

(No Model.)

D. R. STILES.
MEANS FOR SUPPLYING LUBRICATING OIL TO MOVING PARTS
OF ENGINES.

No. 446,797.

Patented Feb. 17, 1891.

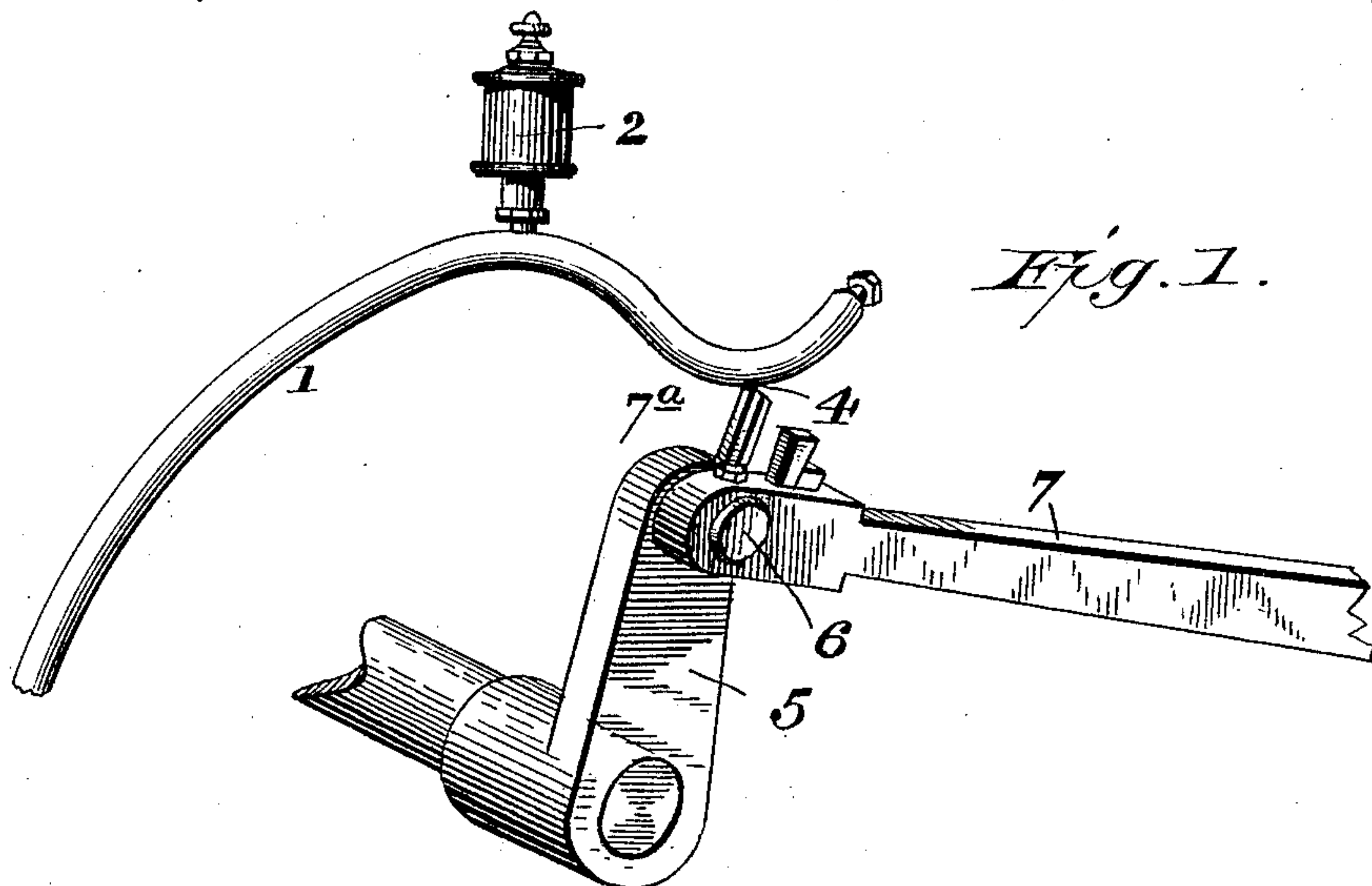


Fig. 1.

