

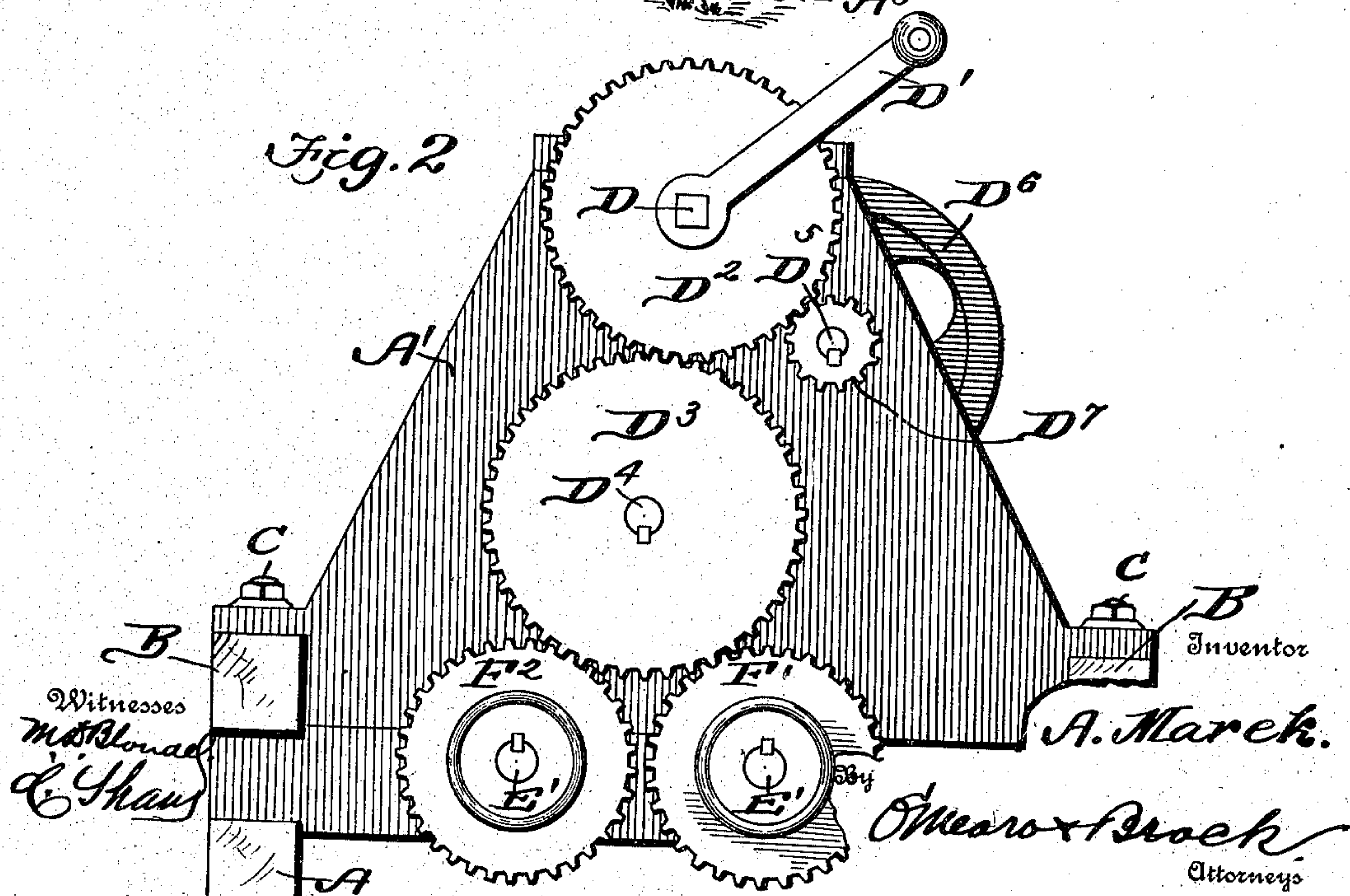
