

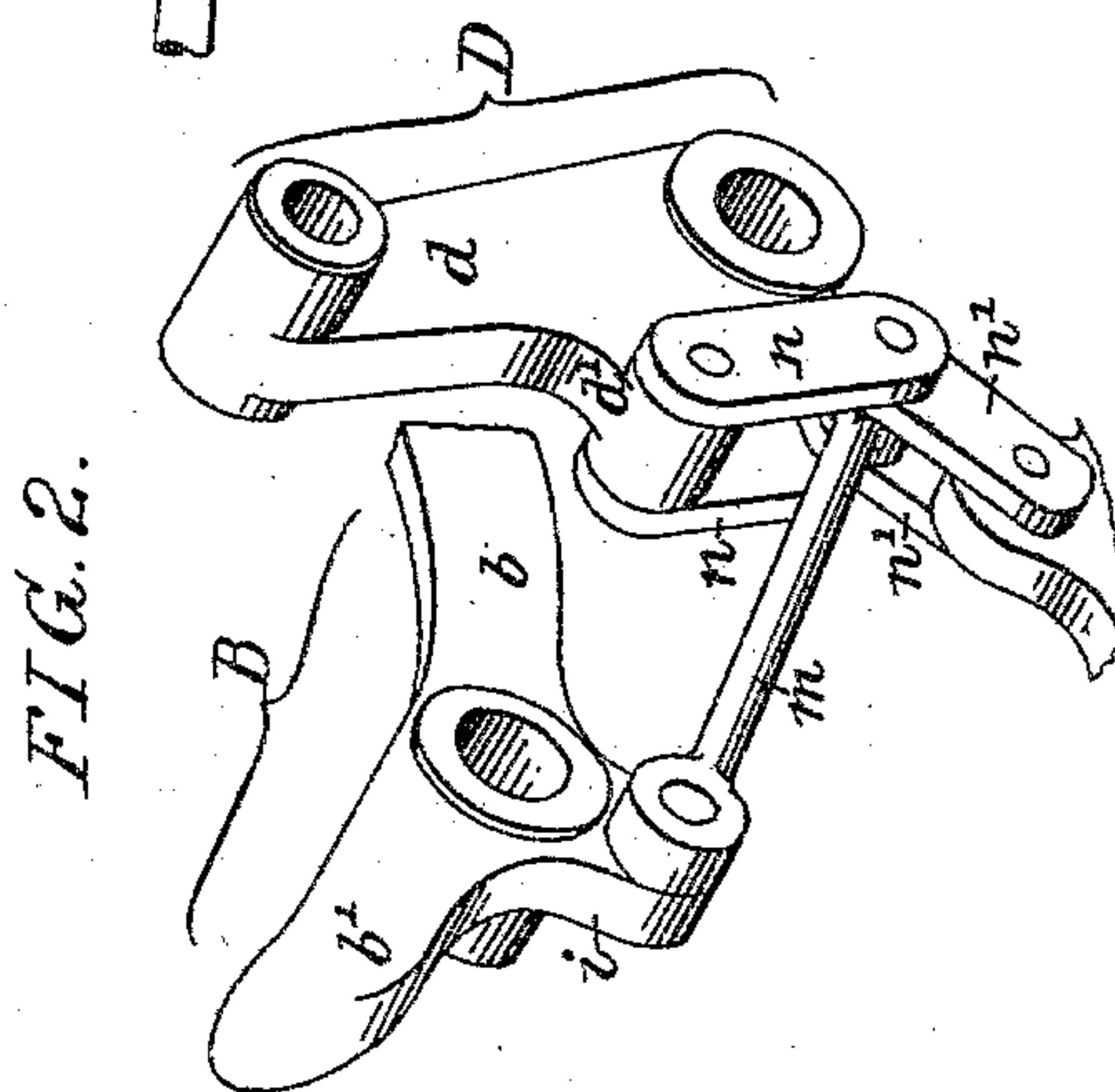
