(No Model.) 2 Sheets—Sheet 1.

C. PRÜSMANN.

GOVERNOR.

No. 317,850. Patented May 12, 1885.

Fig. 2.



Fig. 1.

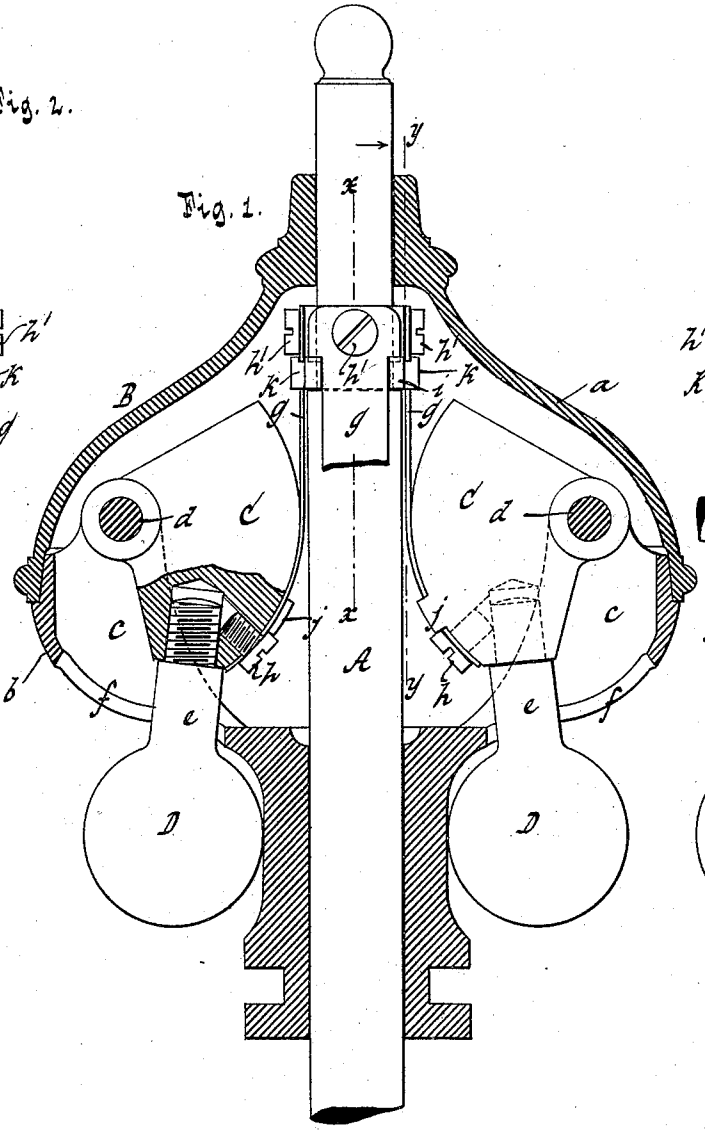
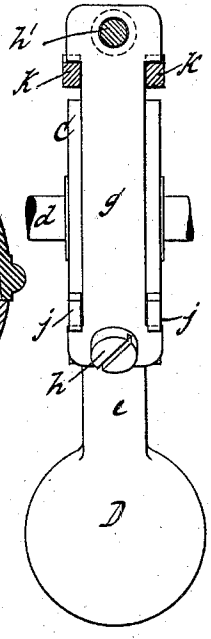


Fig. 3.



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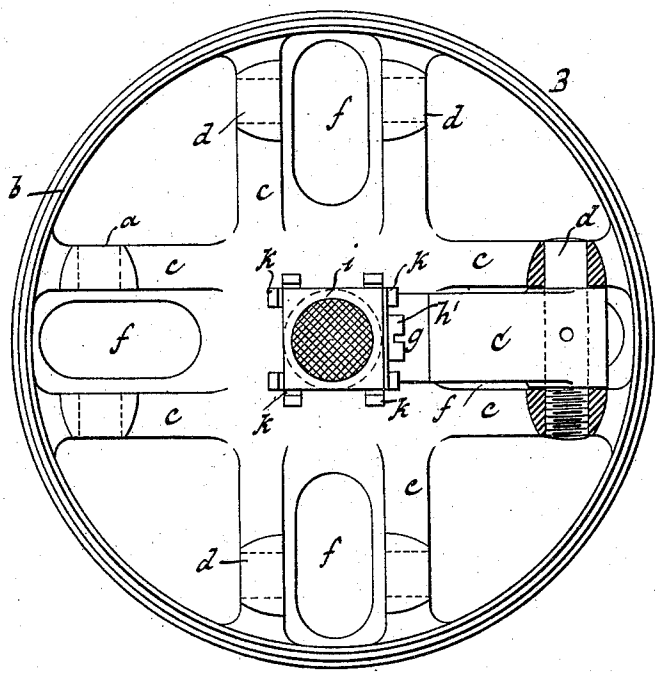
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Fig. 4.