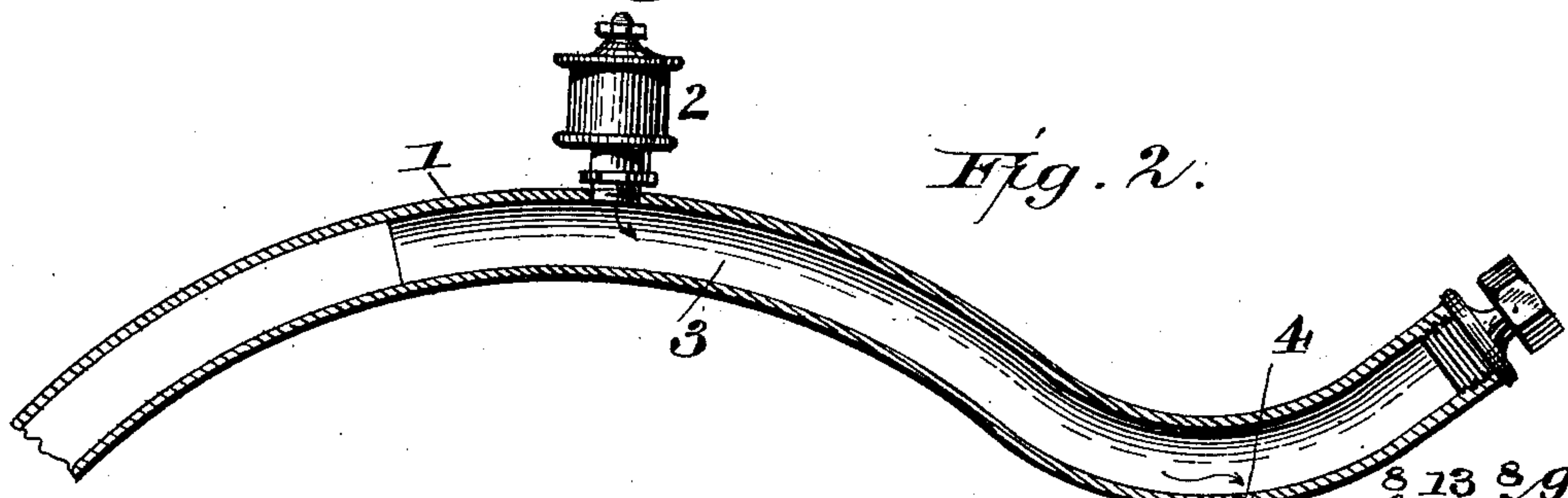


Fig. 2.

Fig. 3.

