

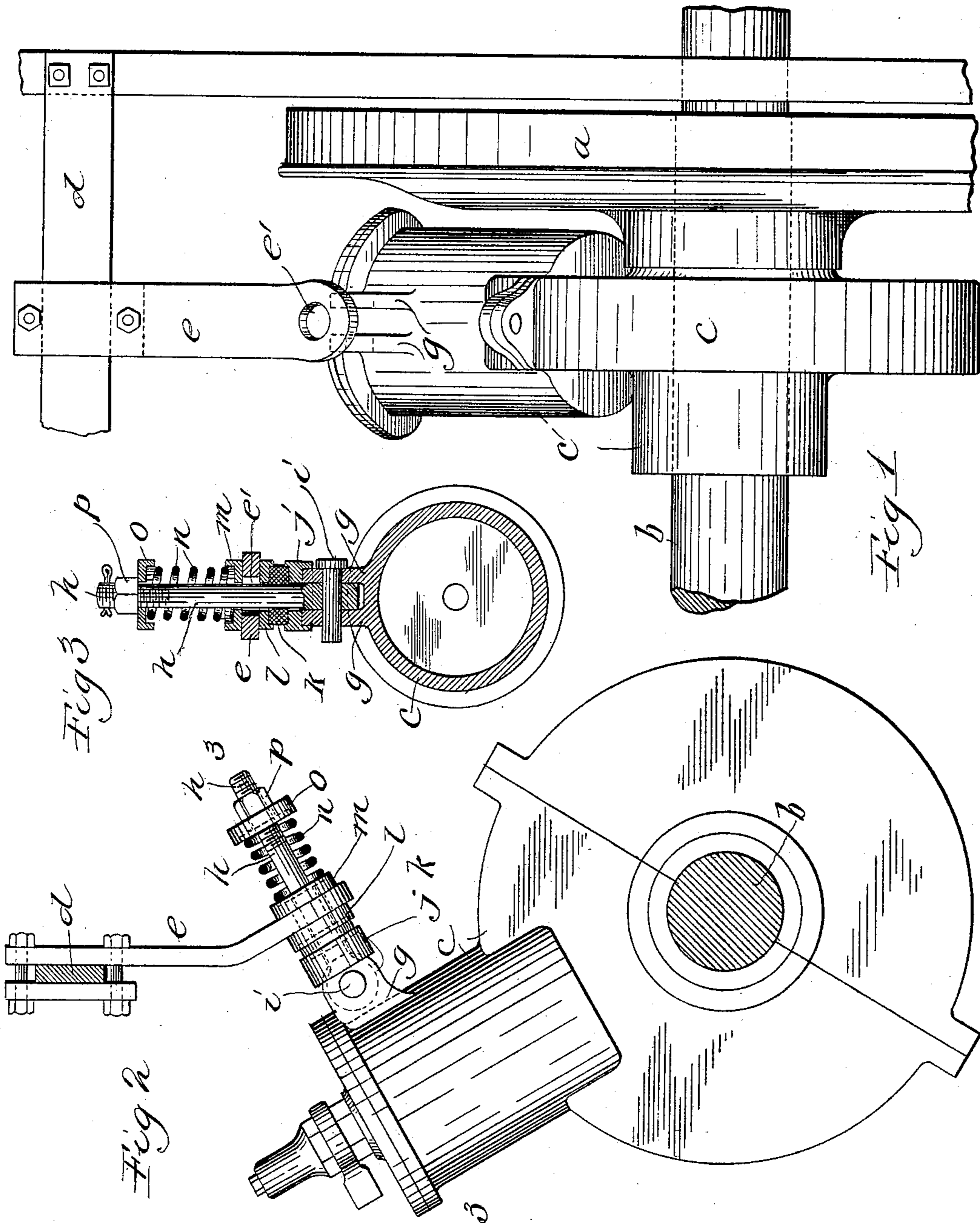
No. 607,217.

Patented July 12, 1898.

N. A. CHRISTENSEN.
MEANS FOR SUSPENDING AIR PUMPS.

(Application filed Nov. 7, 1895.)

(No Model.)



Witnesses
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MEANS FOR SUSPENDING AIR-PUMPS.

SPECIFICATION forming part of Letters Patent No. 607,217, dated July 12, 1898.

Application filed November 7, 1895. Serial No. 568,183. (No model.)

