

No. 847,778.

PATENTED MAR. 19, 1907.

J. W. IVORY.
TOOTH SEPARATOR.
APPLICATION FILED MAY 24, 1906.

Fig. 1.

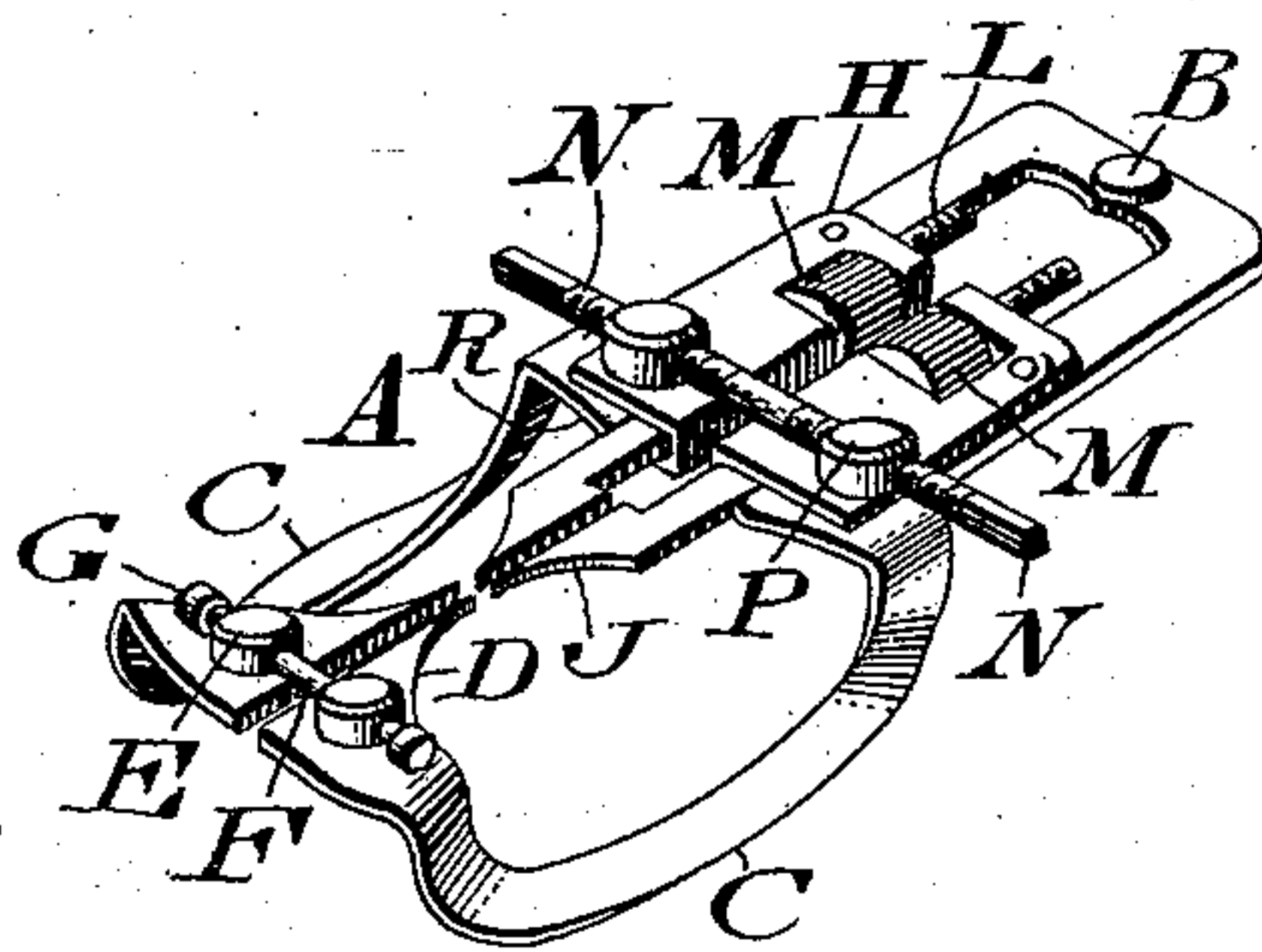


Fig. 2.

