

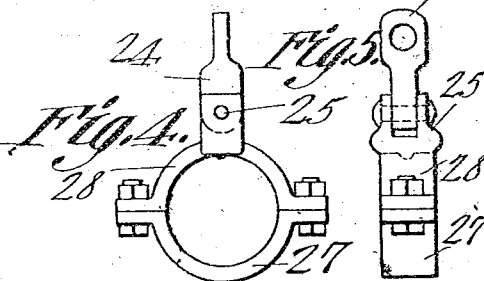
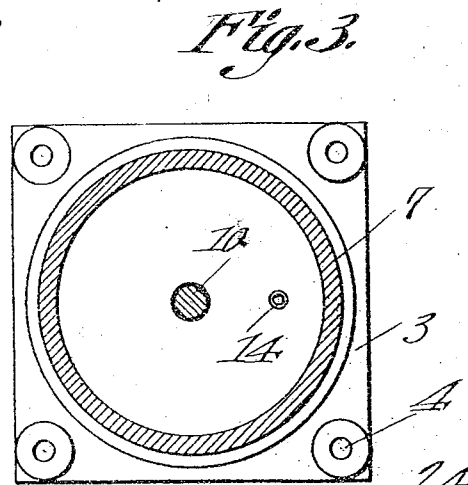
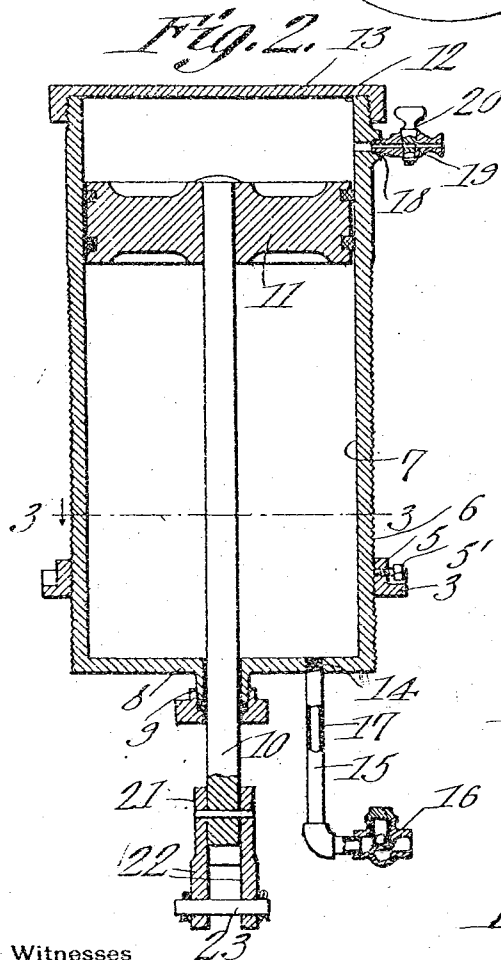
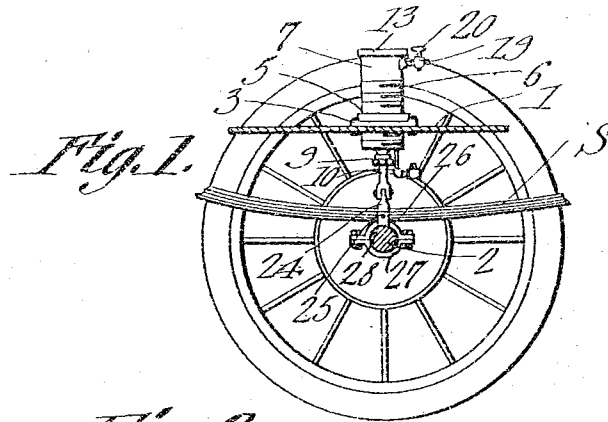
F. H. BABCOCK.

SHOCK ABSORBER.

APPLICATION FILED MAR. 21, 1913.

1,120,885.

Patented Dec. 15, 1914.



Witnesses
J. P. Romein
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connected to any make of motor car without the necessity of lengthening or shortening the connection of the plungers, as will presently appear.

5 The lower end 8 of the cylinder 7 is formed integral and is provided with the concentrically disposed stuffing box 9 for the reception of the piston rod 10, said piston rod 10 being rigidly connected to the piston 11 within the cylinder and said rod being insertible through the open end 12 of the cylinder, which is sealed by the removable cap 13, in such a manner that the cap is air and liquid tight and prevents leakage at this point of the cylinder 7.

