(No Model.)

R. PLACE.

LUBRICATOR.

No. 502,139. Patented July 25, 1893.

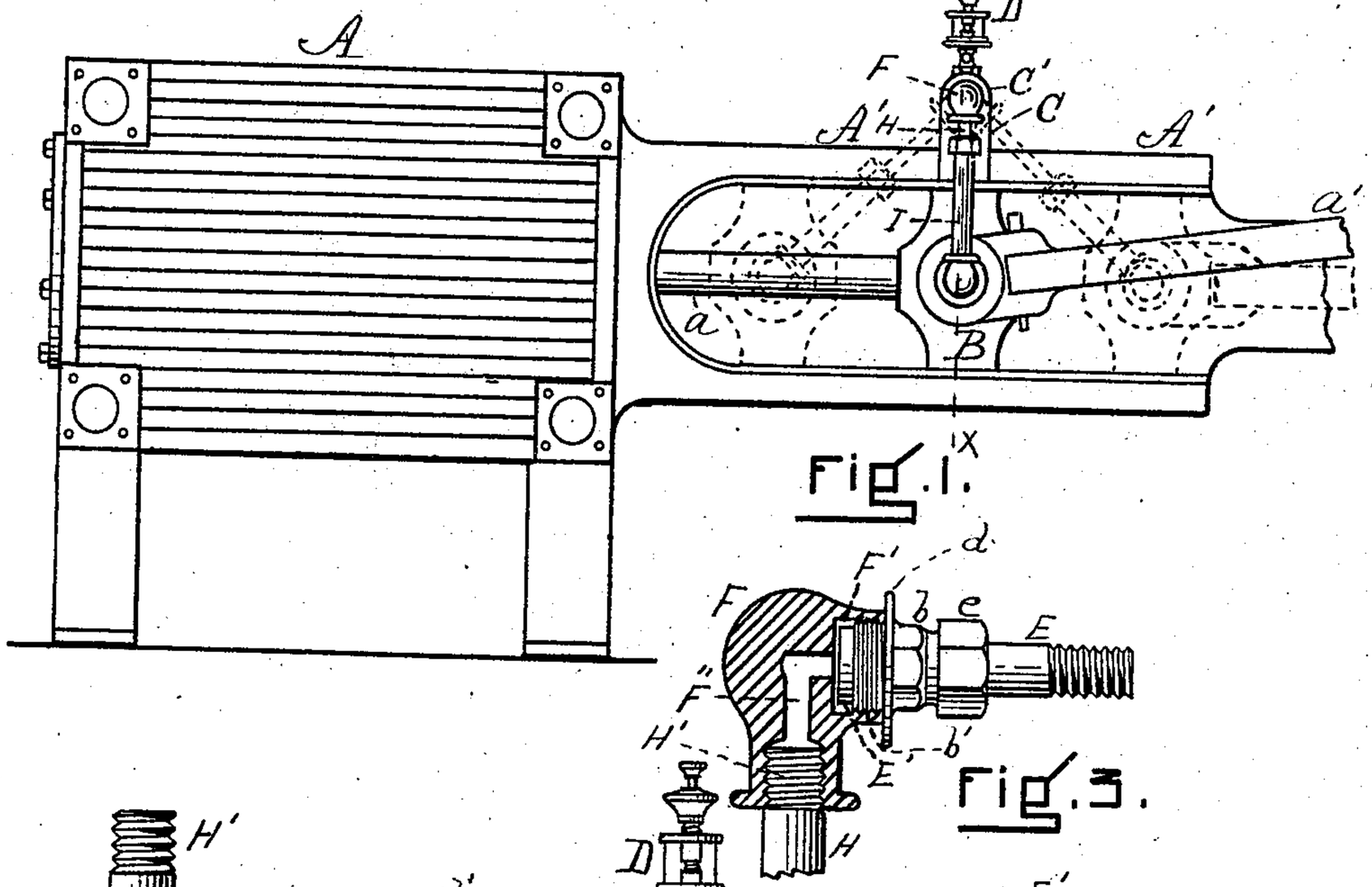

Fig. 1.

Fig. 3.

