

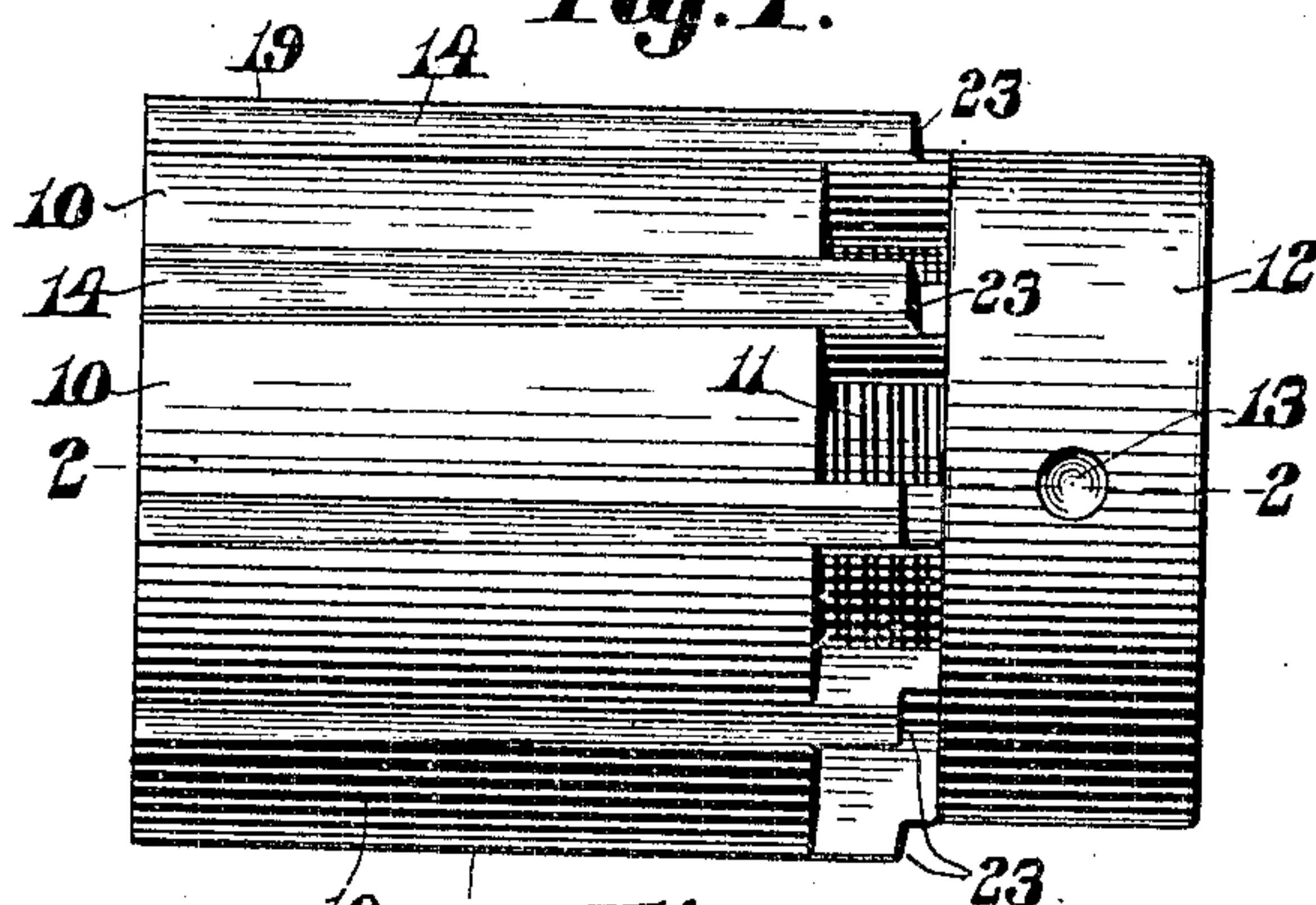
No. 849,738.

PATENTED APR. 9, 1907.

