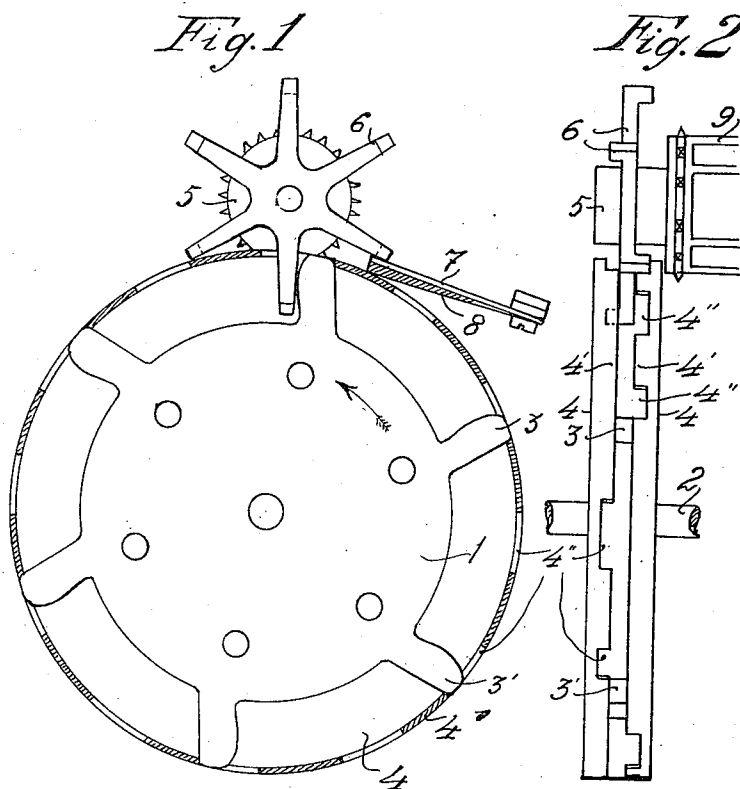


Nov. 6, 1923.

1,473,493

G. MICHETTI
MEANS FOR CONVERTING A CONTINUOUS ROTARY MOTION
INTO AN INTERMITTENT MOTION
Filed Oct. 3, 1921



Inventor
G. Michetti
by Lawrence Langmuir
Att'y.

UNITED STATES PATENT OFFICE.

GIORGIO MICHETTI, OF ROME, ITALY.

MEANS FOR CONVERTING A CONTINUOUS ROTARY MOTION INTO AN INTERMITTENT MOTION.

Application filed October 3, 1921. Serial No. 504,981.

To all whom it may concern:

Be it known that I, GIORGIO MICHETTI, subject of the King of Italy, residing at 3 Lungotevere Castello, Rome, Italy, have invented a new and useful Improvement in Means for Converting a Continuous Rotary Motion into an Intermittent Motion; and I do hereby declare the following to be a full, clear, and exact description of the same.

A constructional form of the invention is shown, by way of example, in the accompanying drawing, wherein

Figure 1 is a sectional view and Figure 2 is an elevation of the device constructed in accordance with the invention.

In the drawing, 1 indicates a disc, preferably of fibre or like material, which has a continuous rotary motion imparted to it by a shaft 2. The disc is provided, in the constructional form shown, with six teeth 3, 3' . . . projecting from the rim of the disc at uniform distance apart. On opposite sides of the disc are secured two plates 4, 4', made of sheet metal and having peripheral flanges 4' facing inwardly towards one another.

The flanges 4' allow a continuous circumferential gap between their facing edges, and they are notched at suitable intervals as at 4'', these notches being provided immediately in front of each tooth 3 and at intermediate points between each pair of teeth.

The notches 4'' are not opposite to one another but they are arranged in alternate pairs, one pair being provided in the right hand flange, the next pair in the left hand flange, and so on, and the arrangement is such that each notch co-operating with a tooth 3 is followed by an oppositely arranged notch, but is preceded by a notch extending in the same direction.

