No. 648,193. Patented Apr. 24, 1900.

A. CAPRA.

SPEED GOVERNOR.

(Application filed Sept. 7, 1899.)

(No Model.)

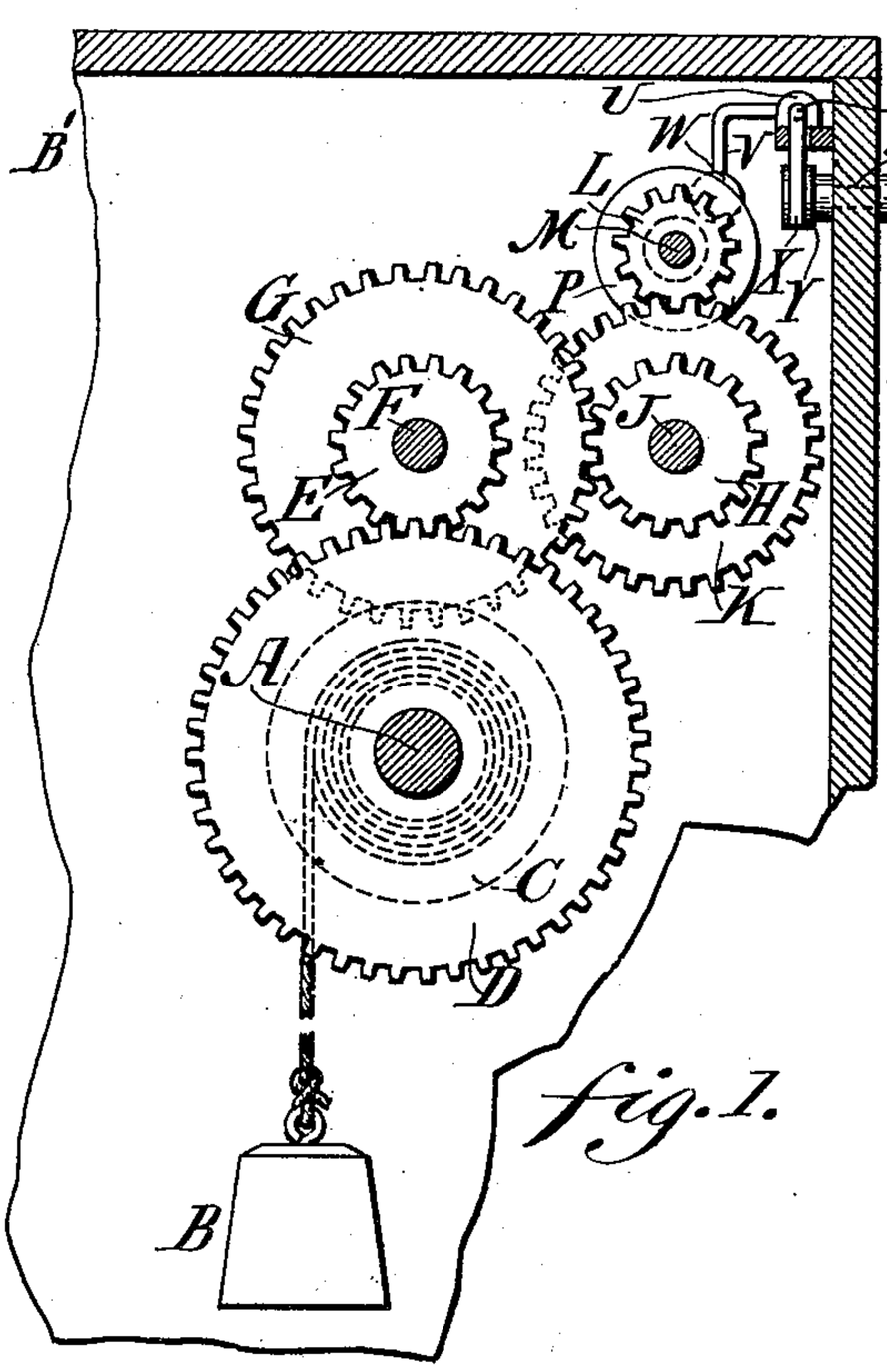

fig. 1.

