

No. 658,447.

Patented Sept. 25, 1900.

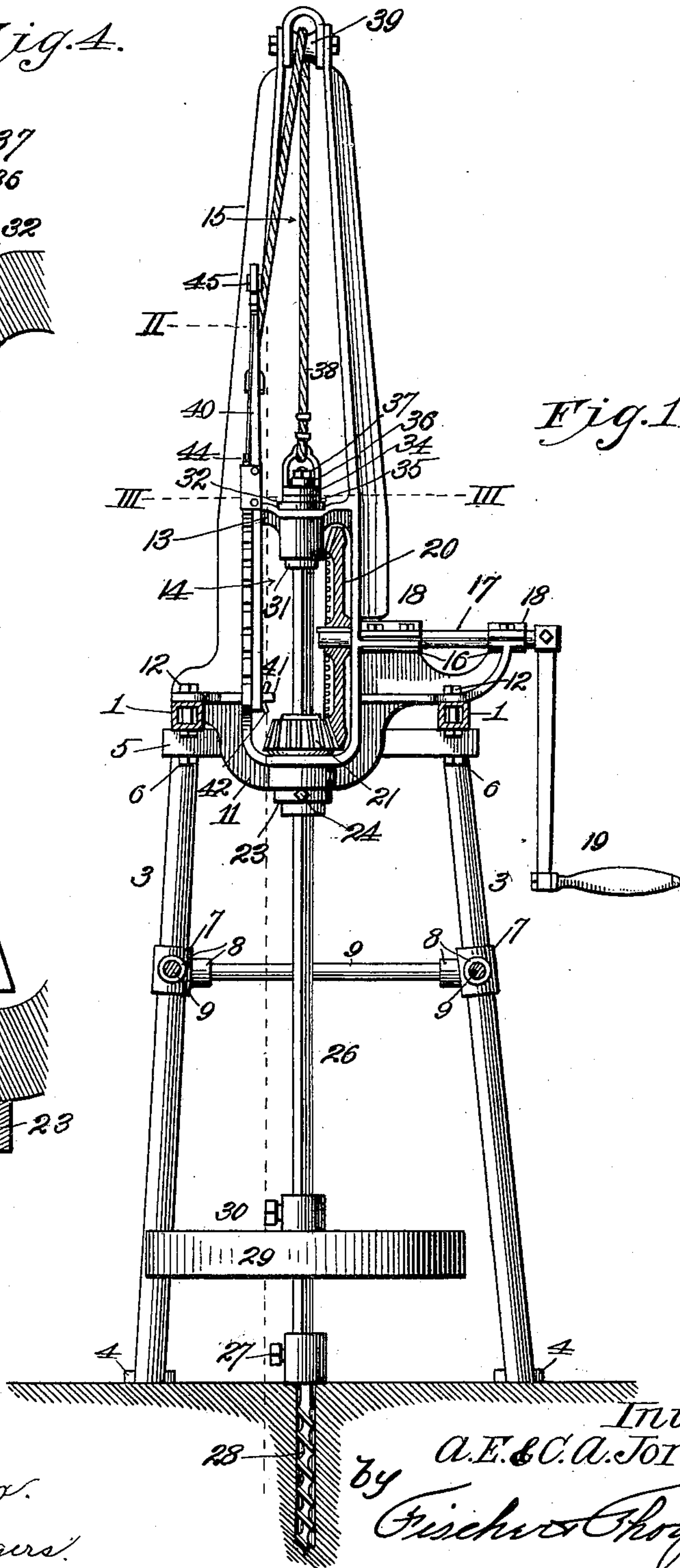
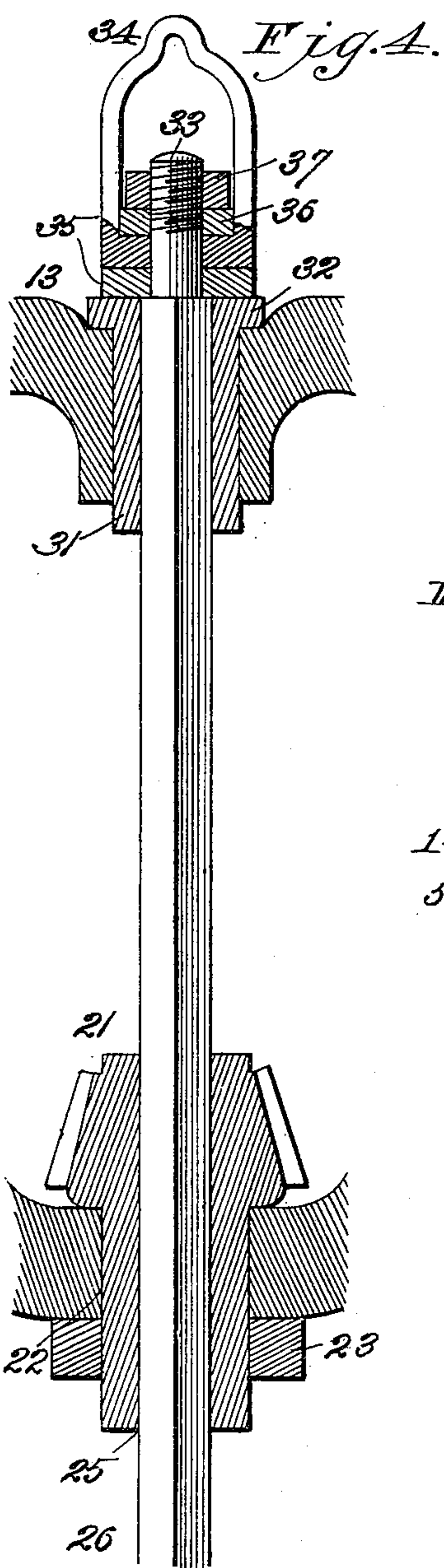
A. E. & C. A. JORDAN.

