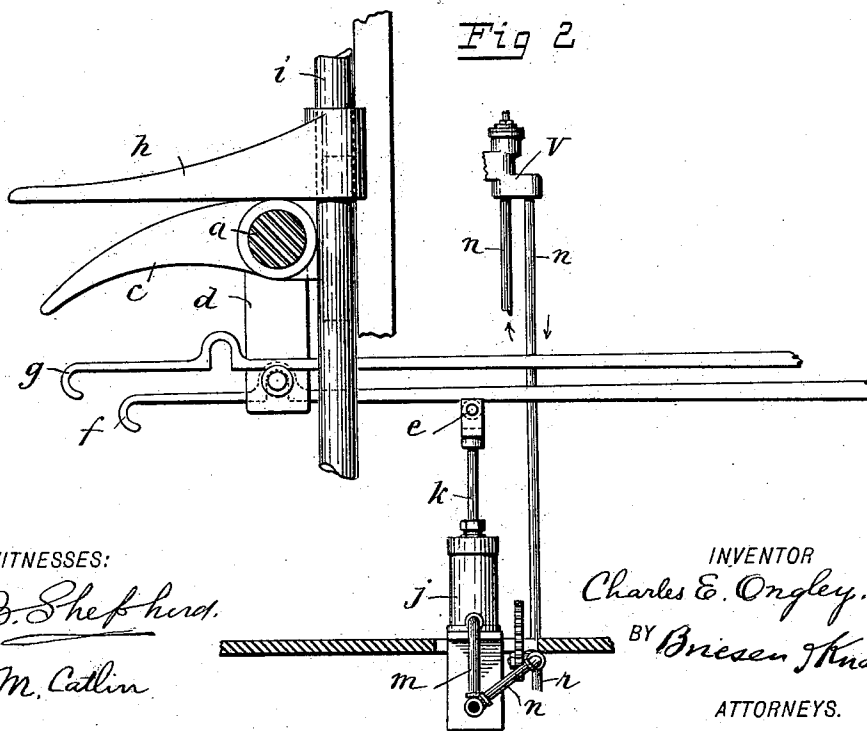
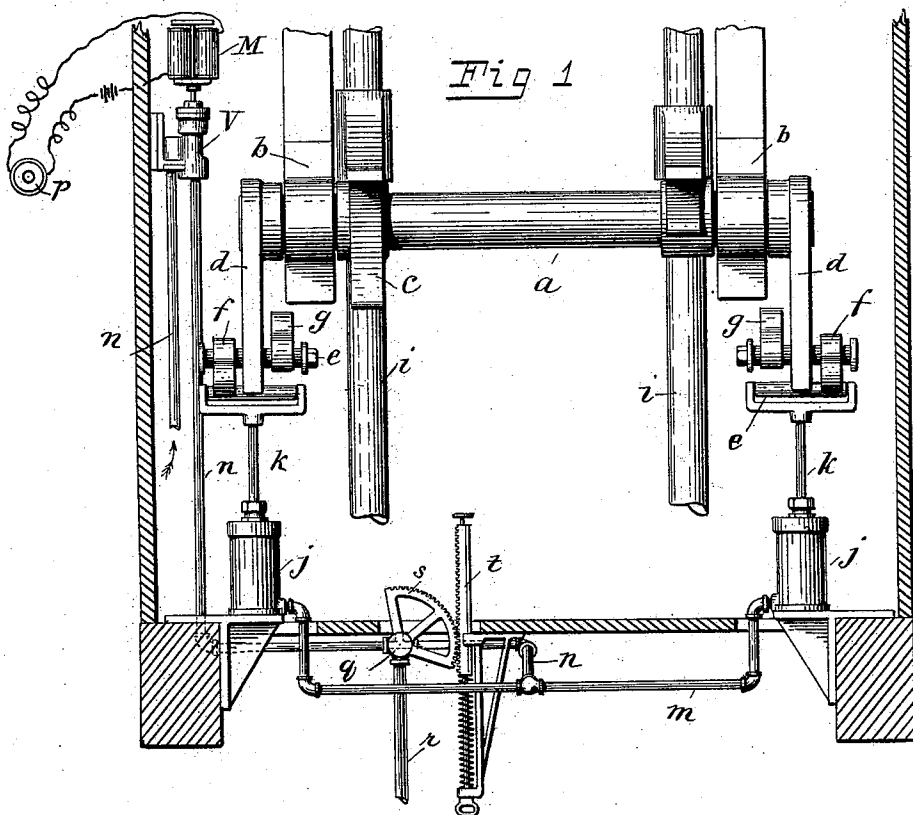


(No Model.)

C. E. ONGLEY.
STEAM ENGINE.

No. 508,043.

