No. 702,815. Patented June 17, 1902.

L. G. NILSON.

OIL FEEDER.

(Application filed Sept. 6, 1901.)

(No Model.)

Fig. 1

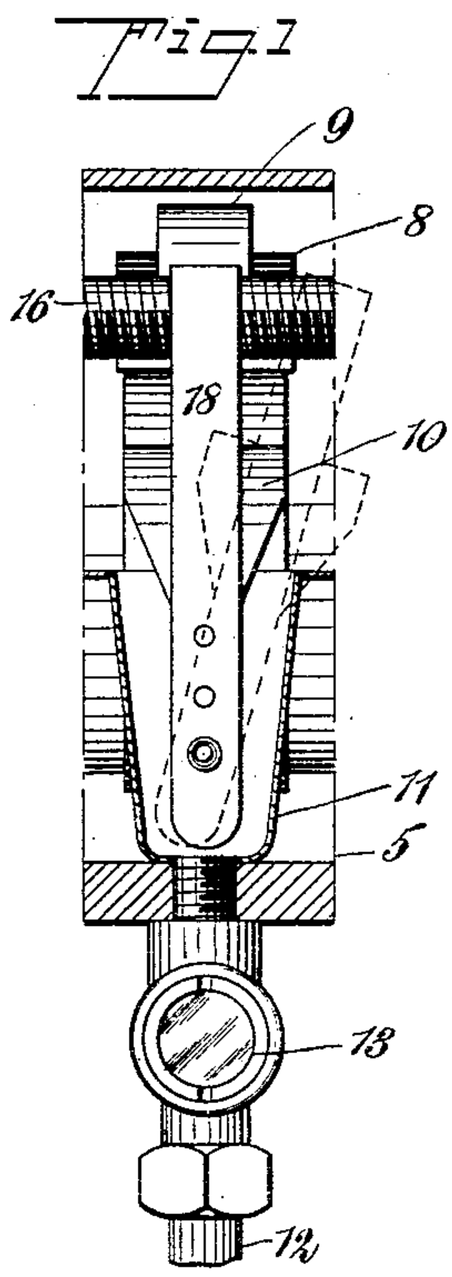


Fig. 2

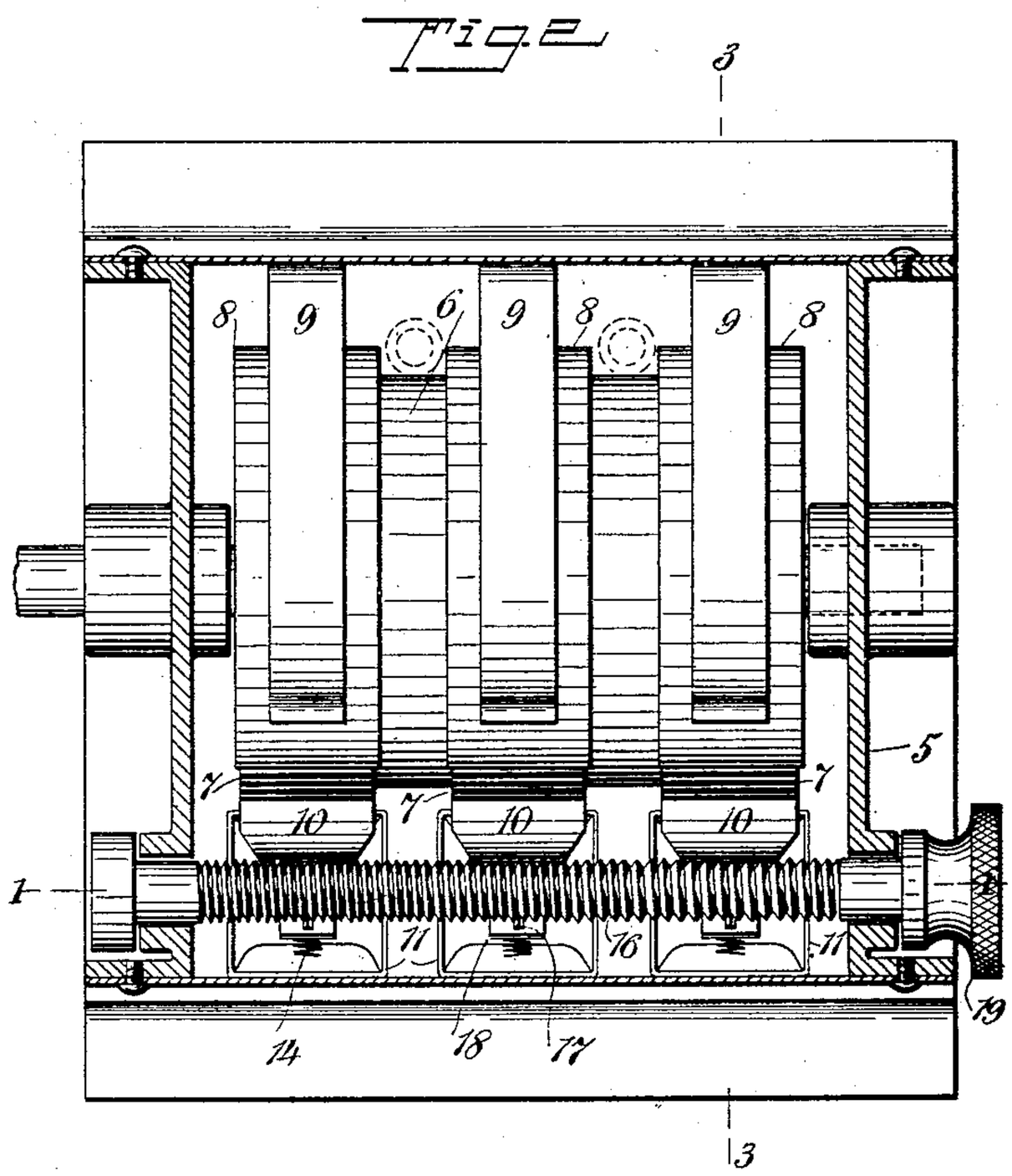
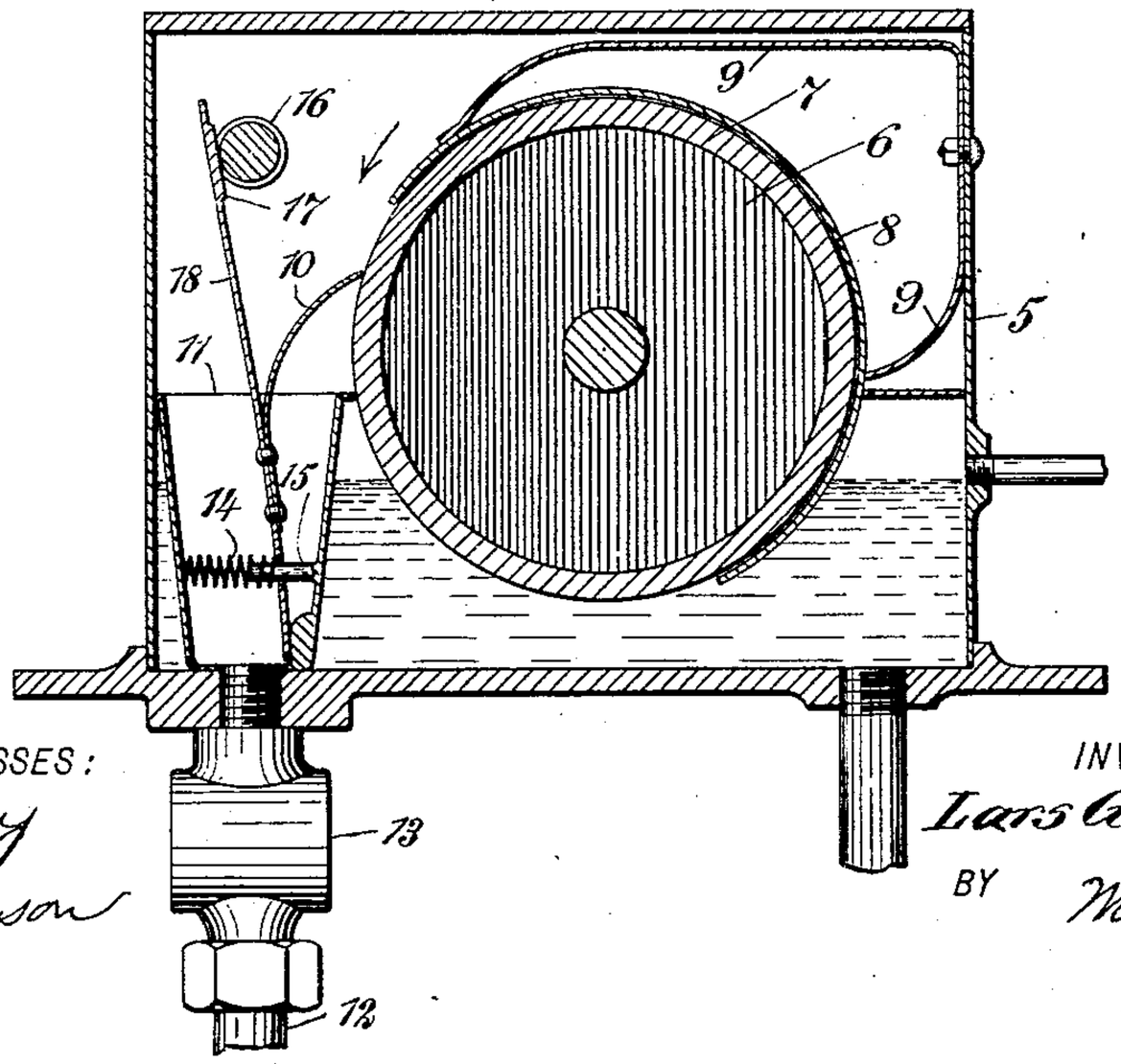