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UNITED STATES PATENT OFFICE.

CARL PRÜSMANN, OF BUCKAU, GERMANY, ASSIGNOR TO SCHÄFFER & BUDENBERG, OF SAME PLACE.

GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 317,850, dated May 12, 1885.

Application filed March 19, 1885. (No model.)

To all whom it may concern:

Be it known that I, CARL PRÜSMANN, a citizen of the German Empire, residing at Buckau, Germany, have invented new and useful Improvements in Governors, of which the following is a specification.

My invention relates to improvements in governors for steam-engines and other prime movers; and it consists in the combination of a stationary spindle, a rotary head mounted on the spindle, bell-crank pendulums carried by the head, and straps connecting the bell-crank pendulums with the spindle, all of which is more fully pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 represents a longitudinal central section of my improved governor. Fig. 2 is a vertical section in the plane *x x*, Fig. 1. Fig. 3 is a similar section in the plane *y y*, Fig. 1. Fig. 4 is a plan view with the upper part of the head and part of the bell-crank pendulums removed.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the stationary spindle, on which is mounted a head, B, which is capable of longitudinal motion thereon, and guided by the sleeves or muffs *a' b'*, formed on the top and bottom. A rotary motion is imparted to the head by belts or gears in a well-known manner. This head consists of two separate parts, *a b*, fitted together and secured in any suitable manner, and in the lower part, *b*, of the head are formed lugs *c*, to which are pivoted at *d* the bell-crank pendulums, which latter consist of the bell-crank levers *e* C and balls D, secured to the arms *e* of the bell-crank levers. The balls D extend through holes *f*, formed in the head, which are of sufficient length to allow the pendulums to move through their entire range. The arms C of the bell-crank levers are connected with the spindle A by straps *g*, by preference made of tempered steel or similar elastic material, which are secured by screws *h* to said arms C, and are fastened by means of screws *h'* to a square collar or sleeve, *i*, fitting or formed over the spindle at or near its upper portion. In order that the straps cannot shift their position, they pass between guides *j* on the arms C of the bell-crank levers, and a flared portion on each of the straps rests against the said guides. Similar guides, *k k*, are also formed on the square portion of the spindle or on the sleeve.

As shown in the drawings, the balls of the bell-crank pendulums are hung at such a leverage that when the governor is not in action the balls would tend to assume a position nearly corresponding to their maximum outward position—that is to say, would be at the outer end of their range. The bell-crank pendulums are, however, held in the position shown in the drawings by the weight of the head B and that of the sleeves or muffs *a' b'*, which is transmitted to the bell-crank lever through the straps *g*, and since the pendulums have a tendency to fly outward when not under the action of centrifugal force, it is evident that when subjected to such centrifugal force they will act in unison therewith, whereby the governor is made very sensitive to any variation of speed in the motor which it controls. The degree of sensitiveness of the governor can also be varied by increasing or diminishing the degree of resistance offered by the straps, which for that purpose are made in the form of springs, as already stated.

The reciprocating motion of the head B on the spindle caused by variations in the speed of rotation of the head can be transmitted to the throttle-valve of a steam-engine by well-known mechanism, or it can be used to regulate the speed of any of the known prime movers by connecting it to the same by suitable mechanism.

In the example shown in the drawings the arms C of the bell-crank levers are made segmental, the outer periphery being concentric with the bearing of said segment, so that the straps attached thereto and to the spindle are wound on the periphery of the segment by the outward motion of the balls.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the stationary spindle A, the rotary head mounted on the spindle, the bell-crank pendulums carried by the

head, and straps connecting the bell-crank pendulums with the spindle, substantially as shown and described.

2. The combination of the stationary spindle, the rotary head capable of longitudinal motion on the spindle, bell-crank levers *e* C, pivoted to the head, elastic straps secured to the arms C of the bell-crank levers and to the spindle, and the governor-balls attached to the arms *e* of the bell-crank levers, substantially as shown and described.

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

CARL PRÜSMANN.

Witnesses:
WILLIAMS C. FOX,
JOHS. KRACKE.