10 A threaded port 14 is formed in the sealed head 8 of the casing 7 and has led therefrom, the pipe 15, which has connected at its end, the check valve casing 16, the valve therein being so disposed as to permit of the inflow of air, due to the upward movement of the piston 11, but which will prevent the outflow when the piston 11 is moved downwardly. In order to provide a means for slightly venting the cylinder 7 due to the downward movement of the piston 11 and, as has been found in practice, relieve the too sudden jar due to the separation of the floor 1 from the axle 2 during the passage of the motor car over a hillock or ridge in the road, a vent 17 is formed in the pipe 15 intermediate the port 14 and the check valve 16. By this means a slight bleeding of the air within the cylinder 7 below the piston 11 is provided.

15 This vent opening 17 varies in size according to the size of the car and the capacity thereof, a two passenger car necessitating the employment of an exceedingly small vent while a seven passenger car or truck necessitates the employment of a proportionately enlarged vent or bleeding port.

20 The port 18 formed in the upper end of the cylinder 7 has disposed therein the cock valve casing 19, having a manually controlled cock 20, the same being readily accessible, that is where the device is employed as shown in Fig. 1 below the rear seat of the motor car, so that the valve 20 may be manipulated according to the load of the vehicle to permit of the necessary bleeding of the cylinder upon the upstroke of the piston 11, or if so desired a check valve and bleeding conduit as 15 may be employed, but it has been found in practice that a valve as shown in Fig. 2 will efficiently operate, as the upward action of the piston 11 does not have the same use as the downward movement, as the spring S of the motor car will in most cases carry the load and relieve the shock, under varying load conditions and when the floor or chassis 1 is moving toward the springs.

25 Mounted upon the lower end of the piston rod 10 is a sleeve 21, the same being connected thereto by means of the removable

pin 21, said sleeve being provided with the apertured lugs 22 for the reception of the pin 23 which is pivotally connected to the link 24, said link 24 being pivoted to the spaced lugs 25 of the axle engaging member 26, so as to have a movement at right angles to the connection at 23, it being necessary to produce a flexing member at this point so that the clamping members 26 and 27 may be positioned as shown in Fig. 1 or so that the lugs 25 are at right angles thereto, according to the make of the car upon which the present device is applied.

30 The member 26 of the clamping device is provided with a spur 28, which is adapted to be clamped in to the axle 2 and thus hold the clamping member against rotation relatively to the axle 2 and thus maintain the link 21 in proper aligned relation to the piston 10. In the position as shown in Fig. 1, it is preferred that the device be so adjusted that the plunger 11 will be disposed centrally of the cylinder 7, that is when the spring S is in normal condition.

35 It will thus be seen that by threading the exterior of the cylinder, that the retaining or attaching plate 3 may be readily rotated thereon and be held against longitudinal movement by the coating threads upon the cylinder and within the aperture of the plate, and that such plate may be locked against rotary movement after properly adjusted by means of the set screw 5'.

What is claimed is:

1. The combination with two members movable to and from each other, of a pneumatic shock absorber, including a cylinder having a closed end, a cap for the other end, a piston mounted in the cylinder, a rod connected to the piston, means for attaching the rod to one of the movable members, the exterior of the cylinder beginning at its closed end being provided with screw threads, and a plate for attaching the cylinder to the other movable member having an interiorly screw threaded aperture, whereby the aperture of the plate fits over the closed end of the cylinder and by rotation causes the screw threads of the plate and cylinder to engage and hold the plate against longitudinal movement relatively to the cylinder.

2. The combination with two members movable to and from each other, of a pneumatic shock absorber, including a cylinder having a closed end, a stop for the other end, a piston mounted in the cylinder, a rod connected to the piston, means for attaching the rod to one of the movable members, the exterior of the cylinder beginning at its closed end being provided with screw threads, a plate for attaching the cylinder to the other movable member having an interiorly screw threaded aperture, whereby the aperture of the plate fits over the closed end of the cylinder and by rotation causes the

screw threads of the plate and cylinder to engage and hold the plate against longitudinal movement relatively to the cylinder, and means carried by the plate for engaging the cylinder to lock the plate against independent rotary movement relatively to the cylinder.

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

FRANK H. BABCOCK.

Witnesses:

JEFF. G. WINGERT,
H. P. TURNER.