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MECHANISM FOR TRANSMITTING POWER.

APPLICATION FILED SEPT. 29, 1917.

1,257,897.

Patented Feb. 26, 1918.

2 SHEETS—SHEET 1.

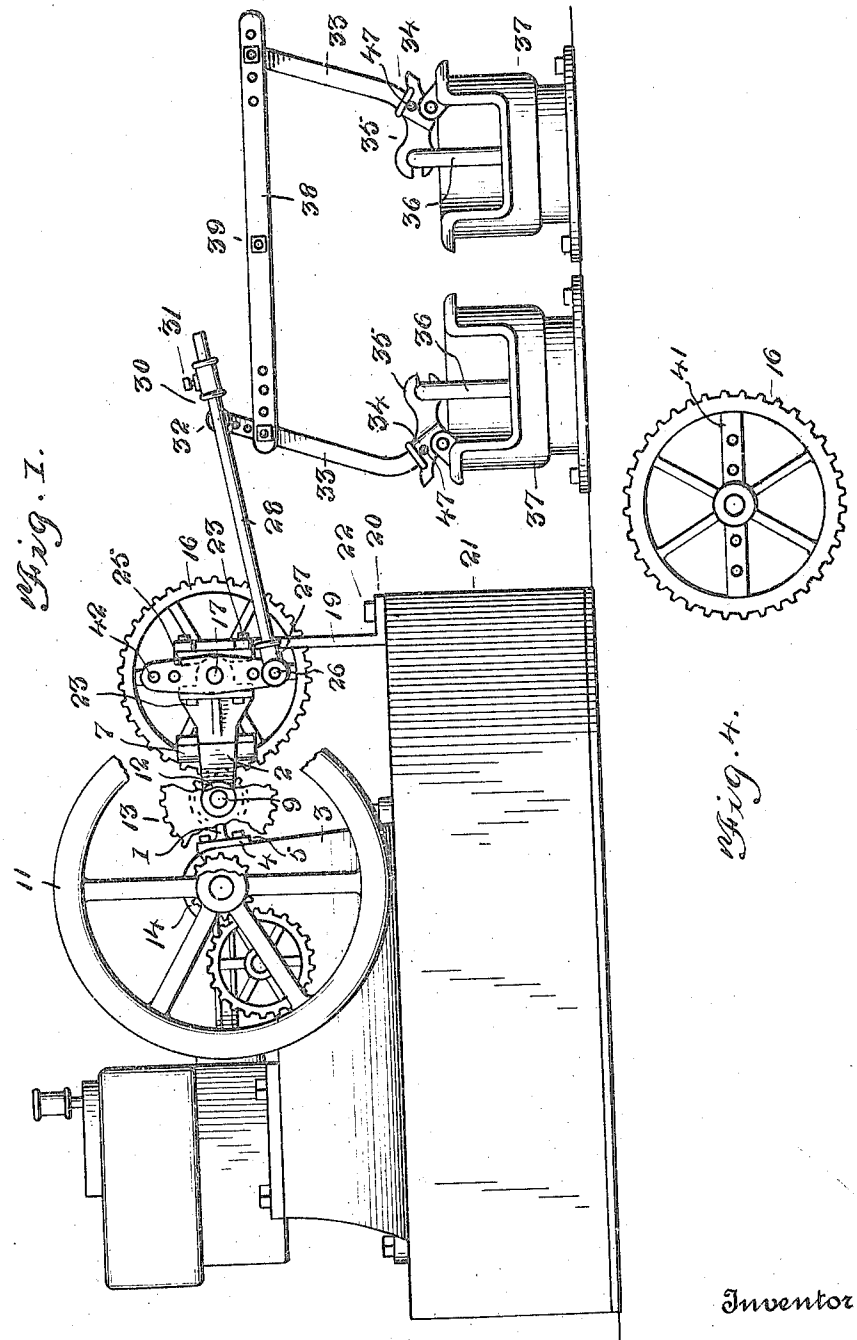


Fig. 1.

Fig. 4.