Patented Nov. 7, 1893.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES E. ONGLEY, OF NEW YORK, N. Y.

STEAM-ENGINE.

SPECIFICATION forming part of Letters Patent No. 508,043, dated November 7, 1893.

Application filed May 18, 1893. Serial No. 474,648. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. ONGLEY, a citizen of the United States, residing at New York, in the county and State of New York, have invented an Improvement in Steam-Engines, of which the following is a specification.

This invention relates to controlling apparatus for ferry-boats.

The main object of the invention is to provide improved means whereby a ferry, or other boat can be stopped electrically from a remote point, such as the wheel house.

The invention consists in an apparatus for effecting the object above mentioned, as hereinafter described and set forth in the claims.

In the drawings Figure 1 is a front view, partly in section, of the preferred form of apparatus, and Fig. 2 is a view partly in section at right angles to Fig. 1, certain parts, however, being omitted.

According to my invention I provide means whereby the valves controlling admission of steam to the cylinder may be mechanically disconnected from the rods or devices, driven by the engine, which normally reciprocate the valves. The disengaging device is operated by a suitable fluid motor and is controlled electrically from any desired point.

Referring to the drawings *a* indicates the tappet shaft of a ferry-boat or similar engine, having bearings *b*, tappets *c*, and arms *d*, the latter being adapted, by means of cross-bars *e* carried thereby, to engage with the hooked levers *f*, *g*, of which there may be four, two on each side of the apparatus, and which are reciprocated by eccentrics on the engine shaft (not shown) in the usual manner. It will be understood that when the two levers *f* engage the arms *d* the engine will be driven in one direction, and when the levers *g* engage said arms the engine will be driven in the opposite direction.

h, Fig. 2, is one of the arms on which the tappets *c* operate, and which is secured to the rod *i*.

i is one of the cut-off valve rods, or stems, arranged in any well-known or suitable manner.

Below each pair of rods *f*, *g* is placed a fluid motor, such as cylinder *j*, from which extends a piston rod *k*, carrying at its upper end a roller *l* sufficiently long to pass under both

rods *f*, *g*, as clearly shown in Fig. 1. These cylinders are connected, below their pistons, by a pipe *m* to which a steam inlet pipe, *n*, is connected. In the inlet pipe *n* is interposed an electrically controlled valve *V*, which may be constructed, for example, as described in my Patent No. 443,789, dated December 30, 1890.

M is a magnet for operating the valve, and *o* is a circuit leading therefrom to a distant point, such as the wheel house, at which is a circuit closer *p*. In pipe *n* is also a three-way valve *q*, the passages in which are indicated in dotted lines.

r is an exhaust pipe connected to the motor and to any suitable suction device such as a vacuum pump.

s is a rack secured to the valve and engaging with rack *t*, which is normally held up by a spring, but which can be readily pushed down.

In case of emergency, or whenever the man in the wheel-house, or at the distant point at which circuit closer *p* is located, desires to quickly stop the engine, he closes circuit *o*, opening valve *V*, thus admitting steam to the cylinders *j*, raising their pistons, and through rollers *l* raising rods *f* out of engagement with rods *i*, which, as before described, are supported in the ends of arms *d*.

The mechanical disconnection between the valve-rod and its operating devices—the eccentric rods—by means controlled from the distant point, is an important feature of my invention. When it is desired to re-set the pistons the engineer may put his foot on the top of rack *t*, and press it down, thereby turning the three-way valve *q*, connecting pipe *m* with the exhaust pipe *r*; this lowers the pistons and causes one set of the rods *f*, *g* to again engage with rods *i* when the engine is started.

If the engine were running backward, instead of forward, the rods *g* would be operated in the same manner as described in connection with rods *f*. In certain forms of engines only one set of these rods would be used, and these may be controlled as and for the purpose described.

What I claim is—

1. The combination of reciprocatory rods *f* and *g*, arms *d*, tappets *c*, valve-rods *i*, cylin-

ders *j*, with their pistons adapted to move rods *f* and *g*, a valve *q* controlling admission of fluid pressure to said cylinders, and spring pressed device *t* for operating the same, substantially as described.

2. The combination of the reciprocating mechanism and rods engaging therewith, one or more valve stems, valves moved thereby, fluid motors adapted to operate on said rods to disengage them from the reciprocating mechanism, valve *q*, normally opening communication between the fluid supply and the motors, spring pressed device *t* connected

with said valve and by which the same is moved and an electric control valve between the valve *q* and the fluid supply, as and for the purpose specified.

3. The combination of a fluid motor *j*, means for admitting fluid thereto, valve *q*, a spring pressed device *t* by movement of which the valve is moved, and the exhaust pipe, substantially as described.

CHARLES E. ONGLEY.

Witnesses:

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