A star-shaped member 5 is arranged within reach of the disc 1 and has in the example shown six arms 6 projecting from its rim through the gap between the flanges 4' into the path of the teeth 3, so that each arm successively will be engaged by the co-operating tooth of the disc 1 and be carried along thereby, producing an intermittent movement of the driven member 5. The arms are enlarged or widened out laterally at their ends to provide lugs 6', as seen in Figure 2, the width of these ends and their uni-lateral

extensions being greater than the gap between the flanges 4' but less than the distance across the gap and one of the notches 4''. The lugs 6' project to the right on one arm, to the left on the next arm, and so on. This arrangement allows the passage of the widened ends and lugs 6' through the guide-surface formed by the flanges 4', but between their movements the arms 6 rest with their lugs 6' in contact with the outer surfaces of the flanges 4' while the disc 1 rotates idly.

When the arms 6 are entering into engagement with the toothed disc 1, the lugs 6' pass inwards through the intermediate notches between the pairs of teeth 3; during the period of rest, the arm 6 lies in the gap between the flanges on the rotating disc; upon engagement by the following tooth 3, the arm 6 moves outwardly from the disc, its lug 6' passing freely through the right or left handed notch located immediately in front of the tooth.

A spring 8 covered on its upper face with leather or like material as indicated at 7, provides resilient contact between the arms 6 and the guide-surface 4, 4', and serves to prevent oscillations of the star-shaped member as well as to deaden the noise. The length of the spring is such that its extremity in yielding to the arm 6 when the wheel 5 is rotated by the toothed disc 1, sinks into the gap between the notched flanges, but as soon as the arm has passed to the interior of the flanges 4' the spring returns to its former position ready to engage the next arm.

It will thus be seen that of each pair of right or left hand notches the first notch serves for the entrance of an arm and the second one for the exit of the same arm, and that each arm pressed against the continuously rotating member by the indirect action of the spring 7, will have a notch passing beneath it which extends in the opposite direction to that of the projection or lug upon the arm.

It is evident that as the disc 1 rotates, its teeth will successively be brought into engagement with the arms 6 of the member 5 which will thus be rotated with an intermittent motion. The arms 6 which control the travel of the film have a much longer radius than that of the drum 9 which trans-

ports the film and for this reason the desired precision and register are secured, even in the case of very considerable magnification.

What I claim is:

1. A motion converting device comprising a continuously rotatable, peripherally slotted actuating drum, a toothed disk rotatable with the drum, an intermittently rotatable actuated star wheel, said star wheel having a series of arms, with offset lugs at their ends, the peripheral slot completely encircling the drum, the slot having notches for permitting entrance into, and exit from, the drum, of the arms of the star wheel, whereby, through the medium of said toothed disk, an intermittent rotary motion is imparted to the star wheel, by continuous rotation of the drum, the lugs on the star wheel arms, extending alternately to the right and to the left, and the notches in the drum slot being arranged alternately, and in pairs, to the right and to the left of the slot.

2. A motion converting device comprising a continuously rotatable, peripherally slotted, actuating drum, a toothed disk rotatable with the drum, an intermittently rotatable actuated star wheel, said star wheel having a series of arms, with offset lugs at their ends, the peripheral slot completely encircling the drum, the slot having notches for

permitting entrance into, and exit from the drum of the arms of the star wheel, whereby, through the medium of said toothed disk, an intermittent rotary motion is imparted to the star wheel, by continuous rotation of the drum, in combination with a compensating spring, to bear against the ends of the star wheel arms, for holding an arm of the star wheel against the periphery of the drum, during the periods of rest of the star wheel.

3. A device according to claim 1, in combination with a compensating spring, to bear against the ends of the star wheel arms, for holding an arm of the star wheel against the periphery of the drum, during the periods of rest of the star wheel.

4. A device according to claim 2 said spring being a leaf spring, working, at times, in the slot in the drum.

5. A device according to claim 3, said spring being a leaf spring, working, at times, in the slot in the drum.

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

GIORGIO MICHETTI.

Witnesses:

TORRELTO FONTACY,
MAURY A. LARKIN.