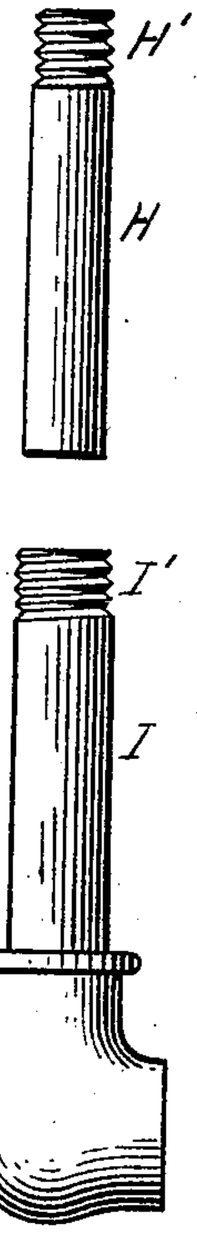

Fig. 4.

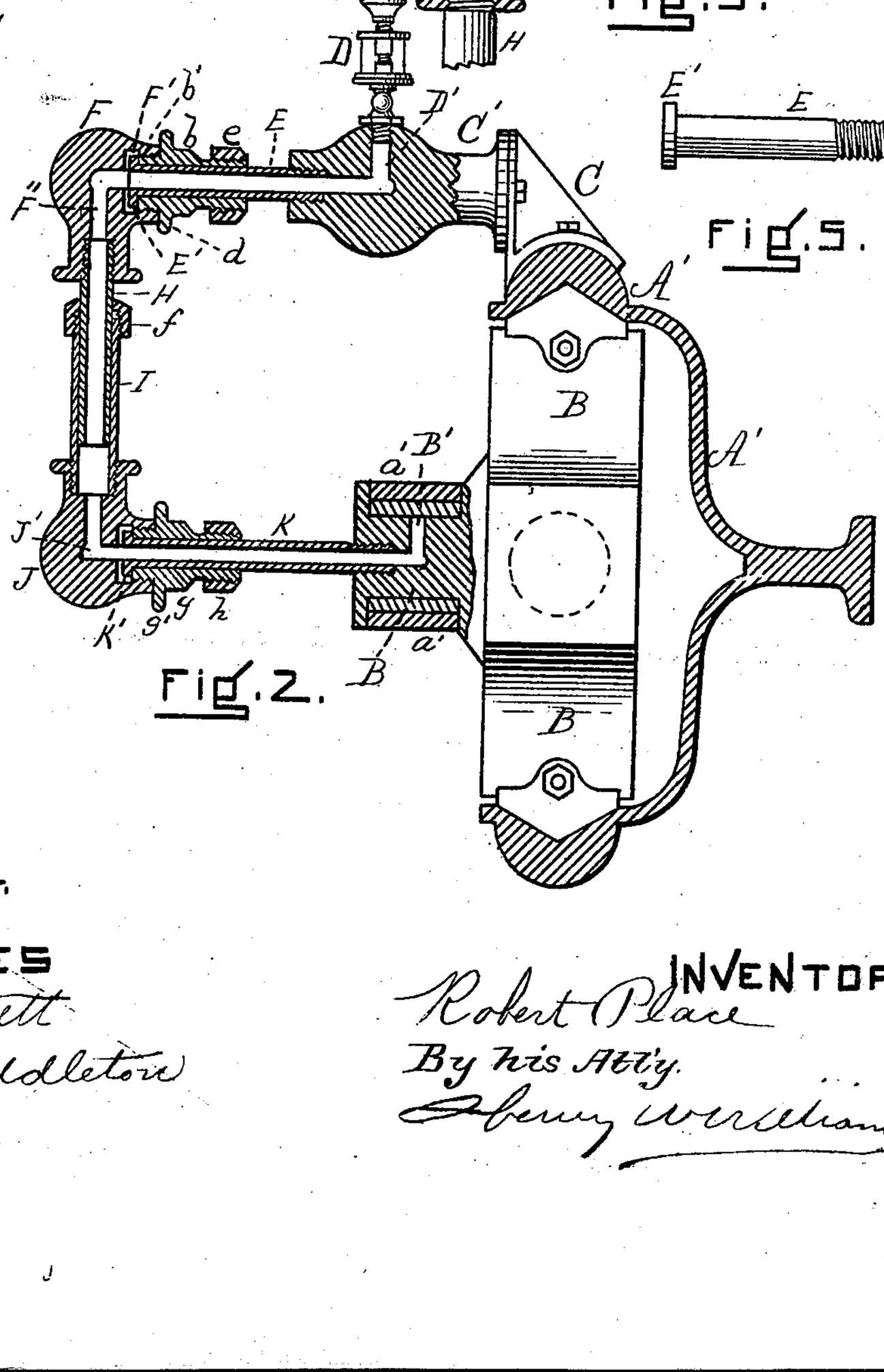

Fig. 2.

