

(No Model.)

J. W. TAYLOR.  
COMBINED BICYCLE PUMP AND WRENCH.

No. 587,514.

Patented Aug. 3, 1897.

FIG. 1.

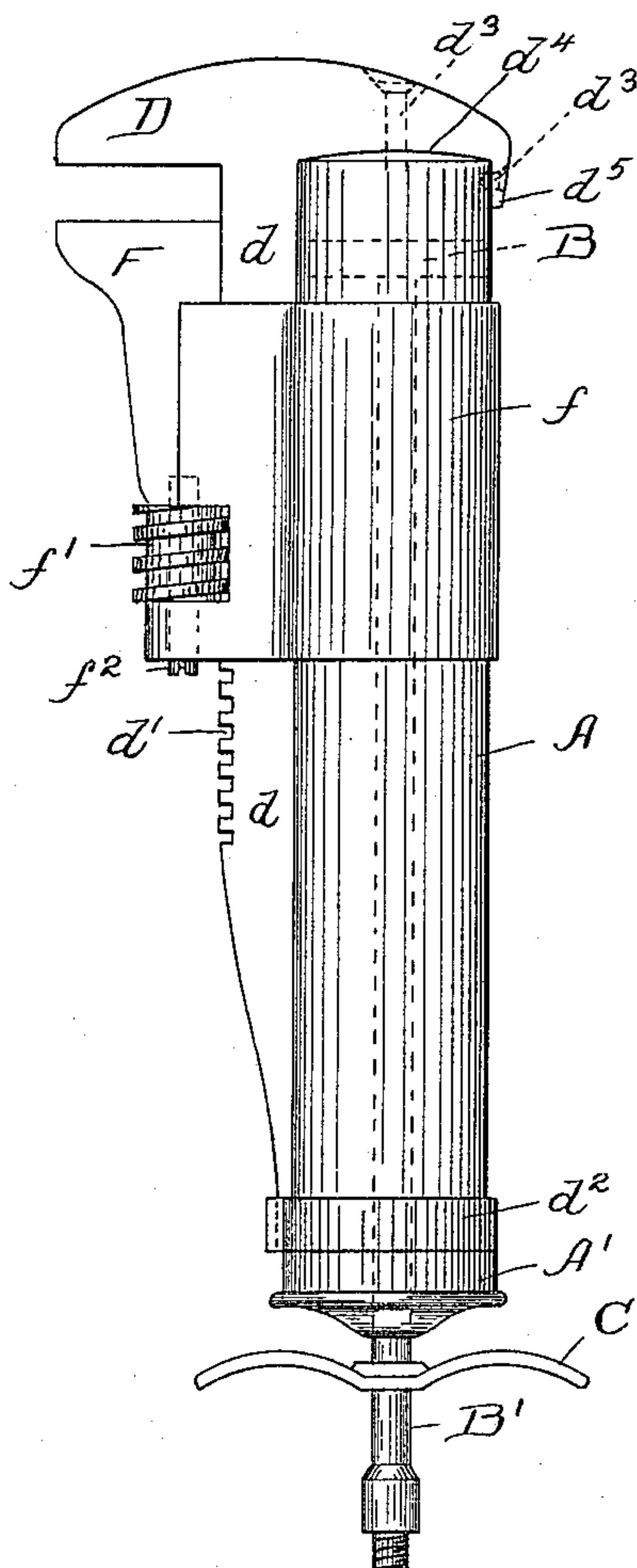


FIG. 2.

