

No. 776,240.

PATENTED NOV. 29, 1904.

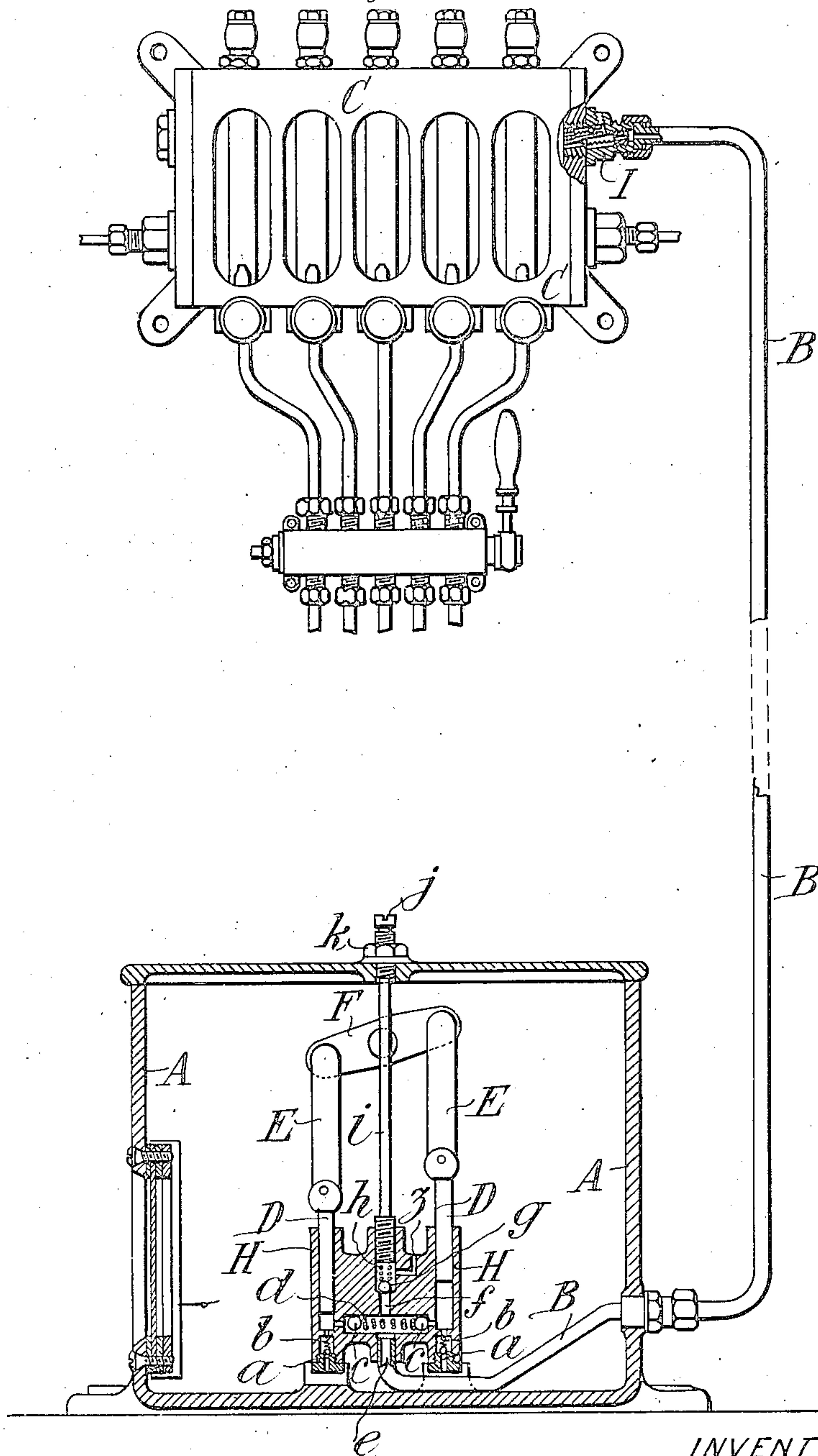
H. HAMELLE.
LUBRICATING APPARATUS.

