

This subclass is indented under subclass 48.1. Device wherein the piston-follower engaging means utilizes friction between relatively movable members to inhibit or prevent the piston-follower from moving away from the lubricant.

49 Condensation displacement:

This subclass is indented under the unnumbered subclass, Fluid-operated. Steam is admitted to some receptacle, where it condenses, and then the water of condensation flows into the lubricant-receptacle and displaces the lubricant, and thus forces it out.

SEE OR SEARCH THIS CLASS, SUBCLASS:

55.1+,

50.1 Double passage:

This subclass is indented under subclass 49. Device wherein the steam and water of condensation flow into the lubricant-receptacle through one passage and the displaced lubricant flows out of the lubricant- receptacle through a second passage.

50.2 Atomizer:

This subclass is indented under subclass 1. Device including means to reduce the lubricant to minute particles.

51 Single passage:

This subclass is indented under subclass 49. The receptacle has but one passage to the interior, and the steam must enter and the lubricant flow out this same passage.

52 Choke plugs:

This subclass is indented under subclass 49. Devices used in connection with condensation-displacement lubricators and placed on a steam-chest or analogous device to prevent back pressure in the lubricator.

 Note. For restrictors not limited by structure to use with a lubricating system, see Class 138, Pipes and Tubular Conduits, subclass 40, and indented subclasses.

53 Auxiliary feeding receptacles:

This subclass is indented under subclass 49. Receptacles attached to the lubricator by means of which lubricant may be fed to a bearing in addition to the lubricant regularly supplied or can be used in case any accident occurs to the principal lubricator.

54 Displacement by liquid:

This subclass is indented under the unnumbered subclass, Fluid-operated. Device wherein the lubricant is directly displaced by a liquid.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39+, for lubricators having a piston-follower between the lubricant and the pressurized fluid.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 101.11+ and 206+ for devices of that class type using a displacing fluid.

55.1 Displacement by air or steam:

This subclass is indented under the unnumbered subclass, Fluid-operated. Lubricating device wherein the lubricant is directly displaced by air or steam.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39+, for lubricators having a piston-follower between the lubricant and the pressurized fluid.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 101.11+ and 206+ for devices of that class type using a displacing fluid.

55.2 Air line lubricators:

This subclass is indented under subclass 55.1. Device wherein lubricant passes from a receptacle and, as it leaves, it is brought into contact with a stream of air or steam and divided into fine particles or mist and carried by the air or steam to a part to be lubricated.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.26, for a lubrication system including a lubricant mister or atomizer.

50.2, for an atomizer in a condensation displacement system.

SEE OR SEARCH CLASS:

239, Fluid Sprinkling, Spraying, and Diffusing, subclasses 340+ and 418+ for related devices of that class type.

261, Gas and Liquid Contact Apparatus, subclasses 78.1+ for an atomizer of that class type.

57 Initial pressure:

This subclass is indented under subclass 55.1. Force-feed lubricators comprising an auxiliary tank in connection with the lubricant-receptacle, which tank is charged with compressed air, and this air is used to force the lubricant from its receptacle.

58 Suction:

This subclass is indented under subclass 55.1. The lubricant is drawn by suction to the part to be lubricated.

SEE OR SEARCH THIS CLASS, SUBCLASS:

76,

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclasses 590+.

59 Vented:

This subclass is indented under subclass 58. Force-feed, fluid-operated suction lubricators having an opening of some kind which permits the air to come into the receptacle, the pressure of the air assisting the suction.

60 Abrasion:

This subclass is indented under the unnumbered subclass, Fluid-operated. The lubricant lies directly in the path of a fluid under pressure, which mechanically wears off small particles of lubricant from a mass of solid lubricant and carries it to its destination.

SEE OR SEARCH CLASS:

- 4, Baths, Closets, Sinks, and Spittoons, subclasses 222+ for general disinfecting apparatus using water under pressure to carry small particles from a solid mass of disinfectant to a destination.
- 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 261+ apparatus which dissolves a portion of a solid to form a solution.

61 Conveyors:

This subclass is indented under the unnumbered subclass, Force feed. The lubricant is forced to its destination by means of a conveyor, such as a screw, or by buckets and chain.

SEE OR SEARCH CLASS:

261, Gas and Liquid Contact Apparatus, subclass 34.