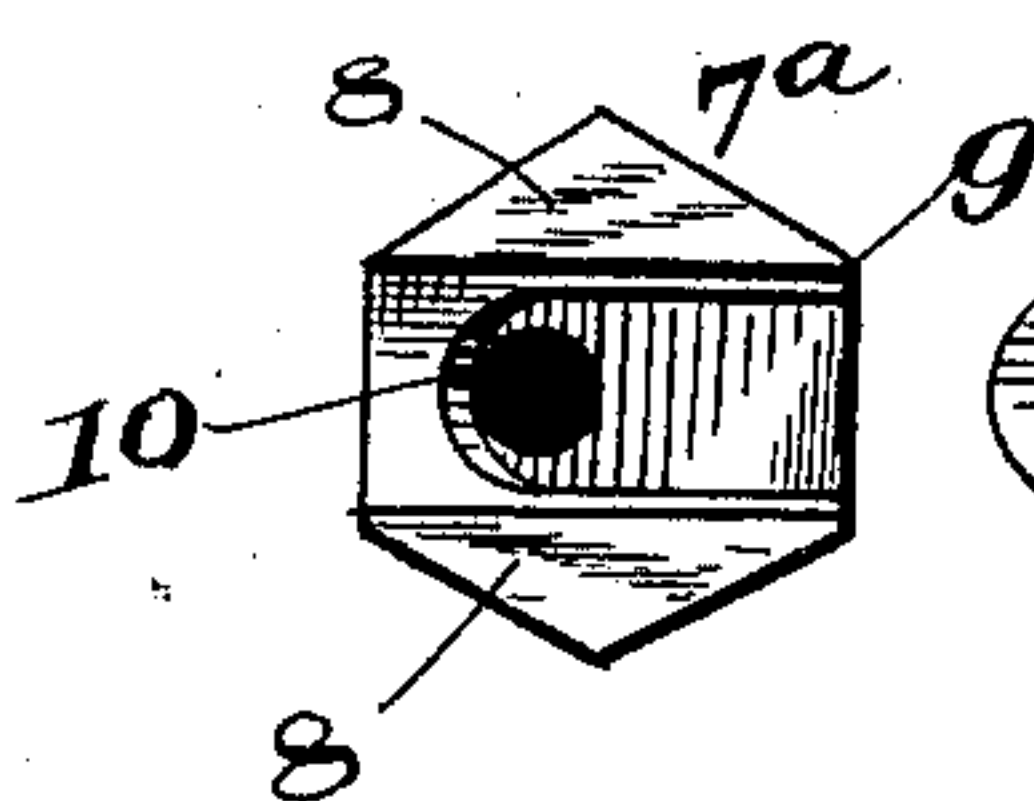


Fig. 5.

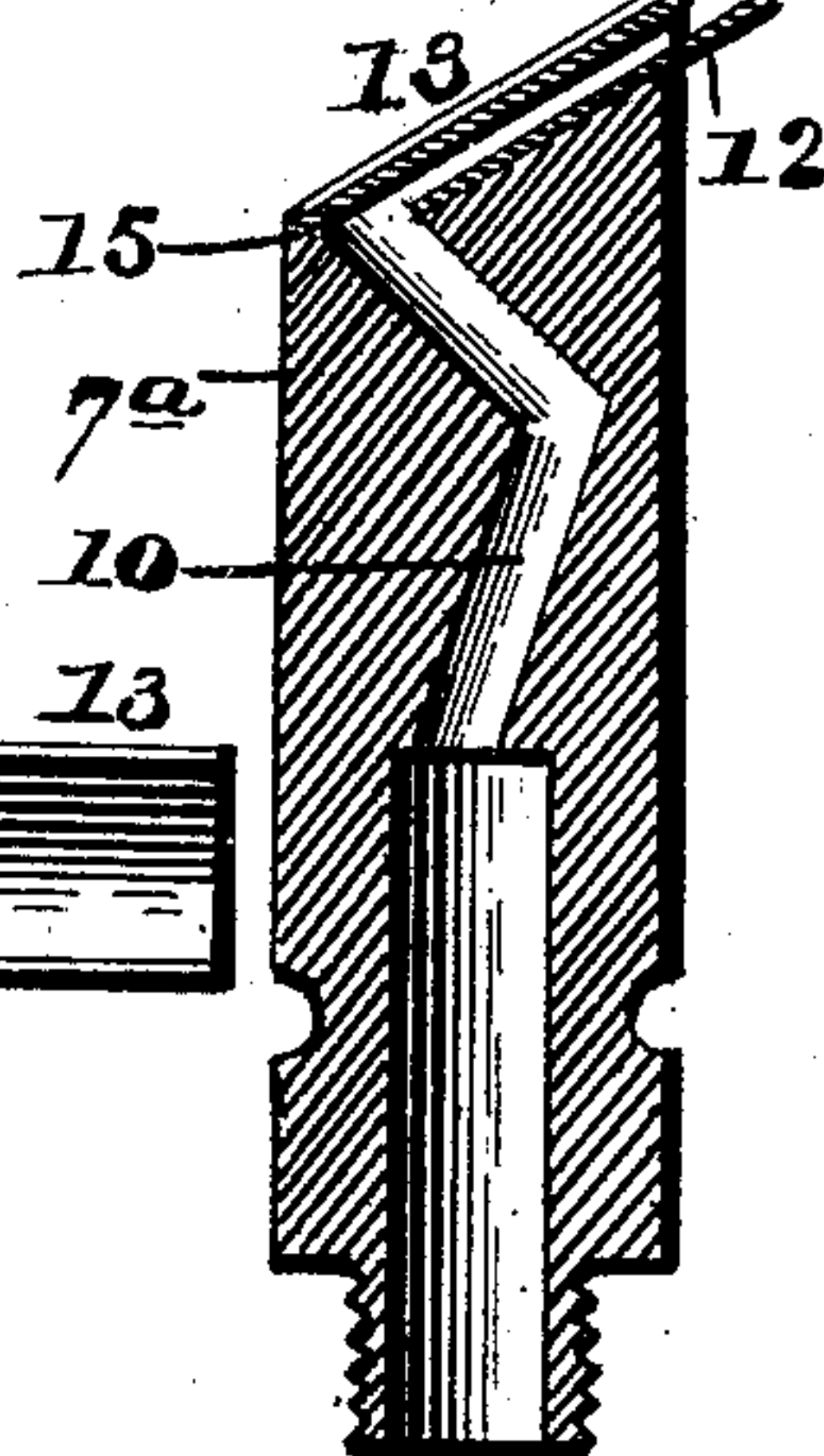
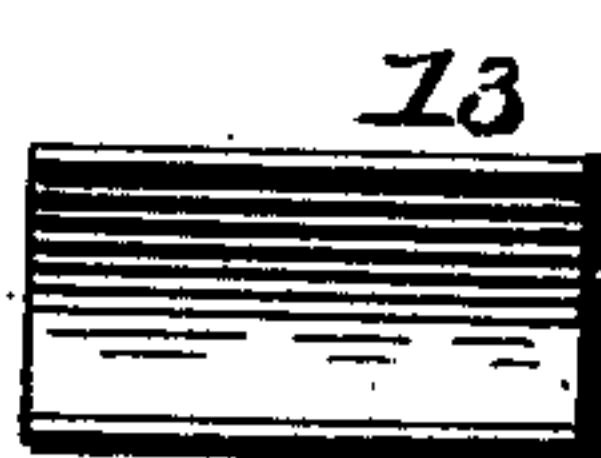
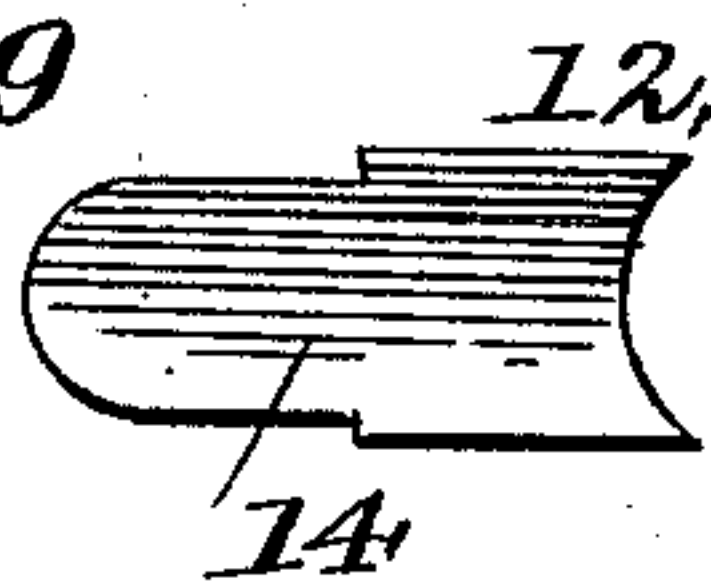