Witness

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2 SHEETS—SHEET 2.

Fig. 2.

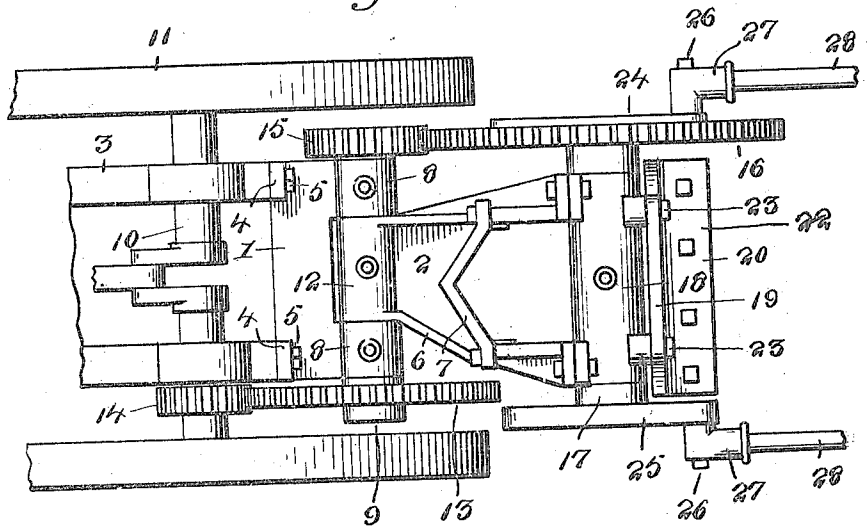
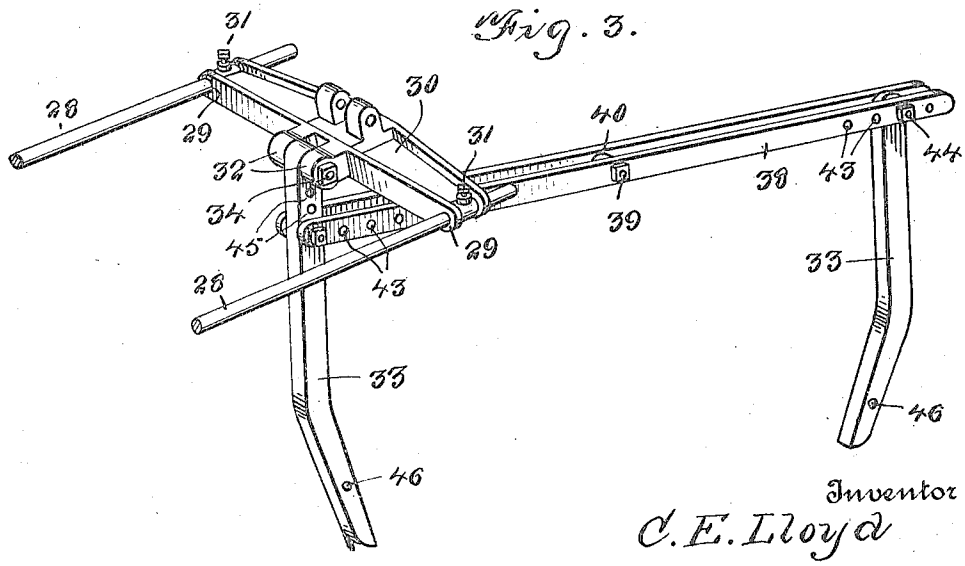


Fig. 3.



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UNITED STATES PATENT OFFICE.

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MECHANISM FOR TRANSMITTING POWER.

1,257,897. Specification of Letters Patent. Patented Feb. 26, 1918.

Application filed September 29, 1917. Serial No. 193,993.

To all whom it may concern:

Be it known that I, CECIL E. LLOYD, a citizen of the United States, residing at Pensacola, in the county of Escambia and State of Florida, have invented new and useful Improvements in Mechanisms for Transmitting Power, of which the following is a specification.

This invention relates to mechanism for transmitting power and is designed particularly for transmitting the power of an internal combustion engine to one or more pumps.

