(No Model.)

H. K. NOLD.

VIBRATING OR GYRATING DEVICE.

No. 587,156. Patented July 27, 1897.

Fig. 2.

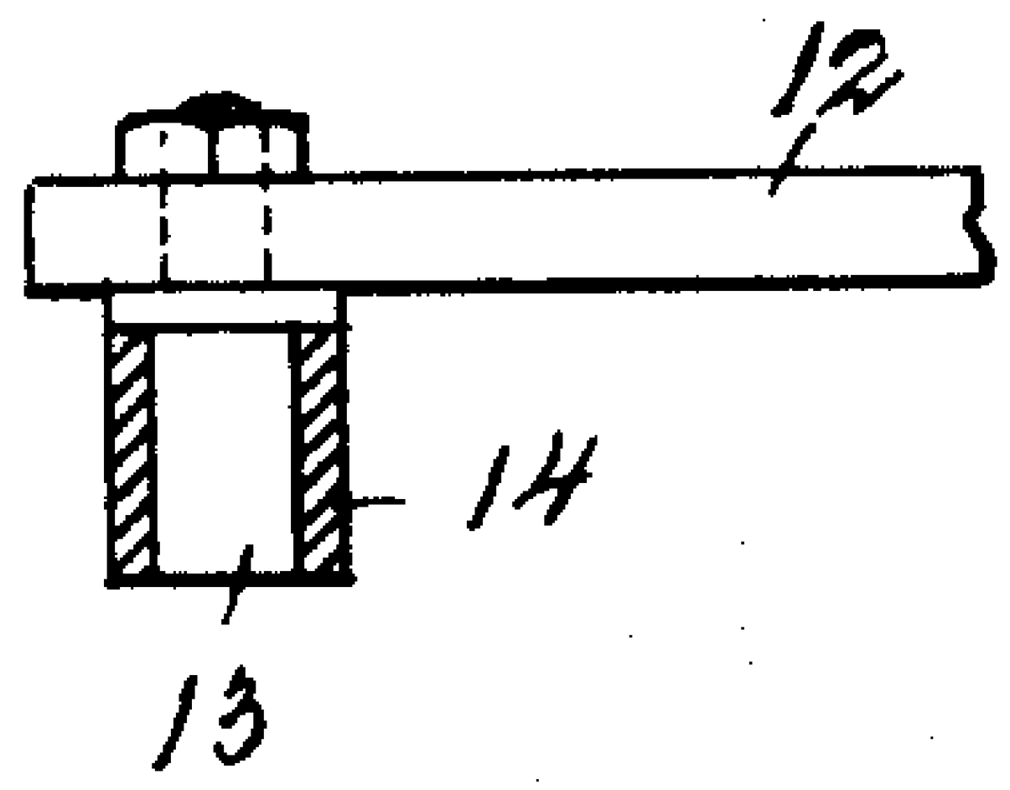
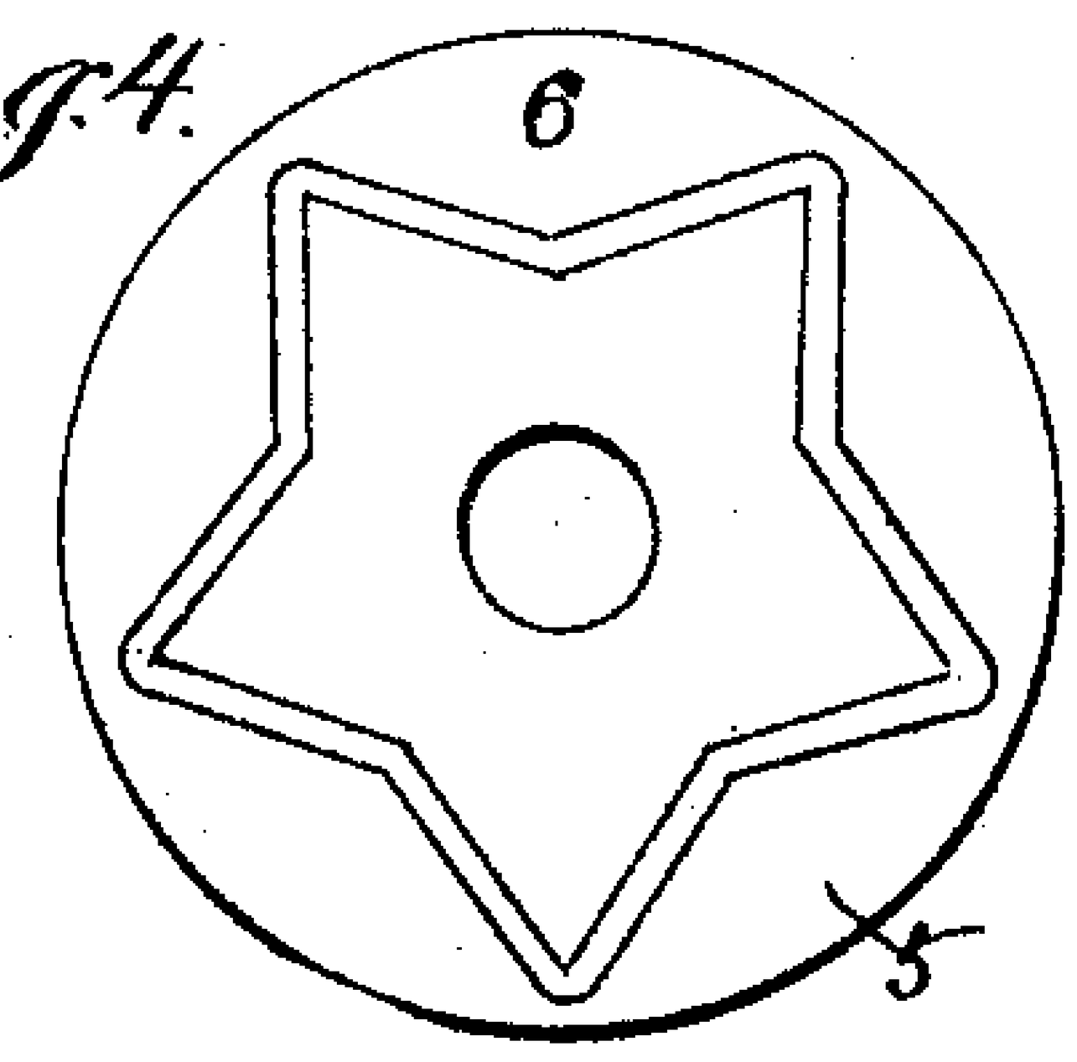