Fig. 4.

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UNITED STATES PATENT OFFICE.

DAVID R. STILES, OF OTTAWA, KANSAS.

MEANS FOR SUPPLYING LUBRICATING-OIL TO MOVING PARTS OF ENGINES.

SPECIFICATION forming part of Letters Patent No. 446,797, dated February 17, 1891.

Application filed September 1, 1890. Serial No. 363,727. (No model.)

To all whom it may concern:

Be it known that I, DAVID R. STILES, a citizen of the United States, and a resident of Ottawa, in the county of Franklin and State of Kansas, have invented certain new and useful Improvements in Means for Supplying Lubricating-Oils to the Moving Parts of Engines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in means for supplying lubricating-oil to moving parts of engines, and is designed, principally, for oiling the wrist-pins of driving-cranks.

The object of the invention is to provide simple, economical, and efficient means for accomplishing the above purpose.

The invention consists, essentially, in an oil-reservoir located above the crank, having an opening or hole in the bottom, through which the oil escapes in drops, and a conveying device carried by the pitman connected with the crank, said device being provided with knives and having an oil-passage, so that at each revolution of the crank the said knives will take the oil from the oil-receptacle and convey it to the wrist-pin, as will hereinafter be more fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a steam-engine, showing my improvements applied thereto. Fig. 2 is a vertical section of the conveying tube or pipe and oil-receptacle. Fig. 3 is a plan view of the conveying-tube. Fig. 4 is a front view. Fig. 5 is a plan view of the knives detached.