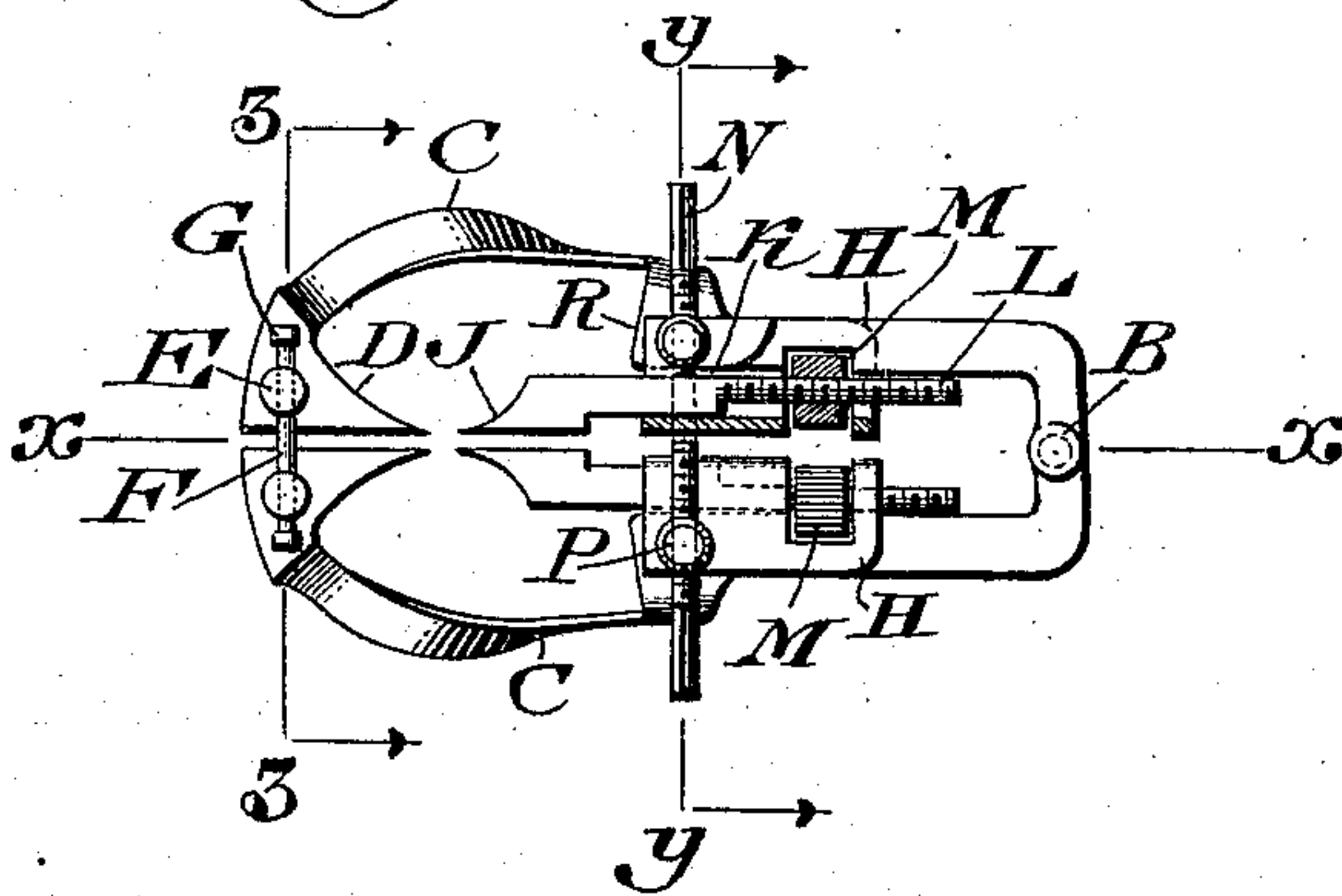


Fig. 4.