APPLICATION FILED DEC. 31, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

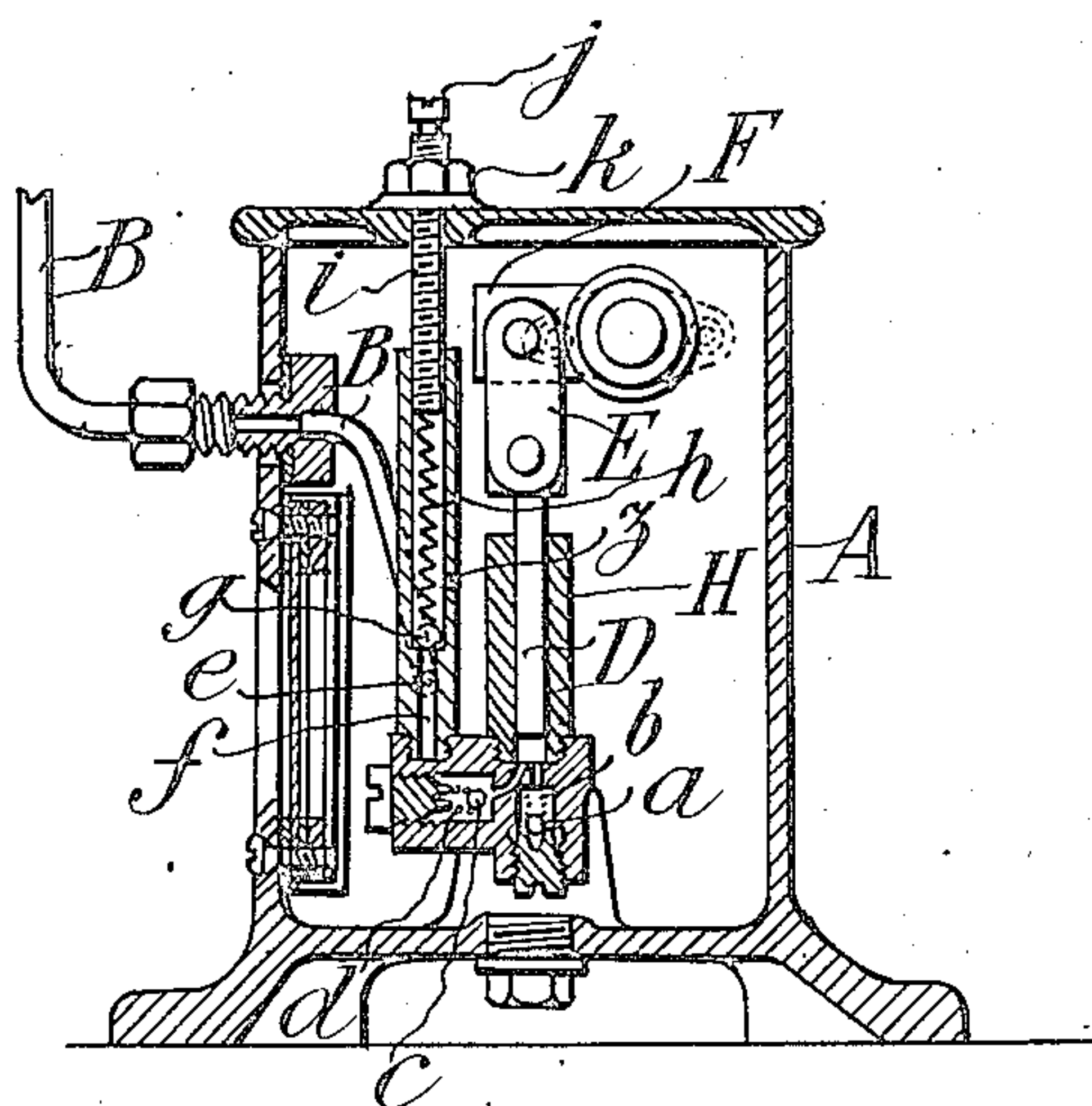


Fig. 3.

