

G. E. KENT.
GRINDER CLAMP.
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986,466.

Patented Mar. 14, 1911.

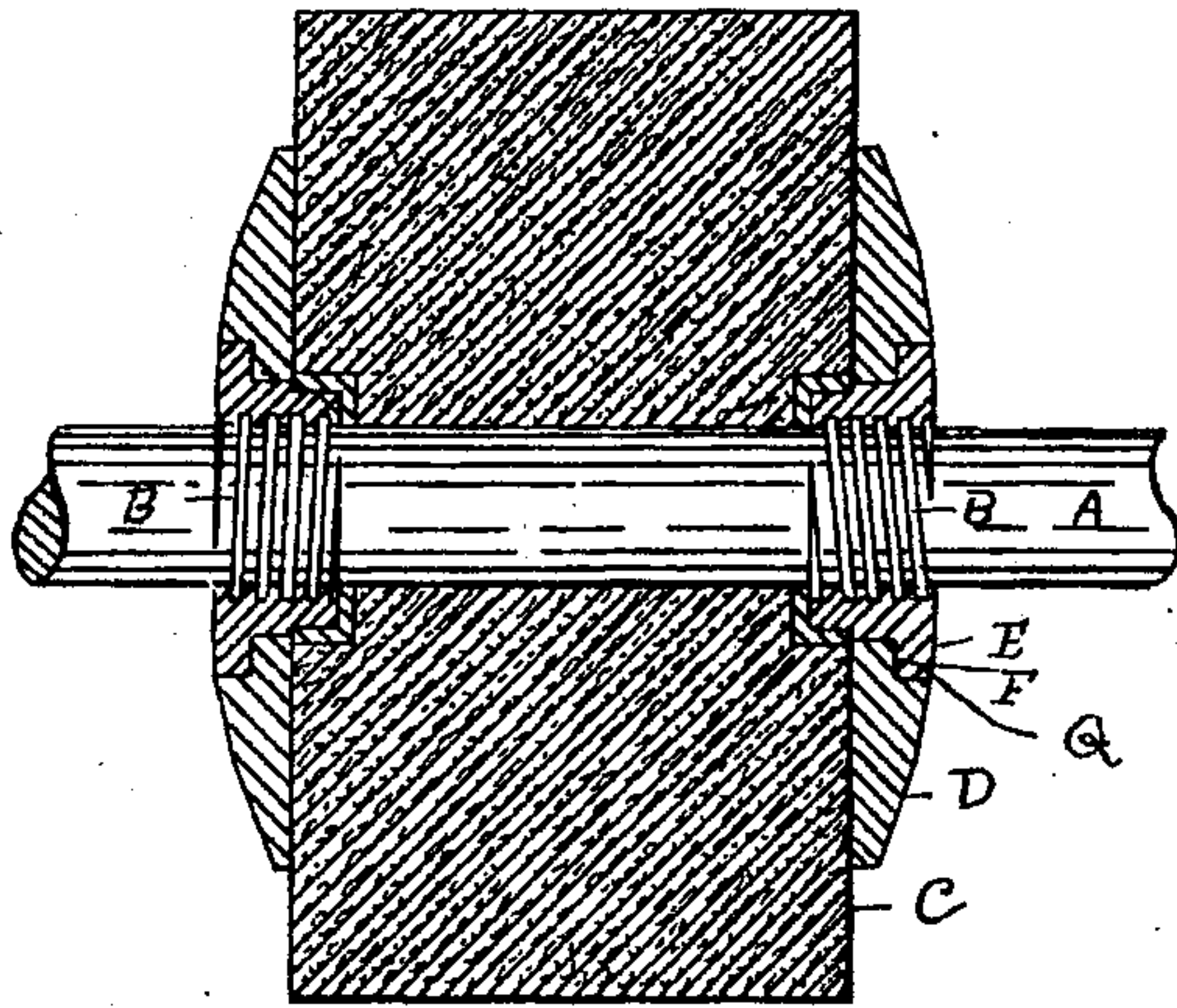


Fig. 1.