Fig. 5.

WITNESSES

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ROBERT PLACE, OF FALL RIVER, MASSACHUSETTS.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 502,139, dated July 25, 1893.

Application filed March 30, 1893. Serial No. 468,291. (No model.)

To all whom it may concern:

Be it known that I, ROBERT PLACE, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and Improved Attachment for Oiling Cross-Heads of Steam-Engines, Pumps, &c., of which the following is a specification.

This is a device or attachment for keeping the cross-heads and crank-pins of steam engines, pumps, &c., automatically oiled, and the nature of the invention is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is an elevation showing a portion of a steam-engine with my attachment applied, the cross-head being shown on the dead center in full lines, and at the ends of the stroke in broken lines. Fig. 2 is a vertical section taken on line *x*, Fig. 1, showing such parts as are necessary to illustrate the invention. Fig. 3 is a detail in elevation and vertical section of a swivel or swing joint below described. Fig. 4 shows elevations of the telescopic tubes detached and separated. Fig. 5 is a detached view of the hollow spindle, described below.

Similar letters of reference indicate corresponding parts.

A represents a portion of a steam engine of any suitable type.

A′ is the bed, B the cross head, *a* the piston rod and *a′* the connecting rod.

A stand C is bolted to the bed A′ of the engine at the exact center of the stroke of the cross-head. A casting C′ is bolted to this stand and has screwed in its top an automatic lubricator D. A hollow spindle E is screwed into the outer end of the casting C′ coincidently with the end of the oil-passage D′ connecting with the lubricator D, and the outer end of this hollow spindle is provided with a flange E′,—Figs. 2, 3, and 5. This flange lies in a small circular chamber F′ in the swing-joint or swivel-joint F of right angled or elbow shape, as shown, and provided with an oil passage F″ which connects with the end of the passage in the hollow spindle. A stuffing box or cap, *b*, having a smooth bore, lies on the hollow spindle E, and is externally screw-threaded at *b′*, whereby it is screwed into the joint F until its annular flange *d* bears against said joint. The rear end of the stuffing box is externally screw-threaded to receive the gland *e*. Thus the joint F easily swings on the tubular spindle E. The opposite end of this joint is internally screw-threaded to receive a piece of tubing or pipe H, whose end H′ is externally screw-threaded for the purpose. (Figs. 2, 3, and 4.) This tube H works telescopically within a large tube I to the upper end I′ of which is screwed a gland or stuffing box *f*. The opposite end of the tube I is screwed into another swing-joint J, similar in construction to the joint F, and provided at its opposite end with a stuffing box *g*, *g′*, *h*, similar to that above described and lettered *b d e*. A tube K provided with a flange K′ makes a swivel connection with the joint H in the same manner as the tube E with the joint F, and the other end of the said tube K is screwed into the cross-head B, as shown, coincidently with the oil-passage B′ therein.

The operation is as follows: When the cross-head is on the center, as shown in Fig. 1, the smaller telescopic tube H is for nearly its entirely length within the larger tube I, but as the cross-head moves away from the center, the tube H draws out of the tube I, and, on its return toward the center, moves in again. In other words, the tubes move telescopically in order to accompany the cross-head as it makes its strokes. The swing-joints F and J turn, as will readily be understood, upon the tubular spindles E and K with the movements of the cross-head. During these operations the oil has free passage from the automatic lubricator D through the passage D′ in the casting C′, the hollow spindle E, passage F″ in the swing-joint F, telescopic tubes H I, passage J′ in the swing-joint J, and hollow spindle K, into the passage B′ in the cross-head and which extends to the bearing point. Thus the cross-head is oiled automatically without wasting the oil by throwing it upon the floor.

This apparatus is adapted not only for cross-heads but also for crank-pins, pumps, &c., of steam engines.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the bracket or casting C′ supported by the engine bed and provided with the passage D′, a lubricator mounted thereon, the tubular spindle E extending from said casting and connecting with said passage and provided with the flange E′, the swing-joint F provided with the passage F″, flanged stuffing box *b d*, similar tubular spindle K extending from the cross-head and connecting with a passage B′ therein, similar swing-joint hung on the end of said spindle, and the telescopically arranged tubes H I extending respectively from the swing-joints F J and projecting one into the other, substantially as described.

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Witnesses:
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