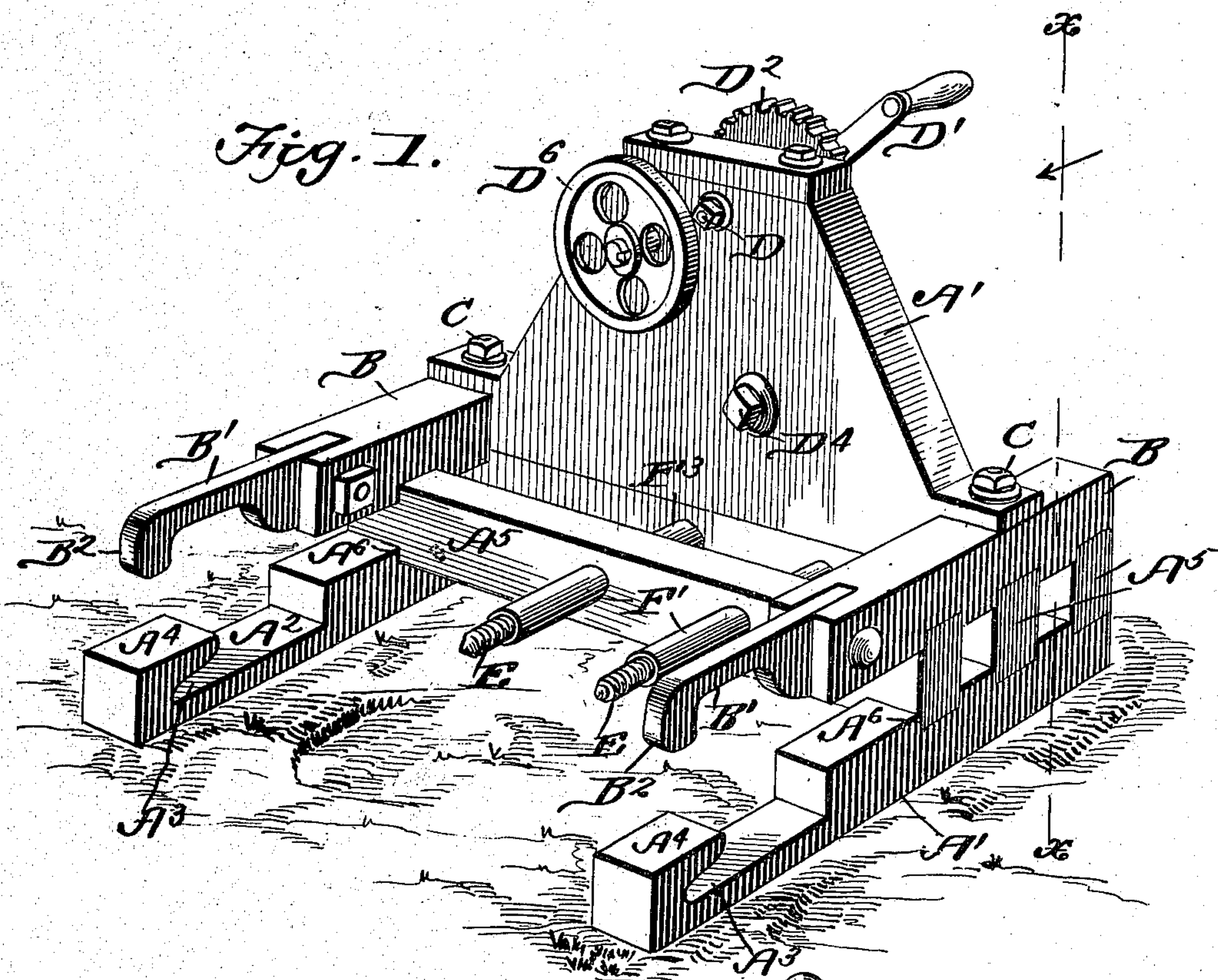
No. 736,284.

