

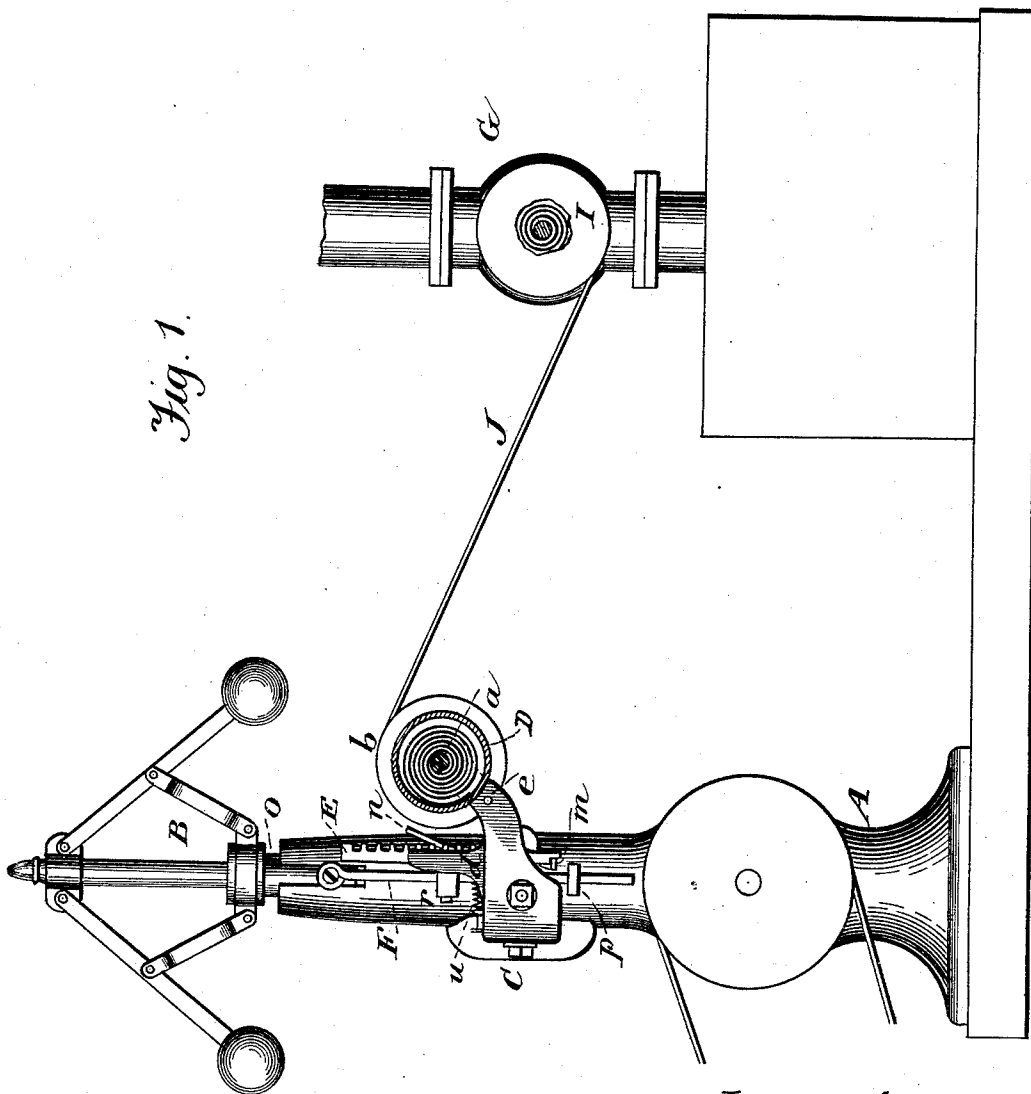
(No Model.)

2 Sheets—Sheet 1.

J. A. MATTESON.
STOP MOTION FOR ENGINES.

No. 469,326.

Patented Feb. 23, 1892.



