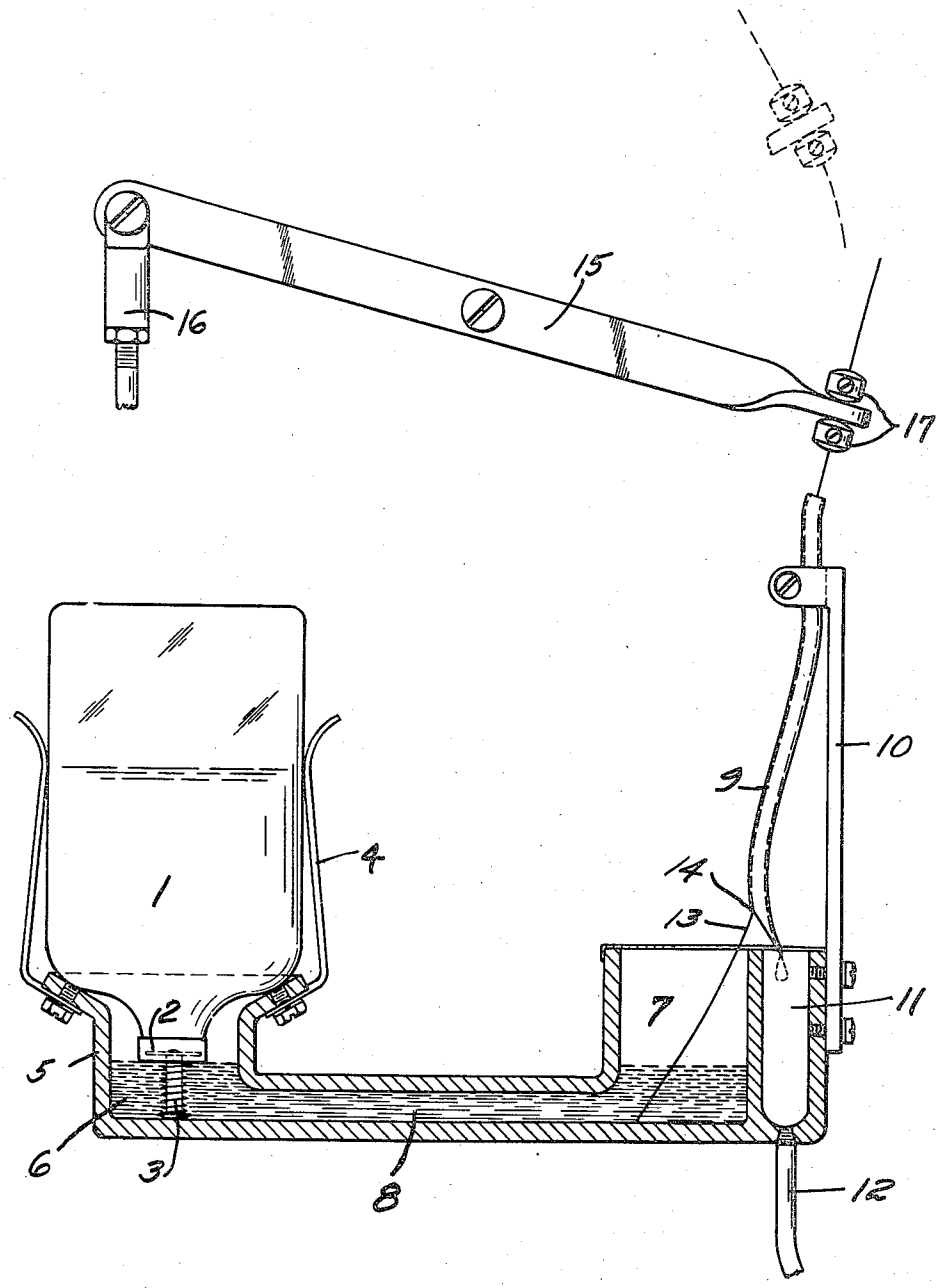
Sept. 16, 1958 C. N. H. REMICK 2,852,099

LUBRICATOR FOR KNITTING MACHINES

Filed Oct. 31, 1955



INVENTOR

CASSIUS N.H. REMICK

BY

ATT'Y.

United States Patent Office 2,852,099 Patented Sept. 16, 1958

2,852,099

LUBRICATOR FOR KNITTING MACHINES

Cassius N. H. Remick, Glencoe, Ontario, Canada, assignor to Hemphill Company, Central Falls, R. I., a corporation of Massachusetts

Application October 31, 1955, Serial No. 543,881

4 Claims. (Cl. 184—61)

This invention relates to a new improvement in lubricators for knitting machines and, in particular, for the lubricating of needles, sinkers, and the like, of circular, independent needle, knitting machines.

