

1,059,837.

J. COATES.
DYNAMOMETER.
APPLICATION FILED MAR. 11, 1912.

Patented Apr. 22, 1913.

2 SHEETS-SHEET 1.

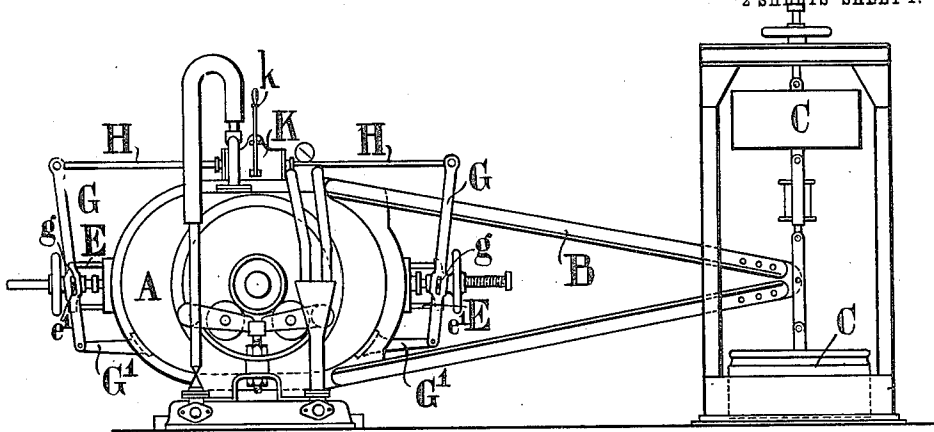


Fig. 1.

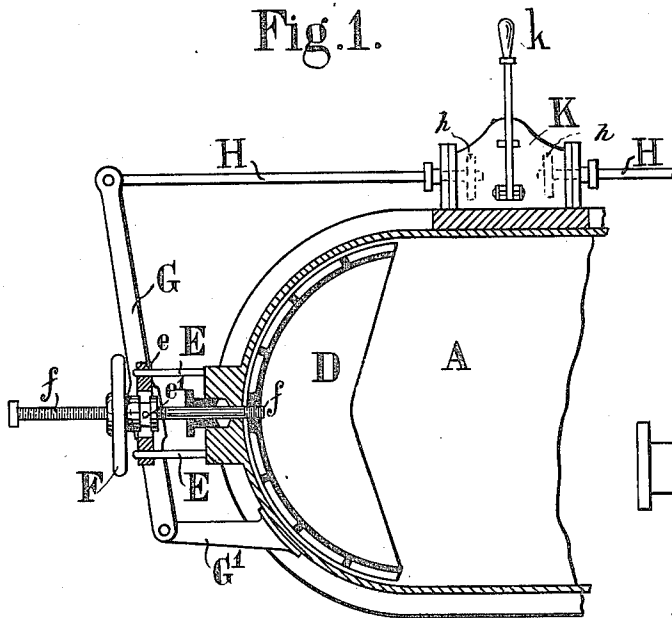


Fig. 2.

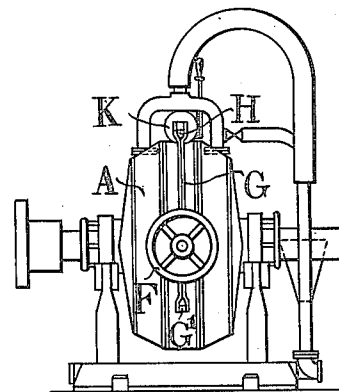


Fig. 3.

WITNESSES.

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INVENTOR.

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2 SHEETS-SHEET 2.