Fig. 4.



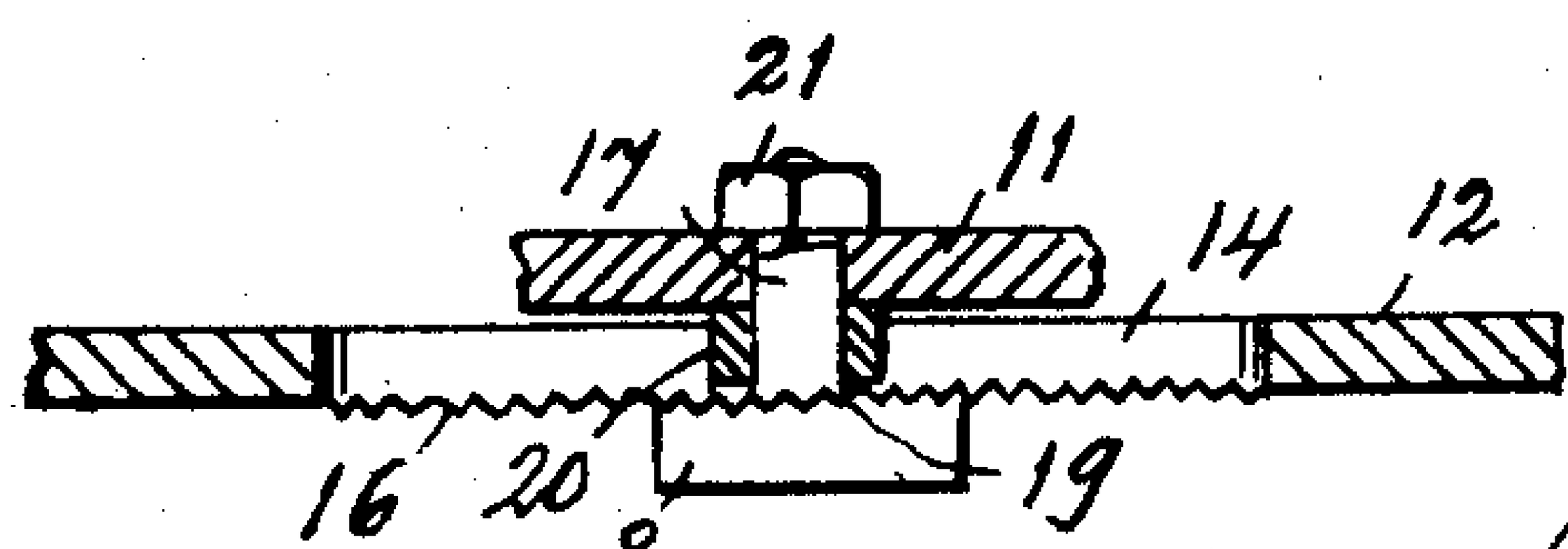


Fig. 3

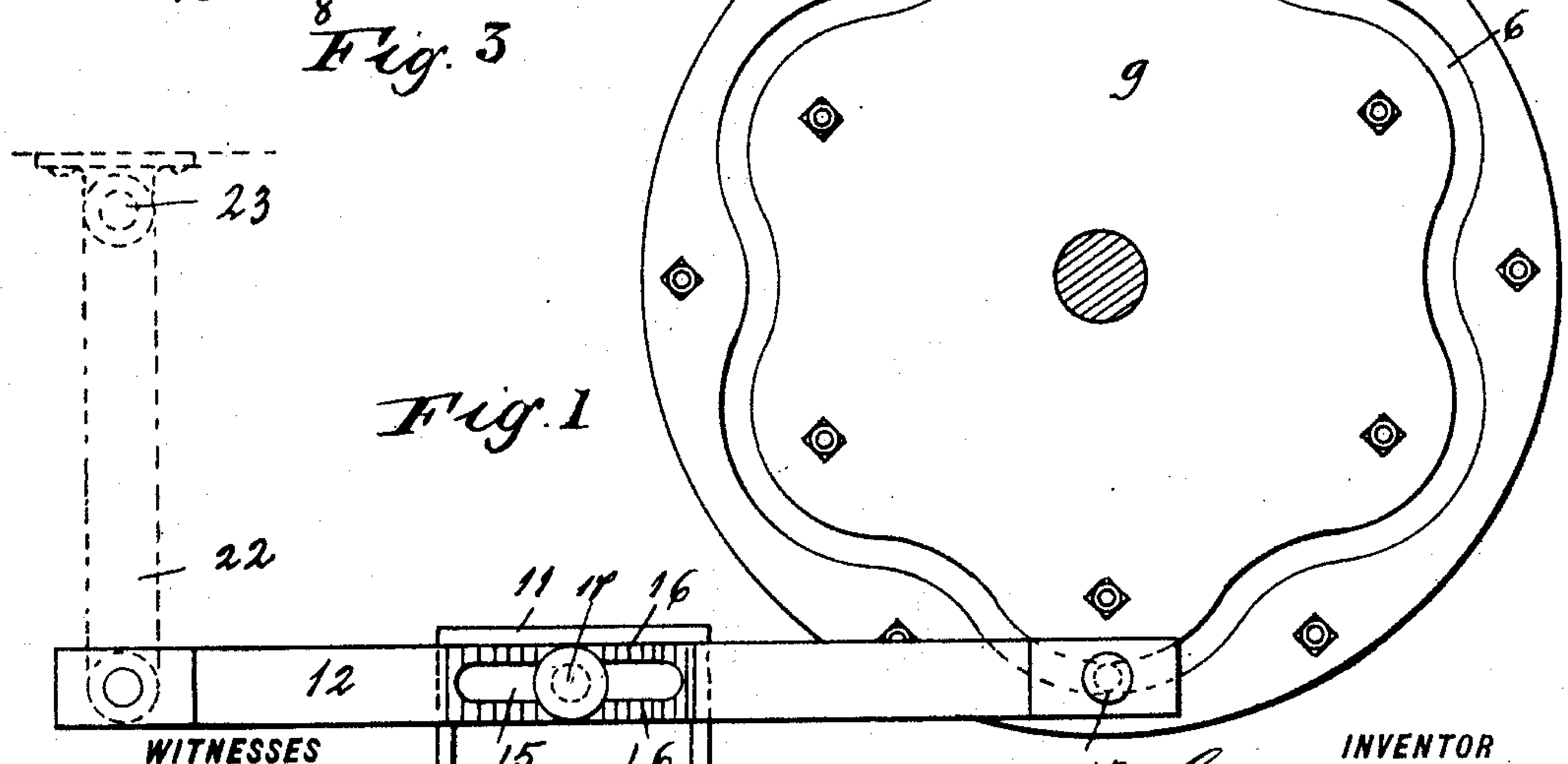


Fig. 1

WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

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VIBRATING OR GYRATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 587,156, dated July 27, 1897.