DRILLING MACHINE.

(Application filed June 15, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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Fig. 3.

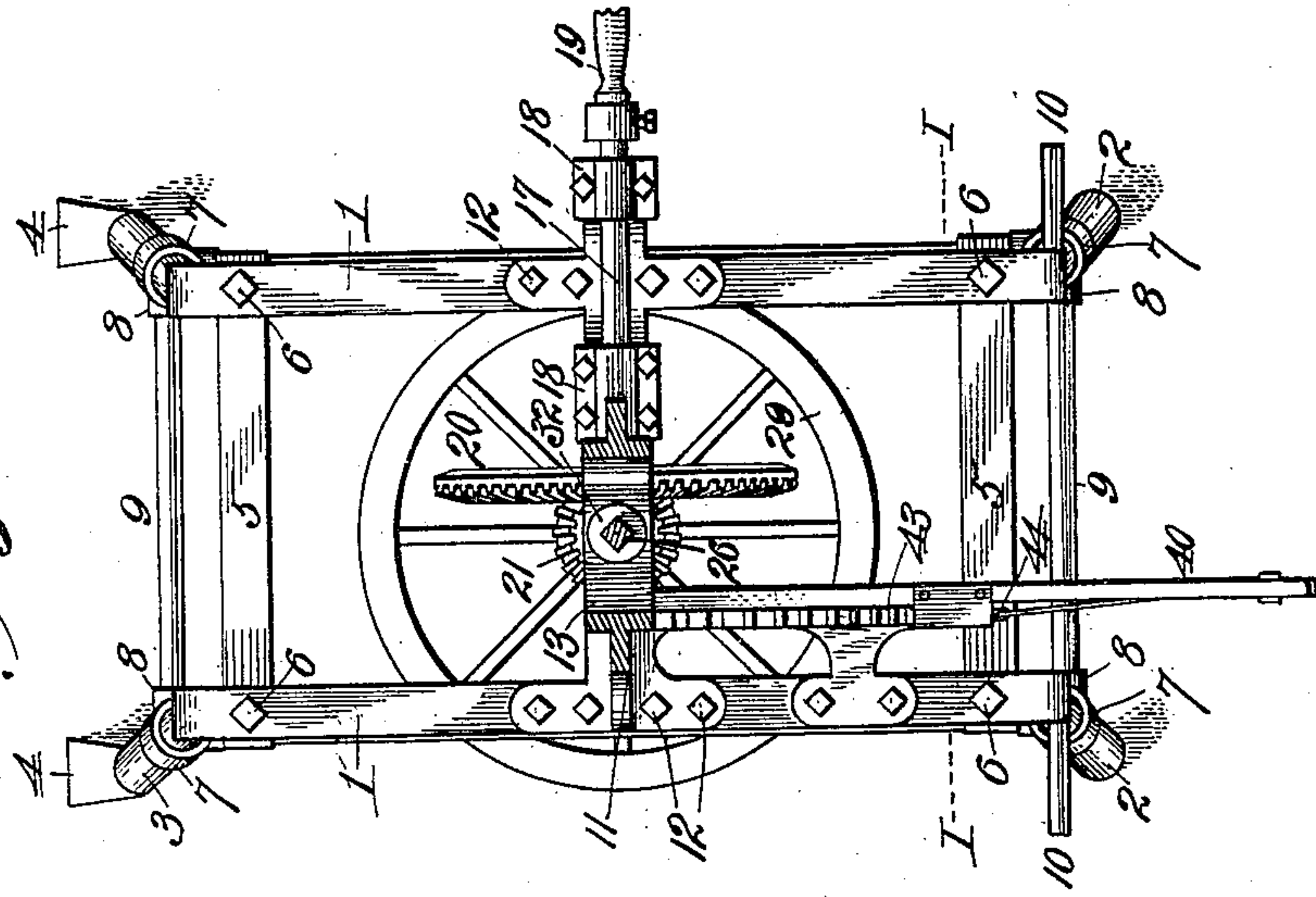
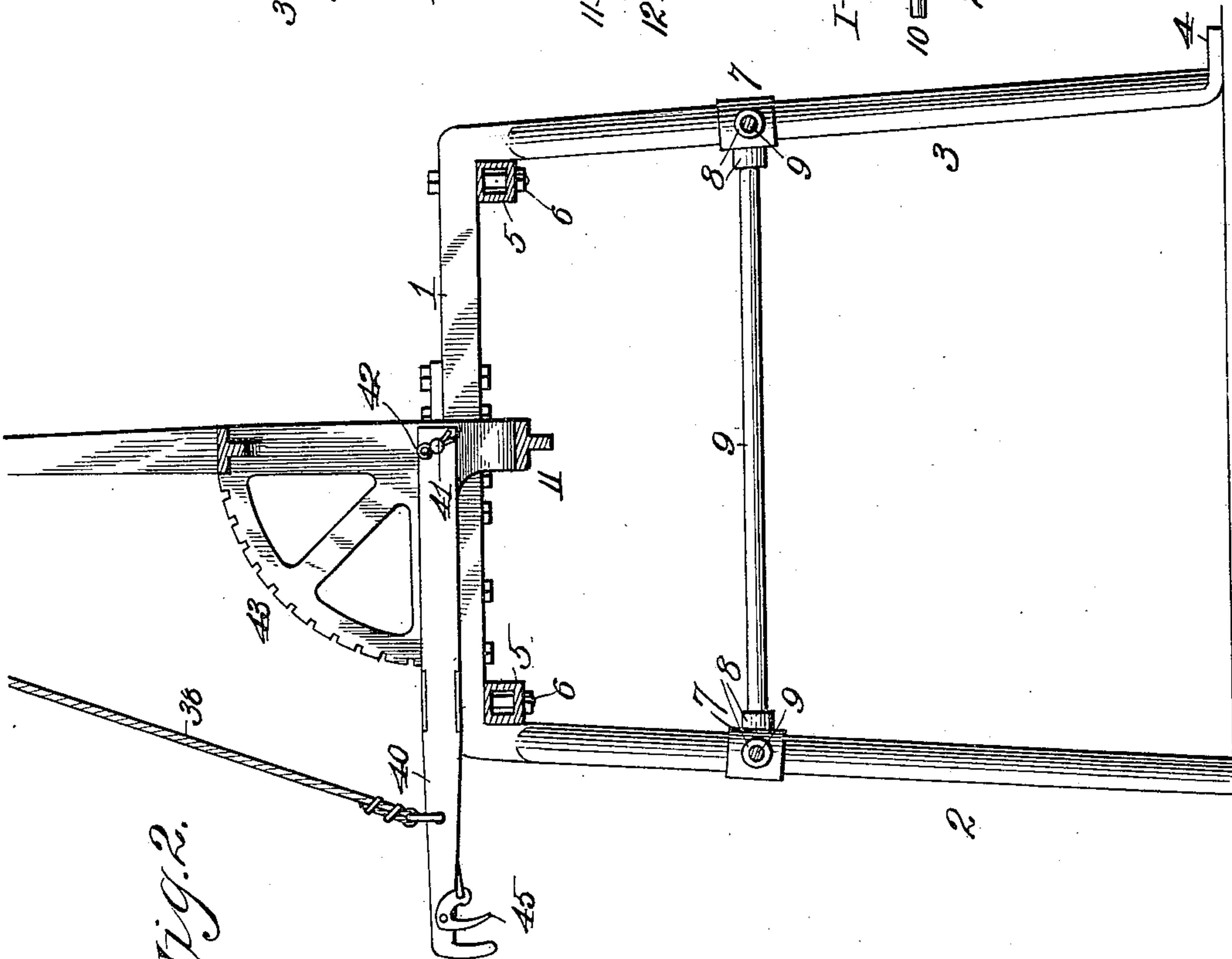