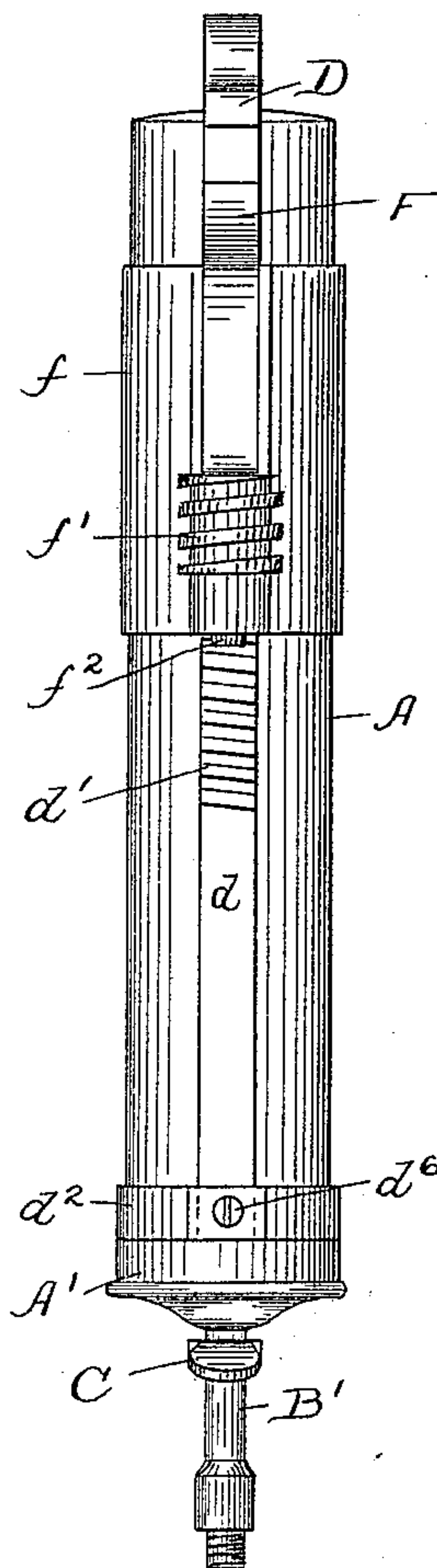
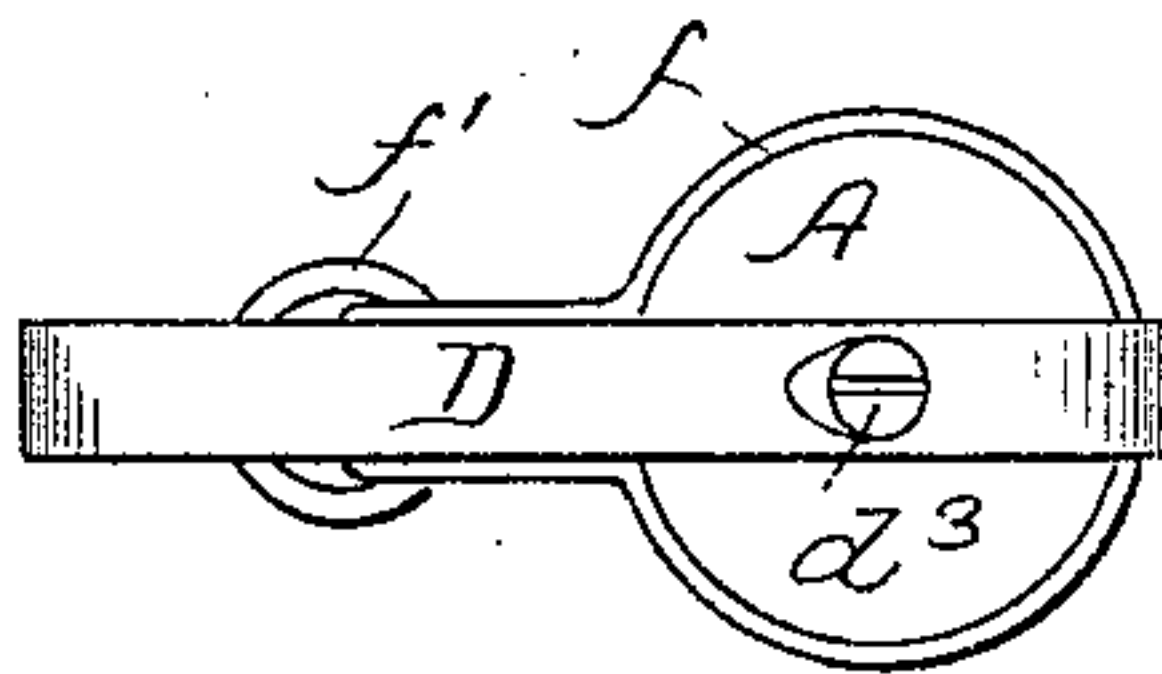


FIG. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSEPH W. TAYLOR, OF CHICAGO, ILLINOIS.

## COMBINED BICYCLE PUMP AND WRENCH.

SPECIFICATION forming part of Letters Patent No. 587,514, dated August 3, 1897.

Application filed December 30, 1896. Serial No. 617,465. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH W. TAYLOR, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in a Combined Bicycle Pump and Wrench, of which the following is a specification.

My invention relates to air-pumps and wrenches for bicycles.

My invention consists in a combined air-pump and wrench in which the cylinder of the pump serves as the handle for the wrench and as the stem upon which the movable jaw of the wrench slides, by which means one tool serves both as an air-pump for inflating the pneumatic tire and as a wrench for screwing and unscrewing the taps or nuts or threaded bolts of the bicycle, thus not only diminishing the number of separate pieces required to be carried, but also materially lessening the weight and bulk incident to the use of separate tools as pump and wrench.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a combined air-pump and wrench embodying my invention. Fig. 2 is a front view, and Fig. 3 is an end view.

