A. KREHLIK.

AIR PUMP.

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1,414,573. Patented May 2, 1922.

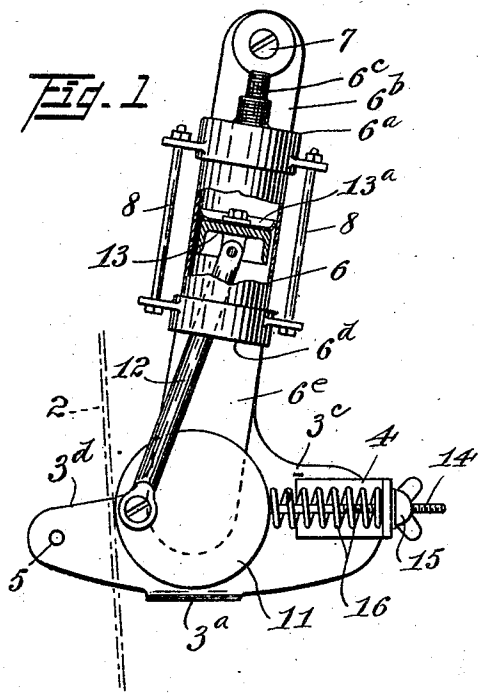


Fig. 1

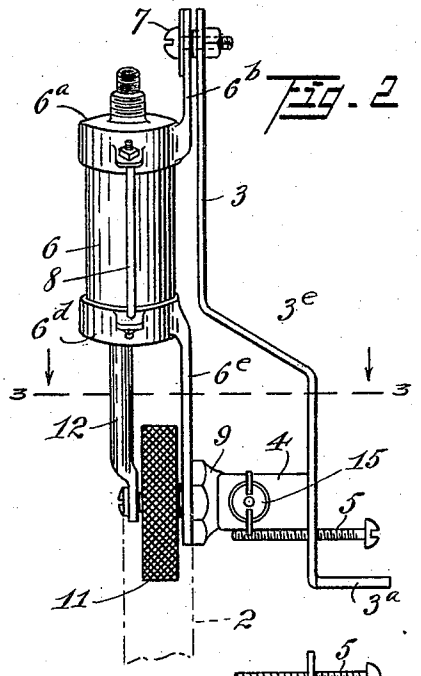


Fig. 2

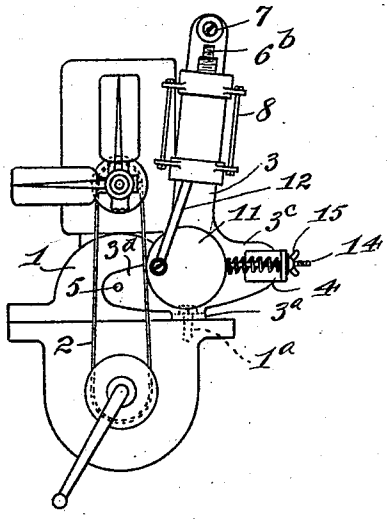


Fig. 4

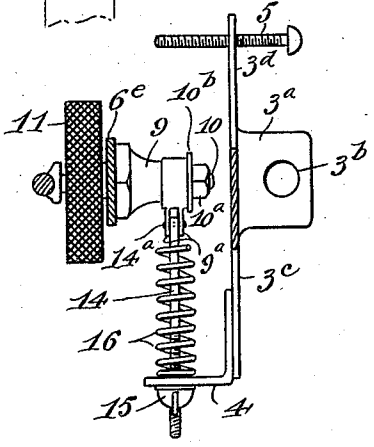


Fig. 3

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AIR PUMP.

1,414,573. Specification of Letters Patent. Patented May 2, 1922.

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To all whom it may concern:

Be it known that I, ALBERT KREHLIK, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Air Pumps, of which the following is a specification.

My invention relates to improvements in air pumps, and more particularly to that class or type commonly known as "motor driven" air pumps particularly designed and adapted for use in connection with a suitable motor driven element or member of the motor of a vehicle such as an automobile, motor truck, or the like, the improved pump being designed to be used as a supplemental device or appliance for inflating pneumatic tires of such motor vehicles.

The primary object of the invention is to provide a generally improved air pump or appliance of the class indicated, which will be exceedingly simple in construction, cheap of manufacture, and efficient in use.

A further object is the provision of a pump of this class which may be readily attached to or detached from a suitable part or support of the motor and provided with means whereby the piston driving wheel and the pump body may be moved into and out of operative position with respect to the motor driven element (in the present instance the fan belt), the improved appliance being adapted to be normally supported out of contact with the motor driven element.

With the above mentioned and other ends in view, the invention consists in the novel construction, arrangement, and combination of parts, hereinafter described, illustrated in one of its embodiments in the accompanying drawings and particularly pointed out in the appended claims.