Application filed March 2, 1897. Serial No. 625,700. (No model.)

To all whom it may concern:

Be it known that I, HENRY K. NOLD, a citizen of the United States, residing at Benton Harbor, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Vibrating or Gyrating Devices, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to devices or mechanism for producing a vibrating or gyrating motion; and the object of the invention is to provide a device of this class which will take the place of an ordinary eccentric, a further object being to provide an improved device of the class specified which is intended to dispense with fast-running eccentric shafts, and at the same time to obtain a higher vibrating or gyrating motion; and with these and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in which—

Figure 1 is a plan view of my invention, showing the gyrator and connections; Figs. 2 and 3, sectional side views of details of the construction, and Fig. 4 a plan view of a modified form of a part of my improvement.

In the practice of my invention I provide a wheel 5, which is provided with an irregular groove 6, this groove being arranged concentrically of the center of said wheel, and being composed of a plurality of inwardly and outwardly direction convolutions or curves, and in practice the wheel is formed by providing a circular disk or plate 7, to the upper side of which is firmly bolted a ring 8, of substantially the same thickness as said circular disk or plate, and the inner edge of perimeter of the ring 8 is formed so as to correspond with the desired shape of the groove 6, and I also provide a central or inner plate or disk 9, which is of the same thickness as the ring 8, and which is firmly bolted to the plate or disk 7, and the outer perimeter of which corresponds in form with the inner perimeter of the ring 8, as clearly shown in Fig. 2.

The groove 6 may be of any desired width in cross-section, and instead of forming the same as above described the entire wheel, composed of the disk or plate 7, the ring 8, and the central disk or plate 9, may be cast in one piece, and said groove formed therein in the act of casting, or said wheel may be formed in any desired manner.

For the purpose of illustration and description, reference being made to Fig. 1, I have shown the wheel 5 supported in any desired manner and adapted to revolve on its supports, and arranged adjacent to said wheel is a horizontal bracket or support 11, on which is placed a lever 12.

The lever 12 carries at its inner end a pin 13, which is shown in Fig. 3, and on which is mounted a sleeve 14, which is adapted to move freely in the groove 6, and said lever 12 is also provided with a longitudinal central slot 15, and at each side of which are ratchet-teeth 16; and I also provide a bolt 17, provided with a head 18, on the inner surface of which are formed ratchet-teeth 19, which correspond with those formed on the lever 12, and said bolt 17 passes through the slot 14 and is provided with an antifriction-sleeve 20, and the said bolt is also passed through the bracket 11 and connected therewith by a nut 21, and the upper end of the lever 12 is pivotally connected with an arm 22, which is shown in dotted lines in Fig. 3, and which is represented at 23 to be pivotally connected with the device to be gyrated or vibrated.

The wheel 5 may be constructed in any desired manner, and this wheel constitutes the chief feature of my invention, and the groove 6 therein may be of any preferred form, and in Fig. 4 I have shown this groove as consisting of triangular loops or curves, which form vibrating-points for the pin 13, and it will be apparent that any desired number of these points may be provided, and that various modifications of the irregularity of said groove may be provided without departing from the spirit of my invention.

It will be understood that the bolt 17 constitutes the pivot or fulcrum of the lever 12,

and when the wheel 5 is revolved said lever will be given an oscillating or vibrating or gyrating motion, as will be readily understood, and the device connected with the outer end thereof will be oscillated, vibrated, or gyrated, the rapidity of this motion depending on the speed of the wheel.

It will be understood that the wheel 5 may be turned in any desired manner, and many changes may be made in the construction here set forth without departing from the spirit of my invention or sacrificing its advantages.

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

In a vibrating or gyrating device, a revoluble wheel provided with an irregular groove in one side thereof, which is arranged concentrically of the center of said wheel, a lever pivotally supported adjacent to said wheel, and provided with a pin which moves in said groove, said lever being adjustably connected with a suitable support by means of a slot which is formed in said lever, the sides thereof being provided with ratchet-teeth, and a bolt having ratchet-teeth on the head thereof, said bolt being provided with a sleeve and said lever being pivotally connected at its outer end with the article to be agitated or vibrated, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 24th day of February, 1897.

HENRY K. NOLD.

Witnesses:
VINCENT A. LOWE,
HOWARD M. ROUSE.