One of the main objects of the invention is to provide mechanism for transmitting power, which mechanism may be quickly and easily associated with an internal combustion engine without requiring any modification of the engine, at the same time obtaining a strong, durable and efficient means for the purpose stated.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts, herein described, illustrated and claimed.

In the accompanying drawings:—

Figure 1 is a side elevation partly broken away showing the motion transmitting mechanism in its applied relation to an internal combustion engine and a plurality of pumps.

Fig. 2 is a fragmentary plan view of the same on an enlarged scale.

Fig. 3 is a fragmentary perspective view of a part of the power transmitting mechanism.

Fig. 4 is a side elevation of one of the gears with the adjacent crank pin member detached.

The mechanism for transmitting power comprises in the preferred embodiment thereof a gear frame of sectional formation comprising the sections 1 and 2. The section 1 is arranged to abut directly against one of the end walls of the base or frame 3 of an internal combustion engine as shown in Fig. 1, said section 1 being formed with attaching ears 4 receiving fastening means 5 by which said section is fixedly secured to the engine. The section 2 is of triangular formation in plan view and is formed with reinforcing webs or flanges 6 and 7. The member 1 is provided with sleeve-like bearings 8 for a countershaft 9 which is arranged parallel to the engine shaft 10, 11 designating a fly wheel on the engine shaft. The bearing sleeves 8 are arranged in spaced relation to each other so as to admit between them another bearing sleeve 12 on the section 2. The countershaft 9 passes through all of the bearing sleeves 8 and 12 and carries at one end a large gear 13 which meshes with a gear 14 on the engine shaft 10. On the opposite end of the countershaft 9 there is a smaller gear 15 which meshes with a relatively large gear 16 on a pump operating shaft 17 which is journaled in a bearing sleeve 18 on the projecting end of the section 2 of the gear frame.

The section 2 of the frame is additionally supported by means of an upright 19 having a base flange 20 which rests upon a supporting stand 21 and is secured thereto by fastening means 22. The supporting stand 21 also forms a support for the engine as shown in Fig. 1 enabling the engine to be located at a sufficiently high elevation to handle the pump or pumps hereinafter referred to. At its upper end, the upright support 19 is secured fixedly to the section 2 of the gear frame by fastening means 23.

Fixedly secured to the outer face of the gear 16 is a crank pin plate or member 24 of oblong formation, the shape thereof being indicated in Fig. 1 which shows another crank pin member or plate 25 of the same shape as the member 24, said member 25 being fast on the opposite end of the pump operating shaft 17. The members 24 and 25 have outwardly projecting crank pins 26 upon which are journaled L-shaped bearing members 27. Extending from the bearing members 27 and fixedly secured thereto are connecting rods 28 the opposite ends of which are inserted through openings 29 in the opposite ends of an oscillatory cross head 30. The rods 28 are held in any adjusted position in the openings 29 by set screws 31. Centrally the cross head 30 is formed with lugs 32 which straddle the upper extremity of a pump operating lever 33, said cross head and lever being pivotally connected by a bolt 34 or the equivalent thereof. As shown in Fig. 1, the lever 33 has its lower end inserted in the socket 34 of a pump brake lever 35 to which is con-

nected a bail shaped member 36 of the pump, the body of the pump being indicated at 37.

As illustrated in Figs. 1 and 3, the mechanism is adapted for the simultaneous operation of a plurality of pumps, the pump levers 33 being coupled together by a yoke 38 shown as consisting of parallel bars straddling the levers 33 and pivotally secured to both levers and further secured together by one or more intermediate bolts or fastenings means 39 in connection with one or more spacing sleeves 40 interposed between the bars of the yoke. In order to enable the crank pin member 24 to be fastened to the adjacent gear 16, diametrically opposite spokes 41 of said gear are made wider than the other spokes and are formed with holes to receive fasteners 42 such as bolts or rivets as indicated in Figs. 1 and 4.