62 Bucket:

This subclass is indented under subclass 61. A bucket is used to elevate the lubricant and convey it to some outlet.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

10,

63 Rotary:

This subclass is indented under subclass 62. The title is self-explanatory.

64 Capillary attraction:

This subclass is indented under the unnumbered subclass, Force feed. The lubricant is fed through a wick by capillary attraction.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

102.

SEE OR SEARCH CLASS:

48, Gas: Heating and Illuminating, subclass 25.

65 Gravity feed:

This subclass is indented under subclass 14. Lubricators where the lubricant is fed by gravity and the flow is usually controlled by a valve which is operated by hand.

SEE OR SEARCH CLASS:

48, Gas: Heating and Illuminating, subclass 4.

123, Internal-Combustion Engines, subclasses 434+, 445, and 590+.

66 Automatic cutoff:

This subclass is indented under subclass 65. The feed is intermittently cut off and the valve is automatically actuated from some extraneous source, such as the machine which is being lubricated.

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclass 451.

67 Electrically operated:

This subclass is indented under subclass 66. The valve is actuated by an electromagnet, solenoid, or similar electrical device.

68 Thermostats:

This subclass is indented under subclass 66. The valve is caused to operate by the expansion of some metal, which expansion is caused by the heat generated by the friction of the bearing to which the lubricator is attached.

69 Vibrators:

This subclass is indented under subclass 66. The valve is usually a ball or some piece of metal of such shape that the valve seats and unseats due to the vibration of the machine to which the lubricator is attached.

70 Centrifugal:

This subclass is indented under subclass 66. Devices attached to a rotating machine part. During the rotation of the part the oil is splashed and enters ports near the top of an outlet-pipe to a bearing. When not in motion, the level of the oil is below the ports in the tube. Therefore there is no feeding.

Lubricators, Gravity-feed, Automatic cutoff, Rotatable-valve.

The valve is rotated to cause intermittent feeding substantially in the manner out-lined in the definitions of the subclasses under Vertically-reciprocating valve.

71 Mechanically operated:

This subclass is indented under the unnumbered subclass, Rotatable valve. The valve is rotated by direct mechanical connection with some source of power, substantially in the manner outlined in the definitions of the subclasses under Vertically-reciprocating valve.

SEE OR SEARCH THIS CLASS, SUBCLASS:

27.1+, 33, and 35.

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclass 434.

72 Fluid pressure-operated:

This subclass is indented under the unnumbered subclass, Rotatable valve. The valve is rotated by fluid-pressure, substantially in the manner outlined in the definitions of the subclasses under Vertically-reciprocating valve.

SEE OR SEARCH THIS CLASS, SUBCLASS:

29, 33, and 35.

73 Pendulum-operated:

This subclass is indented under the unnumbered subclass, Rotatable valve. The valve is rotated by a pendulum, substantially in the manner outlined in the definitions of the subclasses under Vertically-reciprocating valve.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

30. 33. and 35.

Lubricators, Gravity-feed, Automatic cutoff, Vertically-reciprocating valve.

In this group of subclasses the valve regulating the feed is reciprocated vertically.

74 Mechanically operated:

This subclass is indented under the unnumbered subclass, Vertically reciprocating valve. The valve is operated by mechanical connections to some source or power and caused to vertically reciprocate.

SEE OR SEARCH CLASS:

123, Internal Combustion Engines, subclass 434.

75 Spring-retained:

This subclass is indented under subclass 74. The valve is caused to return to its initial position by means of a spring.

76 Fluid pressure-operated:

This subclass is indented under the unnumbered subclass, Vertically reciprocating valve. The valve is subject to fluid-pressure intermittently and causes the valve to vertically reciprocate.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

58, and 59.

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclass 434.

77 Centrifugally operated:

This subclass is indented under the unnumbered subclass, Vertically reciprocating valve. The valve is caused to operate because of the rotary motion of the object to which it is attached.

SEE OR SEARCH THIS CLASS, SUB-CLASS: 70.

78 Pendulum-operated:

This subclass is indented under the unnumbered subclass, Vertically reciprocating valve. The valve is operated by a pendulum. Due to the motion of the object to which the lubricator is attached the pendulum is caused to vibrate.

79 Horizontally reciprocating valve:

This subclass is indented under subclass 66. The valve in its operation slides horizontally and may be operated either by the motion of the machine or by some outside source.