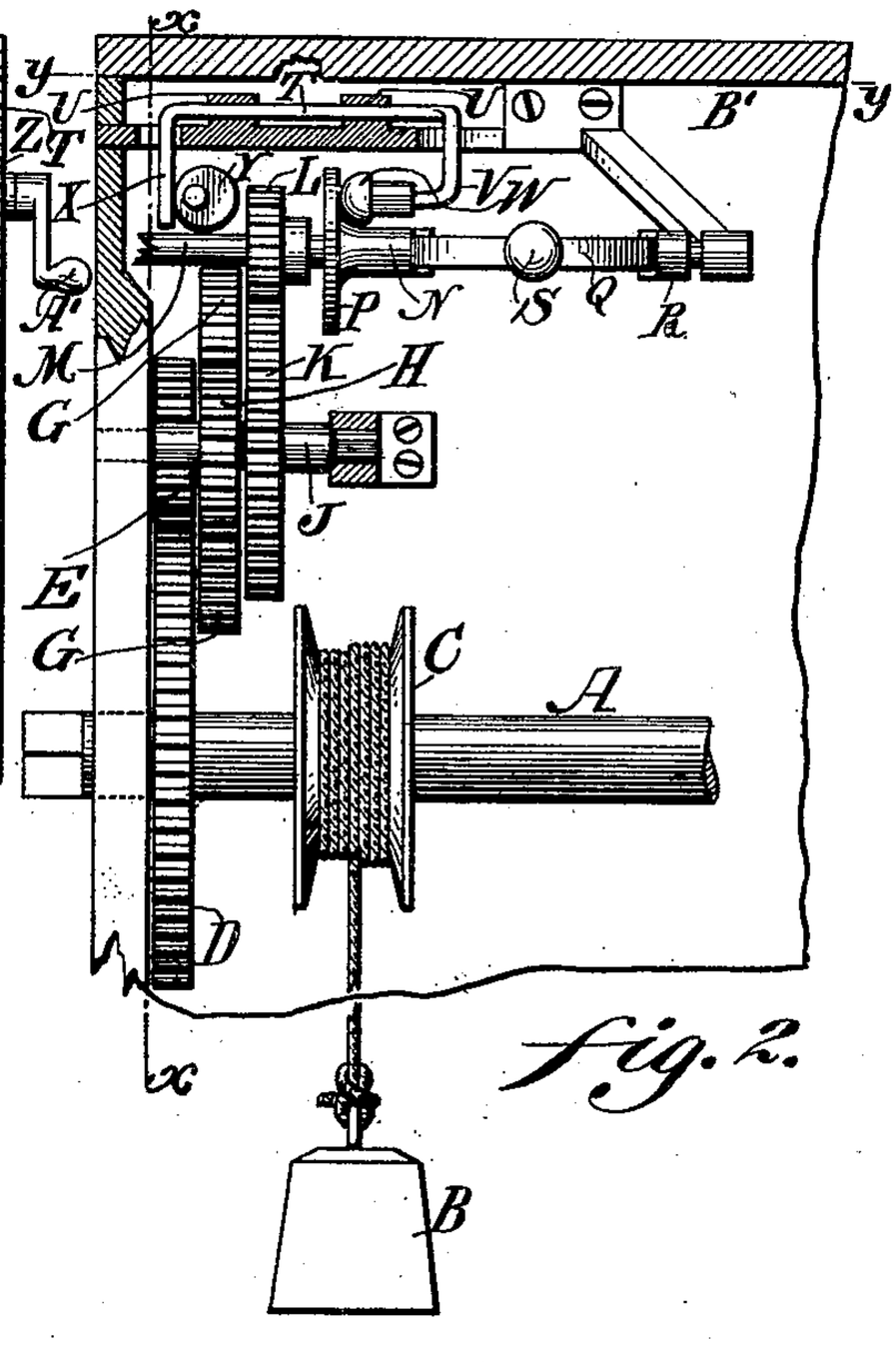

fig. 2.

