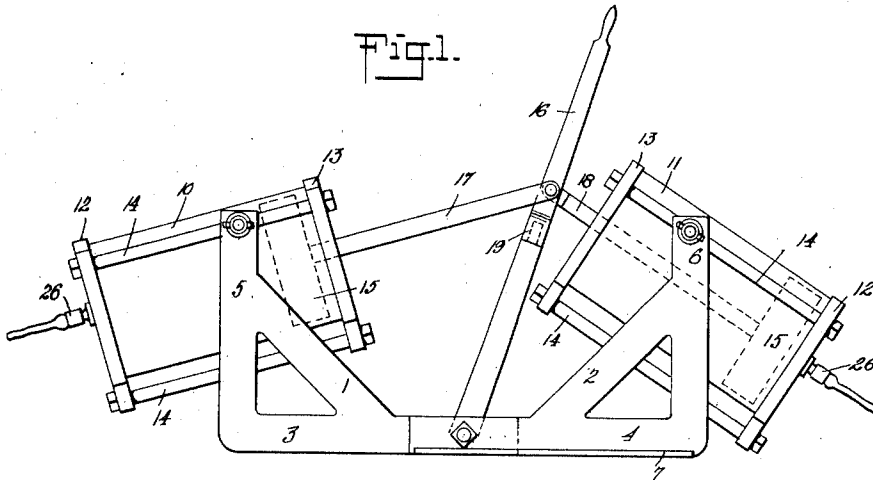
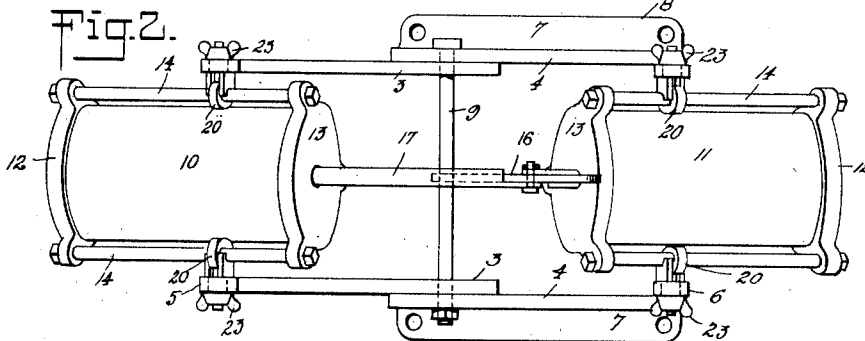
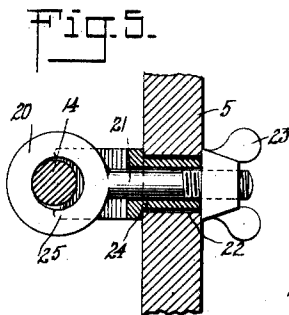
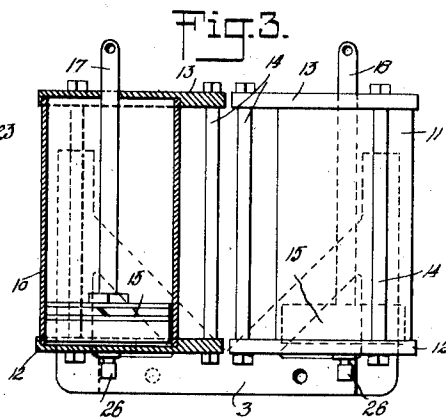
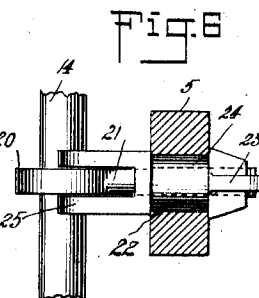
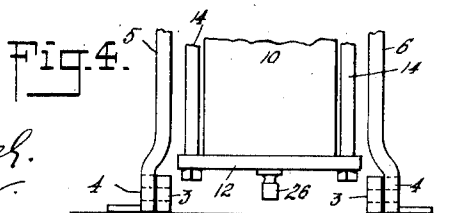


E. S. LIDSTONE.
PUMPING MECHANISM.
APPLICATION FILED JUNE 18, 1920.

1,385,215.