Fig. 2.



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UNITED STATES PATENT OFFICE.

AMZIE E. JORDAN AND CHARLES A. JORDAN, OF BUEL, KANSAS.

DRILLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 658,447, dated September 25, 1900.

Application filed June 15, 1900. Serial No. 20,410. (No model.)

To all whom it may concern:

Be it known that we, AMZIE E. JORDAN and CHARLES A. JORDAN, citizens of the United States, residing at Buel, Mitchell county, Kansas, have invented a new and useful Drilling-Machine, of which the following is a specification.

Our invention relates to drilling-machines; and our object is to produce a machine of this character which possesses the advantageous features of rapidity and accuracy in action, can be operated easily in stone, slate, or wood, may be easily shifted from one position to another, and is of simple, strong, durable, and comparatively-inexpensive construction.

To these ends the invention consists in certain novel and peculiar features of construction and combinations of parts, as hereinafter described and claimed, and in order that the invention may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a vertical section of a drilling-machine embodying our invention, taken on the line II of Fig. 3. Fig. 2 is a vertical section taken on the line II II of Fig. 1, but with the drill-raising lever depressed. Fig. 3 is a horizontal section taken on the line III III of Fig. 1. Fig. 4 is an enlarged vertical section taken through the center of the machine to disclose the bearing for the drill-rod and the swivel at the upper end of said rod.

In the said drawings, where like reference-numerals designate corresponding parts, the stand or frame of the machine comprises parallel bars 1, bent at suitable points to form the front legs 2 and the rear legs 3, said bars being preferably of hollow tubing, with the horizontal part square and the leg portions round, the lower ends of legs 3 being bent back, as indicated at 4, to provide runners, upon which the machine can be conveniently slid by raising the front legs from the ground and pulling the machine forward.

The bars 1 are secured in the desired parallel relation by means of tubular cross-braces 5, which fit in the angle formed by bending bars 1, and are bolted reliably in position, as shown at 6.

To brace the legs reliably, each carries a coupling, consisting of a sleeve 7, with pro-

jecting tubular arms 8, said arms receiving the ends of the rounds or brace-bars 9. As a convenient means for sliding the machine along on runners 4, it is provided at its front upper corners with the laterally-projecting arms 10, to be grasped by the men moving the machine.