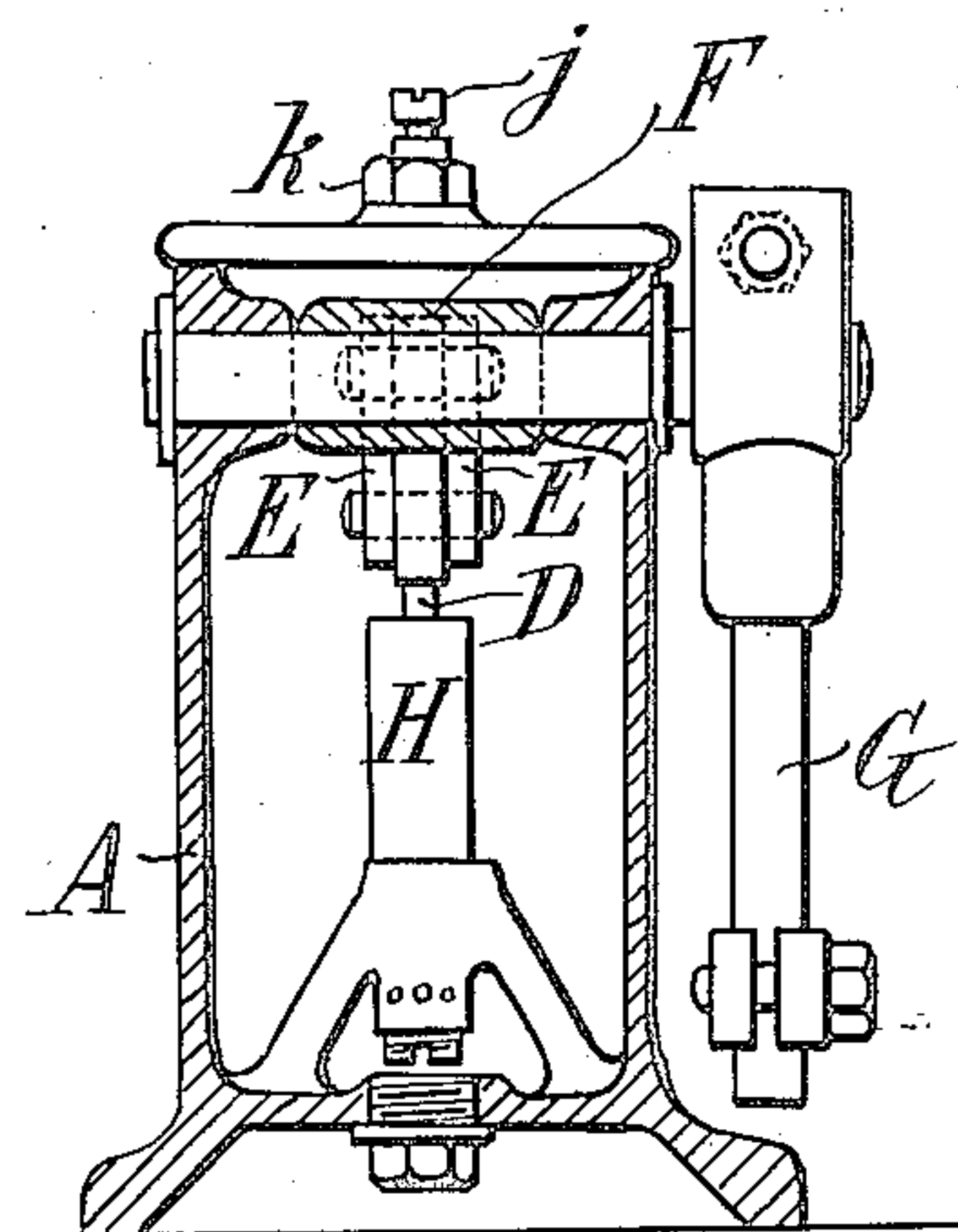
