

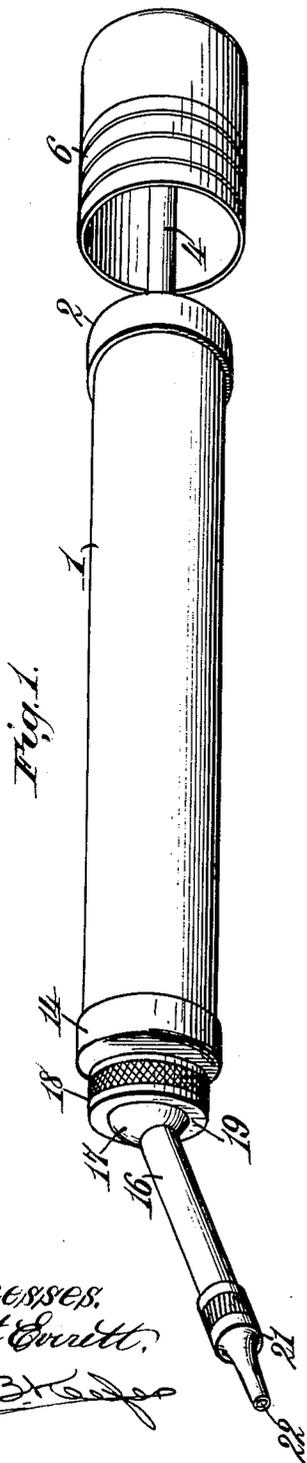
J. DICKENS.

OIL GUN.

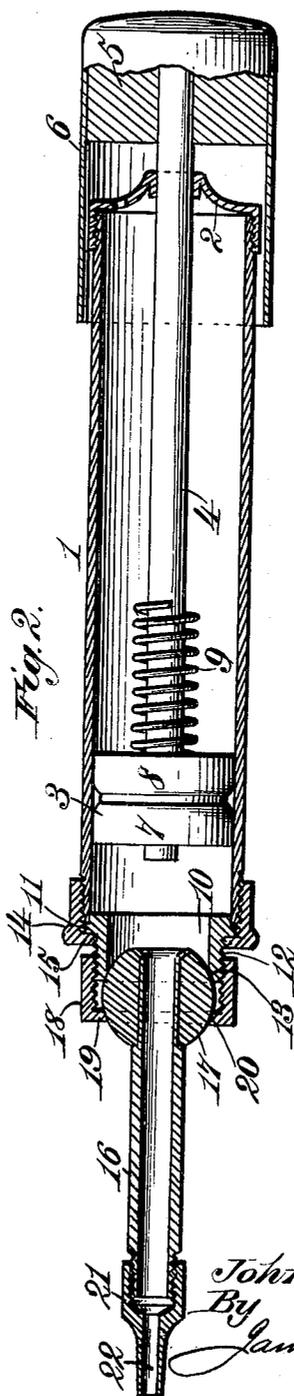
APPLICATION FILED AUG. 19, 1908. RENEWED OCT. 5, 1910.

982,661.

Patented Jan. 24, 1911.



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OIL-GUN.

982,661.

Specification of Letters Patent. Patented Jan. 24, 1911.

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To all whom it may concern:

Be it known that I, JOHN DICKENS, a citizen of the United States, residing at Passaic, in the county of Passaic and State of New Jersey, have invented new and useful Improvements in Oil-Guns, of which the following is a specification.

My present invention relates to improvements in oil guns of the character used in supplying oil, grease and other lubricants to the moving parts of automobiles and other mechanism, and it has for its object to provide an improved nozzle for oil guns of this class which nozzle is connected to the barrel or body of the gun by a universal joint whereby the nozzle may be instantly adjusted from one angular position to another to enable the lubricant to be applied to relatively inaccessible parts of the mechanism with facility, the universal joint being so constructed that it will frictionally retain the nozzle in the different adjusted positions which positions of the nozzle may be changed as desired without requiring adjustment of the joint, and leakage of the lubricant at the joint is prevented.