Similar letters of reference indicate like parts in all the figures of the drawings.

In the drawings, A represents the cylinder of an air-pump, having the customary removable cap or head A', and the same serving also as the handle of the wrench.

B is the piston, and B' is the piston-stem, and C the handle or thumb-piece on the piston-stem.

D is the fixed jaw of the wrench, the same having an integral shank  $d$ , furnished with a rack  $d'$ . The fixed jaw D is secured to the cylinder of the pump by any suitable means, but preferably by a band  $d^2$ , passing around the pump-cylinder A and the shank  $d$  of the jaw D near the outer end thereof, and by screws  $d^3$   $d^3$ , inserted through the jaw D into the cylinder A.

F is the movable or adjustable jaw of the wrench, and it is furnished with a band or sleeve  $f$ , encircling the cylinder A and the shank  $d$  of the jaw D and adapted to slide back and forth thereon to adjust the movable jaw to the fixed jaw, while at the same time

serving to clasp the shank  $d$  of the jaw D to the pump-cylinder. A screw or worm  $f'$ , rotating on a suitable pin or stud  $f^2$  on the jaw F and engaging the rack  $d'$ , serves as the means for adjusting and holding the movable jaw F in any desired position in respect to the fixed jaw D of the wrench.

I prefer to make the fixed jaw D of the wrench and the cylinder A in separate pieces and secure the two rigidly together by some suitable means, such as brazing or that illustrated in the drawings.

The fixed jaw D fits the end of the pump-cylinder at  $d^4$ , and it is also preferably provided with a heel  $d^5$ , embracing the extreme end of the pump-cylinder, and through which heel one of the screws  $d^3$  is inserted. A screw  $d^6$  is also preferably inserted through the band  $d^2$  into the shank  $d$ .

The cylinder A of the air-pump is preferably made circular in cross-section, as illustrated, but it may be of any other suitable form in cross-section, and by the use of the term "cylinder" in the specification and claims I refer to its function as a part of the air-pump in a mechanical sense and not to its shape in a mathematical sense, as it may obviously be oval or of other shape in cross-section as well as round and still fully perform its double function, both as a cylinder for the pump and as a handle for the wrench.

I do not claim any specific details of construction of the air-pump so far as its movable parts as an air-pump are concerned, nor do I interfere in any way with the construction of these parts, as desired, but I simply secure to the outside or the barrel or cylinder of the pump a wrench formed and operated as described, while the mechanism of the pump may be of any desired form of construction or design and operation and may be single-acting or double-acting, as desired, without in the least interfering with the combination herein contemplated.

I am well aware that the attachment of an adjustable wrench to the piston-rod of a pump or that portion to which the piston is attached is old, and I do not claim any construction in which the interior or movable parts of the pump as a pump are in any way altered or concerned in forming the wrench.

In my invention the piston and piston-stem



form no part of the wrench and receive no strain when the combined tool is being used as a wrench, and in my combined pump and wrench the construction is such that the wrench adds substantially nothing to the length of the pump or to that of the tool as a whole, as the movable jaw of the wrench fits and reciprocates on the pump-cylinder itself as its guide or stem or on the feather or guide  $d$ , which is rigidly secured to and may be considered as forming part of the cylinder, although, as before stated, I prefer to make the feather or guide  $d$  in a separate piece from the cylinder D.

I claim—

1. A combined pump and wrench in which the barrel or cylinder of the pump has at its closed end the stationary jaw of a wrench fixed to the barrel of the pump, and in which the barrel of the pump serves as a handle for the wrench and has a movable wrench-jaw adapted to move thereon and provided with a band or sleeve surrounding said barrel, substantially as specified.

2. In a combined air-pump and wrench, the combination with a pump-cylinder provided with a feather or guide on one side thereof and a stationary wrench-jaw fixed to

the closed end thereof, with an adjustable jaw provided with a band or sleeve surrounding the pump-cylinder and reciprocating thereon, substantially as specified.

3. In a combined air-pump and wrench, the combination with a pump-cylinder provided with a feather or guide on one side thereof and a stationary wrench-jaw fixed to the closed end thereof, with an adjustable jaw provided with a band or sleeve surrounding the pump-cylinder and reciprocating thereon, said feather or guide having a toothed rack, and said movable jaw being provided with a screw or worm engaging said rack, substantially as specified.

4. The combination with a pump-cylinder A of a fixed wrench-jaw D having a shank  $d$  secured to said pump-cylinder and provided with a rack  $d'$ , and an adjustable jaw F having a band or sleeve  $f$  embracing said cylinder and shank and provided with a screw or worm  $f'$  engaging said rack, and a band  $d^2$  surrounding said shank  $d$  and cylinder A, substantially as specified.

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Witnesses:

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