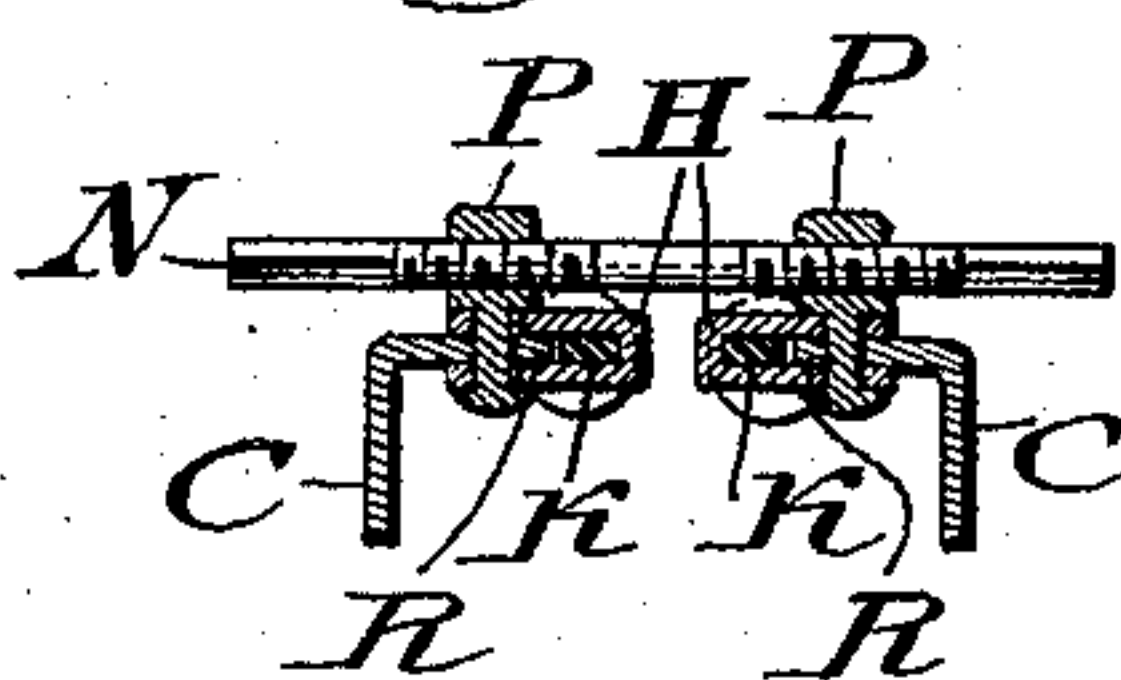


Fig. 3.

