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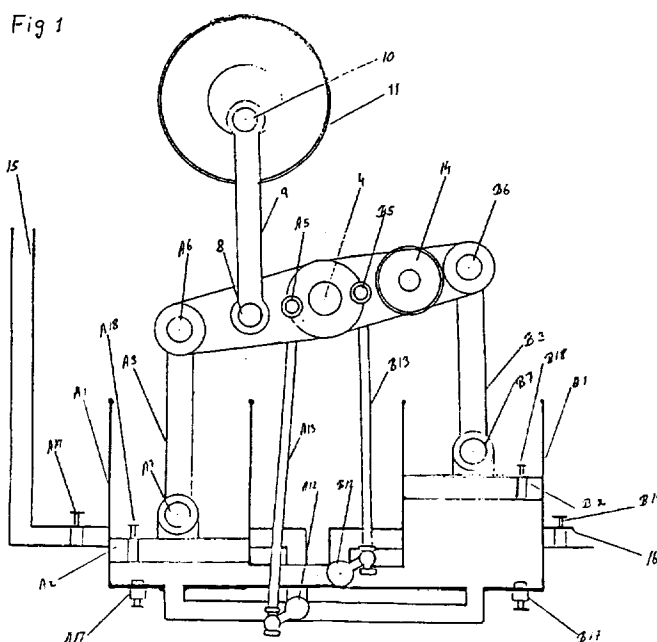
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(56) Documents Cited
GB 2316135 A GB 2231368 A EP 0117739 A

(58) Field of Search
UK CL (Edition Q) F1S S22 S30A , F1W WCM
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Online: EPODOC, JAPIO, WPI

(54) Abstract Title
A hydraulic motor

(57) A hydraulic motor, powered, for example, by a head of water from a river, comprises a pair of pistons - each reciprocating in a cylinder - and linked together, an inlet pipe 15 for supplying water to the bottom of the cylinders and an outlet pipe 16 for draining the water from the cylinders. The motor has a valve A12 positioned in the inlet pipe 15 for selectively directing water to one of the cylinders and a valve B12 positioned in the outlet for selectively draining one of the cylinders. In operation as shown in figure 1 water flows through pipe 15 and into the cylinder on the left causing piston A2 to rise. This movement is translated through rod A3 to crank 10 and also causes piston B2 to descend. At the same time water drains from the cylinder in which piston B2 reciprocates. When piston A2 reaches the top of its stroke, valves A12 and B12 are flipped over by shafts A13 and B13 which are connected to the link so that water now flows into the cylinder on the right.