To all whom it may concern:

Be it known that I, NIELS ANTON CHRISTENSEN, a subject of the King of Denmark, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Means for Suspending Air-Pumps, which are fully set forth in the following specification, reference being had to the accompanying
10 drawings, in which—

Figure 1 represents a plan view embodying my invention; Fig. 2, a side elevation also embodying my invention, and Fig. 3 a cross-section on the line 3 3 of Fig. 2.

15 My invention relates to means for suspending an air-pump from the framework of a car-truck or car-body in such a manner as to form a yielding or flexible connection between the said pump and the truck or car-body.

20 My invention relating to the inclosed self-contained pump has already been fully described in Letters Patent No. 534,813, issued to me February 26, 1895, for air-brake pump apparatus, and my present invention may be
25 considered an improvement upon the construction shown and described in said Letters Patent. The said Letters Patent show a stiff link for suspending the air-pump, and in general the results obtained were satisfactory. The present construction, however, is
30 more desirable for general use; and my invention consists in the combination and arrangement of the hereinafter-described devices for the purpose of producing such a
35 yielding or flexible connection as is claimed in this application.

Referring to the drawings illustrating my invention, *a* is the wheel of a car-truck. *b* is the axle, and *c* is the pump mounted upon said
40 axle. The pump and method of mounting said pump upon said axle is fully described in the said Letters Patent above referred to and need not be further described here.

d is the part of the framework of the truck-
45 axle to which a forging *e* is securely fastened at one end, as shown in Fig. 2. The other end of said forging has a large hole *e'* through it. I have shown this end to be bent in such a manner as to run parallel with the center
50 line of the pump; but such construction may not be followed in every instance. The pump

c is provided with lugs *g*, between which is fitted an eyebolt *h*, held in place by a pin *i*.

j is a metal casting, preferably of iron, circular in form and resting directly on said lugs
55 *g*, its lower part being formed to fit said lugs and having a hole for the eyebolt *h* to pass through it. On the upper side of the ring *j* is a recess formed for receiving a rubber disk or spring *k*, the said disk *k* fitting into another recess in an iron casting or ring *l*, which
60 lies against the forging *e*. The eyebolt *h* passes through a hole also in this ring *l*. On the other side of the forging *e* is another metal ring or casting *m*, circular in form and through
65 a hole in which the eyebolt also passes.

n is a spiral spring mounted on the eyebolt *h* and held between the ring or casting *m* and another ring or casting *o* on the top of said
70 spring, as shown in Fig. 2, the said rings or castings *m* and *o* having recesses within them for holding said spring in place. As before stated, the casting *o* is placed over the top of the spring *n* and is held in place by a nut *p* and
75 split pin on the eyebolt *h*. The eyebolt also passes through a hole in the ring *o*. These four castings, with the disk *k*, form washers on the eyebolt *h* for holding the forging *e* in such a manner as to make a yielding or flexible
80 connection between the air-pump and car truck or body, as before stated. The hole *e'* in the end of the forging *e* is made large to allow of play to compensate for the lateral movement of the axle in relation to the truck. The interposition of the spring and the eye-
85 bolt and the rubber disk or spring *k* all tend, as before stated, to make such connection yielding and flexible to compensate for the difference in movements of the car-body to which the forging is attached at the upper
90 end and the pump, which is mounted directly or indirectly upon the axle and partakes of the motions of the axle.

Having thus described my invention, what I claim to be new, and desire to secure by Let-
95 ters Patent, is—

1. In combination with the truck frame or body, and its axle; an air-pump mounted upon said axle; a rigid hanger depending from the body or truck and provided with an
100 enlarged opening; a bolt or rod connected to the air-pump and passing through the open-

ing in the hanger, and capable of both lateral and longitudinal motion therein; and springs or cushions adapted to limit the movement of the bolt in both directions.

- 5 2. In an air-pump mounted upon a revolving axle, the forging *e* fastened at one end to the framework and having a large hole at the other end, in combination with an eyebolt, *h*, for sustaining the pump passing through the
10 said forging and having mounted on said forging the spring *n* and the disk or spring *k*, with suitable washers for holding said forg-

ing in position on said eyebolt, substantially as shown and described.

3. In an air-brake pump operated by a car- 15 axle, the forging *e*, in combination with the eyebolt *h*, pin *i*, rings *j*, *l*, *m*, *o*, the disk *k*, and spring *n*, substantially as shown and described.

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