Referring to the drawings, forming a part of this specification, Figure 1 is a rear view of the improved air pump, detached, a portion of the pump body being broken away for the purpose of clearer illustration of the parts.

Fig. 2, a side elevation of the same.

Fig. 3, a transverse cross sectional view, taken on line 3—3 of Fig. 2, and illustrating in particular the manner of mounting.

Fig. 4, a front elevation of the same attached to an ordinary motor such as used on the ordinary motor vehicle.

Similar numerals of reference designate like parts throughout all the figures of the drawings.

As a means of mounting the improved pump in suitable relation to a motor casing 1, and a suitable motor driven element 2, as for example,—the fan belt, the improved pump body and the piston driving element or wheel hereinafter described or preferably mounted by means of a support consisting, in the present instance, of an attaching base 3^a, and an offset supporting arm 3. The attaching base 3^a, may be provided with a bolt opening 3^b, to receive one of the cap screws 1^a, (see Fig. 4), of the motor casing. The base portion of the arm 3, is provided at one side with an arm 3^c, provided, in the present instance, with a bracket 4, having an opening for securing a spring resisted adjusting device, hereinafter described, for moving the pump driving wheel into and out of contact with the motor driven element or fan belt 2.

If desired, the arm 3, may be provided with an arm 3^d, which may be provided with an adjusting screw 5, adapted to engage with a suitable part of the adjacent motor vehicle to prevent any twisting motion of the support on the attaching screw 1^a.

As a means of connecting the pump cylinder or body 6, to the offset arm 3, so as to swing in a longitudinal plane at one side of the latter, the cylinder body 6, is provided with a head 6^a, terminating in an arm 6^b, pivotally and detachably connected to the top of the arm 3, by means of a pivot attaching element 7.

The head 6^a, is preferably provided with the conventional form of ball valve arranged within the nipple 6^c, adapted to discharge the fluid or air into a suitable conduit pipe or hose leading from the nipple 6^c, to the valve stem of the tire to be inflated.

The tubular pump cylinder 6, is provided with a ring head 6^d, the heads 6^a and 6^d, being connected by connecting bolts 8, extending through lugs on the said heads. The ring head 6^d, is provided with an arm 6^e, extending at one side of the plane of the pump cylinder and provided at its lower end with a laterally extending shaft bearing 9, and arranged to extend in a plane with the offset portion 3^e, of the arm 3.

The shaft bearing 9, is provided with an opening adapted to removably receive and contain a shaft 10, the latter being retained

by means of a nut 10^a, and washer 10^b. The shaft 10, is provided with a piston driving wheel 11, adapted to receive its motion from the motor driving element or belt 2, when thrown into and out of contact with the latter, as hereinafter referred to. The wheel 11, is provided with a connecting rod 12, leading to the piston 13, the latter being provided with the usual flexible valve disc 13^a, which upon the down movement of the piston will permit air to pass into the piston chamber and upon the return movement of the piston will discharge the same through the valve in the nipple 6^c.

As a means of moving the rocking pump cylinder 6, together with the driving wheel 11, into and out of operative relation to the motor driven element or belt 2, the shaft bearing 9, is provided with a threaded rod or link 14, extending through an opening in the bracket 4, and adapted to be adjusted by means of a winged adjusting nut 15. As a means of moving the shaft bearing 9, and wheel 11, toward the driven belt 2, and particularly holding said wheel 11, in contact with the belt 2, under spring resistance, a coiled compression spring 16, is interposed between the bracket 4, and the shaft bearing 9, and surrounds the adjusting rod 14, the latter being pivotally connected to the bearing 9, by means of the pivot pin 14^a, in the lugs or ears 9^a, on the shaft bearing 9.

Having thus described one of the embodiments of my invention, what I claim and desire to secure by Letters Patent, is,—

1. An air pump, comprising a pump cylinder, a valved cylinder head provided with a supporting arm extending at a plane at one side of said pump cylinder, a cylinder ring head on the opposite end of said pump cylinder and provided with an arm extending in an opposite direction and in a plane with said supporting arm and provided with a laterally extending shaft bearing, a shaft in the latter provided with a friction wheel on the opposite side of said last mentioned arm, a connecting rod on said friction wheel extending through said cylinder ring head, a piston in said pump cylinder connected to said connecting rod, and connecting bolts on the outside of said cylinder detachably connecting said valved cylinder head and cylinder ring head to each other and on said pump cylinder.

2. In a motor driven air pump, the combination comprising a support including an attaching base and an offset supporting arm, a pump cylinder carried by and adapted to rock at one side of the latter, a piston driving wheel, an arm carried at one end of said pump body and having a transverse shaft bearing below said offset portion, a bracket on said support above said attaching base, and an adjustable spring resisted arm on said bracket connected to said spindle supporting member whereby said wheel and pump cylinder are adapted to be thrown into and out of operative engagement with a driving element.

In testimony whereof I have affixed my signature.

ALBERT KREHLIK.