March 11, 1924. 1,486,518

A. J. HARTLEY

GOVERNOR

Filed April 7, 1921

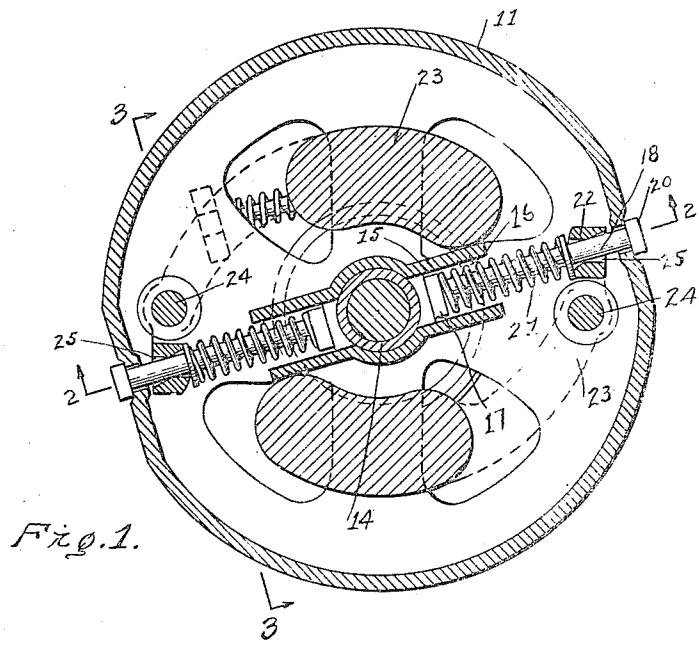


Fig. 1.

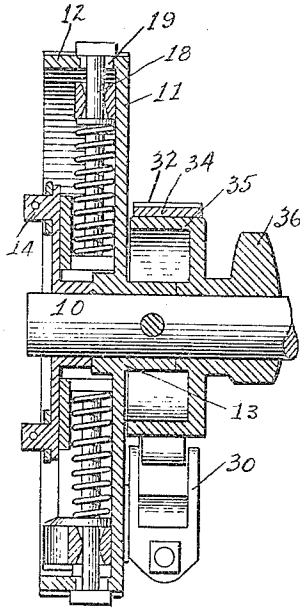


Fig. 2.

Fig. 3.

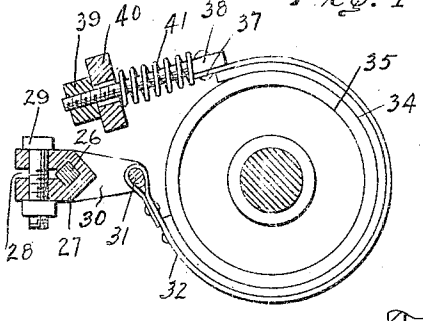


Fig. 4

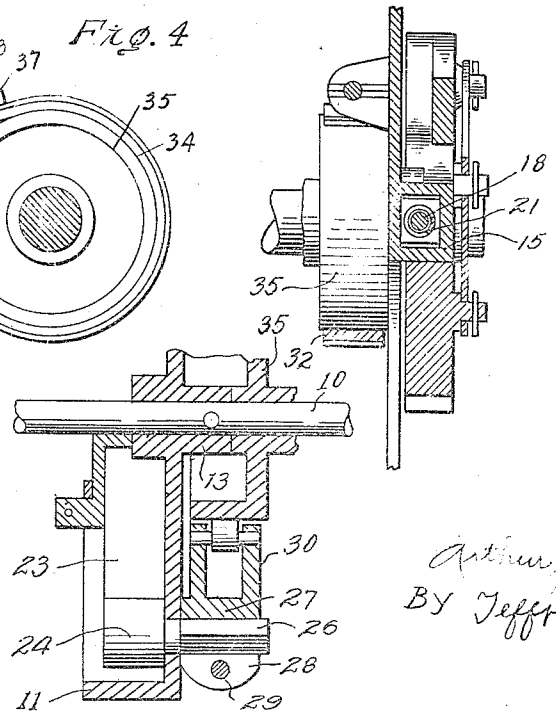


Fig. 5

INVENTOR.

Arthur J. Hartley

BY Jeffr + Jeffr

ATT'YS.

Patented Mar. 11, 1924. 1,486,518

UNITED STATES PATENT OFFICE.

ARTHUR J. HARTLEY, OF PEORIA, ILLINOIS, ASSIGNOR TO HART GRAIN WEIGHER CO., OF PEORIA, ILLINOIS, A CORPORATION OF ILLINOIS.

GOVERNOR.

Application filed April 7, 1921. Serial No. 459,417.

To all whom it may concern:

Be it known that I, ARTHUR J. HARTLEY, a citizen of the United States of America, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Governors, of which the following is a specification.