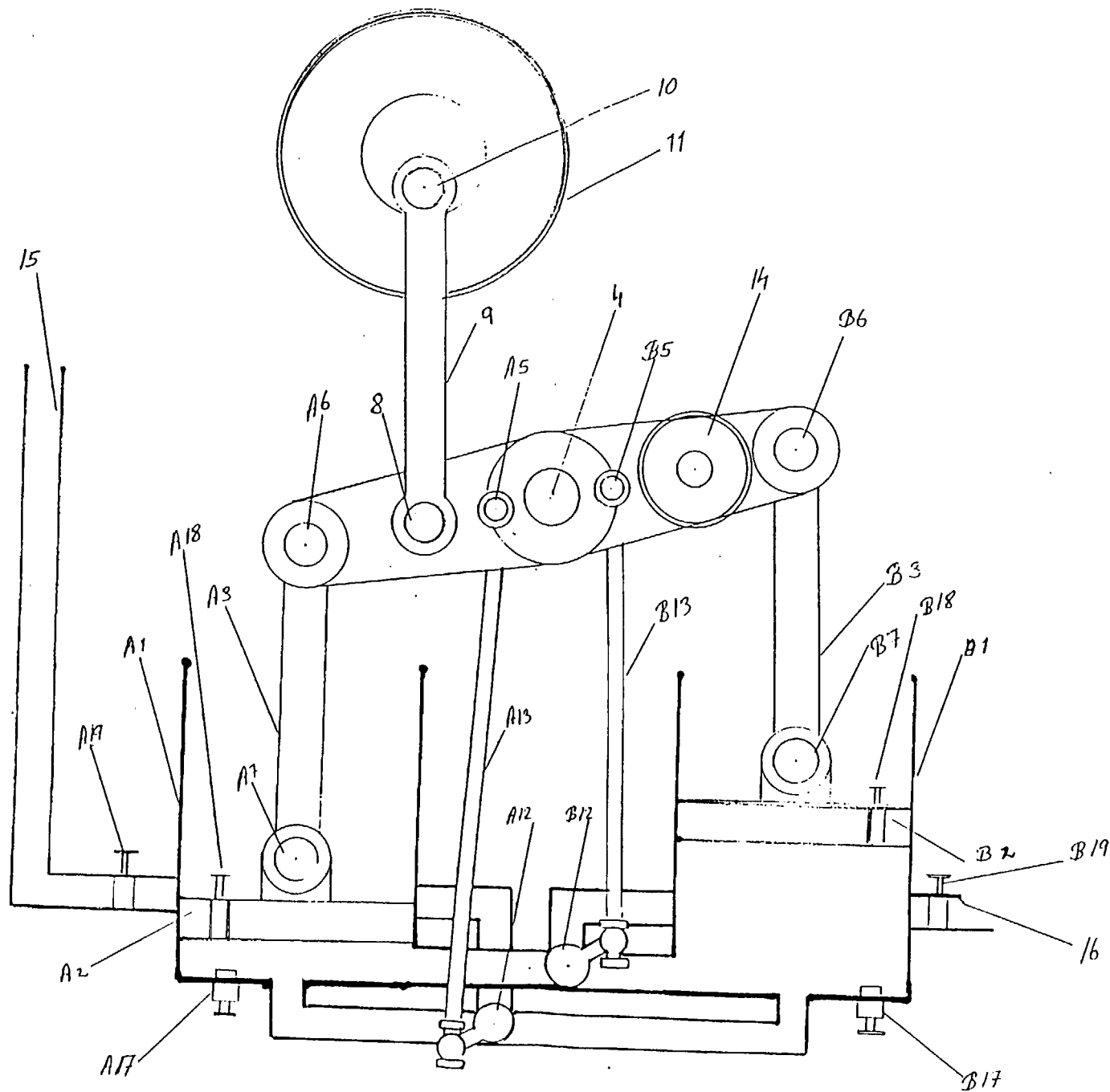
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