PATENTED AUG. 11, 1903.

A. MAREK.
DRILLING MACHINE.
APPLICATION FILED AUG. 9, 1902.

NO MODEL.

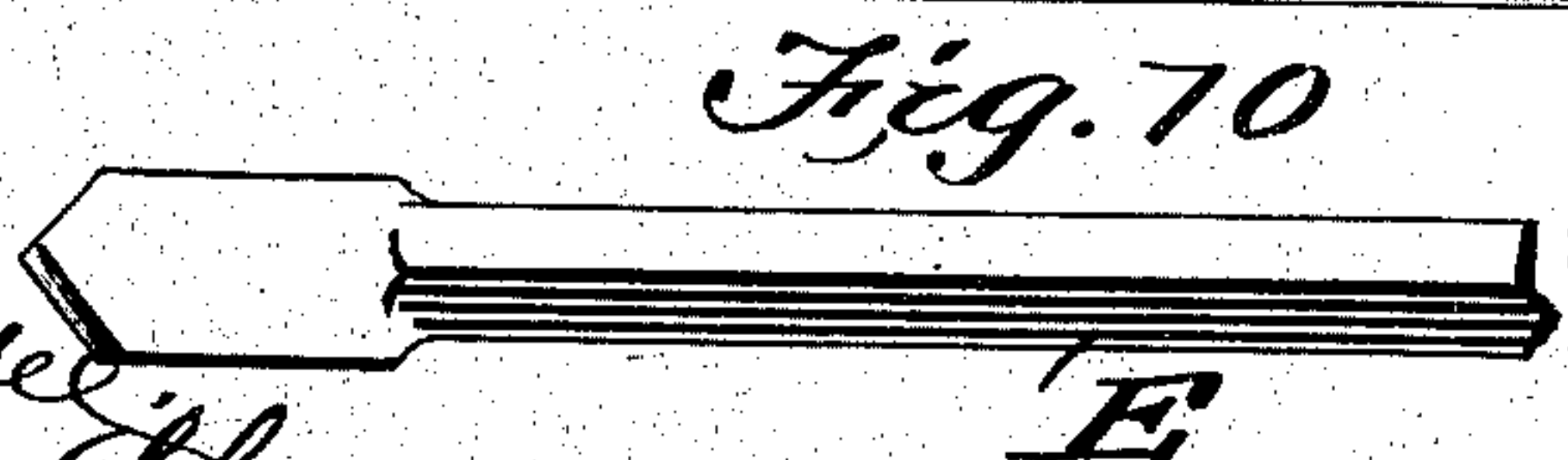
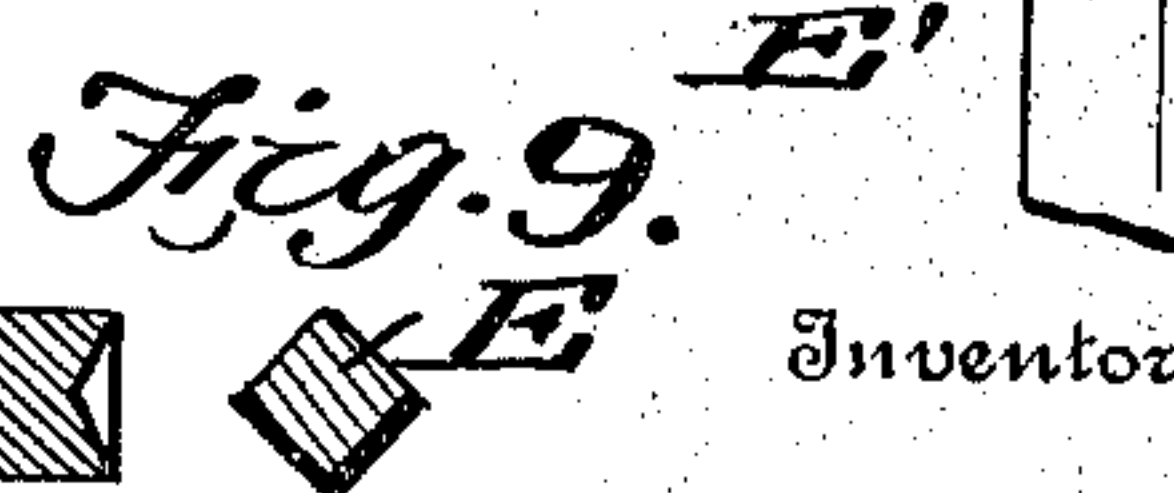