Witnesses.
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H. A. Daniels

Inventor.
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

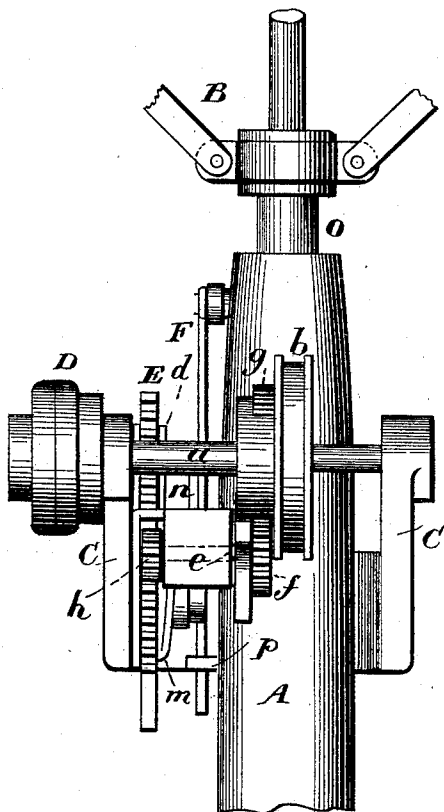


Fig. 3.

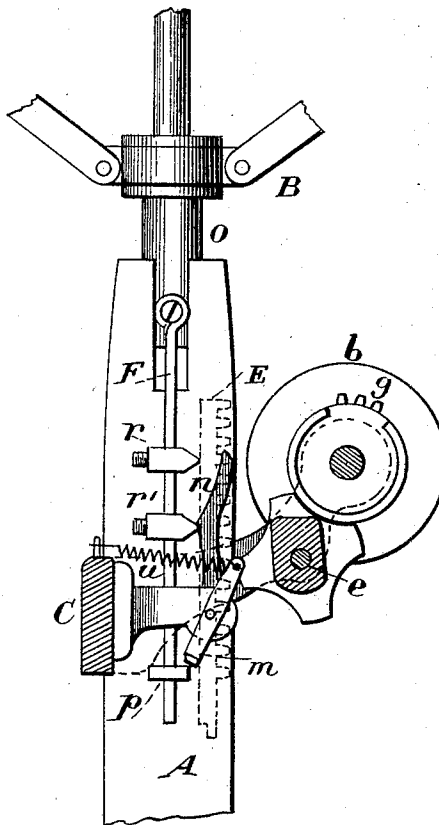
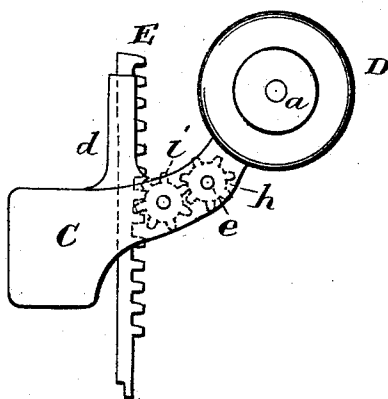


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES A. MATTESON, OF RIVER POINT, ASSIGNOR OF ONE-THIRD TO
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STOP-MOTION FOR ENGINES.

SPECIFICATION forming part of Letters Patent No. 469,326, dated February 23, 1892.

Application filed June 25, 1891. Serial No. 397,490. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. MATTESON, a citizen of the United States, residing at River Point, in the county of Kent and State of Rhode Island, have invented certain new and useful Improvements in Stop-Motion Mechanism for Steam-Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to stop-motion mechanism for steam-engines; and it consists in certain improvements in the construction of the same, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a side view of parts of an engine provided with my improvements. Fig. 2 represents the engine-governor and mechanism connected therewith. Fig. 3 is a sectional view illustrating the spring-catch and certain other parts. Fig. 4 represents certain details detached.

A designates a hollow standard or casing in which is mounted the vertical shaft of a governor B.

C indicates a frame fastened to the casing A, in which said frame is journaled a shaft *a*, on which is mounted a pulley *b*.