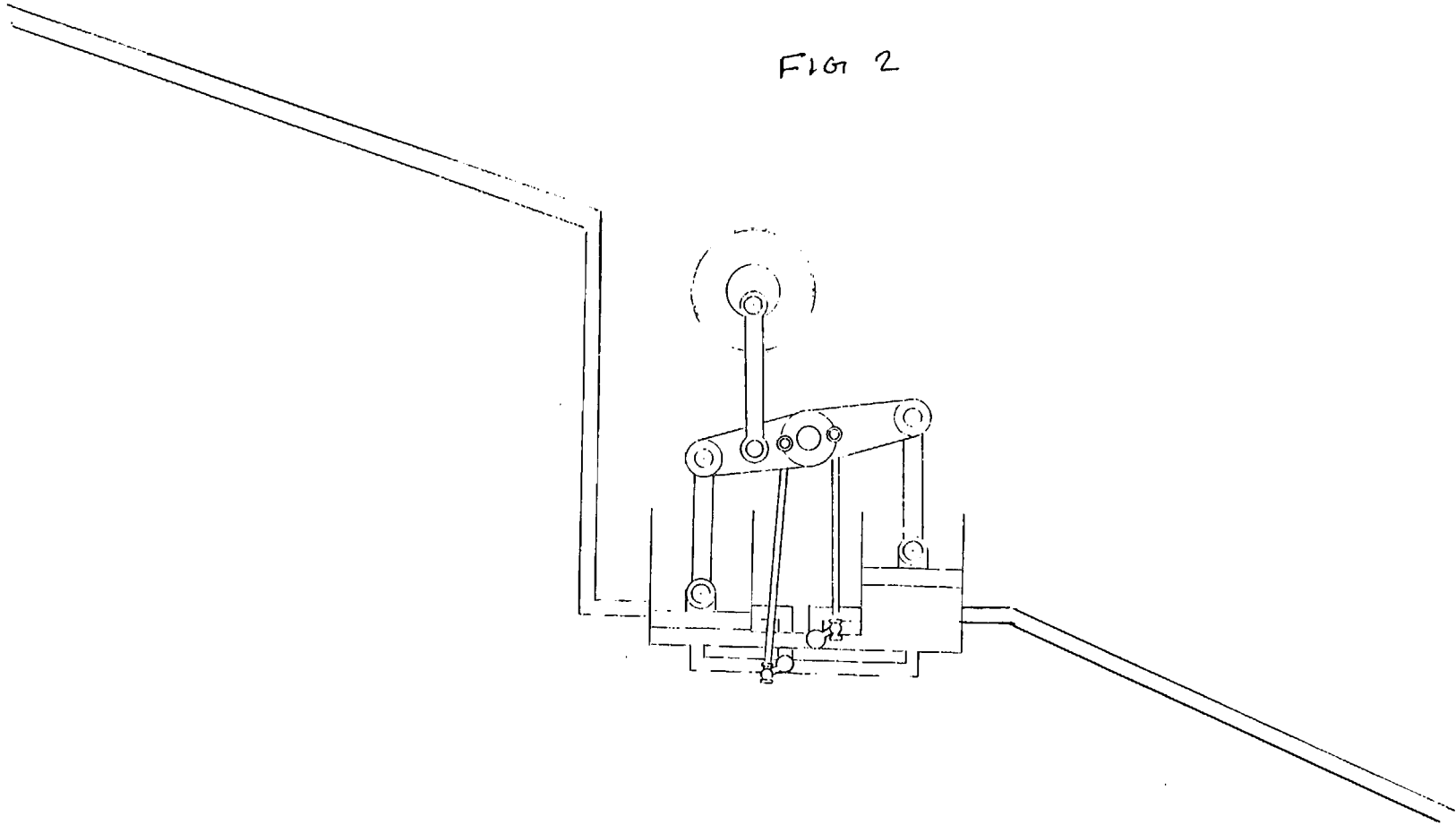
Fig 1