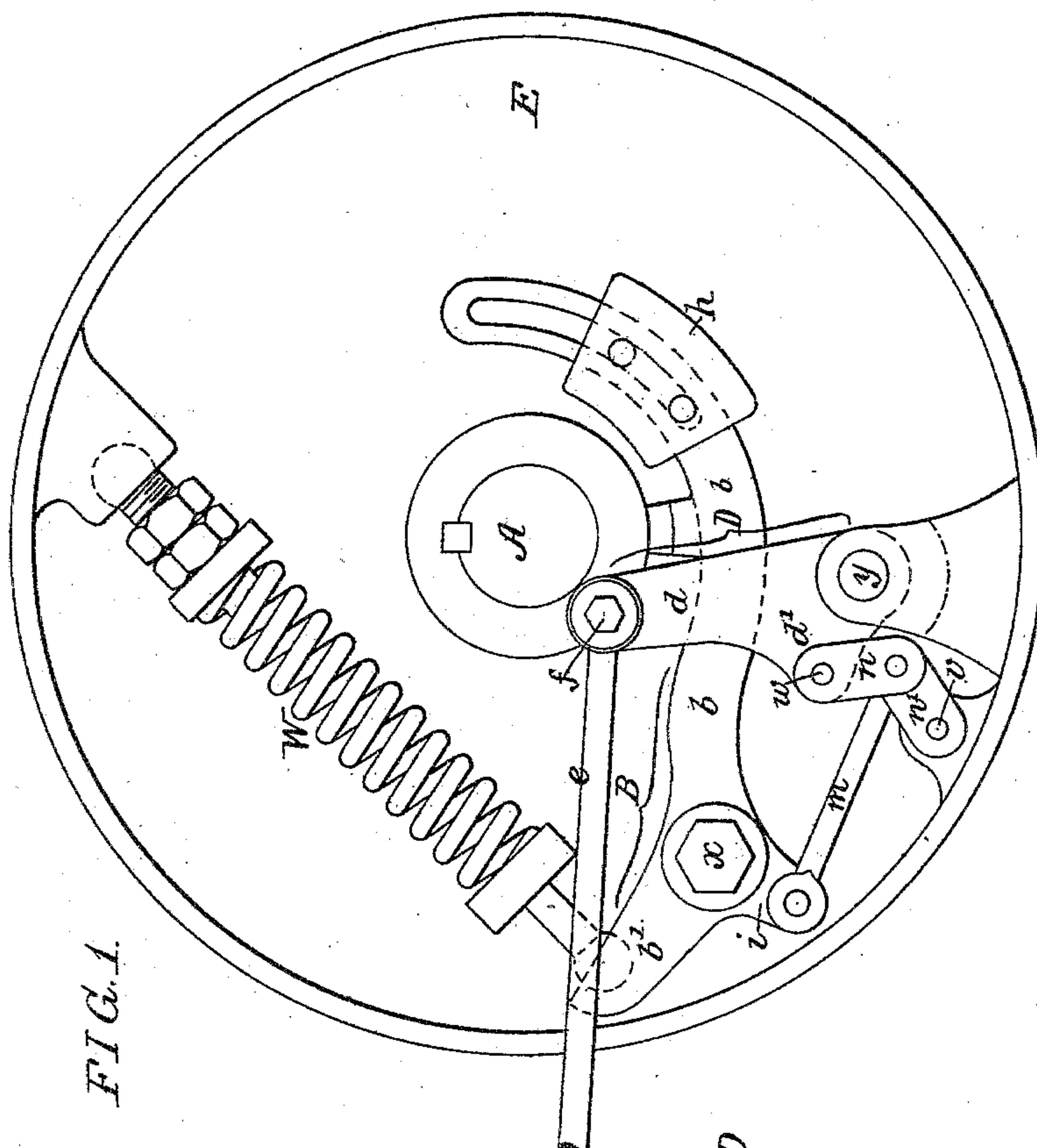
(No Model.)