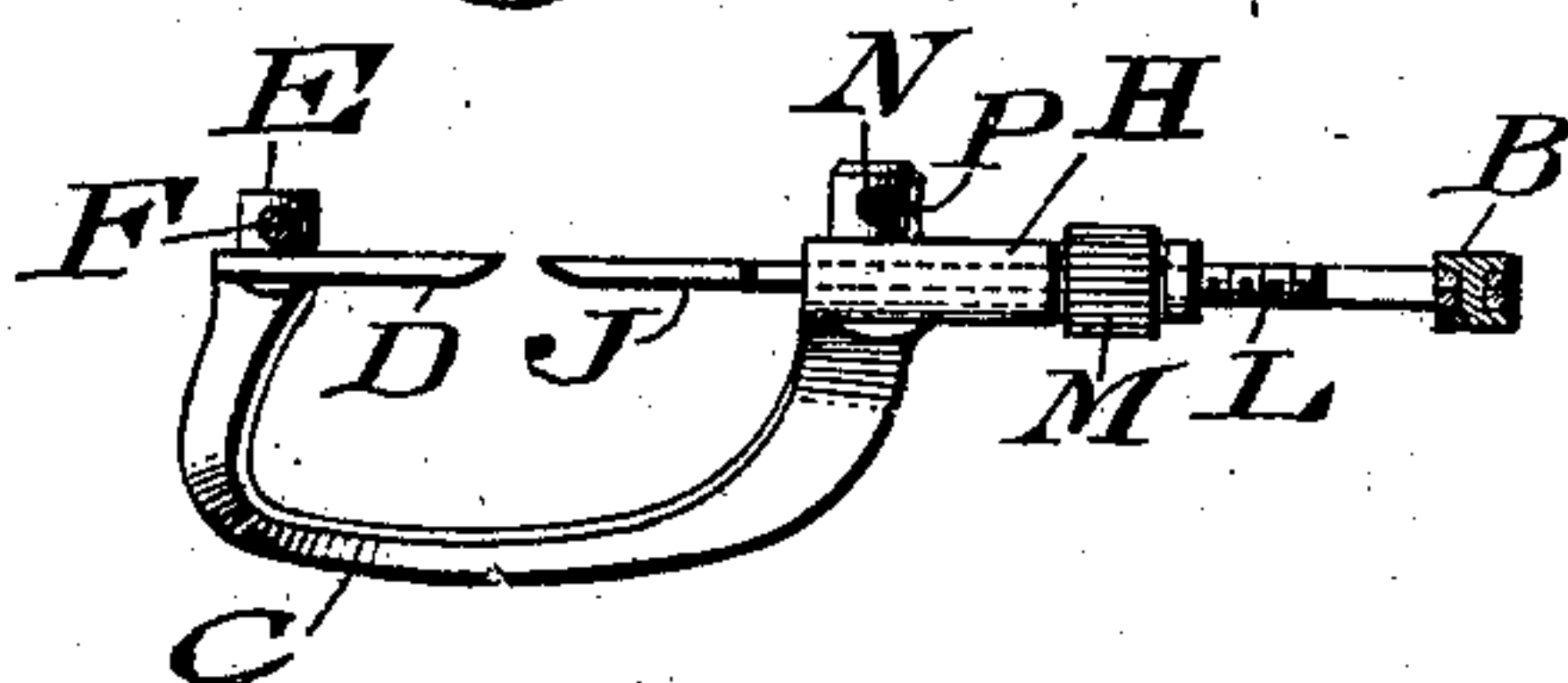
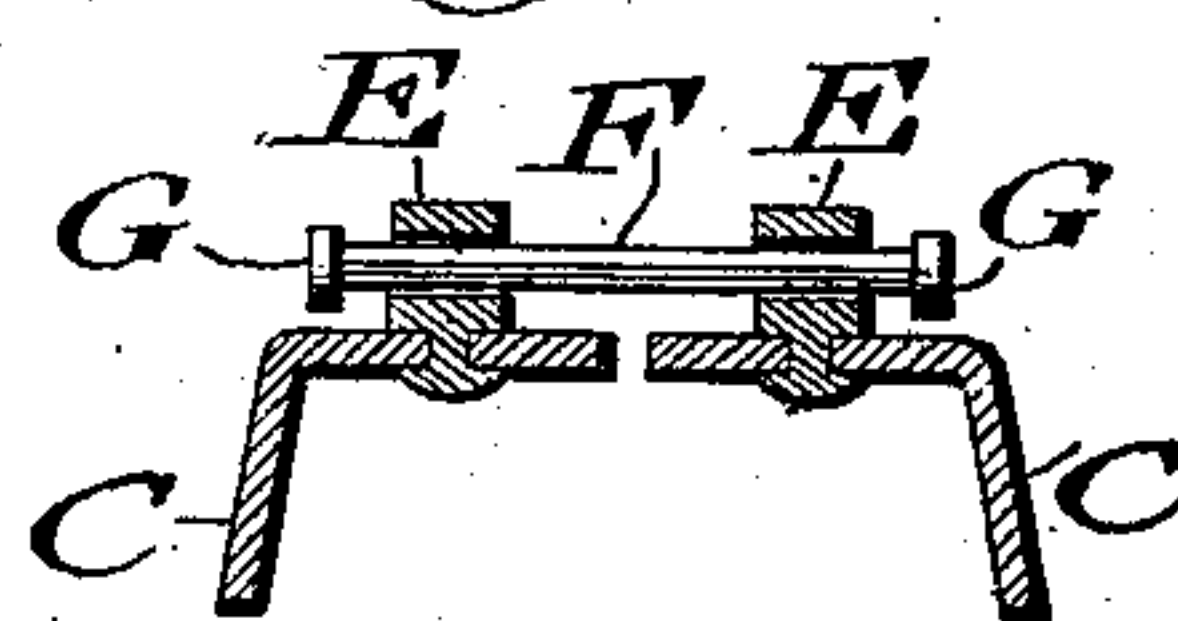


Fig. 5.



Witnesses
P. F. Nagle.
L. Douville.

Inventor
James W. Ivory.
By Wiedersheim & Fairbank
Attorneys

UNITED STATES PATENT OFFICE.

JAMES W. IVORY, OF PHILADELPHIA, PENNSYLVANIA.