Further objects of the invention are to provide a detachable socket for securing the universal joint to the gun barrel, it being possible to readily remove the socket and the joint and thereby provide a relatively large opening through which non-fluid oils or grease may be introduced into the gun barrel, and also to provide a detachable nipple upon the nozzle which is adapted to be applied while fluid oils are being injected by means of the gun and which may be removed to provide a relatively large opening whereby the non-fluid oils or grease may be discharged from the gun.

To these and other ends, the invention consists in certain improvements, and combinations and arrangements of parts, all as will be hereinafter more fully described, the novel features being pointed out particularly in the claims at the end of the specification.

In the accompanying drawing: Figure 1 is a perspective view of an oil gun constructed in accordance with my present invention; and Fig. 2 represents an axial section of the gun shown in Fig. 1.

Similar parts are designated by the same reference characters in the several views.

The oil gun shown in the present embodiment of my invention comprises a barrel 1

which may be readily formed of a tube having a cap 2 screwed or otherwise secured to the rear end thereof. A piston or plunger 3 is mounted to reciprocate within the barrel 60 which piston is mounted upon a piston rod 4 which extends through an opening provided in the cap 2 and has a handle 5 secured to its rear end by means of which the piston may be reciprocated. This handle in 65 the present instance is composed of a block which is arranged in rear of the cap 2 of the barrel and is attached to the piston rod, this block being covered by a cup 6 which is stamped preferably from metal, and this 70 cup is preferably of a length greater than that of the block so as to provide a relatively long grip for the hand. As the plunger is forced into the barrel of the gun, a portion of the cup-shaped handle will telescope 75 the rear end of the gun barrel so that the total length of the gun is relatively short. The piston is provided with a pair of reversely arranged cups 7 and 8, the cup 80 8 serving to produce a vacuum in the lower portion of the barrel which will draw a charge of oil or grease into the same as the piston rod is withdrawn and the cup 7 will serve to eject the oil or grease as the piston 85 is forced into the gun. A buffer spring 9 preferably surrounds the piston rod 4 between the piston and the cap 2 of the barrel whereby the suction stroke of the piston is arrested and cushioned.

The universally adjustable nozzle is attached 90 to the forward end of the gun barrel, and in the present instance, this joint and nozzle are composed of a ball seat 10 which, in the present instance, is formed of a tubular member which is provided with an exterior 95 flange 11 which is adapted to be seated against the end of the barrel, and that portion of the seat projecting beyond the barrel is threaded externally as at 12 and is also provided with a ball-engaging 100 surface 13 of spherical curvature. This ball seat is firmly secured to the barrel by means of a locking ring 14, the latter having an internal flange 15 which coöperates with 105 the external flange 11 of the seat, and a portion of the locking ring overlaps and is threaded upon the barrel so that a tightening of the locking ring will draw the ball seat into firm engagement with the barrel, and 110 will seal the same from leakage. By forming the ball seat 10 separately from the barrel and centering it and forming a tight

joint between the seat and the barrel by the locking ring 14, a construction is provided which permits ordinary tubing to be employed advantageously in the manufacture of the gun. The opening of the ball seat is also preferably cylindrical or of uniform diameter, and the ball is seated upon the edge of this cylindrical opening thereby providing a construction wherein the minimum resistance will be offered to the drawing of heavy oil or grease into the barrel, and the maximum size opening is available.

The nozzle 16 is composed of a tube having one end fitted snugly into a ball 17, the latter being held in frictional engagement with the spherical surface 13 of the ball seat by means of a socket member 18, the latter being composed of a ring which is internally threaded to engage the threads 12 of the ball seat and has an internal flange 19 provided with a ball-engaging surface 20 of spherical curvature to engage the ball, a tightening of the socket member serving to clamp the ball of the nozzle between it and the seat so as to prevent leakage around the ball and to frictionally retain the nozzle in different angular positions. As the ball seat and socket are firmly held in fixed relation to the gun barrel, there is no opportunity for leakage of the lubricant around the ball should pressure be applied to the end of the nozzle. A removable nipple 21 is preferably provided for the outer end of the nozzle, this nipple having a discharge opening 22 which is of smaller size than the bore of the nozzle so that the oil may be easily controlled and directed from the gun. This nipple is preferably threaded to the end of the nozzle, as shown, whereby the same may be removed and the full opening of the nozzle may be had in discharging non-fluid oils or grease from the gun.

