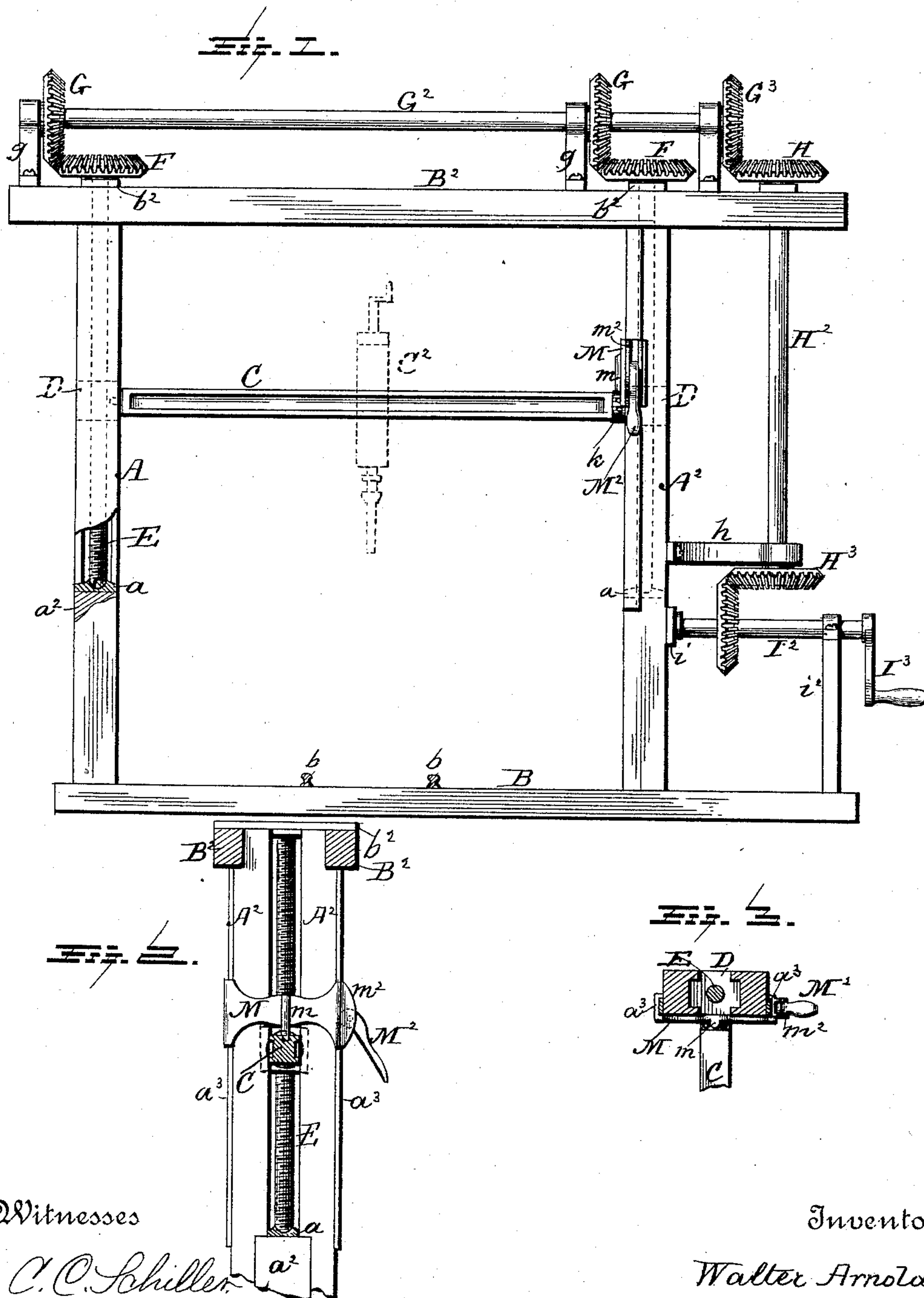


(No Model.)

W. ARNOLD.
ROCK DRILLING MACHINE.

No. 458,612.

Patented Sept. 1, 1891.



Witnesses

C.C. Schiller

J.J. Masson

Inventor

Walter Arnold,

By his Attorney

E.E. Masson

UNITED STATES PATENT OFFICE.

WALTER ARNOLD, OF SAUK RAPIDS, MINNESOTA.