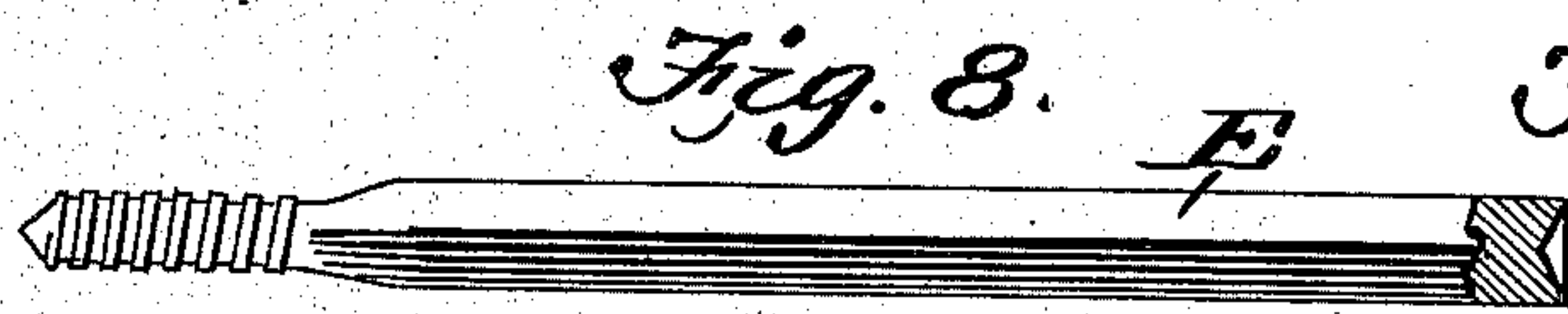
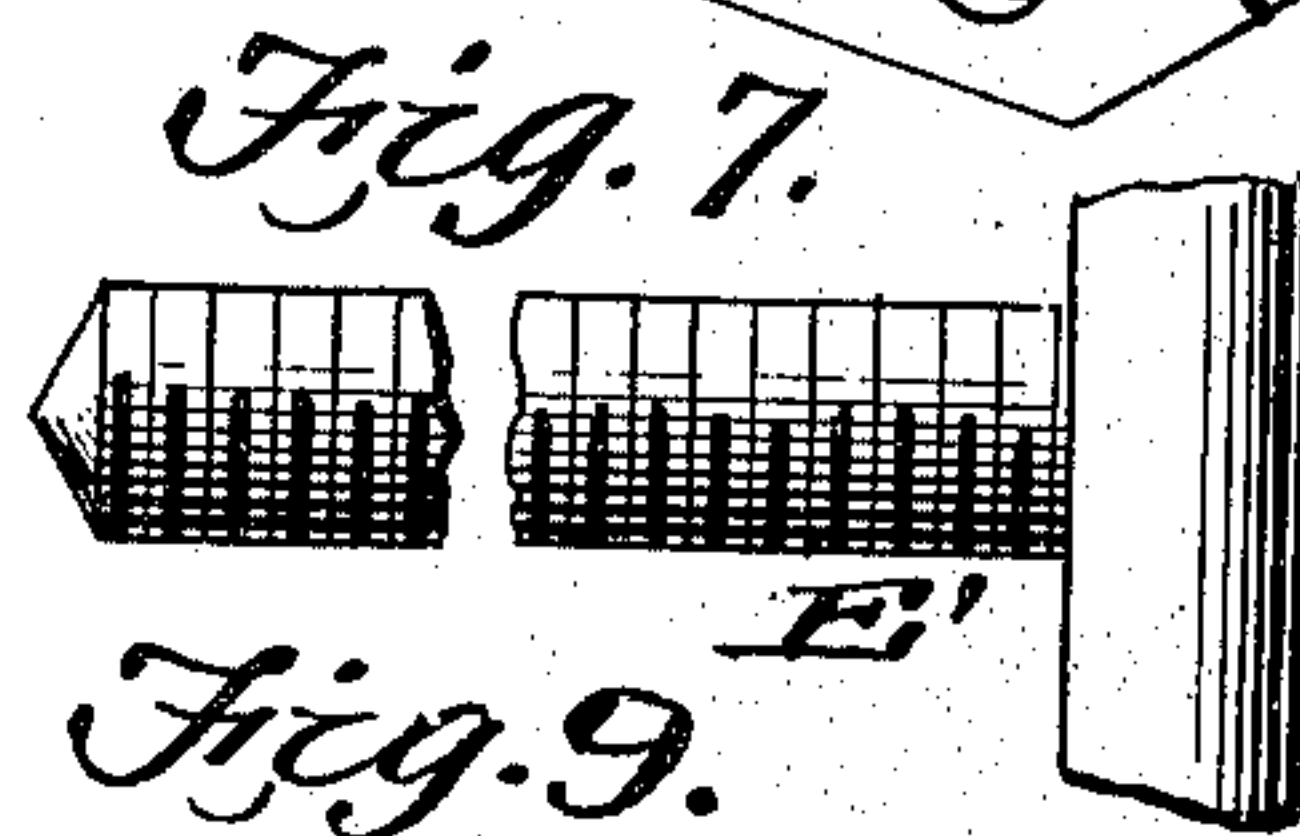