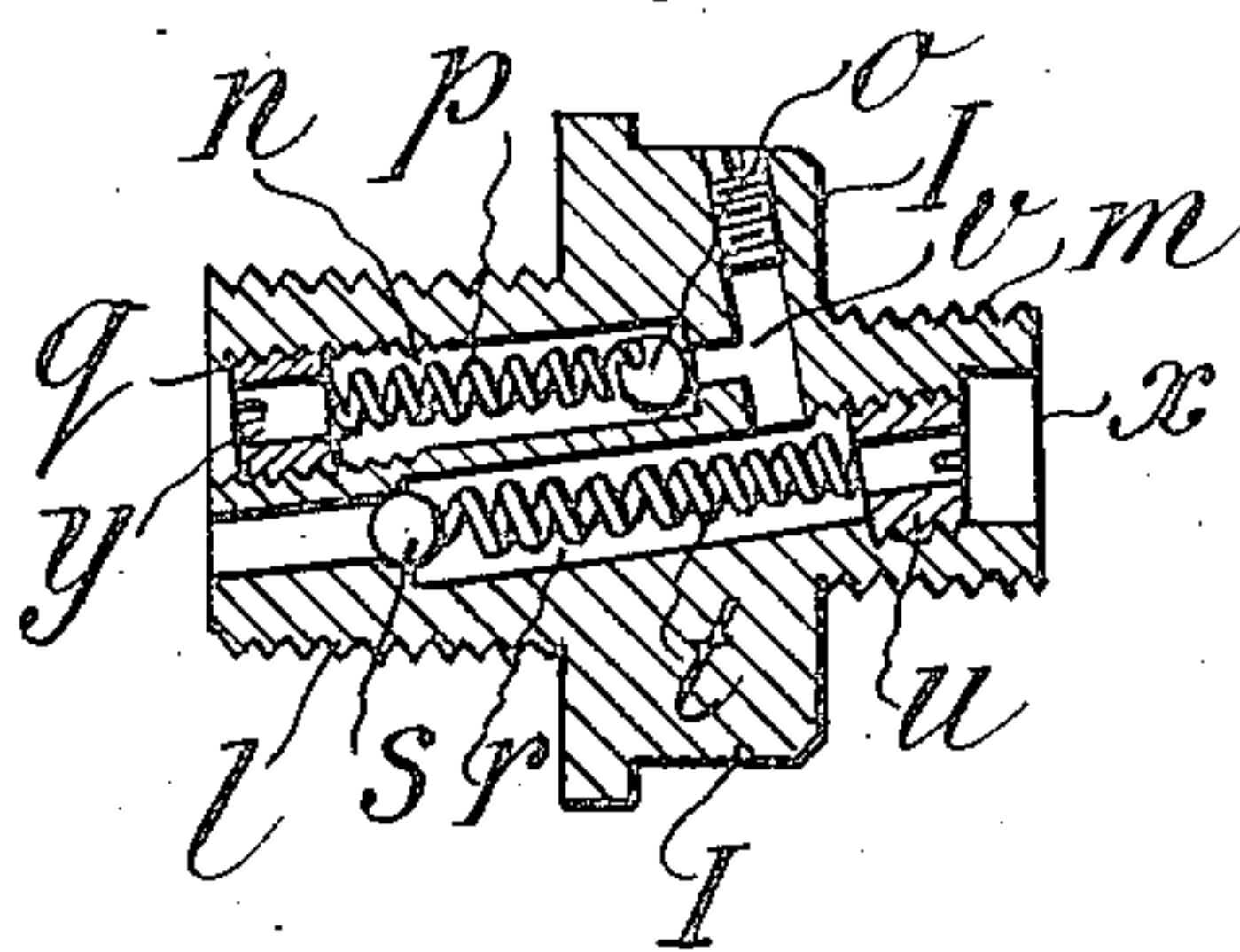