Fig. 3



WITNESSES:

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OIL-FEEDER.

SPECIFICATION forming part of Letters Patent No. 702,815, dated June 17, 1902.

Application filed September 6, 1901. Serial No. 74,490. (No model.)

To all whom it may concern:

Be it known that I, LARS G. NILSON, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented certain new and useful Improvements in Oil-Feeders, of which the following is a full, clear, and exact description.

This invention relates to improvements in devices for feeding oil to machinery for the purpose of lubrication, combustion, or the like. In usual forms of liquid-distributing devices—such as oil-cups, pumps, vaporizers, carbureters, &c.—and where only a small quantity of oil is needed at intervals, it is found difficult to get a uniform, positive, and reliable flow because of the fact that the viscosity of most oils changes with the temperature, and it therefore follows that when a feeder is arranged or adjusted for a thick oil or lubricant it will feed too fast when the oil becomes thinner through heat or warmth, and, further, when gasolene or the like is fed through needle-valves, as is customary in vaporizers for explosive-engines, foreign particles carried with the oil will interfere with the flow, and in carbureters, where air is forced through and in contact with the gasolene, the light portions of the oil are carried off, leaving a residue that is difficult to evaporate.

It is the object of my present invention to provide a feeder by the use of which the above difficulties will be obviated, inasmuch as it may be readily adjusted to feed oils of different or varying consistency with uniformity and positive flow.

I will describe an oil-feeder embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a section, on the line 1 1 of Fig. 2, of an oil-feeder embodying my invention. Fig. 2 is a plan view thereof, partly in section; and Fig. 3 is a section on the line 3 3 of Fig. 2.

While in the drawings I have shown a casing comprising a plurality of feeders designed to distribute oil to different parts of a machine, it is to be understood that in some instances, and perhaps a majority of instances, a single feeder will be employed.

