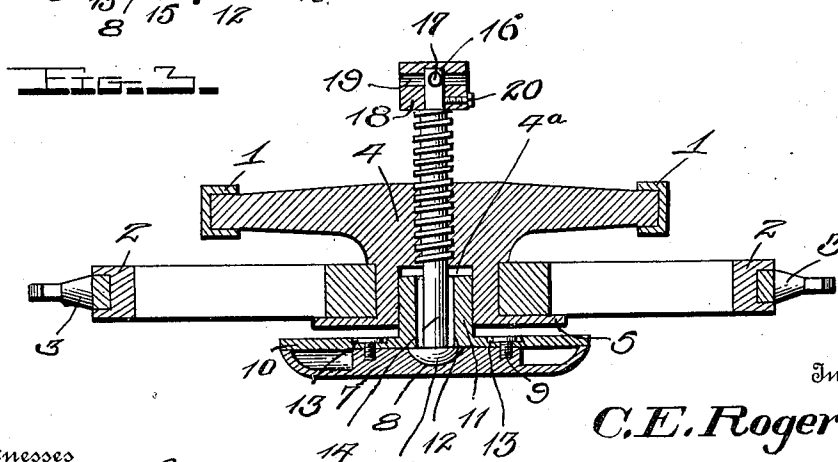
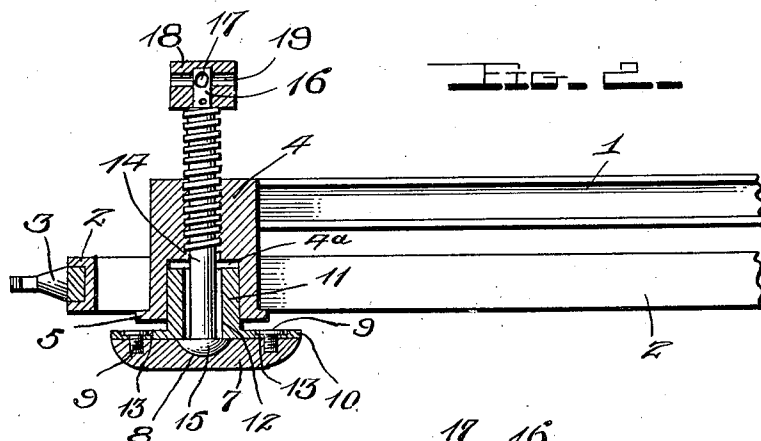


1,052,517.

A detailed technical drawing of a mechanical device, likely a specialized measuring or marking tool. The drawing includes a main horizontal body (1) with a series of circular features (2) along its length. A vertical assembly is mounted on the left side, featuring a spring (3), a handle (4), and a rotating component (5). A long, thin rod (6) extends from the vertical assembly, passing through a series of components (7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21) and terminating in a pointed tip. The drawing is labeled with numbers 1 through 21, indicating specific parts of the device.



Witnesses

Witnesses
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A. B. Norton.

डेप्यु

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UNITED STATES PATENT OFFICE.

CURTIS E. ROGERS, OF LOGAN, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO GEORGE ERNEST STUART, OF LOGAN, WEST VIRGINIA.

ADJUSTABLE SHOE FOR MINING-MACHINES.

1,052,517.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed April 25, 1912. Serial No. 693,230.

To all whom it may concern:

Be it known that I, CURTIS E. ROGERS, a citizen of the United States, residing at Logan, in the county of Logan and State

of West Virginia, have invented certain new and useful Improvements in Adjustable Shoes for Mining-Machines, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved device for attachment to mining machinery and particularly to a breast machine or undercutter whereby the same is readily adjusted vertically to compensate for irregularities in the floor of the chamber where operations are going on and also to vary the height from the floor at which the machine operates. Ordinarily such machines are provided with means for shifting the same on the floor laterally, and with a jack whereby the same is braced against the walls and roof of the chamber to hold the machine firmly in place upon the floor; and in order to adjust the same vertically to a firm bearing upon an uneven floor wedge platforms are resorted to at great inconvenience and with far from satisfactory results. By my invention, having these conditions and objects in view, I provide beneath the forward end of the frame a shoe adapted to find a secure footing on the uneven floor and provided with means whereby the frame itself may be supported upon said shoe for vertical adjustment in a very simple and efficacious manner.

The invention as hereinafter described in detail and particularly claimed will be readily understood from the accompanying illustrative drawing wherein is shown a preferred embodiment of the same.

In the drawing Figure 1 is a side elevation of the front portion of a breast mining machine embodying my invention; Fig. 2 is a central vertical section; and Fig. 3 is a transverse vertical section on the line 3—3 of Fig. 1.

In the drawings wherein similar reference numerals indicate corresponding parts throughout, 1 designates the upper portion of the frame of a mining machine of the undercutting type while 2 is the lower fixed frame of the machine upon which the cutters 3 are mounted to operate in any manner usual with machines of this type. The upper and lower frame portions of the ma-

chine are shown as connected by the bolster 4 flanged beneath at 5 whereby the frame members are securely assembled. The usual jack 6 is present for the purpose of bracing the machine in adjusted position.