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY HAMELLE, OF PARIS, FRANCE.

LUBRICATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 776,240, dated November 29, 1904.

Application filed December 31, 1903. Serial No. 187,259. (No model.)

To all whom it may concern:

Be it known that I, HENRY HAMELLE, a citizen of the Republic of France, residing in Paris, France, have invented certain new and useful Improvements in Lubricating Apparatus, of which the following is a specification.

This invention relates to improvements in lubricating apparatus.

According to my invention I employ a single pipe between the oil-reservoir, containing the compression pump or pumps and the distributor; but the compression apparatus and the distributor are each provided with a regulated pressure-valve to allow oil to return to the reservoir if from any cause all the oil forced in by the pump is not distributed to the parts to be lubricated or should an accidental excess of pressure be produced in the distributor.

To enable the invention to be fully understood, I will describe the same by reference to the accompanying drawings, in which—

Figure 1 is a view of my improved apparatus, the reservoir containing the compression-pumps being shown in section and the distributor in part-sectional elevation. Figs. 2 and 3 are vertical sections taken at right angles to each other of a compression apparatus having a single compression-piston. Fig. 4 is a section drawn to a larger scale of the neck for connecting the pipe leading from the pump to the distributor.

The pumping of the oil contained in the oil-reservoir A, of cast-iron, takes place through a pipe B, connected to the distributor C. The said pipe B receives the lubricating liquid by means of two pistons D D, Fig. 1, or of a single piston, Figs. 2 and 3, the said pistons or piston being connected by links E to a pivoted lever F, to which a to-and-fro movement is communicated through a lever, such as G, connected to any suitable prime mover. The pump-body H is provided, in connection with each piston D, with a suction-valve *a*, against which bears a spring *b* with a constant pressure. The liquid which is forced in raises the back pressure-valve *c*, which is also provided with a spring *d*. When the pump is provided with two pistons, as in Fig.

1, a single spring *d* may be interposed between the two valves *c*. On the other side of the valves *c* is the aperture *e* of the pipe B, leading from the oil-reservoir. In an extension from this aperture *e* or in communication with it is a small conduit *f*, closed by a valve *g*, on which presses a spring *h*. The tension of this spring may be regulated as desired by operating a screwed rod *i*, which may be turned at its upper part outside the reservoir A by means of a screw-driver which engages with the screw at *j*, a lock-nut *k* serving to hold the regulating-rod *i* in the desired position. Above the valve *g* the conduit *f* communicates by *z* with the oil-reservoir. By this construction should there be produced in the distributor, and consequently in the pipe B, an excess of pressure caused by the non-consumption by the parts to be lubricated of all the oil forced in by the pump such excess of pressure causes the valve *g* to rise by pressing the spring *h*, and the conduit *f* being thus opened gives free passage to the oil which the pistons D (or piston) continues to force in, so that the oil withdrawn from the reservoir immediately returns thereto.

At the end of the day the reservoir of the distributor C is naturally full, as the apparatus is continuously working. When on the following morning the machine is heated before starting on a journey and before any movement takes place in the working parts, heating of the distributor and expansion of the oil takes place, which cause a sudden excess of pressure capable of effecting the rupture of the distributor-reservoir. This defect is remedied by the adjustable pressure-valve arranged in the neck or part connecting the pipe B to the distributor. This neck is shown drawn to a larger scale at Fig. 4 and comprises two parallel passages *n n*, formed in a plug I, having a screw-threaded portion *l* adapted to be screwed into the body of the distributor and another part *m* to receive the end of the pipe P. One of the passages, *n*, is provided at *o* with a check-valve opening inward and pressed by a spring *p*, held by a screwed ring *q*. The other passage, *r*, incloses a safety-valve *s*, against which a spring *t* bears, the other end of the said spring

bearing against a screwed ring *u*. By adjusting the position of this screwed ring the tension of the spring *t* may be regulated, and consequently the pressure at which the oil 5 contained in the distributor can flow back into the reservoir A. The tension of the spring *t* should naturally be greater than that of the spring *h*, which bears upon the valve *g* of the compressor, as the oil forced from the distributor to the pipe B should be able to pass 10 beneath the valve *g* and reach the oil-reservoir through the passage *z*.

The two passages *n* and *r* of the connecting piece or neck of the distributor-box communicate by a passage *v*, so that the oil pumped 15 from the compressor toward the distributor arrives at *x*, passes by *v*, under the valve, which it displaces by compressing the spring *p*, and finally passes by *y* into the distributor.

20 I claim—

1. A lubricating apparatus comprising an oil-reservoir, a pump connected thereto, a distributor connected to said pump, a check-valve 25 between said pump and distributor, and a safety-valve in close connection with said distributor adapted to operate when an excessive pressure occurs in said distributor.

2. A lubricating apparatus comprising an oil-reservoir, a pump connected thereto, a distributor separated from said reservoir and con- 30

nected to said pump, a check-valve between said pump and distributor, and a safety-valve, adapted to open when an excessive pressure occurs in said distributor, both said valves being in close connection with said distributor. 35

3. In a lubricating apparatus, the combination of a reservoir, a distributor, a connection between said reservoir and distributor, a pump for pumping oil to said distributor, a safety-valve connected to said pump and adapted to 40 permit oil to flow back to said reservoir when the pressure in said passage becomes excessive, and a safety-valve connected with said distributor and adapted to return oil to said reservoir when the pressure in said distributor becomes excessive. 45

4. In a lubricating apparatus, a reservoir A, a distributor C, a connection B, a pump, a safety-valve in said pump adapted to return oil to the reservoir, a plug I, a check-valve in 50 said plug, and a safety-valve in said plug, both communicating with the connection B.

In witness whereof I have hereunto signed my name, this 16th day of December, 1903, in the presence of two subscribing witnesses.

HENRY HAMELLE.

Witnesses:

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HANSON C. COXE.