Referring to the drawings, 5 designates a receptacle for oil that may be placed in any convenient position on the machine. Arranged to rotate in the receptacle is a cylinder 6, upon which, as here shown, is formed a plurality of oil-carrying surfaces 7. As above stated, however, my invention contemplates the employment of but a single oil-carrying surface or a greater number than that shown. Partially surrounding each oil-carrying surface and spaced slightly therefrom is an apron 8, the lower portion of which extends into the oil within the container. The apron is supported by arms 9, attached to the oil-receptacle. By this construction when the cylinder is rotated in the direction of the arrow indicated in Fig. 3 the oil will be carried up between the oil-bearing surface and the apron by capillary attraction and uniformly spread upon the bearing-surface.

Engaging with the oil-bearing surface of the rotary part just below the outlet end of the apron is a scraper 10, which is preferably held in spring-yielding engagement with the said oil bearing or carrying surface. As here shown, the scraper is pivoted at its lower end within a funnel 11, from which a pipe 12 leads to the part designed to be lubricated or to the part or chamber designed to receive the oil, and in this pipe may be arranged a sight-chamber 13, so that the flow of oil may be readily observed. The scraper is held against the cylinder, as here shown, by means of a spring 14, bearing at one end against a wall of the funnel and at the other end against the scraper, the spring being held in position by means of a pin 15, extended from the opposite wall of the funnel through an opening in the lower portion of the scraper and into said spring.

The bearing end of the scraper will have a width equal to or substantially equal to the width of the oil bearing or carrying surface, so that when desired the whole amount of oil may be scraped therefrom and discharged in the funnel. At times, however, it may be

desired to discharge a less amount of oil, and therefore the scraper is made adjustable transversely of the carrying-surface. For causing this adjustment I provide a screw-rod 16, having bearings in the walls of the receptacle 5, and engaging with the thread thereof is a tooth 17, formed on an arm 18, extending upward from the scraper. At one of its ends the screw 16 is provided with a finger-piece 19, and I here show it arranged for simultaneously adjusting three scraper devices. Different degrees of adjustment, however, may be made of one scraper relatively to another by changing the positions of the tooth 17 on the screw-rod. To make this possible, the arms 18 are of yielding material, so that they may be drawn forward to disengage the teeth 17 from the thread of the screw-rod and adjusted as desired. Obviously by rotating the screw-rod the scrapers may be moved back and forth to bear more or less upon the oil-carrying surface, as indicated by dotted lines in Fig. 1.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An oil-feeder comprising a rotary part, a scraper adjustable transversely thereon and means for holding the scraper as adjusted, substantially as specified.

2. An oil-feeder comprising an oil-receptacle, a part mounted to rotate in said receptacle, an apron partially surrounding said rotary part and adapted to have its lower end extended into oil, and a scraper bearing on the rotary part at the outlet end of the apron, substantially as specified.

3. An oil-feeder comprising an oil-receptacle, a cylinder mounted to rotate therein, an apron partially surrounding the cylinder, and a spring-pressed finger bearing upon the cylinder at the outlet of the apron, substantially as specified.

4. An oil-feeder comprising an oil-receptacle, a cylinder mounted to rotate therein, an apron partially surrounding the cylinder, a spring-pressed scraper bearing upon the cylinder, and means for adjusting the scraper, substantially as specified.

5. An oil-feeder comprising an oil-receptacle, an oil-carrying device mounted to rotate in the receptacle, an apron partially surrounding said oil-carrying device, a scraper bearing upon the oil-carrying device, and a funnel into which said scraper is designed to discharge oil, substantially as specified.

6. An oil-feeder comprising a receptacle for oil, a cylinder mounted to rotate in the receptacle and having a plurality of oil-carrying surfaces, aprons partially surrounding the oil-carrying surfaces, scrapers bearing upon said oil-carrying surfaces, and means for simultaneously adjusting the several scrapers, substantially as specified.

7. An oil-feeder comprising a receptacle for oil, a rotary part in said receptacle and having a plurality of oil-carrying surfaces, aprons partially surrounding said surfaces, spring-pressed scrapers bearing upon said surfaces, arms extended upward from the scrapers, and a screw-rod with which teeth upon said arms are adapted to engage.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LARS G. NILSON.

Witnesses:
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