In the said drawings, the reference-numeral 1 designates the oil-receptacle, consisting of a curved metallic bar having an oil-cup 2 and provided with an oil-passage 3 and escape-opening 4. This oil-receptacle may be secured to the engine at any convenient point, and is so located with respect to the crank that the opening 4 will be in the vertical plane thereof.

The numeral 5 designates the crank, 6 the wrist-pin, and 7 the pitman connected with said wrist-pin and with the piston-rod of the engine.

7^a designates the conveying device, consisting of a short metal tube or pipe screw-threaded at one end to fit in a corresponding hole in the pitman, which communicates with the wrist-pin. The upper end of this tube or pipe 7^a is beveled and is provided with a longitudinal recess formed by two upwardly-projecting flanges 8, having grooves therein, which form ways or guides for the knives. This tube is also provided with a groove 9, closed at its lower end.

10 designates an oil-passage communicating with the groove 8. This passage for part of its length is made zigzag and vertical for the remaining portion, as seen in Fig. 2.

The numerals 12 and 13 designate oil-collecting knives fitting in the grooves in the flanges 8. These knives are curved or rounded and the shank 14 of the lower knife fitting in the groove 9, but not closing the oil opening or passage 10. A space 15 is thus formed between the beveled face of the tube and the said knife for the passage of the oil collected by the knife. The knife 13 is located above the lower knife, with a small space therebetween, and does not extend upwardly quite so far as knife 12.

The operation is as follows: The oil-receptacle is properly adjusted, so that the knife 12 of the conveying-tube will just touch the same at the point where the oil-opening 4 is, the said receptacle being curved, as seen in Fig. 1, for that purpose. The oil-cup and oil-receptacle are so constructed and arranged as to feed the oil to the escape-opening 4 drop by drop, and at each revolution of the crank the knife 12 will detach a drop of oil, which will pass down the space between the said knife and the beveled end of the tube to the oil-passage 10, from whence it will be fed to the wrist-pin. The upper knife 13 will pass the drop of oil on the receptacle without touching it, and is merely intended to gather the oil which may draw over from knife 12 when feeding very heavy from said latter knife.

The invention is applicable for oiling or lubricating eccentrics and other moving parts of an engine as well as wrist-pins, and therefore I do not confine myself to such use.

It is obvious that the oil-receptacle, instead of being hollow and provided with an escape-opening, may consist of a solid curved bar.

In such case the oil would flow down the under side thereof and collect at the point where the knife touches, and the same would be gathered thereby and fed to the wrist-pins.

5 From the above it will be seen that the oil is positively supplied to the wrist-pin at each revolution of the crank, and the receptacle, being stationary and not connected with the moving parts of the engine, can be readily
10 supplied with oil without stopping the engine.

The object of beveling the upper end of tube 7^a is to allow the oil to flow readily to the passage 10, and the latter is made zigzag, so that the oil will not be forced out by the
15 movement of the part to which said tube is attached.

Having thus described my invention, what I claim is—

1. The combination, with a stationary oil-
20 receptacle, of a conveying-tube carried by a moving part of an engine, said tube being provided with a gathering-knife and a zigzag oil-passage communicating with the part to be lubricated, substantially as described.

25 2. The combination, with a stationary oil-receptacle, of a conveying-tube carried by a moving part of an engine, said tube having a beveled end, upwardly-projecting grooved flanges, a groove closed at one end commu-
30 nicating with an oil-passage, and a gathering-

knife located in said grooved flange, substantially as described.

3. The combination, with a stationary oil-receptacle, of a conveying-tube having a beveled end carried by a moving part of an en- 35
gine, said tube having upwardly-projecting grooved flanges, a groove closed at its lower end, an oil-passage communicating with said groove, a gathering-knife located in said
40 grooved flanges, and a supplemental knife located above said first-mentioned knife, substantially as described.

4. The combination, with a stationary oil-receptacle having an oil-cup, an oil-passage, and an escape-opening, of a conveying-tube 45
carried by a moving part of an engine, said tube having upwardly-projecting grooved flanges, a groove closed at one end, an oil-passage communicating with said groove, a
50 gathering-knife located in said grooved flanges, and a supplemental knife located above the first-mentioned knife, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature 55
in presence of two witnesses.

DAVID R. STILES.

Witnesses:

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GEO. W. LAWRENCE.