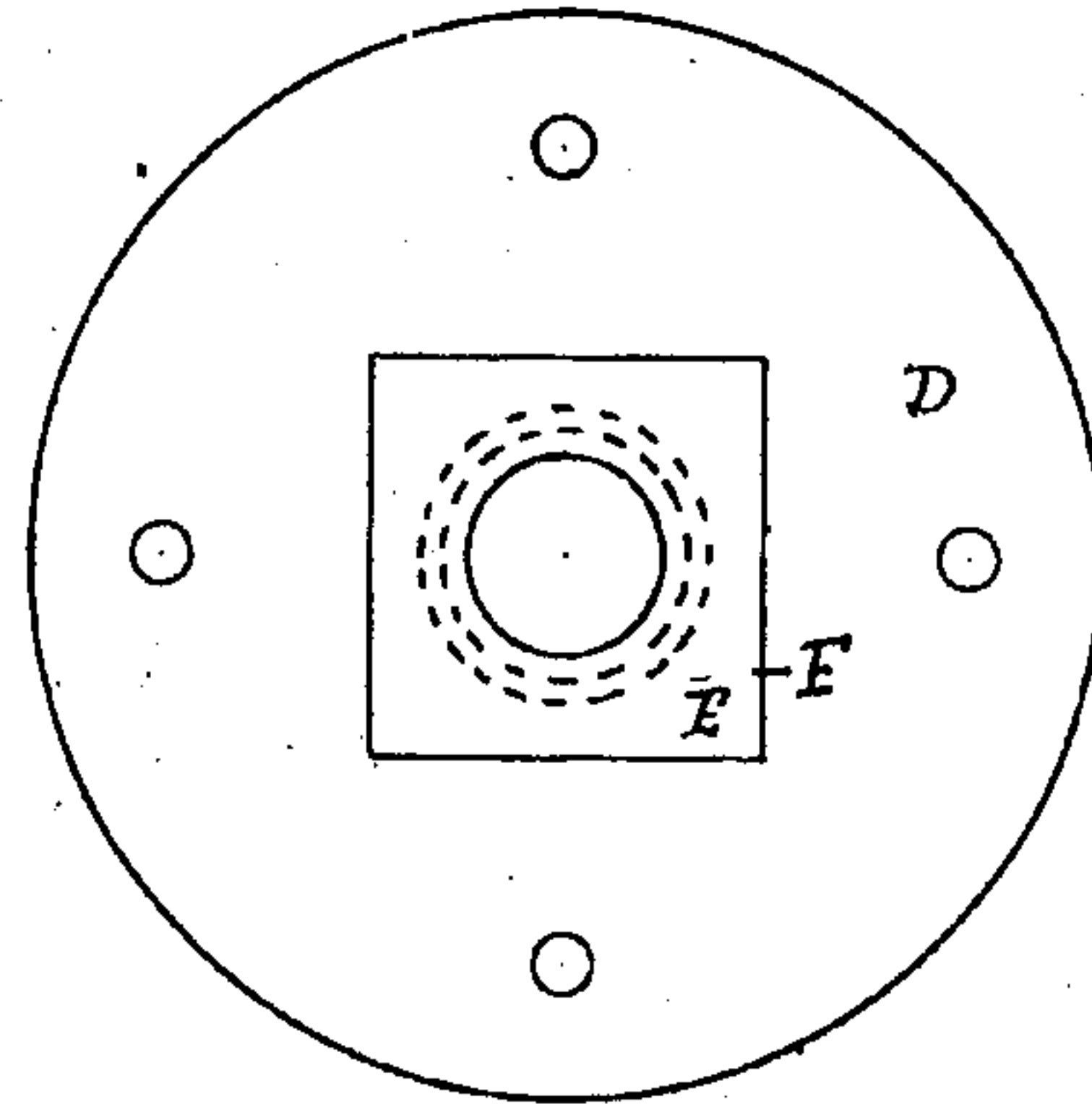


Fig. 2.