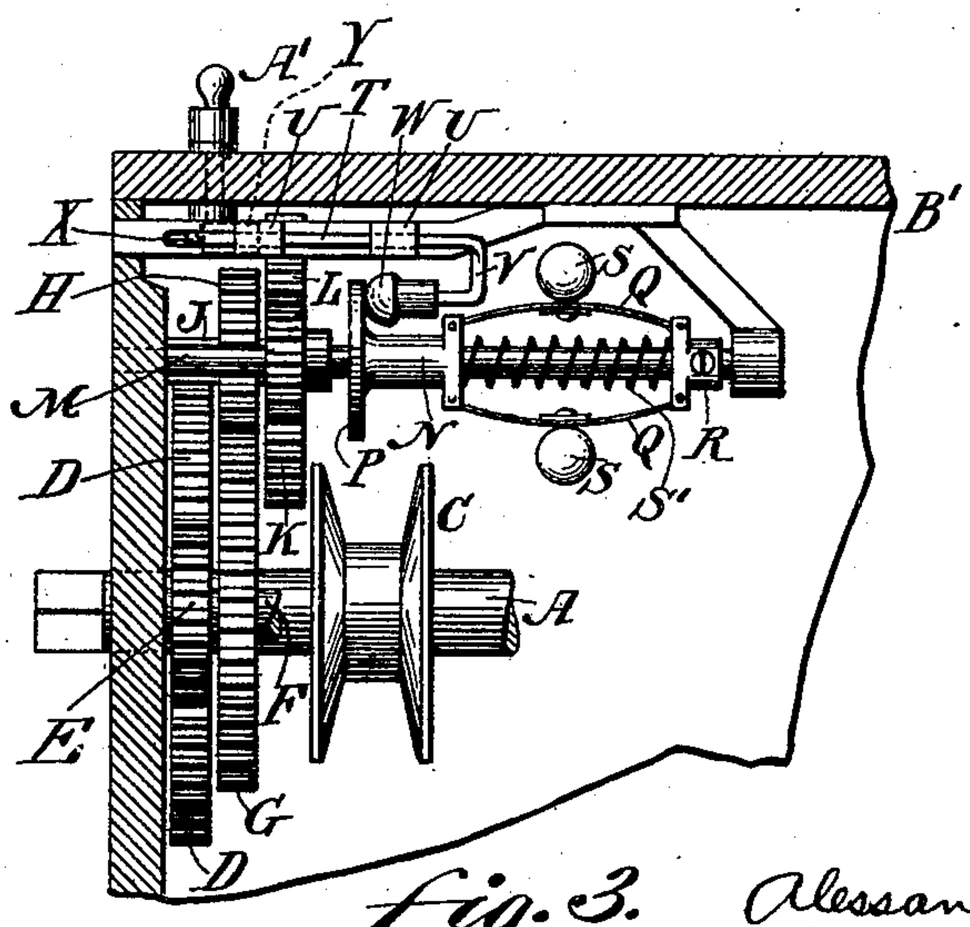

fig. 3.

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ALESSANDRO CAPRA, OF PHILADELPHIA, PENNSYLVANIA.

SPEED-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 648,193, dated April 24, 1900.

Application filed September 7, 1899. Serial No. 729,722. (No model.)

To all whom it may concern:

Be it known that I, ALESSANDRO CAPRA, a subject of the King of Italy, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Speed-Governors, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to an improved construction of a speed-governor which is especially adapted for the use of street-pianos and barrel-organs, whereby the speed of the same during the playing of a tune is automatically regulated, so that the tune will be played in a uniform manner, said regulation being readily effected from the exterior of the casing inclosing the organ.

It also consists of an improved construction of speed-governor embodying a sliding sleeve carrying a disk which is adapted to be moved along its shaft, according to the speed of the organ, said disk being engaged by the head of a rod mounted in suitable guides, said rod being actuated by a cam or other devices operated from the exterior.

It further consists of novel details of construction, all as will be hereinafter fully set forth, and particularly pointed out in the claims.

