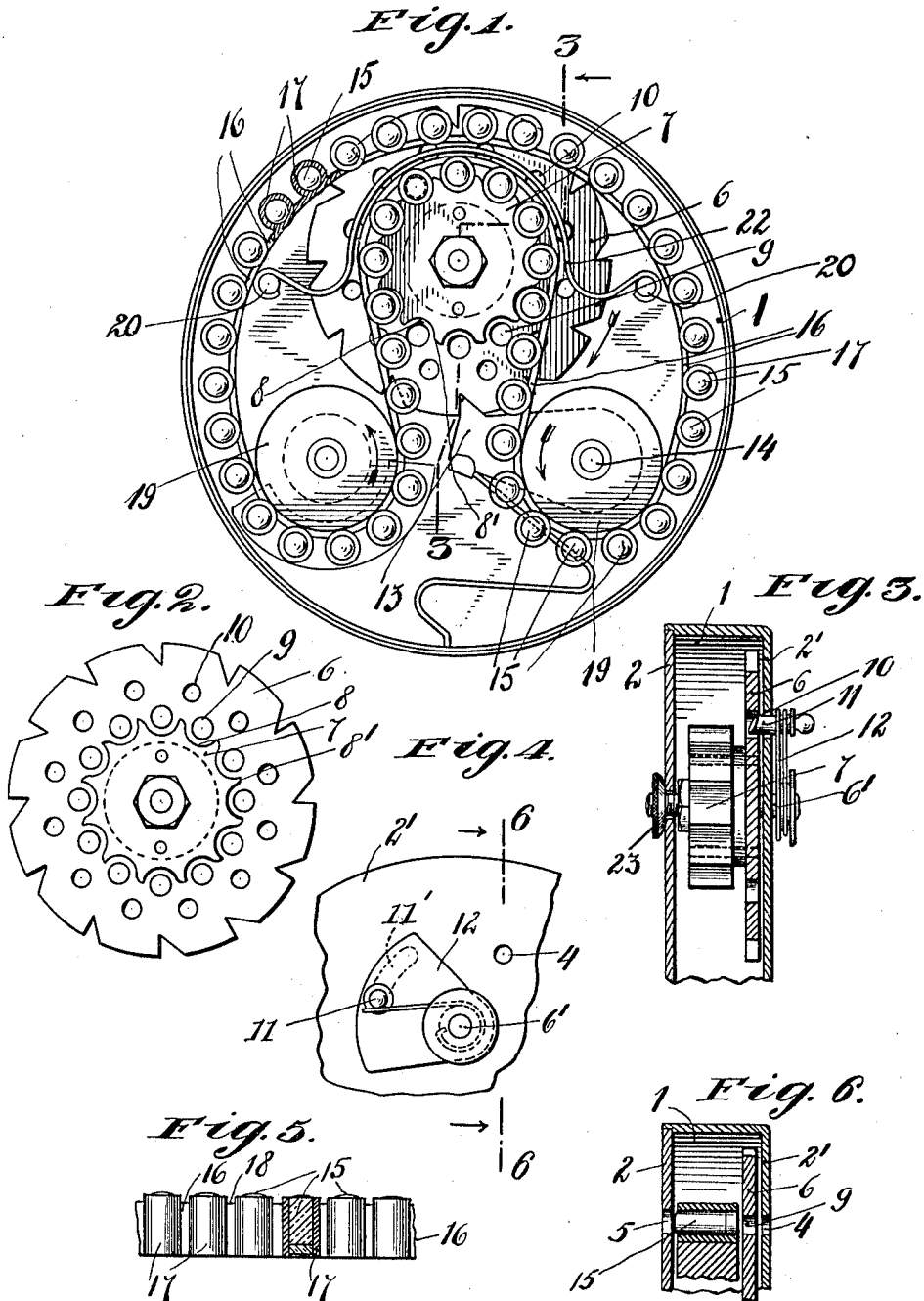


K. M. STAHL.
VIEWING DEVICE.
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1,019,853.

Patented Mar. 12, 1912.



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UNITED STATES PATENT OFFICE.

KARL M. STAHL, OF NEW YORK, N. Y.

VIEWING DEVICE.

1,019,853.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed May 11, 1911. Serial No. 626,636.

To all whom it may concern:

Be it known that I, KARL M. STAHL, a citizen of the United States of America, residing at New York, Bronx, in the county of New York and State of New York, have invented certain new and useful Improvements in Viewing Devices, of which the following is a specification.

The present invention relates to that kind of devices, in which a number of lenses each carrying a microscopic photograph or other object are mounted in a casing, convenient for carrying in the pocket, attaching to a watch chain or similarly arranged for easy portability.

My invention chiefly consists in the particular construction of the lens carrier, which is made of a flexible band formed integrally on one of its faces with pockets of cylindrical shape, to receive the cylindrical lenses and at the same time to act as teeth while passing over a notched drum, so that the band may be propelled by the said drum as the latter is being fed.