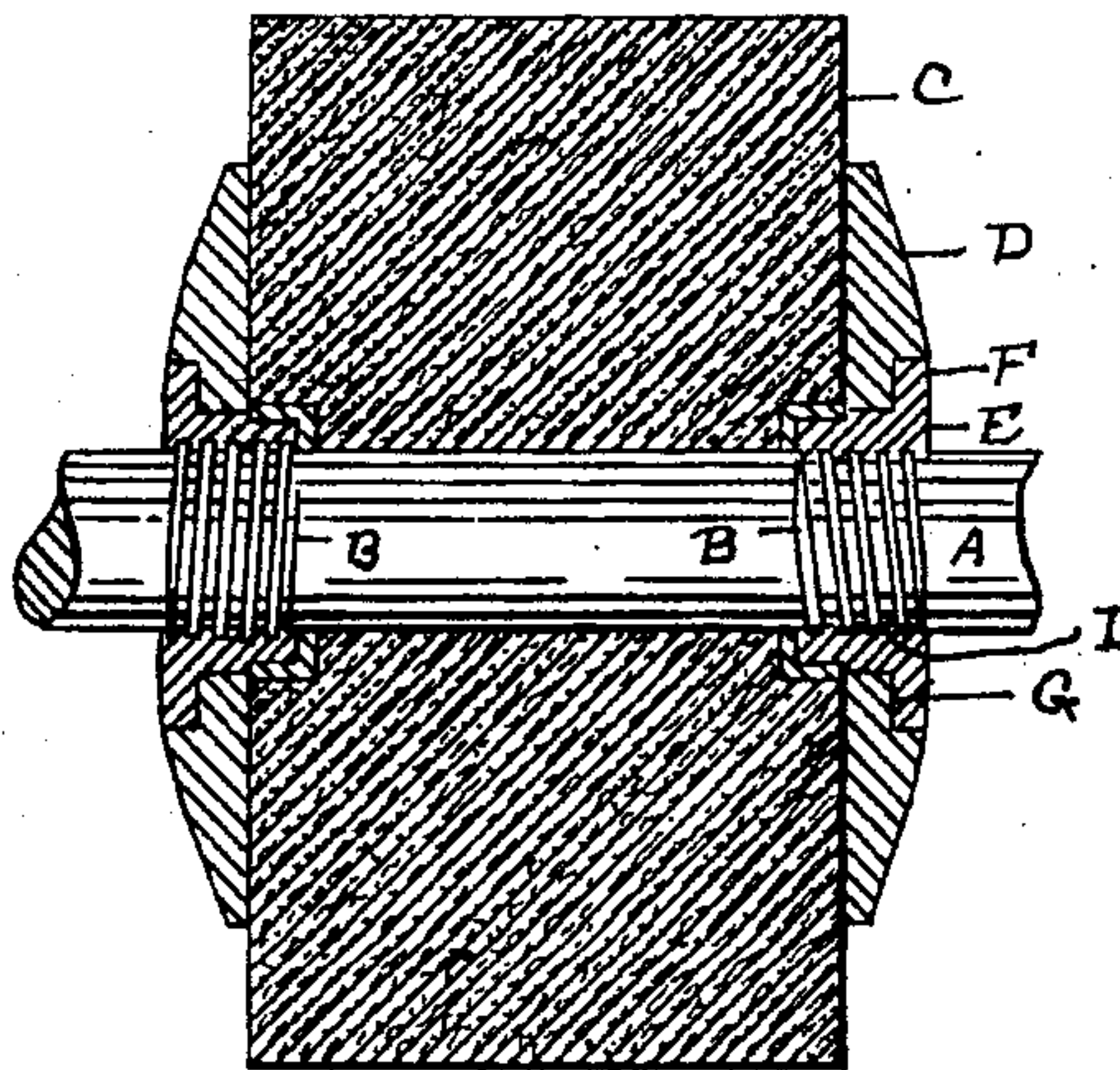


Fig. 5.