P. PISTOR.

## CUT-OFF GOVERNOR FOR ENGINES.

No. 295,131.

Patented Mar. 11, 1884.



WITNESSES:

John E. Parker  
James J. Tobin

*INVENTOR:*

INVENTOR:  
Philip Lester  
by his Attorneys  
Howson & Sons



# UNITED STATES PATENT OFFICE.

PHILIP PISTOR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE  
SOUTHWARK FOUNDRY AND MACHINE COMPANY, OF SAME PLACE.

## CUT-OFF GOVERNOR FOR ENGINES.

SPECIFICATION forming part of Letters Patent No. 295,131, dated March 11, 1884.

Application filed November 26, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP PISTOR, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain  
5 Improvements in Cut-Off Governors for Engines, of which the following is a specification.

My invention relates to that class of cut-off governors in which an arm or lever and spring, both carried round with a crank-shaft, operate to maintain the engine at its normal speed,  
10 my invention, which is fully described hereinafter, being allied to that of C. B. Richards, described in United States patent to be granted December 11, 1883.

15 In the accompanying drawings, Figure 1 is a front view of my improved cut-off governor, and Fig. 2 a perspective view of the operating parts of the same.

A is the crank-shaft of a steam-engine, and to any available attachment on this shaft are pivoted the levers B and D. A fly-wheel or pulley may be utilized to form the desired attachment to the crank-shaft; but in most cases, and by preference, the pivot-pins  $x$  and  $y$  of  
20 the levers will be on a flanged disk, E, secured to the crank-shaft, as shown in the drawings. The long arm  $b$  of the lever B is provided with an adjustable weight,  $h$ , and a spiral spring, W, acting on the short arm  $b'$  of the lever B, tends to retain the long arm of the  
25 same in the position shown in Fig. 1, where, it will be observed, that a projection on this arm is in contact with the hub of the disk E. A short arm,  $i$ , of the lever B is connected by a rod,  $m$ , to the two pairs of links  $n$   $n'$ ,  $n'$   $n'$ ,  
35 the former being connected at  $w$  to an arm,  $d'$ , of the lever D, and the links  $n'$   $n'$  being connected to the disk at  $v$ . The two pairs of links form a toggle-joint, through the medium of which and the rod  $m$  the lever B, under the influence of centrifugal force, operates the lever D, and moves the pin  $f$  nearer to the center of the crank-shaft, to an extent determined by the speed of the same, and the resistance of the spring W, the pin  $f$  being connected by a rod,  $e$ , to the valve (it may be an ordinary slide-valve) of the steam-engine.  
45 The spring and the weighted outer arm,  $b$ , of the lever B are so regulated or adjusted that

the said lever will remain in the position 50 shown in Fig. 1 until the crank-shaft is revolving at nearly its normal speed; but when there is any undue increase in the speed of the engine there will be an outward movement of the arm  $b$  of the lever B, due to centrifugal force, and consequently a decrease in  
55 the throw of the valve; hence the tendency of the device to maintain the engine at a normal speed.

The advantage of the toggle-joint connection 60 as a medium through which the movement of the lever B is transferred to the lever D and to the valve may be thus explained. The jars to which the lever D is subjected by the reciprocation of the valve will not be communicated to the lever B or interfere with the accurate operation of that lever as readily  
65 through a toggle-joint as through an ordinary connection, this being especially the case when, through centrifugal force, the lever B 70 has been moved outward, and the links of the toggle-joint are more nearly in line with each other than they appear in Fig. 1.

It will not be necessary to describe the spring W and its connections, as they are 75 similar to those described in the above-mentioned patent granted to C. B. Richards. It is not essential, moreover, that this special construction of spring and attachments should be adhered to. 80

I claim as my invention—

A cut-off governor in which the following elements are combined, namely: first, an attachment to the crank-shaft of a steam-engine; second, a lever, D, pivoted to the said 85 attachment and carrying the valve-pin  $f$ ; third, a lever, B, also pivoted to the said attachment; fourth, the toggle-joint connection between the two levers, and, fifth, a spring for acting on the said lever B, all substantially as 90 set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PHILIP PISTOR.

Witnesses:

DAVID WILLIAMS,  
HARRY SMITH.