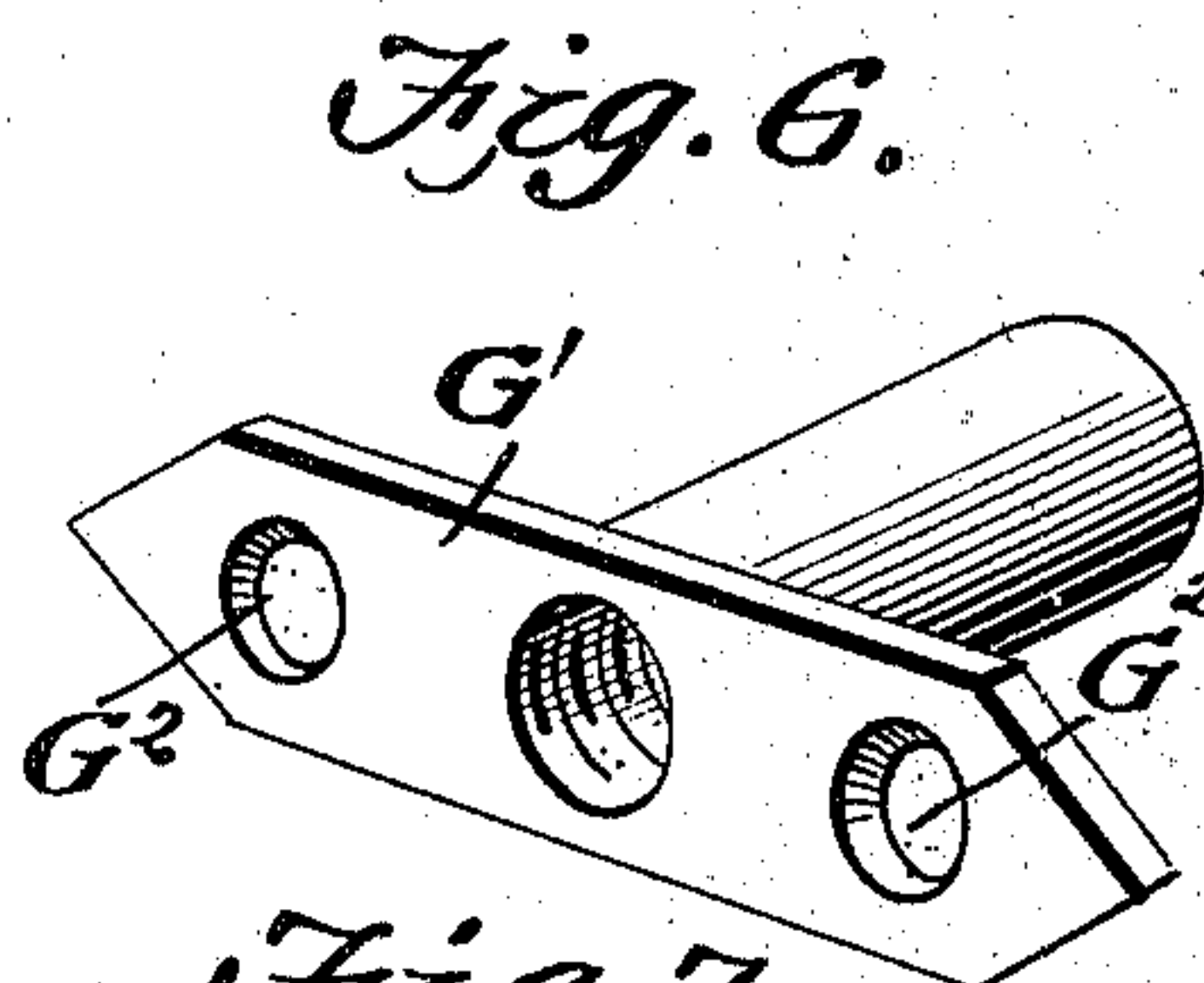
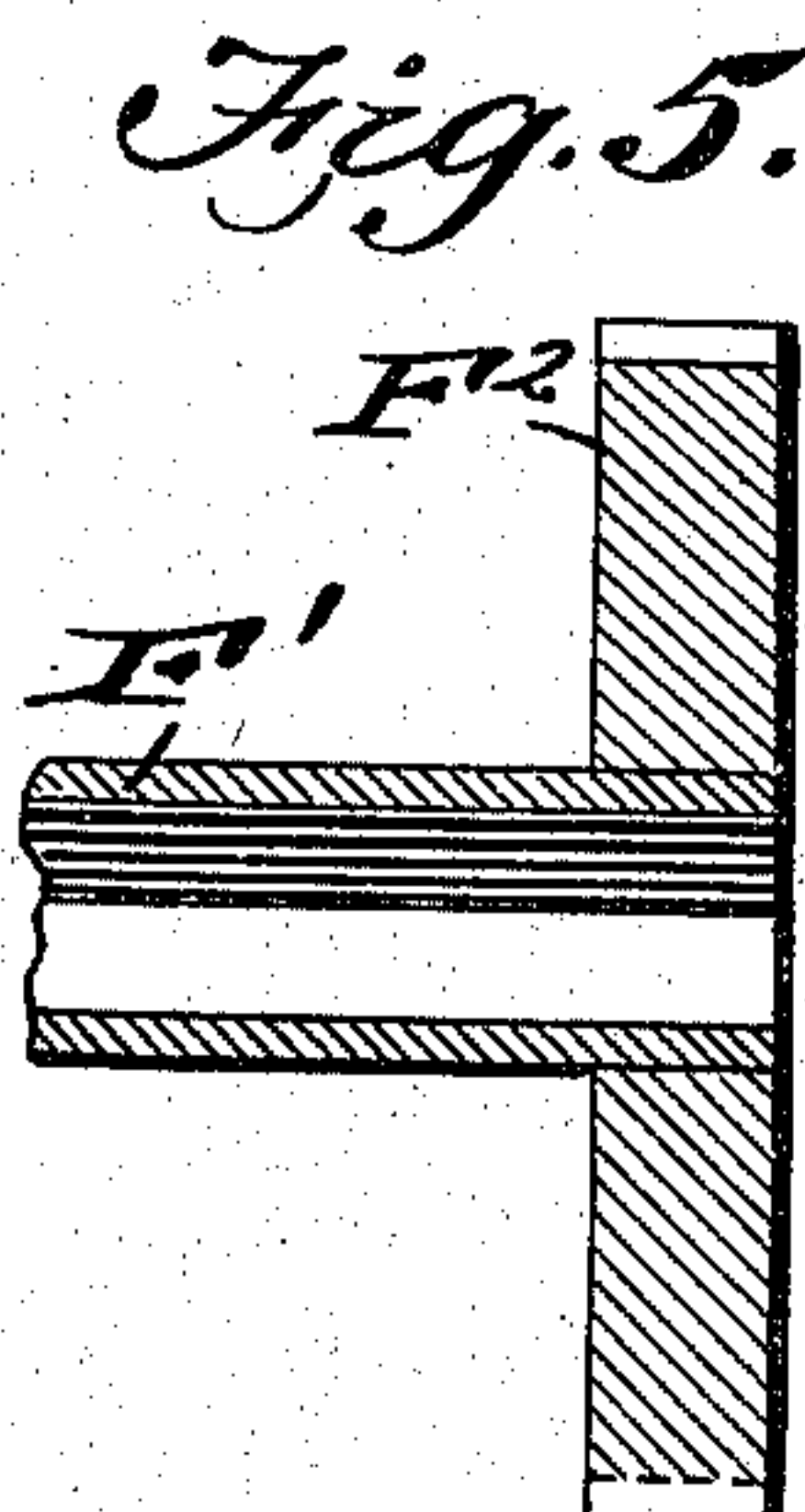