1/5



2/5

FIG 2



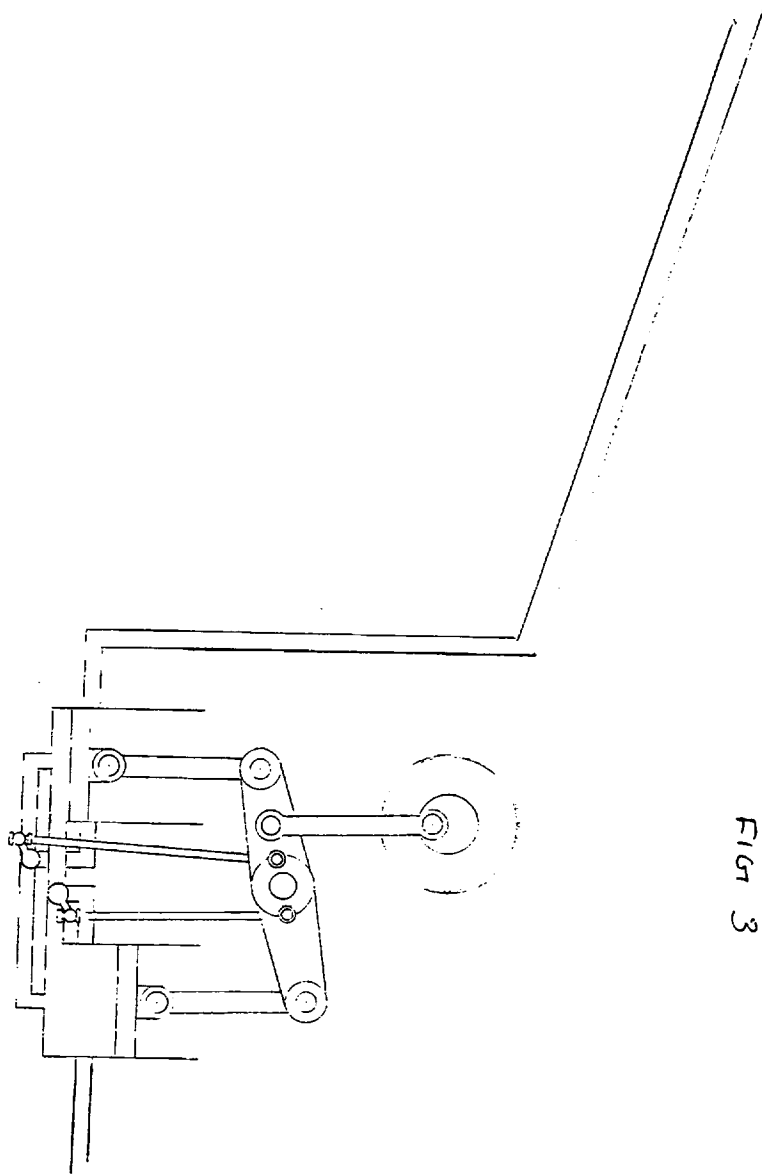


FIG 3

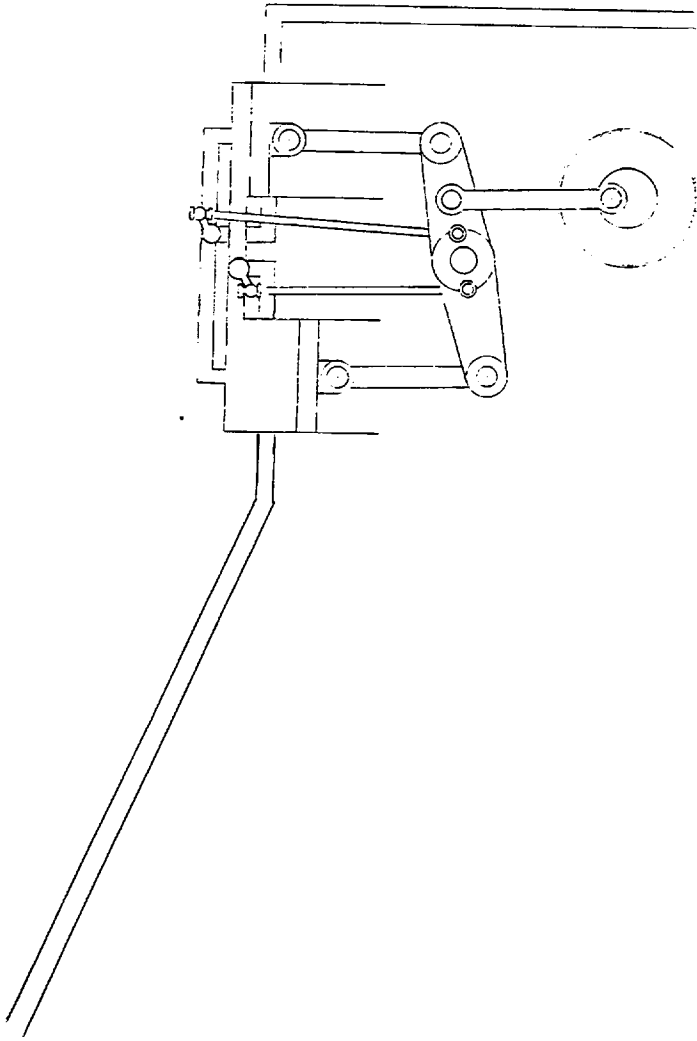


FIG 4

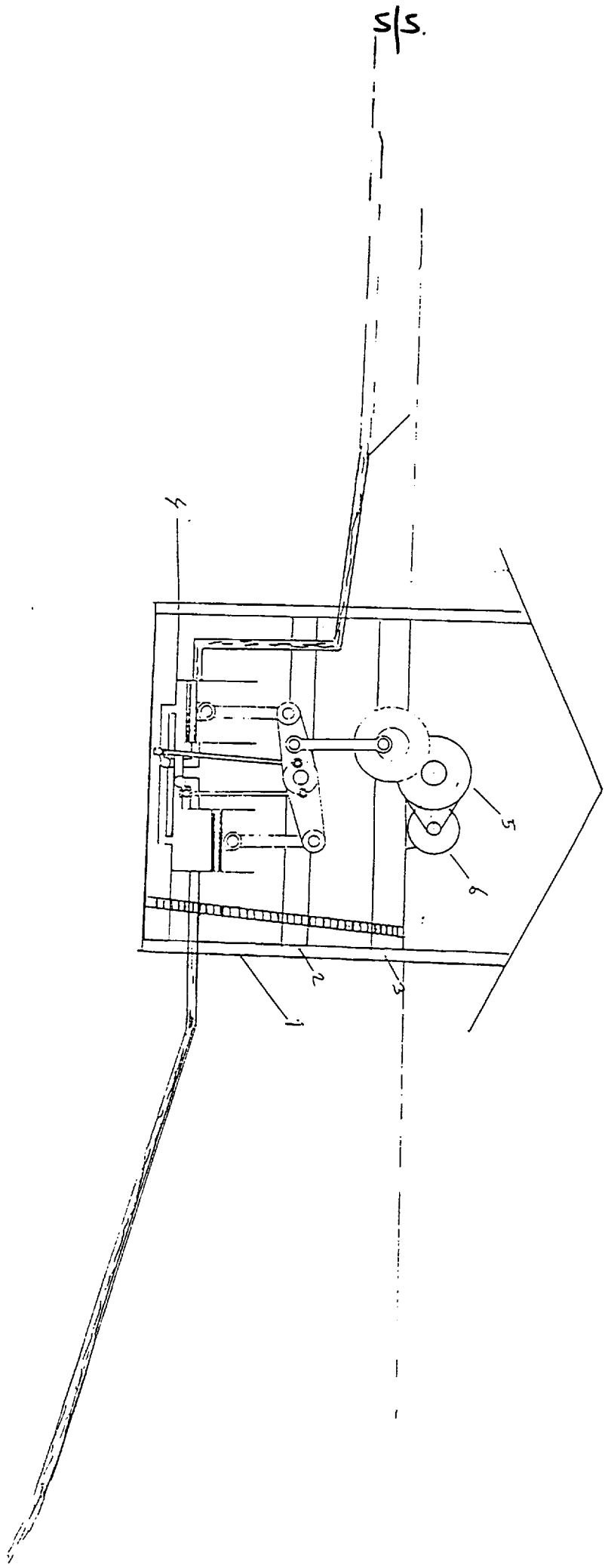


Fig 5

- A 1 and B 1 Are pressure cylinder tanks mounted on the bottom engine coloured red.
- A 2 and B 2 are force and suction pistons.
- A3 and B 3 Conrod connected to the pistons and to balance beam.
- 4 Central shaft mounted on both sides of wall or frame.
- A5 and B5 Gudgeon pin connected to beam and flip valve controll shaft.
- A6 and B6 Gudgeon pin connected to conrod and the balance beam.
- A7 and B7 Gudgeon pin connected to pistons and conrod.
- 8 Gudgeon pin connected to top conrod.
- 9 Top conrod connected plus crank and balance beam.
- 10 Crank mounted to the fly wheel.
- 11 Fly wheel mounted to side of frame or wall.
- 12A is a flip valve which control the inflow pressure to A1 cylinder marked red and B 1 cylinder.
- 12 B Is also a flip valve controlling the outflow suction A1 and B1 Cylinder.
- A 13 and B 13 are control shaft connected to beam and flip valve.
- 14 Weight disc fixed on balance beam to equalize the additional weight from the top conrod as a counter balance.

continued

FIGURE 1 continuation...

- 15 Green pipes or inlet pressure pipe connected to the bottom of cylinder A1 and B1 marked red.
- 16 Outlet pipe coloured blue is a suction pipe connected to the sides of the cylinder coloured red.
- A17 and B 17 Controlled service valve for servicing reasons.
- A18 and B18 Controlled service valve for air bleeding.
- A 19 and B 19 Inflow speed control and outflow speed control.

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FIGURE 58

- 1 Frame work.
- 2 Balance beam mounted on a steel frame.
- 3 Fly wheel mounted on a steel frame.
- 4 Cylinders mounted on a steel frame.