80 Combined closure and valve:

This subclass is indented under subclass 65. Lubricators having novelty in the closure for the cup as well as the valve which regulates the flow of lubricant.

SEE OR SEARCH THIS CLASS, SUB-CLASS: 88.1+,

SEE OR SEARCH CLASS:

217, Wooden Receptacles, subclass 56.

222, Dispensing, subclasses 482+.

81 Multiple feed:

This subclass is indented under subclass 65. A single receptacle has several outlets leading to several bearings.

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclasses 579+.

82 Vertically movable valve:

This subclass is indented under subclass 65. The valve is set to give a certain feed, usually by screw, and the valve is opened or closed by a bodily vertical movement of the valve-stem.

83 Measuring valve:

This subclass is indented under subclass 65. The controlling-valve is constructed so as to deliver a definite quantity of lubricant at one time on turning the valve.

SEE OR SEARCH CLASS:

222, Dispensing, subclasses 344+, 425+, 476, and 477.

84 Airtight receptacle:

This subclass is indented under subclass 65. The lubricant-container has only one opening. Upon being inverted the receptacle is air-tight, and the feed of the oil is regulated by the vacuum created in the top of the receptacle.

85 Siphons:

This subclass is indented under subclass 65. The feed is accomplished by the use of a siphon.

86 Locking valve:

This subclass is indented under subclass 65. The valves have means coacting with the valve-rod to lock the same in any adjusted position.

87 Fiber valve:

This subclass is indented under subclass 65. The outlet from the receptacle is covered by a mass of fibrous matter. This mass may be compressed, and so regulate the outflow of lubricant.

88.1 Oil cup closure:

This subclass is indented under subclass 14. Device for covering or closing an oil cup or lubricant fitting.

(1) Note. An "oil cup" is a device which holds a relatively small amount of fluent lubricant which discharges by gravity or capillary action (e.g., a wick).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

80, for a closure combined with a valve in a gravity feed lubricator.

SEE OR SEARCH CLASS:

215, Bottles and Jars, subclasses 200+ for closures for bottles and jars.

- 220, Receptacles, subclasses 200+ for closure for receptacles, and see the notes thereunder.
- 222, Dispensing, subclasses 544+ and see the notes thereunder.

88.2 Flexible cover:

This subclass is indented under subclass 88.1. Device wherein the oil cup closure is a cover made of flexible material.

89 Depressible cap:

This subclass is indented under subclass 88.1. The part that closes the opening is held in place in a closed position by a spring and is adapted to have the nose of an oil-can push back the closing-piece and admit lubricant.

90 Hinged cover:

This subclass is indented under subclass 88.1. The cover of the cup is hinged.

SEE OR SEARCH CLASS:

217, Wooden Receptacles, subclass 56.

91 Spring-controlled:

This subclass is indented under subclass 90. The cover is returned to its closed position by a spring.

SEE OR SEARCH CLASS:

217, Wooden Receptacles, subclass 56.

92 Rotatable cover:

This subclass is indented under subclass 88.1. The cover upon being rotated uncovers an opening through which lubricant can be admitted to the cup.

93 Spring-controlled:

This subclass is indented under subclass 92. Devices in which the cover is brought back to its initial or closed position by a spring.

94 Slidable cover:

This subclass is indented under subclass 88.1. The cover slides, and so uncovers an opening for the admission of lubricant.

95 Spring-controlled:

This subclass is indented under subclass 94. The cover is returned to its initial or closed position by a spring.

96 Sight feeds:

This subclass is indented under subclass 14. Devices attached to a lubricator through which the lubricant flows as it is discharged and by means of which the quantity and rate of discharge may be observed.

SEE OR SEARCH CLASS:

- 73, Measuring and Testing, subclass 323 and indented subclass.
- 220, Receptacles, subclasses 662+, and see the notes thereto, for structures wherein a transparent panel is mounted in a wall.

97 Attachments:

This subclass is indented under subclass 96. Auxiliary attachments to a sight-feed, such as reflectors, shields, etc.

98 Liquefiers:

This subclass is indented under subclass 14. The heat generated by the friction of the bearing parts melts a solid or semisolid in the cup and allows it to run onto the bearing.

99 Solid stick:

This subclass is indented under subclass 98. A solid stick of lubricant is in contact with the bearing. It is melted by the friction.