The object of my invention is in the provision of a simple, efficient, and easily constructed governor to be connected with a driven shaft which has mounted thereon a driving member.

Further objects of my invention will appear in the following specification in connection with the annexed drawings in which—

Figure 1 is a side elevation, portions being shown in section of the governor.

Figure 2 is a sectional view on the line 2—2 of Fig. 1.

Figure 3 is a sectional view taken on the line 3—3 of Fig. 1.

Figure 4 is an elevation showing in detail the mounting of the friction band and its relation to the hub of the driving member.

Figure 5 is a view in section illustrating the manner in which the weight members are connected to the friction band.

Referring to the drawings, 10 shows a driving shaft in connection with any power means, not shown. A governor casing 11 having its outer end flanged as at 12 has its hub 13 positively connected to the driving shaft. Contained within the casing, or rather the outer shell of the governor, are various elements and a hub member 14 is also connected to the driving shaft as an auxiliary means for holding the operating parts of the governor within the outer casing. A member 15 bracketed about the hub 14 has the guideways 16 therein, said guideways containing slidably therein the lower ends 17 of the rods 18—said rods projecting through apertures 19 in the flanged portion of the governor casing. The rods 18 have abutments at their upper ends shaped as at 20. Coil springs 21 encircle the lower portions of the rods and abutting the upper ends of said coil springs are the inner ends 22 of the weight members 23, said weight members having pivots as at 24 in the governor casing. It may be noticed that the inner ends of the weight members are apertured as at 25 to encircle the rods 18 and form upper abutments for the coil springs. One of the pivots 24 of the weight members projects through the casing and has its outwardly projecting end squared as at 26 in order that it may have a positive connection with the lever 27, said lever being split as at 28 at one end and shaped in such manner with an aperture therein that it is capable of fitting over the squared end of the portion 26. A bolt member 29 tightens the split end of the lever about the member 26 and thus provides a positive attachment therewith. The lever 27 has the spaced arms 30 which have a pivot member 31 extending between their outer ends and said pivot member having attachment with a friction band 32, said band having a friction material 34 on its inner side. This friction band surrounds the hub 35 of a driven member 36 loosely mounted on the driving shaft 10.

The other end of the friction band is connected as at 37 to a bolt 38 having adjustable mounting by means of the nut 39 with the casing 11. The coil spring 41 holds the bolt member in tensioned relation with the frame portion.

The operation of the device is as follows:

The movement of the driving shaft 10 rotates the governor casing and the portions therein inasmuch as the governor is fixedly mounted on said driving member. Inasmuch as the initial rotation of the driving member and governor is slow, the centrifugal force on the pivoted weight members will be slight and they will be moved outwardly very little if at all. However, an increased rotation of the governor with the shaft will, through the centrifugal force, exerted on the weight members throw the weighted ends of said members outwardly with the result that they will be moved on their respective pivots. This pivotal movement is also being resisted by the coil springs 21 inasmuch as it is not desirable that the friction band of the governor act until the driving shaft has attained a very high speed. One of the pivots of the weight members, that is, the one which projects through the governor casing and has the squared outer end, will have said outer end moved to correspond with the pivotal movement of the weighted member. This turning of the squared outer end due to its fixed connection with the lever 27 will tighten the friction band 32

upon the hub 35 of the driven member 36 with the result that said driven member will be rotated with the shaft 10.

Likewise a slackening of the speed of the driving shaft will produce a respective action in the governor, that is, the weighted members will tend to assume their normal position and the squared end of the pivot 26 will be moved in an opposite direction with the result that the friction band will be slackened about the hub of the driven member and said driven member will cease to rotate with the driving shaft, and the devices not shown that are driven by said driving member will likewise cease to be operated.

What I claim is:

1. In a device of the class described, a driving shaft, a casing positively connected thereto, weight members pivoted within the casing, rod members slidably related to the inner ends of the weight members and engaging the casing, coil springs surrounding said rods and resisting outward movement of the weights, a driven member loosely mounted on the driving shaft and having a friction hub in connection therewith, a friction band surrounding said hub, and means for relating one of the weights with the friction band whereby movement of the weight will produce a tightening or releasing action of the friction band.

2. In a device of the class described, a driving shaft, a casing positively connected to said shaft, weight members pivoted within the casing, tensioning rods passing through the shorter ends of the weight members, a centrally located hub portion adapted to receive the inner ends of said tensioning rods, coil springs surrounding said rods and providing means for tensioning the weight members, a driven member loosely mounted on the driving shaft and having a friction hub in connection therewith, a friction band surrounding said hub and means for relating one of the weights with the friction band whereby movement of the weight will produce a tightening or releasing action of the friction band.

In testimony whereof I have affixed my signature.

ARTHUR J. HARTLEY.