- 5 Gear wheel mounted on top part of steel frame.
- 6 Generator is connected to gear wheel.

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CLAIMS

P.S.H.R.E. This invention relates to a pressure syphone hydro rotary engine, simply designed to produce electricity from large waterfalls to as little as 1 metre drops.

Figure 1 of the accompanying drawing shows all moving parts of the engine.

Figure 2 of the accompanying drawing illustrates the engine in place large drop from river bank the pressure is larger than suction.

Figure 3 of the accompanying drawing shows a different terrain the suction is slightly larger than the pressure.

Figure 4 of the accompanying drawing show a situation whereby a pressure pipe is extended to the highest point and the suction pipe is extended to the lowest part of the river, distance from highest part of the river to lowest could be as much as five miles, engine can be fixed into a central part of the river and tap energy from both directions, the cost of laying pipe lines up or down is less costly than tapping energy many times in different stations.

Figure 5 of the accompanying drawing illustrates P.S.H.R.E. fixed simply, gear wheel and generator above ground level, all engine work below ground level.



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Claims searched: 1

Examiner: David Glover
Date of search: 2 June 1999

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

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Int Cl (Ed.6): F03B 17/02, 17/06; F03C 1/02, 1/03, 1/08; F03G 3/00

Other: Online: EPODOC, JAPIO, WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2316135 A (Menon) See whole document	1
A	GB 2231368 A (Ferguson)	
A	EP 0117739 A (Aur Hydropower)	

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.