D indicates a case fixed to the frame, the shaft *a* extending through said case, which incloses a spring, which is connected with said shaft and is adapted to turn the same.

E indicates a vertical rack, which is loosely mounted in a casing *d*, carried by the frame C. A short shaft *e* is mounted in a bearing carried by the frame and has on one end a gear-wheel *f* in position to connect with the teeth *g* on the inner side of the pulley *b* on shaft *a*, whereby the shaft *e* may be turned at intervals by the rotation of said pulley. On the other end of shaft *e* is a pinion *h*, which connects with a pinion *i*, which is carried by the frame and is in position to connect with the vertical rack E. A catch *m* is pivoted in position to connect with the lower end of the rack E when the latter has been raised by the action of pinion *i*, which connects therewith. The catch *m* is provided with a bent arm *n*, extending upward therefrom, for the purpose hereinafter mentioned.

F indicates a rod, the upper end of which is connected with the sleeve *o* of the governor B, the lower end of said rod extending through a guide *p*, projecting from the casing A. Two cam-like blocks *r r'* are adjustably secured to the rod F, the upper block *r* being in position to impinge against the bent arm *n* in a downward movement of the rod F and the lower block *r'* being in position to impinge against said arm in an upward movement of said rod. When by the too rapid movement of the governor B the rod F is raised enough to bring the block *r'* in contact with the bent arm *n*, the catch is moved from connection with the rack E and the latter sinks downward, and when the movement of the governor becomes too slow, so that the rod F sinks down far enough for the block *r* to impinge against the arm *n*, the rack E is in like manner released from the catch *m*.

G indicates the throttle-valve of the engine, on the rotative stem of which is mounted a pulley I, which is connected by a metallic band J with the pulley *b* on the shaft *a*. The pulley I is connected with the valve-stem by a spring to keep the band J taut and to ease the throttle-valve when the latter is closed. The spring on the valve-stem and also the spring on the shaft *a* are so applied that when the valve-stem is turned to open the throttle-valve the spring on the valve-stem is wound, and the movement being communicated to the shaft *a* through band J the spring on said shaft is also wound. The rack E, through the connecting-gearing *f, h, and i*, is thus raised and is caught by the catch *m*, which is forced by a spring *u* into connection with said rack and holds the latter in its elevated position until it is released by the action of one of the cam-like projections *r r'*, carried by the rod F. In case during operation of the engine the rotation of the governor becomes too rapid, the said governor rises, drawing up the rod F, and the lower block *r'* on said rod impinges against the arm *n* on the pivotal rod of the catch *m*, the latter being thus withdrawn from the rack E, which is immediately driven downward by the action of the spring on the shaft *a* and the gearing connecting said shaft with the rack, and the movement of shaft *a* being communicated

through the band J to the pulley I on the throttle-valve stem the said valve is closed.

I claim—

1. The combination, with the governor of
5 a steam-engine, of a rod connected therewith
and provided with laterally-projecting blocks,
a shaft provided with a spring, a pulley hav-
ing lateral teeth mounted on said shaft, a ver-
tical rack and gearing connected with said
10 rack and with said pulley, a pivoted spring-
catch constructed to connect with said rack
and hold the same in its raised position, and
a pulley on the stem of the throttle-valve,
connected with the first-mentioned pulley,
15 substantially as and for the purposes de-
scribed.

2. The combination, with the throttle-valve

of an engine, provided with a pulley I, of a
governor B, having a rod F, provided with
lateral projections $r r'$, a shaft a , having an
actuating-spring, a pulley on said shaft pro- 20
vided with teeth g and connected by an end-
less belt with said pulley I, a vertical rack E,
connected by intermediate gearing with pul-
ley b , and a pivoted spring-catch m , provided 25
with an arm n , said catch being in position
to connect with the rack E, substantially as
and for the purposes described.

In testimony whereof I have affixed my sig-
nature in presence of two witnesses.

JAMES A. MATTESON.

Witnesses:

E. C. CAPWELL,

EDWARD CASSIDY.