Figure 1 represents an end elevation of a speed-governor, the same being shown partly in section on line *x x*, Fig. 2. Fig. 2 represents a side elevation of Fig. 1, a portion of the inclosing casing being broken away. Fig. 3 represents a plan view of Fig. 2, showing the casing in section, said section being taken on line *y y*, Fig. 2.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a shaft of an organ or street-piano, to which power is applied in any suitable manner, as by a spring-motor, a weight and pulley B and C, or other suitable means.

D designates a gear mounted on the shaft A and meshing with the pinion E, mounted on the shaft F, which latter carries the gear G, which meshes with the pinion H on the shaft J, the latter carrying the gear K, which meshes with the pinion L, mounted on the shaft M.

N designates a sleeve splined to the shaft M, so as to revolve therewith, but being longitudinally movable thereon, said sleeve terminating at one end with the disk P and having secured to the other end the springs Q, the opposite end of the latter being attached to the head R, which is secured to its shaft, said springs having attached thereto the balls or counterpoises S.

S′ designates a spring interposed between the head R and sleeve N.

T designates a rod movable in the guides U, showing the bent portion V, which carries the head W, adapted to contact with the disk P. The opposite end of the rod T has the bent end X, which is adapted to contact with the cam Y, which is actuated from the exterior of the casing B′ by the handle A′.

The operation is as follows: It will be understood that the shaft A, by which the winding of the organ is effected, is suitably connected to the operative portions thereof, and by following the train of gearing it will be evident that the rotation of the shaft A, which is effected by means of the weight B, a spring (not shown,) or other equivalent means, will be imparted to the shaft M, thereby causing rotation of the springs Q and counterpoises S. In case the speed of the organ increases above the normal it will be apparent that the balls S will fly outwardly and move the disk P to the right of the position seen in Figs. 2 and 3. This movement of the spring Q and disk P will bring the latter against the head W, and it will be seen that by rotating the handle A′ to the desired extent the cam Y will also be rotated, so that the portion X of the rod T will be moved to the desired extent, thereby by reason of the intermediate connections enabling the rotation of the shaft M, the train of gearing, and the adjuncts to be retarded or accelerated to the desired extent.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a speed-governor, the combination of a shaft for transmitting power to the apparatus, a shaft carrying a speed-governor, gearing intermediate said shafts, a movable sleeve having a disk comprising an element of said speed-governor, a slidable rod having a portion adapted to contact with said disk, guides for said rod, a cam adapted to engage a por-

tion of said rod, and means for actuating said cam.

2. In a speed-governor, a shaft adapted for the application of power thereto, a shaft carrying a speed-governor, gearing intermediate said shafts, said speed-governor having as an element thereof, a sleeve, a disk thereon, a slidable rod mounted in suitable guides and having a portion adapted to engage said disk, a cam adapted to engage said rod, and a shaft which is rotatable from the exterior of the apparatus and upon which said cam is mounted.

3. A speed-governor comprising a shaft, a head mounted on said shaft and secured thereto, a sleeve movable on said shaft, a disk carried by said sleeve, a coil-spring intermediate of said sleeve and head, another set of springs intermediate to the latter, balls mounted on said latter springs, a rod movable in said guides and having a portion carrying a head adapted to contact with said disk, the end of said rod, opposite to said head, being deflected, a cam engaging said deflected end, a shaft upon which said cam is mounted and a handle operative on the exterior of the apparatus for rotating said cam, thus actuating said disk whereby the point, at which the speed is regulated, can be adjusted.

4. In a speed-governor, a winding-shaft, tension devices for operating the governor, a train of gearing operated by said tension devices, an upper shaft actuated by said gearing, governing means carried by said shaft, a friction device operated by a slidable rod for retarding the rotation of said upper shaft, a cam for adjusting said friction device, and means for actuating said cam.

5. In an apparatus of the character named, the combination of a shaft carrying a speed-governor, a movable sleeve having a disk comprising an element of said speed-governor, a slidable rod having a portion adapted to contact with said disk, guides for said rod, a cam adapted to engage a portion of said rod, and means for actuating said cam.

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