Patented July 19, 1921.



WITNESSES

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EDWARD S. LIDSTONE, OF PROVIDENCE, RHODE ISLAND.

PUMPING MECHANISM.

1,385,215.

Specification of Letters Patent.

Patented July 19, 1921.

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To all whom it may concern:

Be it known that I, EDWARD S. LIDSTONE, a citizen of the United States, and a resident of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Pumping Mechanism, of which the following is a full, clear, and exact description.

This invention relates to pumping mechanisms.

An object of the invention is to provide a pumping mechanism capable of being quickly assembled and disassembled and packed in a small space when disassembled, which virtue is particularly advantageous when the pump is to be used in connection with automobiles.

Another object is the provision of a plurality of cylinders with the mechanism so that the pumping action is rapid, the cylinders being so mounted as to assume closely related positions when the unit is disassembled.

The invention further resides in the construction and arrangement of the parts as described more in detail in the following specification and claims.

The invention in general comprises a frame made in a plurality of sections, one section being so constructed that it can slide telescopically into and with relation to another section. Each section is adapted to support a pumping device, such as a cylinder. Connecting means are provided to connect the sections and hold them when so connected in position suitable for the operation of the cylinders to pump. This connecting means has associated therewith an oscillating member which is adapted to be connected to the cylinder piston and operate the same.

The cylinders are adjustably pivoted on the sections and by reason of this adjustment can be disposed in any suitable relation during pumping and can be disposed closely adjacent to each other when one section is telescoped within another.

By reason of the above-mentioned general features there has been provided a pumping unit which is simple in construction, capable of ready assembly, and which occupies comparatively small space when disassembled.

The invention is illustrated in the drawing, of which—

Figure 1 represents a side elevation of the mechanism;

Fig. 2 represents a plan view of the mechanism;

Fig. 3 represents an elevation partly in section showing the cylinders in the position they occupy when the mechanism is disassembled;

Fig. 4 is a partial profile view;

Fig. 5 is a detail view of a cylinder pivot; and

Fig. 6 is another view of this pivot.

As illustrated in the drawing, the pumping mechanism comprises a plurality of sections, such as 1 and 2, each of which has base portions 3 and 4 and vertically extending portions 5 and 6. One of the sections, such as 2, is also provided with horizontally extending wing portions 7 and 8 by means of which the mechanism may be mounted on a support or attached to some rigid structure, such as the running board of an automobile. The base portions 3 of the section 1 are spaced apart such a distance as will permit them to contact along their edges with the inner faces of the base portions 4 of section 2. When the sections are in the position shown in Fig. 1, a connecting link or bar 9 is adapted to extend through suitable apertures in the base portions of each section to hold them in this fixed position. When this link or bar 9 is withdrawn, the section 1 is adapted to slide within the section 2 and when thus disposed the apparatus takes up slightly more than half the space occupied by the apparatus when in operating position. On the vertical portions 5 and 6 of the sections, pumping devices, such as cylinders 10 and 11, are mounted. These cylinders are provided with heads 12 and 13 between which bolts 14 extend to hold the heads 12 and 13 on to the body portion of the cylinders. Suitable pistons 15 are provided and can connect with the actuating member or bar 16 by means of connecting rods 17 and 18. This actuating member 16 may be jointed, as shown at 19, in any suitable manner, so that when the mechanism is disassembled the handle portion can be packed away in a small compass. This actuating member or

bar 16 is pivotally mounted on the connecting bar 9.

The cylinders 10 and 11 are pivotally mounted on the upper ends of the vertical portions 5 and 6 of the sections 1 and 2. This pivotal mounting comprises, as shown in Figs. 5 and 6, an eye bolt 20 having a shank 21 which is threaded on its outer end and extends through an aperture 22 in the vertical portions 5 and 6. A winged nut 23 is threaded on to the outer end of the shank 21 to tighten the same. Within the aperture 22 is a collar 24 loosely surrounding the shank 21 and provided at its outer end with a curved jaw 25 adapted to engage with one face of the bolt 14. It is apparent from an inspection of Figs. 5 and 6 that when the winged nut 23 is moved to pull the eye bolt 20 into the aperture 22, the jaw 25 tightly grips the bolt 14 so that the point along bolt 14 at which the cylinder is pivoted is fixed, although this construction permits the oscillation of the cylinder about this point.