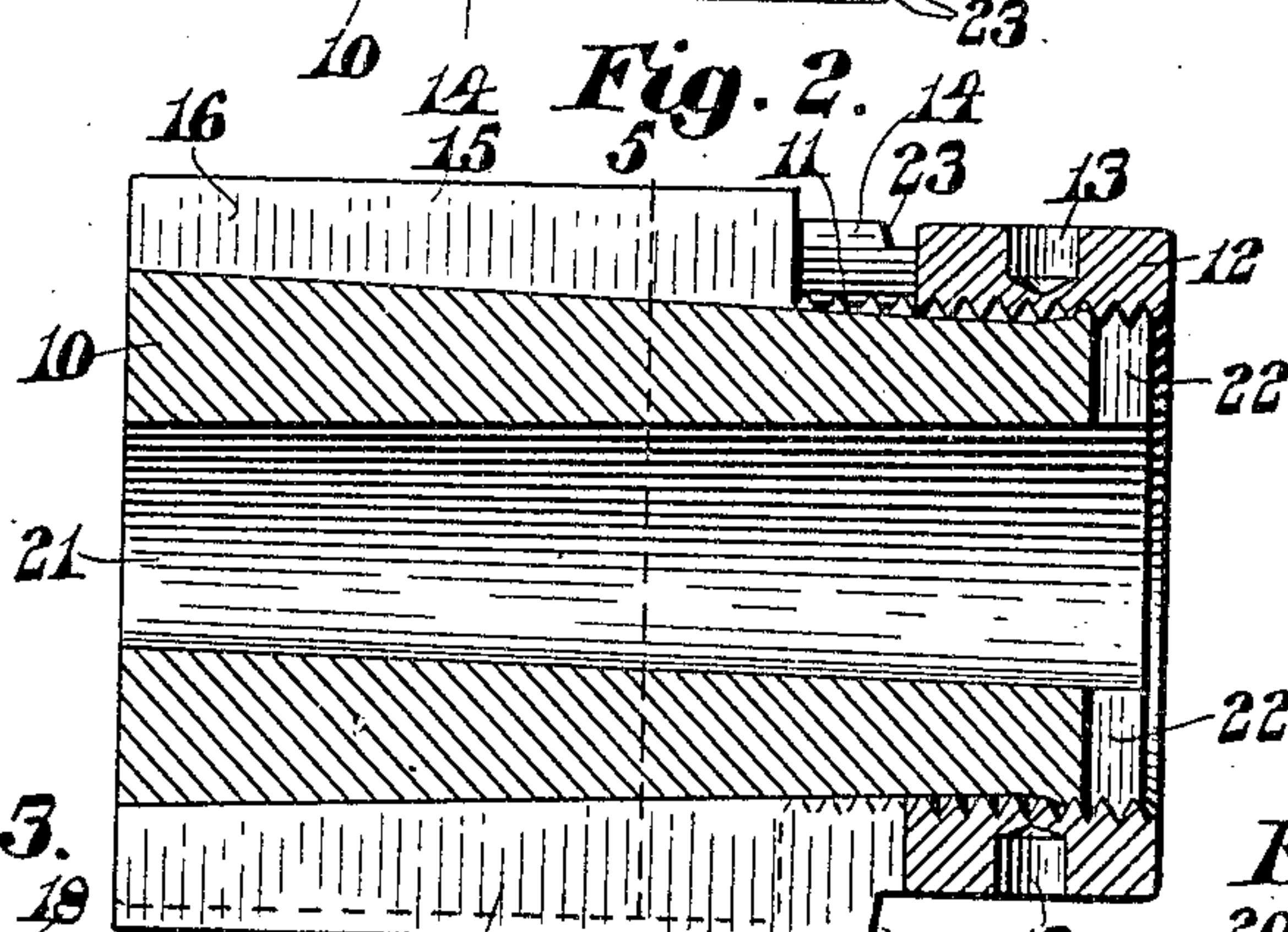
F. J. LAPOINTE.  
REAMER.

APPLICATION FILED MAR. 27, 1906.