A casting 11 bridges the frame or stand above described and is bolted, as at 12, upon bars 1. This casting is of considerable height and is divided by a cross-bar 13 into openings 14 and 15, the former below and the latter above said bar. At one side of opening 14 and about midway its length it is formed with bearings 16 for a horizontal shaft 17, the caps 18 for said bearings being of the customary type. Upon the outer end of said shaft is mounted a crank-handle 19, and upon its inner end, within opening 14 of the casting, is a large bevel-gear 20, meshing vertically below its axis with the small cog-wheel 21, seated upon casting 11 and journaled in the opening 22 thereof, being held reliably down upon the casting by means of a collar 23 and set-screw 24. Said cog-wheel is provided centrally with a rectangular bore or passage 25, through which slidably extends the square rod 26, and secured upon the lower end of said rod by set-screw 27 is a drill-bit 28. When boring wood, a wood-bit is used, the same being replaced, of course, by a suitable drill-bit when the drill is to be used for drilling stone or slate. Mounted upon rod 26, just above the drill-bit, is a balance or fly wheel 29, a set-screw being utilized to secure it at the desired point. This balance-wheel when once in operation relieves the operator of considerable labor and renders the drilling operation smooth and even. Upon the upper end of rod 26 and journaled in cross-bar 13 is a sleeve 31, flanged at its upper end to rest upon the cross-bar, as at 32, and swiveled upon the bolt extension 33 of rod 26 is a loop or washer 34, a washer 35 upon the bolt extension being interposed between said loop and the sleeve 31. Washer 36 is also interposed between the base of the loop and the clamping-nut 37 for securing the swivel in position, said nut engaging the upper end of the bolt extension, as shown most clearly in Fig. 4. By this arrangement it is obvious that the rod is free to rotate without turning the swivel around

with it. From the swivel a coupling extends upwardly and over a pulley 39, journaled at the upper end of opening 15 of the casting. The opposite end of said cable is attached to the lever 40, pivoted upon pin 41, projecting from the casting, a spring-cotter 42 or its equivalent being employed to secure the lever in position. A notched sector 43, cast with, as shown in Fig. 3, or secured to the casting 11, extends concentrically of pivot-pin 41 and is adapted to be engaged by the dog 44, carried by the lever, said dog being connected to a grip-lever 45, pivoted upon lever 40, whereby the operator can easily withdraw the dog from engagement with the sector, and then by raising the lever 40 lower the drill, or by lowering said lever raise the drill-bit out of the ground, the rod 26 sliding up or down through the wheel 21 and sleeve 31 without affecting the position of said parts.

In the practical operation of the machine after it is located as desired with the drill-bit resting on the ground the operator grasps handle 19 and turns it in the proper direction, which action, through the medium of large gear-wheel 20 and small cog-wheel 21, causes the rapid rotation of rod 26, and consequently the drill-bit, the balance-wheel acting to regulate the operation in a well-known manner. As the drilling operation is in progress the dog 44 can be retracted and the lever manipulated to lower the drill-bit, as will be readily understood.

From the above description it will be apparent that we have produced a drilling-machine embodying the features of advantage enumerated as desirable in the statement of invention, and while we have illustrated and described the preferred embodiment of the invention we reserve the right to make such changes in the form, proportion, detail construction, and arrangement of the parts as properly fall within its spirit and scope.

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

1. A drilling-machine, comprising a suitable frame and stand, a casting mounted

thereon and provided with a pulley at its upper end, a small cog-wheel journaled in said casting below said pulley, a sleeve journaled in said casting between and in alinement with said cog-wheel and said pulley, an angular rod extending non-rotatably but slidably in said cog-wheel and sleeve, a swivel journaled upon the upper end of said rod, a drill-bit secured upon its lower end, a balance-wheel secured upon said rod, a sector secured upon the casting, a lever provided with a dog to engage said sector, a handle to retract the dog, and a rod connecting the handle and the dog, a rope extending over said pulley and attached at one end to the lever and at its opposite end to the swivel, a shaft journaled in the frame and provided with a large gear-wheel engaging the small cog-wheel, and a handle mounted upon the outer end of said shaft, substantially as described.

2. A drilling-machine, comprising a frame or stand, consisting of bars bent to form parallel horizontal portions and depending or leg portions, and also bent to form runners at the lower ends of certain of said legs, rounds or braces connecting said legs, and cross-bars connecting the horizontal bars at their under side and junction with their depending portions, a casting mounted upon said horizontal bars, a sleeve and a small wheel journaled in said casting one above the other, a rod extending slidably through said wheel and sleeve and adapted to rotate with the same, a lever suitably mounted, a cable suitably guided and connected at one end to said lever and having a swivel connection at its opposite end with said rod, means to hold said lever at the desired point of adjustment, a drill-bit secured to the lower end of said rod, a shaft geared to said wheel, and means to rotate said shaft, substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

AMZIE E. JORDAN.

CHARLES A. JORDAN.

Witnesses:

JOHN CRAIG GRAHAM,
JAMES B. MCCAULEY.