The cylinders at one end are provided with outlet cocks 26 to which any suitable connection may be made.

When it is desired to disassemble the device from the condition shown in Fig. 1 to that condition in which it will occupy a minimum amount of space, such as shown in Fig. 3, the actuating member 16 is disconnected from the connecting rods 17 and 18 and from the connecting bar 9, after which it is taken apart at the joint 19. The pistons 15 are then moved to the innermost portion of the cylinder. The winged nuts 23 are loosened and the cylinders moved into positions parallel to each other, as shown in Fig. 3. The section 1 is then moved inwardly within the section 2 until the cylinders lie closely adjacent each other; whereupon it is seen that the amount of space occupied by the entire unit is very considerably less than when it is in operating condition.

What I claim is:

1. A pumping mechanism comprising a sectional frame, a plurality of pumping devices on said frame, means for connecting and holding the frame sections in position suitable for the actuation of said devices, and means on said connecting means for actuating said devices.

2. A pumping mechanism comprising a sectional frame, pumping devices on said frame, means for connecting the sections in position for the operation of the devices, means permitting one section to telescope within another when disconnected, and means for actuating said pumping device.

3. A pumping mechanism comprising a sectional frame, pumping devices on said frame, means for connecting the sections in position for operation of the devices, actuating means cooperating with said connect-

ing means, and means permitting one section to telescope within another when disconnected.

4. A pumping mechanism comprising a sectional frame, a plurality of cylinders on said frame and having pistons, means for connecting said sections to permit the operation of the pistons, means for adjusting the cylinders in a substantially opposed relation when the sections are so connected and for adjusting the cylinders in an adjacent parallel relation when the sections are disconnected, and means for operating said pistons.

5. A pumping mechanism comprising a sectional frame, a plurality of cylinders on said frame and having pistons, means for connecting said sections to permit operation of the pistons, means for adjusting the cylinders in a substantially opposed relation when the sections are so connected and for adjusting the cylinders in an adjacent parallel relation when the sections are disconnected, means for permitting one section to telescope within another when disconnected, and means for operating said pistons.

6. A pumping mechanism comprising a sectional frame, a plurality of cylinders on said frame, and having pistons, means for connecting said sections to permit the operation of the pistons, piston actuating means cooperating with said connecting means, means for adjusting the cylinders in a substantially opposed relation when the sections are so connected and for adjusting the cylinders in an adjacent parallel relation when the sections are disconnected, and means for permitting one section to telescope within another when disconnected.

7. A pumping mechanism comprising a sectional frame, a pump cylinder pivotally mounted on each section and having pistons, a connecting link to hold one section to another in operating position, and a piston actuating means on said link.

8. A pumping mechanism comprising a sectional frame, a base portion and a supporting portion on each section, a pumping device mounted on each section, a connecting link between the base portions of separate sections to hold them in position for the operation of the devices, said base portions adapted to telescope one within the other when the sections are disconnected, and actuating means for operating said pumping device.

9. A pumping mechanism comprising a sectional frame, a base portion and a supporting portion on each section, a pumping device mounted on each section, a connecting link between the base portions of separate sections to hold them in position for the operation of the devices, and an actuating member for said devices cooperating with said link, said base portions adapted to

telescope one within the other when the sections are disconnected.

10. A pumping mechanism comprising a sectional frame, a base portion and a supporting portion on each section, a cylinder
5 mounted on each section, a connecting link between the base portions of separate sections to hold them in position for the operation of the cylinders, said base portions

adapted to telescope one within the other 10
when the sections are disconnected, means for adjusting the cylinders in a substantially opposed relation when the sections are operably connected, means for adjusting the cylinders in an adjacent parallel relation 15
when the sections are disconnected, and means for operating said cylinders.

EDWARD S. LIDSTONE.