My invention also consists in the combination, construction and arrangement of parts as will hereinafter be fully specified and claimed.

In the accompanying drawing, which forms a part of this specification, Figure 1 is an inner view of the microscope, one of the faces being removed; Fig. 2 is a plan view of the feeding mechanism; Fig. 3 is a section on line 3—3 of Fig. 1; Fig. 4 is a view on one of the faces of the casing; Fig. 5 is a plan view of a portion of the endless band, a part thereof being shown in cross section and Fig. 6 is a section on line 6—6 of Fig. 4.

In the drawing, 1 denotes a circular casing, one face 2 of which is removable, and which in its two faces has opposite apertures 4, 5, the aperture 4 serving for the penetration of light and the aperture 5 as the sight opening.

Journalled in the non-removable face 2' and arranged inside of the casing is a ratchet wheel 6 and concentrically fixed thereto is a drum 7 which on its circumference is provided with cylindrically curved notches 8. The edge 8' at one end of each notch is slanting or curved laterally. The ratchet wheel 6 is provided with two series of perforations 9 and 10, arranged in concentric circles around the axis of said wheel. The perforations 9 of the inner set are arranged

to alternately register with the said opening 4 as the ratchet wheel is fed around its axis. The perforations 10 of the outer set serve for the engagement of a spring actuated pin 11 carried by an arm 12 loosely mounted on the spindle 6' of the ratchet wheel 6 and the drum 7 and arranged outside of the casing (Figs. 3, 4). Said pin which projects into the casing through a circular slot 11' in the latter serves for the feeding of the ratchet wheel around its axis by its engagement with the perforations 10 of the outer set in the said ratchet wheel. Coöperating with the said ratchet wheel is a spring actuated pawl 13 pivoted in the casing at 14 and adapted to prevent a return movement of the ratchet wheel and to secure the ratchet wheel 6 and the drum 7 in position after each displacement.

The lenses 15 are pin-shaped or cylindrical bodies which bear a photograph or other object at one end and the diameter of which is about equal to that of the opening 4 in the casing. These lenses are borne in an endless flexible band 16 of any suitable material, preferably rubber. To this end, the band 16 on one of its faces is integrally formed with hollow projections 17 of cylindrical cross section arranged crosswise to the band and which are open at both ends. These hollow projections extend throughout the width of the band and at one end project beyond the margin thereof as at 18 and are adapted to receive the lenses 15, so as to entirely envelop the latter. When bearing the lenses the projections form rigid members, so that they can be utilized to perform the same function as teeth of a wheel or links of a sprocket chain.

The endless band is arranged in the casing so as to extend partly around the notched drum 7 then to extend in opposite directions around rollers or sheaves 19, 19, arranged symmetrically and eccentrically relative to the axis of the ratchet wheel 6, and around further guide members 20, 20. The portion of the band that extends around the notched drum has the rigid members formed by the pockets containing the lenses directed inward, that is to say, toward the circumference of the drum. The spacing between and the size of the said pockets or members are made to correspond with the notches 8 of the said drum, so that the said members 17 will perfectly fit in said notches and engage therewith like teeth or links of a

chain. To hold the band in close contact with the drum and insure the engagement of the pockets 17 with its notches, I employ a bow-shaped spring 22 the ends of which

5 are fixed in the casing.

The removable face or cover 2 may be secured in position by a nut 23 or in any other convenient manner. The distance between the individual perforations 10 of the outer set in the ratchet wheel 6 is so calculated that by the feeding of the wheel 6 by means of the pin 11 from one perforation to the other a new lens is brought to register with the opposite openings 4, 5 of the casing, so that the photograph or other object

15 may be seen.

It is evident that various modifications may be made in the device without departing from the principle of my invention, and I, therefore, do not wish to restrict myself to the construction shown and described.

What I claim and desire to secure by Letters Patent is:

1. In a viewing device of the kind specified, the combination with a notched drum, of a disk connected thereto and having a circular series of perforations, manually operated means adapted to alternately en-

gage said perforations so as to feed said disk and drum, lenses and an endless flexible band carrying said lenses and cooperating with said drum. 30

2. In a viewing device of the kind described, the combination with a notched drum, of a disk connected thereto and having a circular series of perforations, a spring actuated pin adapted to alternately engage said perforations so as to feed said disk and drum, lenses and an endless flexible band carrying said lenses and cooperating with said drum. 35 40

3. A viewing device of the kind specified, comprising a casing, a notched rotary drum therein, a disk having a circular series of perforations connected to said drum, a spring actuated crank pin pivoted in the casing and adapted to engage the perforations of said disk to feed the latter, lenses, and an endless lens carrier cooperating with said notched drum. 45 50

In testimony whereof I affix my signature in presence of two witnesses.

KARL M. STAHL.

Witnesses:

JOHN T. CARMODY,
MAX D. ORDMANN.