TOOTH-SEPARATOR.

No. 847,778.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed May 24, 1906. Serial No. 318,526.

To all whom it may concern:

Be it known that I, JAMES W. IVORY, a subject of Great Britain, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Tooth-Separator, of which the following is a specification.

My invention consists of a tooth-separator which is provided with laterally-separating jaws which are capable of longitudinal motions independent of each other, so as to be adapted to teeth of different sizes or abnormal or irregular arrangement in the dental arch.

It also consists of details of construction, as will be hereinafter described.

Figure 1 represents a perspective view of a tooth-separator embodying my invention. Fig. 2 represents a top or plan view thereof. Fig. 3 represents a longitudinal section on line *x x*, Fig. 2. Fig. 4 represents a transverse section on line *y y*, Fig. 2. Fig. 5 represents a transverse section on line *z z*, Fig. 2.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a divided frame the members of which are connected at their rear end by the pivot B, so as to be capable of lateral motions. On the forward members C of said frame are the inward-turned jaws D, which are adapted to separate from and close toward each other, they being provided with bosses E, through which is freely passed the pin F, the same serving to guide said jaws in their motion, the ends of the pin being formed with heads G for limiting the separating motions of the jaws.

On the rear members H of the frame are the jaws J, which point toward the jaws D, the shanks of said jaws J occupying recesses K in said members H and having connected with them the screws L, which are engaged by the nuts M, which are swiveled on said members H and engage the threads of said screw, whereby motions will be imparted to said jaws in directions to and from the jaws D, it being seen that said jaws J are capable of moving independently of each other, whereby either of said jaws may be adjusted relatively to the inequalities or conditions of the teeth between which said jaws are inserted, it being also seen that as the frame A is capable of lateral motions the jaws D and J follow the same. In order to impart said lateral motions to the frame, I employ the

right and left screw-threaded shaft N, the opposite portions of which engage corresponding threaded openings in the bosses P, the latter projecting from the members H of the frame A, it being evident that by rotating said shaft N motion may be communicated to the side members of the frame A, and consequently to the jaws thereon, it being evident that when the jaws D J are fitted between the teeth to be separated and motion communicated to the shaft N said jaws will exert pressure or power on the teeth, the action of which is to separate the same in a convenient, powerful, and practical manner, it being also evident that in teeth of different sizes or abnormal or irregular arrangement where the jaws J are designed to operate either jaw may be moved independently of the other, and so adjusted according to circumstances.

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

1. In a tooth-separator, laterally-movable frames laterally-movable jaws at the free ends thereof and supplemental jaws mounted thereon adapted for longitudinal motions independently of each other.

2. A tooth-separator composed of a frame formed of laterally-movable members, jaws on said members adjustable in said frame both longitudinally and laterally and means for guiding the said jaws.

3. In a tooth-separator, a frame composed of laterally-movable members, jaws on the free ends of said members, additional jaws on said members and means for guiding and adjusting the last-named jaws both longitudinally and laterally.

4. A tooth-separator having a frame formed of laterally-movable members, jaws upon the free ends of said members and having means for adjustment slidable jaws mounted on said members and means for moving one jaw independently of the other.

5. In a tooth-separator, a frame composed of laterally-movable members, jaws mounted on said members, screw-threaded shafts connected with said jaws and nuts mounted on said members adapted to engage said threaded shafts of the jaws whereby motions in opposite directions may be imparted to the latter and relatively fixed jaws on the free ends of said members.

6. In a tooth-separator, a frame formed of laterally-movable members, means for oper-

- ating said members in opposite directions, jaws mounted on said members and rotatable means swiveled on said members, the same engaging relative portions of said jaws, 5 whereby longitudinal sliding motions may be imparted to said jaws, each jaw having its motion independent of the other and relatively fixed jaws on the free ends of said members.
- 10 7. In a tooth-separator, a frame formed of laterally-movable members, jaws on said members, a right and left screw-threaded shaft and means on said members with which shaft engages, whereby longitudinal motions may be imparted to said jaws the free ends of 15 said members having rigid jaws thereon with connected means for adjustment thereof.

JAMES W. IVORY.

Witnesses:

JOHN A. WIEDERSHEIM,
S. R. CARR.