ROCK-DRILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 458,612, dated September 1, 1891.

Application filed May 18, 1891. Serial No. 393,106. (No model.)

To all whom it may concern:

Be it known that I, WALTER ARNOLD, a citizen of the United States, residing at Sauk Rapids, in the county of Benton, State of Minnesota, have invented certain new and useful Improvements in Rock-Drilling Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in the frame of rock-drilling or rock-channeling machines.

The object of my invention is to construct a frame for carrying and operating drilling or channeling tools in a workshop, said frame being so constructed as to permit the passage of a stone-carrying truck therethrough. It is provided with a horizontal quarry-bar and peculiar means for retaining said bar adjustably connected to the frame, as hereinafter described.

In the accompanying drawings, Figure 1 is a front elevation of a rock-drilling machine constructed in accordance with my invention. Fig. 2 is a transverse vertical section through the quarry-bar and showing a portion of the posts constituting one end of the frame and the means for retaining the quarry-bar adjustably retained and clamped to said posts. Fig. 3 is a transverse horizontal section through the posts, showing a portion of the quarry-bar and its retaining device clamped to said posts.

In said drawings, A represents a pair of posts, and A² a similar pair of posts. Said pairs of posts are connected together at the bottom by a sill B, upon which truck-rails b are shown, and at the top by two beams B². At a suitable distance under said beams the quarry-bar C is adjustably retained and carries the drill-holder and operating mechanism C², which may be of any of the well-known kinds and do not constitute any part of the present invention. The ends of the quarry-bar C are journaled into boxes or blocks D, preferably in the form of a Maltese cross having two of its arms received in vertical grooves formed on the inner sides of the posts A and A². The blocks D have a central vertical perforation which is screw-tapped to receive screws E, that can be rotated to

raise or lower said blocks and the quarry-bar carried thereby. The upper portions of the screws are received in bearings b², secured to the beams B², and the lower ends of said screws are received in bearings a, resting on blocks a², located between the posts of each pair alongside their lower portion.

To rotate the screws, each one carries on its upper end a bevel-pinion F, with which bevel-pinions G are arranged to mesh. Said pinions G are mounted upon a shaft G², retained parallel with the beams B² by bearings g upon said beams. To permit the screws E to be rotated by a person standing on the floor supporting the machine, the shaft G² is also provided at one end with a bevel-pinion G³, and with the latter a bevel-pinion H is made to mesh. Said pinion H is mounted on the upper end of a vertical shaft H², having its upper end guided in a bearing mounted upon the beams B² and its lower portion guided in a bearing h, secured to the sides of the posts A². To the lower end of the shaft H² is secured a bevel-pinion H³, that is made to mesh with a bevel-pinion I upon a short horizontal shaft I², mounted in bearings i and i², and said shaft carries a hand-crank I³, by which it can be rotated.

The drill-holder C² is suitably secured to the quarry-bar C, and the latter can be rotated on its journals; but to retain it at any point of its rotation, with the drill pointing in any desired position, the bar C has at one end a cylindrical portion that is provided with a series of radial holes k, within the uppermost one of which a vertical finger m is made to enter. Said finger is secured to a yoke M, that extends across the face of both posts A² and has hooked ends to engage with flat metal bars a³, vertically secured to the sides of the posts A². To clamp the yoke to the posts, one of the hooked ends has two ribs m² projecting from its face, and through said ribs is passed a pivot-pin, that passes also centrally through the head of a handle M². The hooked end of the yoke has a slot between the two ribs m², so that the curved surface of the eccentric head of the handle M² can enter said slot and bear upon one of the bars a³ with more or less frictional pressure, according to the angle at which the handle is set.

Having now fully described my invention,
I claim—

The combination of the two pairs of posts
of a rock-drilling machine, the screw-tapped
5 blockstherein, and the screws passing through
them with the quarry-bar C, having radial
perforations in one end thereof, the yoke M,
embracing one of the pairs of posts and hav-
ing a finger *m* entering one of said radial per-
10 forations and one of the hooked ends pro-

vided with parallel ribs, and a handle eccen-
trically pivoted to said ribs, substantially as
described.

In testimony whereof I affix my signature in
presence of two witnesses.

WALTER ARNOLD.

Witnesses:

ANDREW C. ROBERTSON,
D. H. FREEMAN.