100 Slide-bearing lubricators:

This subclass is indented under subclass 14. Devices fastened to a moving part of a slide-bearing and applying lubricant to the bearing parts. They are separate from the structure which they lubricate and may be removed from the same.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5, for lubricating slide-bearings.

101 Roller:

This subclass is indented under subclass 14. Devices not otherwise classifiable for applying lubricant to a bearing by a roll, usually covered with felt.

SEE OR SEARCH THIS CLASS, SUBCLASS:

3, and 17.

SEE OR SEARCH CLASS:

492, Roll or Roller, for a roll, per se, not elsewhere provided for, and see the notes thereunder.

102 Swab:

This subclass is indented under subclass 14. Miscellaneous devices for applying lubricant to a bearing by a swab.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

3, 16, 19, 22, 25, and 64.

103.1 Constant level:

This subclass is indented under subclass 14. Device having a lubricant distributing-reservoir and means to automatically maintain a constant level of lubricant therein.

SEE OR SEARCH CLASS:

- 123, Internal-Combustion Engines, subclasses 590+ for a constant level charge mixing device in an internalcombustion engine.
- 222, Dispensing, subclasses 64+ for dispenser having material level control means.

103.2 Float-controlled:

This subclass is indented under subclass 103.1. Device wherein the automatic level maintaining means includes a buoyant body floating on or in the lubricant.

SEE OR SEARCH CLASS:

261, Gas and Liquid Contact Apparatus, subclass 70 for a device of that class type having a float controlled liquid inlet valve.

104.1 Lubricant heating and/or cooling device:

This subclass is indented under subclass 14. Device including means to increase or decrease (or both) the temperature of the lubricant.

SEE OR SEARCH CLASS:

165, Heat Exchange, subclasses 47+ for a structurally installed heat exchanger; and appropriate subclasses for a heat exchanger, per se.

277, Seal for a Joint or Juncture, for a generic sealing means or process, subclass 930 for a seal including means to introduce, circulate, or remove fluid having a heating or cooling feature.

104.2 For internal-combustion engine:

This subclass is indented under subclass 104.1. Device wherein the machine to be lubricated is disclosed as an internal-combustion engine.

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclasses 90.1+ and 196 for lubricators limited by structure for use only with an internal-combustion engine.

104.3 Lubricant cooling device:

This subclass is indented under subclass 104.2. Device having only means to decrease the temperature of the lubricant.

105.1 Refilling device:

This subclass is indented under subclass 14. Device including means to replenish the lubricant in the lubricant-receptacle, either directly into a lubricant cup or through a grease fitting, without disturbing the apparatus being lubricated.

SEE OR SEARCH CLASS:

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, appropriate subclasses beginning with subclass 311, particularly subclasses 383+ for a filling means and associated receiver.

105.2 Grease gun:

This subclass is indented under subclass 105.1. Device wherein the means to replenish includes a lubricant delivery member which has means to detachably fit on or in a lubricant receiving nipple or fitting on the apparatus being lubricated.

105.3 Nipple or fitting:

This subclass is indented under subclass 14. Device including means detachable fluid connection between the refilling device and the lubricant-receptacle of the apparatus being lubricated.

(1) Note. A "Zerk" fitting is a common nipple or fitting.

106 Drip pans:

This subclass is indented under subclass 14. Devices placed beneath a bearing which catch the unused oil and either hold the same or have means connected therewith to return it to the reservoir.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6,

SEE OR SEARCH CLASS:

220, Receptacles, subclasses 571+ for a drip or drain pan, per se.

222, Dispensing, subclasses 108+.

107 FUSIBLE SAFETY MEANS FOR LUBRI-CATION DEVICE:

This subclass is indented under the class definition. Subject matter including containing means utilizing a condition responsive plug to inhibit lubricant flow from the container, and which lubricates a device when environmental conditions of predetermined temperature or pressure cause the plug to melt.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.4, for lubrication systems which include safety devices.

108 SAFETY ALARM OR INDICATING MEANS:

This subclass is indented under the class definition. Subject matter including apparatus provided with audio or visual signal means responsive to an abnormal operating condition of a lubrication device.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

6.4, for lubrication systems with safety or indicating means.

109 MISCELLANEOUS:

This subclass is indented under the class definition. Subject matter including devices for lubricating surfaces which can not be classified elsewhere.