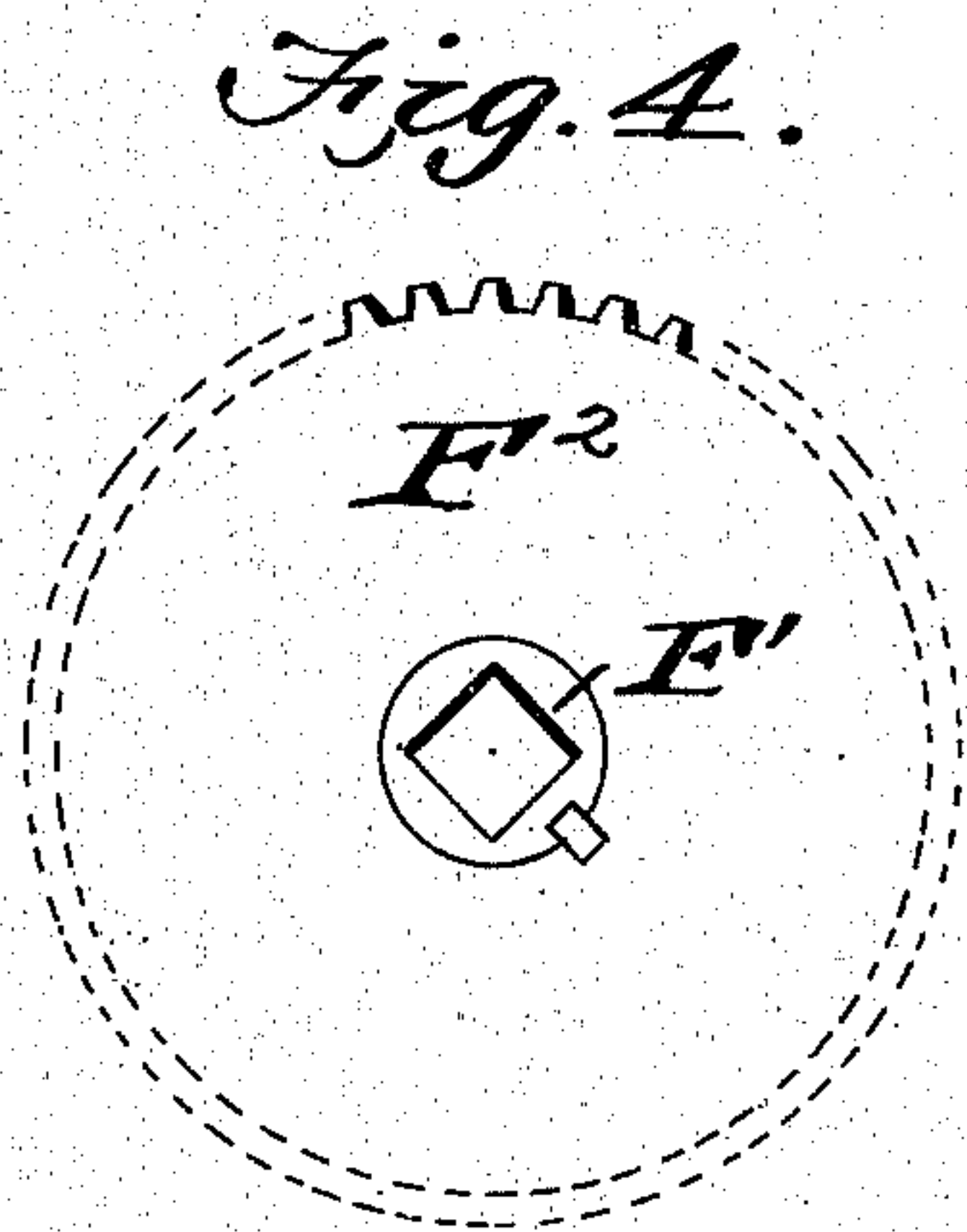
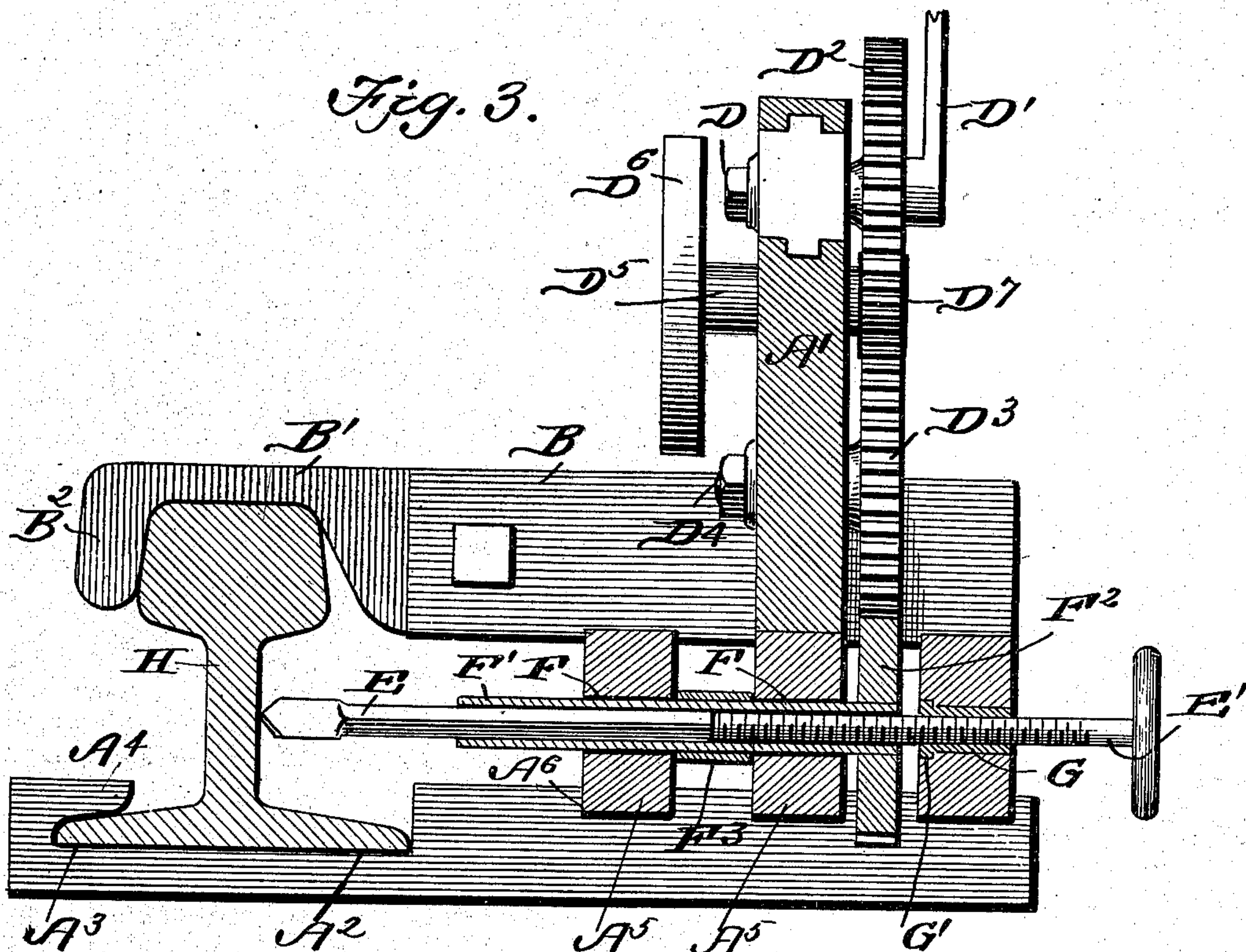
2 SHEETS—SHEET 1.