In using oil in the gun, it is only necessary to immerse the nipple which is applied to the nozzle in such cases in the oil, and a suction stroke of the piston will introduce a charge of the oil into the barrel. By adjusting the nozzle to the proper angle about the ball joint as an axis, the nozzle may readily reach the part to be lubricated, and a pressure upon the handle on the piston will eject the oil from the gun and through the nozzle. Various adjustments of the nozzle may be had without the necessity of manipulating the socket member 18, as the latter frictionally holds the ball and, the various adjustments may be made by merely a pressure of the fingers. It is possible to use the gun also in supplying grease or non-fluid oils to the working parts of machinery, the nipple 21 being preferably removed in such cases so as to provide a relatively large discharge through the nozzle, and by removing the socket member 18 and the nozzle secured thereby, the full opening of the

seat member 10 is provided into which the non-fluid oil or grease may be introduced into the gun. Then, by replacing the ball joint and securing the same by the socket member 18, the grease may be ejected through the nozzle.

I claim as my invention:

1. An oil gun comprising a barrel provided with a piston reciprocable longitudinally therein, a ball seat formed separately from and mounted in fixed relation to the discharge end of the barrel, a nozzle having a ball attached thereto, and a socket member for frictionally clamping the ball to said seat whereby universal angular adjustment of the nozzle may be had.

2. An oil gun comprising a barrel provided with a piston reciprocable longitudinally therein, a ball seat secured in fixed relation at the discharge end of the barrel and having a relatively large cylindrical opening for introducing a heavy lubricant to the barrel, a nozzle having an opening smaller than that in the ball seat, a ball attached to the nozzle, and seated on the edge of the cylindrical opening of the ball seat and a socket member detachably and adjustably secured to said seat and having a portion to cooperate with the ball to frictionally clamp the same between the socket member and seat and permit universal angular adjustment of the nozzle.

3. An article of the class described comprising a barrel provided with a piston, a ball seat fixed to one end of the barrel and provided with a relatively large cylindrical opening, a nozzle comprising a tube having a bore smaller in diameter than the opening in the ball seat, a ball attached thereto and seated on the edge of said cylindrical opening of the ball seat, a detachable socket member for clamping the said ball upon said seat, and a nipple of reduced diameter relatively to the bore of the nozzle and adapted to be detachably applied thereto.

4. An oil gun comprising a barrel provided with charging and discharging means, a ball seat composed of a tubular member formed separately from the barrel and having an external flange abutting the end of the barrel, a locking ring applied to the barrel and having an internal flange cooperating with the external flange on said seat to center said seat and to form a joint between it and the barrel, a nozzle having a ball attached thereto, and a socket member frictionally engaging said ball and secured to the said seat whereby universal adjustment of the nozzle is permitted.

5. An oil gun comprising a barrel of substantially cylindrical form, a piston reciprocable longitudinally in the barrel, a ball seat formed separately from the barrel and having an external peripheral flange abutting against the discharge end of the barrel,

5 a ring threaded upon the discharge end of the
barrel and having an internal flange cooperating
with the external flange of the ball seat
to center the latter and form a tight joint be-
10 tween it and the barrel, the ball seat having
a relatively large opening of uniform size
extending axially of the barrel, a nozzle
provided with a ball engaging the outer
edge of the opening in the ball seat, and a
15 socket member adjustably and detachably
connected to the ball seat and cooperating

with the ball of the nozzle to detachably
and adjustably secure the nozzle to the
barrel.

In testimony whereof I have hereunto set 15
my hand in presence of two subscribing wit-
nesses.

JOHN DICKENS.

Witnesses:

EFFIE E. CHAMBERLAIN,
LOUIS A. COWLEY.