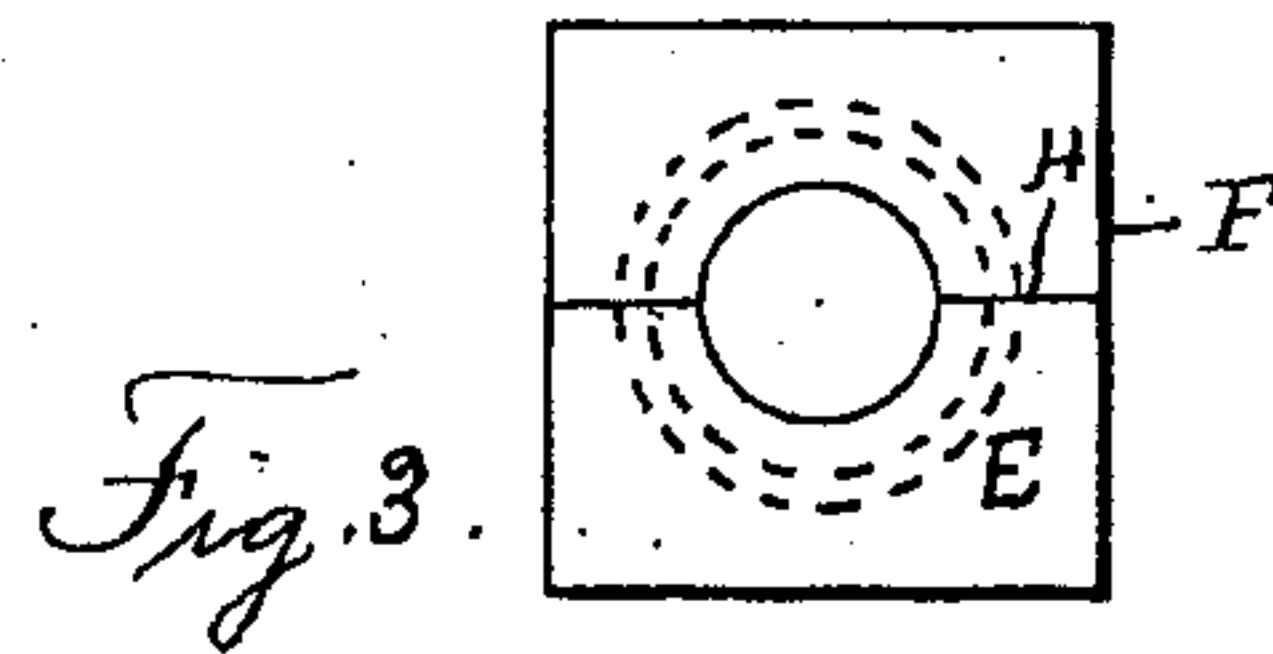


Fig. 3.

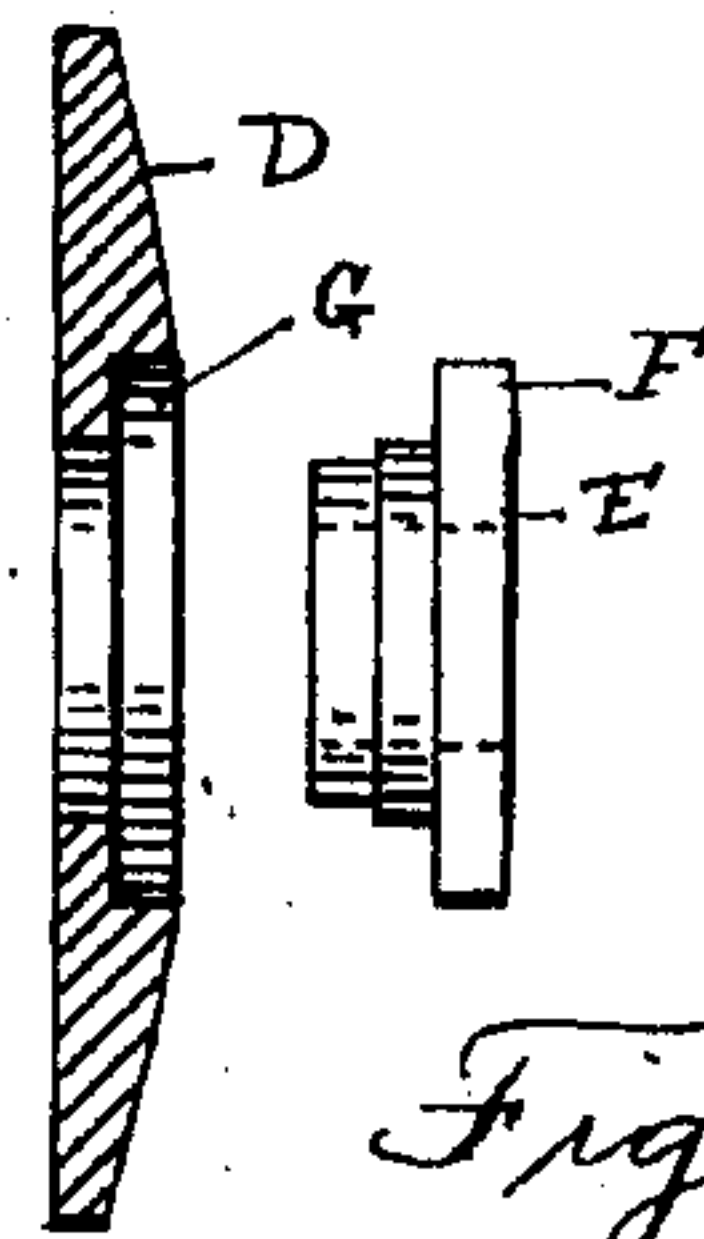


Fig. 4.

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GEORGE H. KENT, OF WOODLAND, MAINE.

GRINDER-CLAMP.