The yoke 38 is formed with series of holes 43 to receive the pivot bolts 44 which connect the levers 33 with said yoke. This enables the varying distances between the levers 33 to be compensated for. One of the levers 33 is also formed with a longitudinal series of holes 45 to admit of the adjustment of the cross head 30 for the purpose of varying the stroke of the levers 33 and consequently the strokes of the pumps. The lower extremities of the levers 33 which are received in the sockets 34 are formed with holes or sockets 46 to receive screws or bolts 47 or the like inserted through the sockets 34 to prevent escape of the levers 33 therefrom.

The mechanism hereinabove described is particularly designed for marine pumping purposes, enabling an internal combustion engine to be easily coupled with one or more pumps. The mechanism may be used in conjunction with an internal combustion engine of any type or size and in connection with pumps of various kinds, the ordinary marine bilge pump being shown for the purpose of illustration and in order to enable the invention to be better understood.

I claim:—

1. Mechanism for transmitting power, comprising a frame, a driving shaft journaled in said frame, a crank pin member fast on said shaft, a lever forming an element of the mechanism to which motion is to be transmitted, an oscillatory cross head pivotally connected to said lever and extending at a right angle thereto, and a connecting rod having one end attached to said crank pin member and the opposite end thereof attached to said oscillatory cross head.

2. Mechanism for transmitting power, comprising a frame, a driving shaft journaled in said frame, crank pin members fast on said shaft, a lever forming an element of the mechanism to which motion is to be imparted, an oscillatory cross head adapted to be pivotally connected at a medial point to said lever and extending at a right angle thereto, and connecting rods attached at one end to said crank pin members and adjustably connected to their opposite ends with said oscillatory cross head.

3. Mechanism for transmitting power, comprising a frame, a driving shaft journaled in said frame, a crank pin member fast on said shaft, a plurality of levers forming elements of the mechanism to which motion is to be imparted, a pivotal yoke connecting said levers, an oscillatory cross head pivotally connected to one of said levers, and a connecting rod having one end attached to said crank pin member and the opposite end thereof attached to said oscillatory cross head.

4. Mechanism for transmitting power, comprising a frame, a driving shaft journaled in said frame, a crank pin member fast on said shaft, a plurality of levers forming elements of the mechanism to which motion is to be imparted, a pivotal yoke connecting said levers, an oscillatory cross head pivotally connected to one of said levers, and a connecting rod having one end attached to said crank pin member and the opposite end therof attached to said oscillatory cross head, said yoke being adjustably connected to said levers.

5. Mechanism for transmitting power, comprising a frame, a driving shaft journaled in said frame, a crank pin member fast on said shaft, a lever forming an element of the mechanism to which motion is to be transmitted, an oscillatory cross head pivotally connected to said lever, and a connecting rod having one end attached to said crank pin member and the opposite end thereof attached to said oscillatory cross head, said cross head being adjustable longitudinally of said lever.

6. In mechanism for transmitting power, the combination with the brake sockets of a pair of pumps, of brake levers having a detachable connection with said brake sockets, a yoke having a pivotal connection with said brake levers, and a prime mover actuating one of said levers.

7. In mechanism for transmitting power, the combination with the brake sockets of a pair of pumps, of brake levers having a detachable connection with said brake sockets, a yoke having a pivotal connection with said brake levers, said yoke having longitudinal series of holes for adjustable connection with said brake levers, and a prime mover actuating one of said levers.

8. In mechanism for transmitting power, the combination with the brake sockets of a pair of pumps, of brake levers having a detachable connection with said brake sock-

ets, a yoke having a pivotal connection with said brake levers, one of said levers having a longitudinal series of holes for adjustable connection with said yoke, and a prime mover actuating one of said levers.

9. In mechanism for transmitting power, the combination with the brake sockets of a number of pumps, of brake levers having detachable connections with said sockets respectively, means interconnecting said levers for simultaneous operation and capable of being disconnected from any one of said levers whereby one of the levers may be operated independently, a prime mover, and connections between said mover and the levers connected for operation.

In testimony whereof I affix my signature.

CECIL E. LLOYD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."