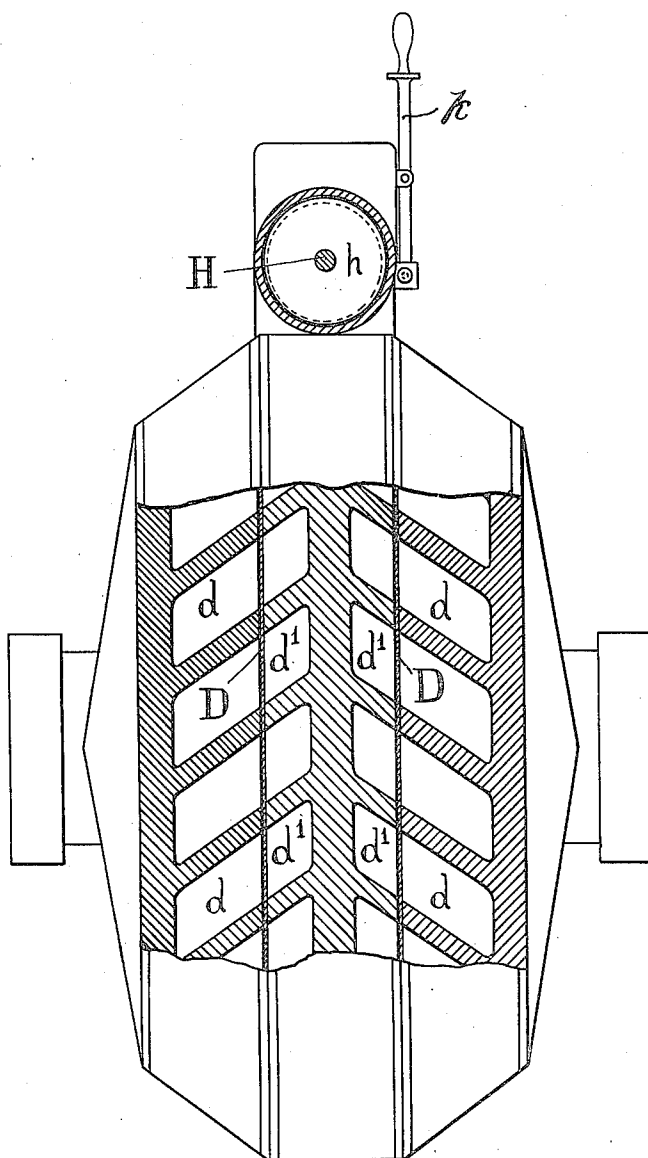


Fig. 4.

WITNESSES.

F. M. Mearns
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UNITED STATES PATENT OFFICE.

JOHN COATES, OF MANCHESTER, ENGLAND.

DYNAMOMETER.

1,059,837.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed March 11, 1912. Serial No. 683,055.

To all whom it may concern:

Be it known that I, JOHN COATES, a British subject, residing at Manchester, county of Lancaster, England, have invented certain new and useful Improvements in Dynamometers, of which the following is a specification.

This invention relates to improvements in means for operating the sluices or plates between the rotor and stator of a rotary absorption dynamometer for the purpose of regulating the load upon the engine or other prime mover being tested.

The invention consists in mounting the hand wheel support or bracket upon a guide or guides and connecting it to a pivoted lever which can be moved by a piston operated by steam, water, compressed air or the like. Or the hand wheel may be done away with and the sluices operated solely by hydraulic or other fluid pressure.

The invention will be fully described with reference to the accompanying drawings forming part of the specification.

Figure 1. is a side elevation of a dynamometer with the invention applied thereto. Fig. 2. is an enlarged section through one of the sluices. Fig. 3. is a front elevation of Fig. 1. Fig. 4 is a section through Fig. 2, showing the cups of the stator and rotor.

The dynamometer A, balance arm B, weights C, stator cups *d*, rotor cups *d'* and sluices D are all of ordinary construction as are usual in this type of dynamometer.

Guides E are affixed to each side of the dynamometer casing and on each of these guides E a bracket *e* is mounted. This bracket *e* is carried by the hand wheel F which is mounted on the threaded rod *f* attached at its inner end to the sluice D. A pin *e'* on the bracket *e* engages in a slot *g* in a lever G. One end of this lever G is pivotally connected to the arm G' affixed to the dynamometer casing and the other end is pivotally connected to a rod H actuated by the piston *h* of the cylinder K. This cylinder K has two double acting pistons *h* actuated by a common valve so that both will move either in or out simultaneously.

When it is desired to move the sluices, water or other fluid is admitted to the cylinder by the valve actuated by the lever *h*; the two pistons *h* are then moved simultaneously and transfer their movement through the rods H to the levers G. The movement of the levers G causes each of the brackets *e*, hand wheels F and screws *f* to be moved either backward or forward on the guides E and with them the sluices D.

The hand wheels F are for the purpose of adjusting or controlling the sluices by hand.

The water actuating the piston *h* may be the same as that supplied to the dynamometer at the ordinary supply pressure, or it may be at a higher pressure if desired. The water supply is preferably so arranged that it can be admitted slowly or suddenly so that the sluices may be removed either slowly or quickly.

What I claim as my invention and desire to protect by Letters Patent is:—

1. In a rotary absorption dynamometer the combination with the rotor and sluices between the cups of the rotor and the cups of the stator to regulate the power, of a fluid pressure cylinder having a piston therein to actuate the said sluices, and lever mechanism to connect said piston with the sluices.

2. In a rotary absorption dynamometer the combination with a casing provided with water chambers and a rotor operating in said casing, of sluices placed between the cups of the rotor and the cups of the stator to regulate the power, a fluid pressure cylinder having a pair of double acting pistons therein to actuate said sluices, lever mechanism to connect said pistons with the sluices, and hand wheels mounted on the casing to actuate the sluices by hand.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN COATES.

Witnesses:

HETHERINGTON NIXON,
FREDERICK HIND DUKE.