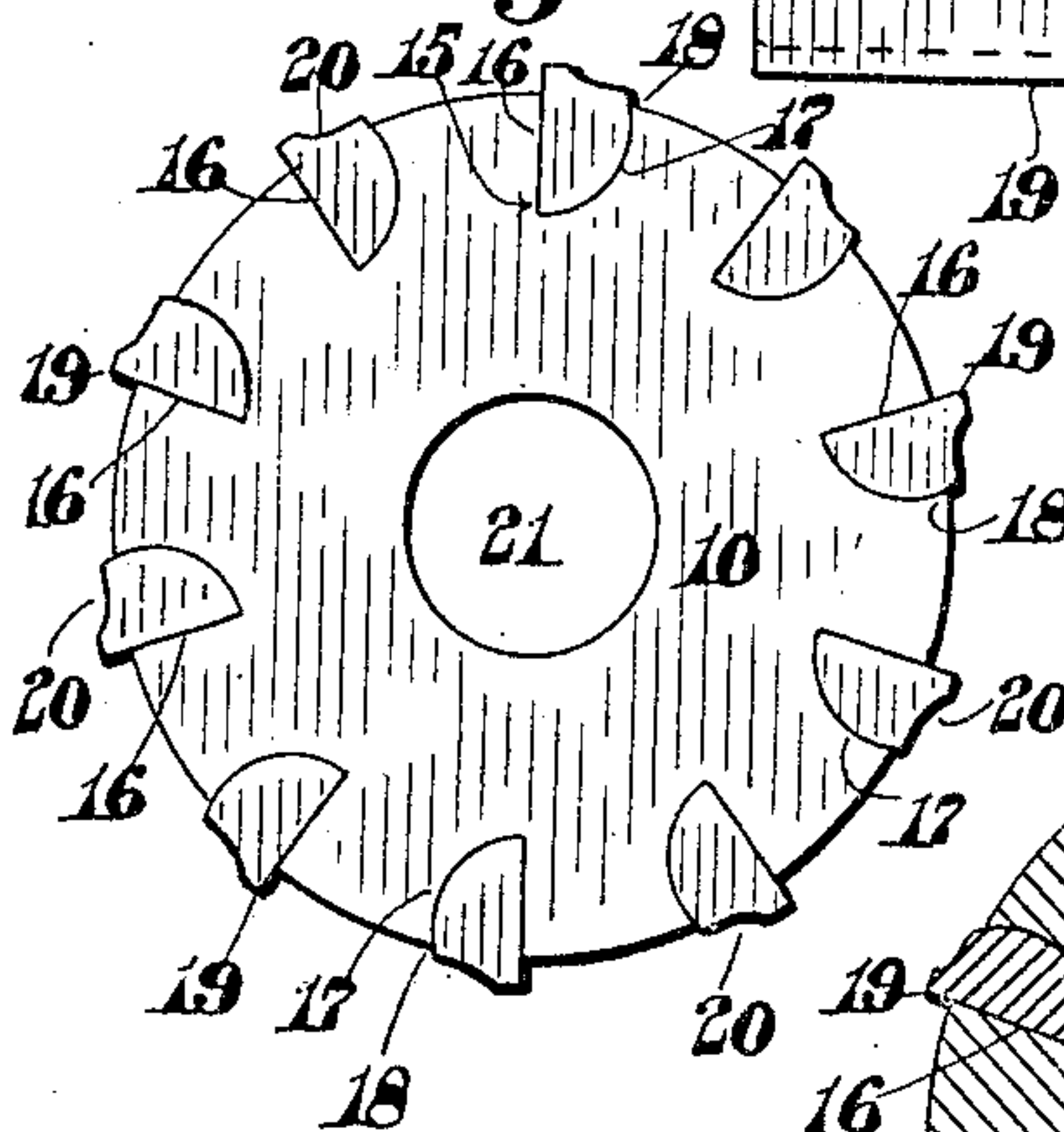
*Fig. 1.*



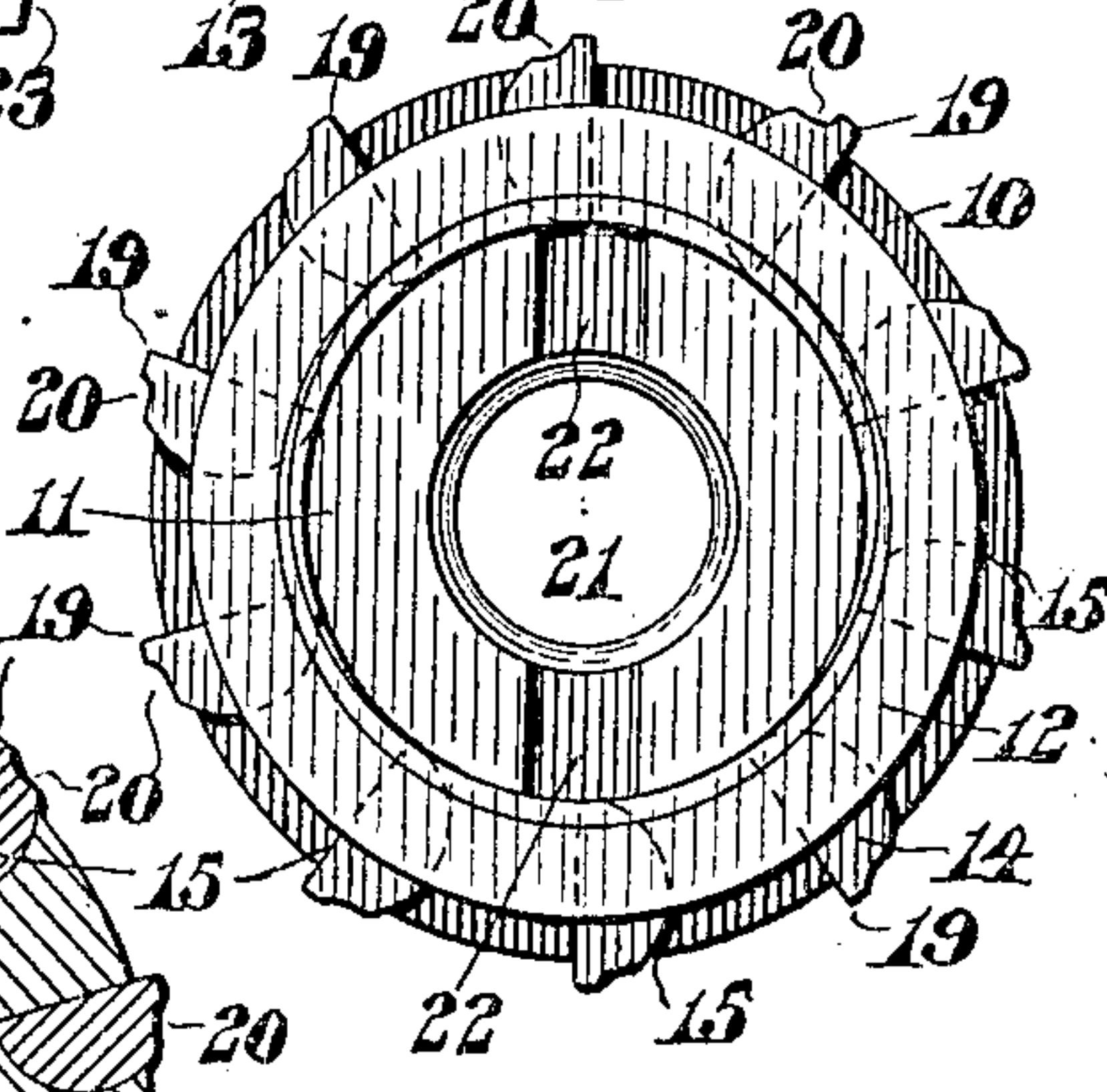
*Fig. 2.*



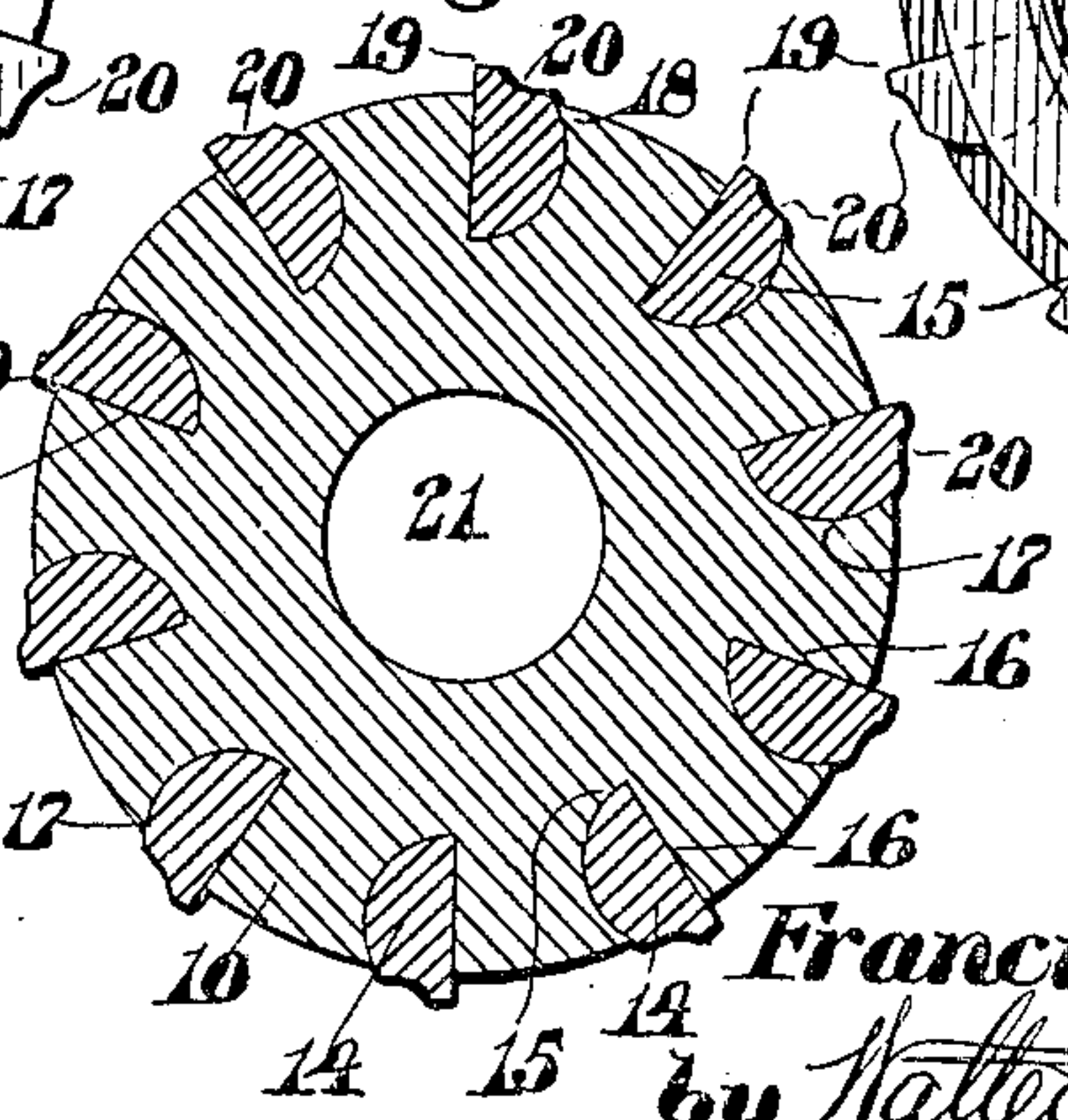
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



**Witnesses:**

*Edwin S. Cleveland*  
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**Inventor:**

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*Atty.*



# UNITED STATES PATENT OFFICE.

FRANCIS J. LAPOINTE, OF ROXBURY, MASSACHUSETTS.

## REAMER.

No. 849,738.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed March 27, 1906. Serial No. 308,262.

*To all whom it may concern:*

Be it known that I, FRANCIS J. LAPOINTE, a citizen of the United States of America, and a resident of Roxbury, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Reamers, of which the following is a specification.

This invention relates to metal-working tools, such as reamers, and more particularly to those of the adjustable type.

It has for its principal object the production of an adjustable device of this class in which the blades or operating-tools may be interchangeable and which may be manufactured at slight expense.