Thus far described, the machine is of the ordinary construction and it is to be understood that this form of machine is here shown merely as illustrative of the application of my invention, which may be used in connection with other forms of mining machinery.

My invention resides especially in the means for adjusting the machine upon the floor of the chamber as stated, and to this end I employ a shoe adapted to be disposed beneath the forward end of the machine frame, which shoe comprises a lower disk 7 having a convex lower face and a preferably hollowed out upper face provided with a central recess 8. Upon the upper face of the disk is securely fastened by means of the bolts 9 a plate 10 having an upstanding angular stem 11 provided with a central bore 12 in alinement with the recess 8. The stem 11 is let into a correspondingly shaped opening 4^a in the bolster of the frame so as to be slidable therein longitudinally but non-rotatable. The heads of the bolts 9 may be housed within depressions 13 in the upper face of the plate 10.

Within the shoe, as thus described, is mounted the screw spindle 14 the head 15 of which is confined within the recess 8 of the disk 7 by the plate 10, while the smooth shank of the screw spindle 14 has a bearing within the bore 12 of the stem 11. The screw threaded portion of the spindle 14 extends from the bore of the stem 11 upward through the bolster 4 in threaded engagement with the interior threads with which said bolster is provided. The threads may be formed directly in the bolster if the latter is of metal as is usually the case or a threaded sleeve would be mounted within the bolster if the latter were of wood. The screw spindle extends a short distance above the bolster 4 and terminates in an angular, preferably square stud 16 provided with transverse perforations 17 disposed at right angles to each other in the same plane. This angular stud may be engaged directly by a wrench for the purpose of operating the spindle but preferably I surmount the end of the spindle by a cap 18 which has an

angular recess which receives the stud 16, the walls of the cap being provided with transverse apertures 19 likewise arranged at right angles one to the other and in the plane of the apertures in the stud 16 whereby to form through ways at right angles one to the other. The cap 18 is removably secured to the stud 16 by means of the bolt 20. Thus arranged, the spindle is adapted to be operated by means of an ordinary pinch bar 21 or, obviously a special operating bar may be provided.

By reason of the lower convex face of the shoe it will readily seat itself firmly in some depression in the uneven floor of the chamber and by the rotation of the screw spindle, having a threaded bearing in the frame, the frame itself will be elevated to any desired degree, the latter sliding vertically upon the angular stem 11, which latter together with the lower portion of the shoe is permitted to remain stationary by reason of the rotary bearing of the spindle head 15 in the recess 8. The frame with its cutting members having been brought to the proper adjustment the machine as a whole is braced in position for work by means of the ordinary jacks or other appliances which form no part of my invention and with the operation of which my invention in no wise interferes.

Having thus described the invention, I claim:

1. The combination with the frame of a mining machine, of a shoe comprising a disk formed in its upper face with a recess, a plate secured to the shoe and extending over the recess and formed with a stem having an axial bore in alinement with the recess, the frame including a bolster formed with a vertical threaded opening in alinement with the bore of the stem and with a downwardly facing recess in which the stem is mounted for a vertically sliding movement, and a screw spindle having a head confined within the recess between the disk and plate, said spindle extending upwardly through the bore of the stem and mounted in threaded engagement with the opening in the bolster.

2. The combination, with the frame of a mining machine, of a shoe arranged beneath the forward end of the same, said shoe comprising a lower disk having a convex lower face and its upper face provided with a central recess and an upper plate removably secured upon the lower disk over the recess and having an upstanding stem provided with an axial bore alined with the recess in the lower disk, the stem of the plate let into the frame for slidable movement relative thereto, the frame having a vertical threaded bore alined with the bore of the stem, and a screw spindle having a head confined within the recess between the disk and plate and extending through the bore of the stem into threaded engagement with the bore of the frame and to a point above the latter and terminating in a stud provided with means for turning the screw spindle.

3. The combination, with the frame of a mining machine, of a shoe arranged beneath the forward end of the same, said shoe comprising a lower disk having a convex lower face and substantially flat upper face provided with a central recess and an upper plate removably secured upon the lower disk over the recess and having an upstanding angular stem provided with an axial bore alined with the recess in the lower disk, the angular stem of the plate let into the bolster of the frame for slidable movement relative thereto, the bolster of the frame having a vertical threaded bore alined with the bore of the stem, a screw spindle having a head confined within the recess between the disk and plate and extending through the bore of the stem into threaded engagement with the bore of the bolster and to a point above the frame and terminating in an angularly transversely perforated stud, a transversely perforated cap disposed over the stud, and means to removably secure the cap on the stud.

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

CURTIS E. ROGERS.

Witnesses:

HAROLD H. OAKLEY,
G. E. STUART.