228,466.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE E. KENT, a citizen of the United States, residing at Woodland, in the county of Washington and State of Maine, have invented certain new and useful Improvements in Grinder-Clamps, of which the following is a specification.

This invention relates to improvements in grinding machines, and more particularly to machines in which a grinding stone is mounted on a shaft and held in place thereon by means of threaded clamps engaging threads upon the shaft. The grinding stone used on pulp mills for grinding wood pulp is an example. These machines as heretofore constructed are provided with clamps one on each side, one having a right-handed thread and the other a left-handed thread.

The object of the present invention is to provide a means of mounting the clamps so that they may be readily removed when it is necessary to change the stone for any reason.

It consists in forming the clamps in two parts, an outer part adapted to frictionally engage the sides of the stone and an inner part provided with a thread adapted to engage the shaft and the outer part being provided with an angular recess and the inner part having an angular head adapted to be set into said recess, whereby the outer part must always turn with the inner part which engages the shaft, but is separable therefrom when desired.

It also consists in making this inner part in sections for the purpose hereinafter described.

In the drawings herewith accompanying and forming a part of this application, Figure 1 is a sectional view of a stone, shaft and my improved clamp; Fig. 2 is a side elevation of the clamp; Fig. 3 is a side elevation of the central portion of the clamp when divided; Fig. 4 is a detail view showing the outer and inner parts of the clamp disconnected; and Fig. 5 is a sectional view of a stone, shaft and flange adapted to be used with a shaft which has had the thread cut below the plane of the shaft.

Same reference characters indicate like parts in the several figures.

In said drawings A represents a shaft threaded at two points spaced apart a distance substantially equal to the width of the stone to be used, one thread being right-

handed and the other left-handed, as seen at B. The stone C is bored centrally and mounted on the shaft. The clamps consisting of the outer part D and inner part E are then screwed up against the stone until the outer parts are in frictional engagement with the sides of the stone, the angular head F setting into the angular recess G.

It sometimes happens during the operation of the grinder that the stone slips, and when this occurs the clamps are moved inward toward each other because of the right and left threads which causes them to interlock still more firmly with the threads upon the shaft, so that to unscrew them results in stripping off and destroying the threads of the clamps and shaft. This result is often due also to the fact that the shaft, running under water is peculiarly liable to have the threads become rusted and injured thereby or rendered so that it is impossible to remove the clamps from the shaft. When this happens and my detachable clamps are used the stone can be cut out from between the clamps and the outer part of the clamp slipped to the center of the shaft leaving the inner part exposed, which can then be drilled or split on one side and wedged apart and removed entirely from the shaft without injury to the threads, thus saving the shaft and the outer part of the clamp, it only being necessary in this case to renew the inner part of the clamp which can be done on small lathes, thereby saving much time and expense.

My improved clamp has another good feature in having the inner part made in two or more parts. In this case if the thread on one end of the shaft becomes bad or stripped off it could be turned off and a new thread cut on the shaft, which of course will make the bottom of the thread below the plane of the shaft which would render it impossible to place an undivided clamp over the end of the shaft. By making the inner or threaded part of the clamp in two or more parts the parts can be placed upon the reduced threaded portion of the shaft, the outer portion of the clamp slipped sidewise over and into engagement with the split inner part, the stone moved against it and the clamp on the opposite side screwed into place, thus saving the shaft, which would otherwise have to be discarded. The condition last provided for is illustrated in Fig. 5 where the threaded part of the shaft is shown at

the right of the figure at I, the bottom of the thread being below the plane of the shaft, the split inner part being shown in Fig. 3, the line of division being indicated at H, the angular head being the same size as the recess in the outer portion, the diameter of the bore being made smaller to fit it to the correspondingly decreased diameter of the threaded portion of the shaft.

10 Having thus described my invention and its use, I claim;

15 1. A clamp for grinding stones comprising an outer part having an angular recess in the outside thereof and an inner part having an angular head adapted to fit into said recess and provided with a central threaded bore.

2. A clamp for grinding stones comprising an outer part provided with an angular

recess in the outside thereof and an inner 20 part having an angular head adapted to take into said recess in the outer part, said inner part comprising a plurality of sections having a threaded bore.

3. The combination with a threaded shaft 25 and a grinding stone mounted thereon, of clamps comprising outer parts adapted to frictionally engage the sides of the stone and provided with angular recesses in the out- 30 sides thereof and inner parts having angular heads adapted to take into said recesses and provided with a central threaded bore adapted to engage the thread on said shaft.

GEORGE E. KENT.

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