The invention consists in certain novel features of construction and arrangement of parts, which will be readily understood by reference to the description of the drawings and to the claims to be hereinafter given.

Of the drawings, Figure 1 represents a plan of a reamer embodying the features of this invention. Fig. 2 represents a vertical section of the same, the cutting plane being on line 2 2 on Fig. 1. Fig. 3 represents an elevation of the left end of same. Fig. 4 represents an end elevation of the right end of same, and Fig. 5 represents a section on line 5 5 on Fig. 2.

Similar characters designate like parts throughout the several figures of the drawings.

In the drawings, 10 designates the body of the reamer, which is provided with a threaded hub 11 integral therewith. A nut 12, provided with spanner-holes 13, is mounted upon said threaded end and is adapted to bear against and adjust the positions of the blades 14, mounted in the grooves 15 in said body 10. The grooves 15 are each provided with one flat side 16, radial to the axis of said body. The opposite wall of said groove is preferably curved, as shown at 17, forming the segment of a circle cutting the periphery of the body 10 at 18 slightly above the center of said circle. When a half-round blade 14 is fitted into said groove 15, this inwardly-projecting point 18 prevents the blade from being displaced.

The bottom of each of the grooves 15 is inclined toward the axis of the body 10 as the grooves extend from the front face of the body toward the rear thereof. Each of the blades 14 is provided with a cutting edge 19 and a backed-off portion 20, the cutting

edges 19 of said blades lying in a cylindrical surface, as shown in the drawings. The body 10 is provided with a central bore 21 and at its rear end with slots 22, by which said body may be secured to a revoluble member to operate the same. The blades 14 in this construction may be readily made from half-round stock cut in suitable lengths and then worked down to provide the cutting edges 19 and the backed-off portion 20, these blades tapering from the rear of the body 10 toward the front end thereof, so that when the blades are operated upon by means of the adjusting-nut 12 the positions of the cutting edges 19 of the tools 15 are moved toward or from the axis of the body in an obvious manner.

Each blade 14 is provided with a shoulder 23, which is capable of receiving the impact of a suitable tool to drive the blade 14 endwise of said groove 15 when desired. By this construction not only the blades themselves may be made much more economically than the blades of adjustable reamers now in use, but the body itself to receive these blades may be constructed at much less expense, the grooves 15 being readily cut by a suitable milling-tool and then forced into position to fit the curvature of the blades 15. The strain upon the cutting edge 19 of the blade 14 tends to force the opposite end of the blade against the thickest portion of the body 10 between two successive blades 14, so that there is no danger of breakage, the lands between the grooves 15 being made wider at the bottom than at the top. The grooves 15 are cut by an ordinary cutter, with the outer walls thereof parallel, and then with a blade in position therein pressure is applied to compress the metal of the body 10 at a point back of the blade to force it into contact with said blade, forming thereby an overhanging lip of compressed metal, which prevents the accidental removal of the blade 14.

In the old-style reamer where a blade entered a dovetailed groove the tendency was to break off the supporting member between the blades. It is obvious that the present invention overcomes this objection.

It is believed that from the foregoing the operation of the invention will be thoroughly understood without further description.

I claim—

1. In a reamer, the combination with a body provided with longitudinal peripheral grooves having one flat radial side and a curved side extending from the inner end of

said radial side to a point nearer the outer end of said radial side than a point intermediate thereto, of a plurality of blades fitting said grooves and provided with cutting edges  
5 extending along the surface of said body.

2. In a reamer, the combination with a body provided with longitudinal peripheral grooves, of a plurality of semicylindrical blades having cutting edges extending along  
10 the surface of said body and adapted to fit the grooves therein, and means for retaining said blades in said grooves.

3. In a reamer, the combination with a

body provided with longitudinal peripheral grooves having one flat side and wider at the top than at the bottom and provided with an  
15 intermediate portion wider than at the top, of a plurality of blades fitting said grooves and provided with cutting edges extending along the surface of said body. 20

Signed by me at Boston, Massachusetts,  
this 22d day of March, 1906.

FRANCIS J. LAPOINTE.

Witnesses:

EDNA C. CLEVELAND,  
WALTER E. LOMBARD.