A. MAREK.
DRILLING MACHINE.
APPLICATION FILED AUG. 9, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

ALOIS MAREK, OF KALONA, IOWA.

DRILLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 736,284, dated August 11, 1903.

Application filed August 9, 1902. Serial No. 119,110. (No model.)

To all whom it may concern:

Be it known that I, ALOIS MAREK, a citizen of the United States, residing at Kalona, in the county of Washington and State of Iowa, have invented a new and useful Drilling-Machine, of which the following is a specification.

My invention relates to a drill especially adapted for use in railway construction and repair, but which can also be used for drilling rivet-holes in steel beams intended for use in the construction of houses and bridges.

One of the objects of my invention is to produce a portable drill light enough to be readily transported on a hand-car from place to place by a track gang, and another object is to produce a drill that can be placed on the track between the rails whereby the drilling can be done from the inside of the rail when it would be inconvenient to work from the outside—as, for example, on bridges—and still another object is to provide a drill which does not require clamping to the ground and which is simple in construction and operation.

In the drawings, Figure 1 is a perspective view of the drill and frame. Fig. 2 is an end view in elevation, partly in section and about on the line *x x* of Fig. 1. Fig. 3 is a side elevation, partly in section. Fig. 4 is a detail of the drill-carrying sleeve. Fig. 5 is a side sectional view taken through the center of Fig. 4. Fig. 6 is a perspective view of an interiorly-threaded sleeve, and Fig. 7 is a detail view of the feed-screw. Figs. 8, 9, and 10 are detail views of the drills.

A represents a suitable base-frame, and A' an upper frame carrying the drills and operating mechanism. The frame A comprises two rectangular beams, said beams being cut away near one end at A² and a recess A³ formed, which opens into the cut-away portion forming a rearwardly-projecting flange A⁴. The two beams being placed parallel to each other, blocks A⁵ are placed across them, the ends of these blocks resting in suitable sockets or grooves A⁶, formed on the beams A. Resting on these blocks and being positioned above and parallel to the ground-beams A are the beams B, terminating above the rear of the cut-away portion A² and having their forward ends bifurcated. Arms B' are pivoted between the bifurcated ends of the beams, each arm having a hook member B²

formed on its free end, said hook members resting above the flanges A⁴. Secured to the beams B by suitable bolts and nuts C is the casing A', which carries the gears. Centrally journaled in the upper part of the frame and projecting rearwardly from it is a stub-shaft D, carrying at its rear end a crank D', and intermediate the crank and the frame a gear D², meshing with a lower gear D³, mounted on a similar stub-shaft D⁴. At one side of the upper gear a shaft D⁵ passes through the frame, carrying on one end a fly-wheel D⁶ and on the opposite end the idler D⁷, meshing with the gear D². It is understood, of course, that these gears can be arranged and mounted in any suitable manner.

The drills E have shanks, either diamond-shaped or square in cross-section, and bearing against the inner ends of these drill-shanks are the feed-screws E', operating through a sleeve G. The drills may be pointed in any preferred manner. Bearings F are formed transversely through the forward blocks A⁵, the bearings in one block registering with those in the other, and in these bearings are secured the sleeves F', outwardly rounded but interiorly of a diamond or square shape to conform to the drill-shank. Rigidly mounted upon the rear end of the sleeves are the gears F², each meshing with the gear D³. A collar F³ surrounds the sleeve between the two forward blocks, serving both as a support for the sleeve and to brace the blocks. An interiorly-threaded sleeve G is non-revolubly secured in the rear blocks, said sleeves having at their inner ends an integral outwardly-turned flange G', which is horizontally elongated to form side arms, which are counter-sunk at G² to receive suitable bolts, and the block is suitably recessed, so that the arms will lie flush with the side of the block, as shown in Fig. 1.

In operation the frame A is placed adjacent the rail to be drilled, (indicated in Fig. 3 at H,) the part A² being passed under the rail between the cross-ties and the flange A⁴ engaging the upper surface of the base of the rail. The blocks are placed in position and the beams B placed thereon, the hooks B² engaging the tread of the rail. The frame D being bolted to the beams B is placed in position at the same time. The frame is now firmly held

against movement to or from the rail. The drills are then placed in the sleeve F', and the feed-screw E' being turned the drill is forced against the rail. The crank D' being
5 turned the sleeves F' rotate with the gears F² and impart rotatory movement to the drill, the point of which can be kept in contact with the rail by means of the feed-screw.

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

In a drilling-machine, the combination with base-beams shaped to engage the base of a rail and having sockets formed in their up-

per faces, of cross-blocks resting in said sock- 15
ets, upper beams having sockets formed in their lower faces, said upper beams resting on the cross-blocks and being bifurcated at their forward ends, arms pivoted between the bifurcated ends of the upper beams and hav- 20
ing hook members adapted to engage the tread of the rail, drills journaled in the cross-blocks, and means for actuating the drills.

ALOIS MAREK.

Witnesses:

CALVIN GRADY,
LEVI RANDEL.