It is well known that, for the proper operation of modern high-speed knitting machines, it is essential that the needles and sinkers be lubricated with a very accurately controlled amount of lubricant. Various devices for this purpose have been devised but found wanting for one reason or another. To be satisfactory, such a lubricator must feed the lubricant at the desired rate under the varying conditions likely to be encountered in knitting mills; the flow of lubricant must stop automatically whenever the machine stops, regardless of the cause of such stoppage; and the lubricator must require a minimum of attention and be foolproof. This invention meets these requirements in an extremely simple and inexpensive manner.

The single figure of the drawing shows one form of the device which has been selected for description. As shown in the figure, it consists of a container for lubricant in the form of an inverted bottle **1**, the mouth of which may be equipped with a valve **2** of a well known type which, normally, is kept closed by a spring **3** so that the bottle can be inverted without loss of lubricant. The inverted bottle is held by suitable clips **4** upon a supporting housing **5** in such a position that the stem of the valve will press against the bottom of the housing and cause the valve to open to release the lubricant into a well **6**.

Well **6** is connected to another well **7** by a closed channel **8**, the top of which is below the desired level of the lubricant. Consequently, the lubricant will flow from bottle **1** into well **6** and through channel **8** to well **7** until the level of lubricant in wells **6** and **7** reaches the mouth of bottle **1**. Then the flow of lubricant will cease until its level in wells **6** and **7** drops sufficiently to expose the mouth of the bottle, wherupon the lubricant will again flow from the bottle until the original level is reestablished. In this way, a substantially constant amount of lubricant is maintained in well **7** until the supply in bottle **1** is exhausted.

A tube **9**, which may be a copper tube of small internal diameter, is supported adjacent and above well **7** by a suitable bracket **10**. The lower end of this tube overlies a receptacle **11** to the bottom of which is attached a tube **12** which may be led to a point adjacent the part which is to be lubricated—to just above the sinkers, for example. Through tube **9** and into well **7** passes a wire **13** so bent that it will scrape against the edge **14** of tube **9** and will project into the lubricant in well **7**. The upper end of wire **13** is attached in a suitable way to one end of a pivoted rocker **15**, the other end of which is attached to a suitable linkage operably connecting rocker **15** to a drum or other suitable device by which it can be rocked. When the end of rocker **15** to which the wire **13** is attached is raised, as indicated in dotted lines in the

drawing, the wire will be drawn upwardly through tube **9** and lubricant thereon will be stripped off by the edge **14** of tube **9**. The oil thus removed from wire **13** will flow by gravity to the tip of tube **9** and will ultimately drop into receptacle **11** and flow from there to the part to be lubricated. The amount of lubricant thus supplied per stroke of the device is very small so that, by varying the length of wire **13** and the depth to which it is submerged in the lubricant in well **7**, the amount of oil which will be removed from the wire at each upward stroke can be controlled with great nicety. A simple adjustment for this purpose is shown at **17** consisting of two collars, one above and one below the end of rocker **15** and affixed to wire **13** by set screws. This permits the wire to be made longer or shorter in accordance with the oil feeding requirements.

Since this lubricator depends upon some other part of the machine for its operation, obviously it will stop working when the machine stops, regardless of the cause of such stoppage. Because the amount of lubricant removed from well **7** at each reciprocation of wire **13** is very small, and because of the possibility of adjusting the depth to which wire **13** is submerged in the lubricant, the device requires no specially timed mechanism for its operation but can be operated at the regular speed of some convenient part.

I claim:

1. For a knitting machine, a lubricating system which comprises a container and a reservoir for lubricant, means for controlling the flow of lubricant from said container to maintain a substantially constant level in said reservoir, at least one tube for distributing lubricant to the parts to be lubricated, a dipping wire, means for dipping said wire into said reservoir in regular and uniform strokes so that substantially equal amounts of lubricant adhere to said wire at the end of each dipping motion, and means for stripping the lubricant from said wire and into said distribution tube at the end of each dipping motion.

2. The invention according to claim 1 and wherein said means for dipping comprises a wire operating lever controlled from a moving part of the machine.

3. The invention according to claim 2 and wherein said means for stripping comprises a tube through which said wire is drawn in said dipping motion and having a lip leading to said distribution tube.

4. For a knitting machine, a lubricating system which comprises a reservoir for lubricant, at least one tube for distributing lubricant to the parts to be lubricated, a dipping wire, means operable in synchronism with the mechanism of said knitting machine for dipping said wire into said reservoir in regular and uniform strokes so that equal amounts of lubricant adhere to said wire at each dipping motion, and means including said distributing tube for stripping the lubricant from the wire after the dipping stroke so that a desired amount of lubricant may be discharged to and from said tube.

References Cited in the file of this patent

UNITED STATES PATENTS

540,966	Erickson	June 11, 1895
955,062	Fairfield	Apr. 12, 1910
1,763,961	Gits	June 17, 1930
1,855,516	Gits	Apr. 26, 1932
2,125,645	Money	Aug. 2, 1938
2,643,801	Kollmeyer	June 30, 1953
2,738,031	Pyle	Mar. 13, 1956

FOREIGN PATENTS

1,022,062	France	Dec. 10, 1952