

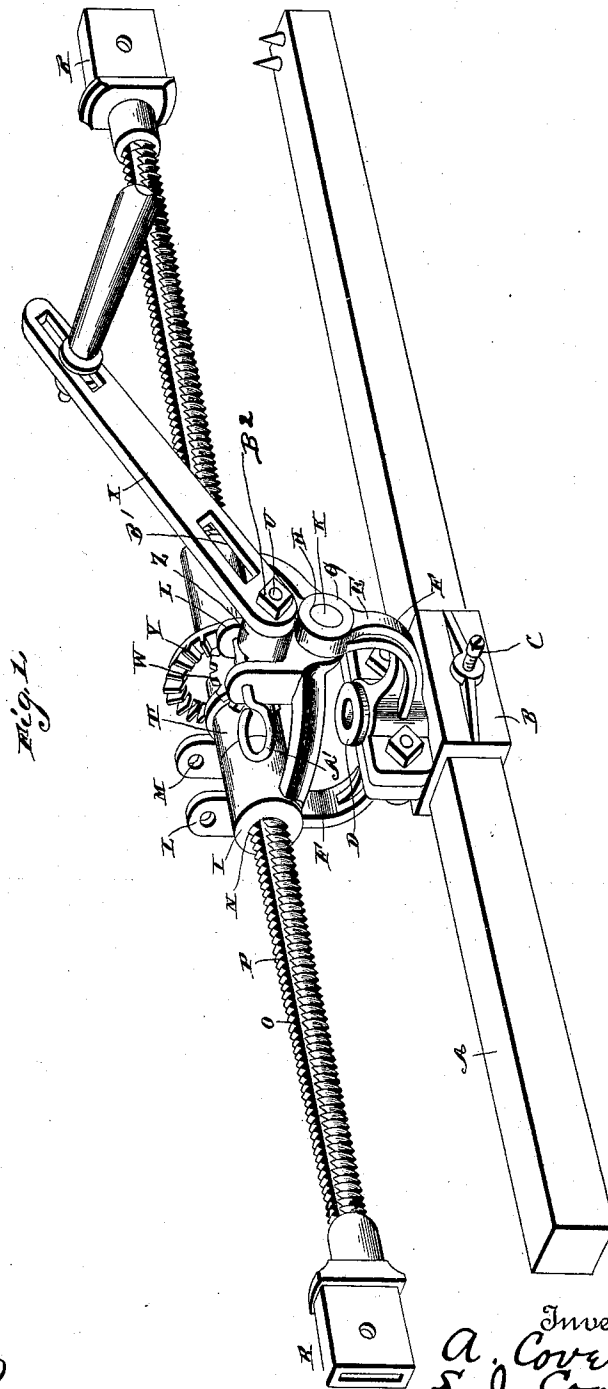
(No Model.)

A. & S. J. COVEY.
COAL DRILLING MACHINE.

2 Sheets—Sheet 1.

No. 375,262.

Patented Dec. 20, 1887.



Witnesses
C. S. Taylor
J. W. Garner

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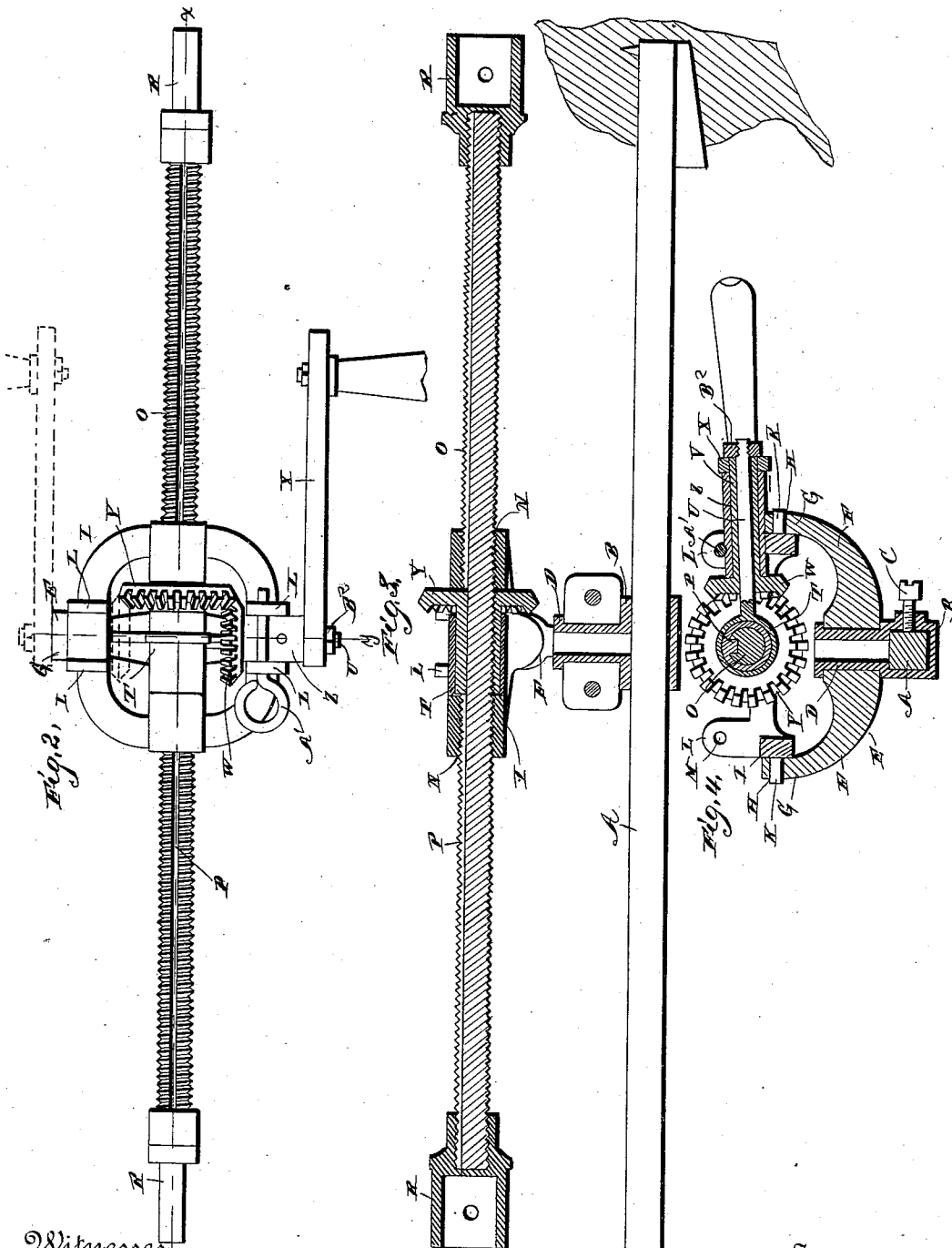
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UNITED STATES PATENT OFFICE.

AMAZIAH COVEY AND SAMUEL JAMES COVEY, OF SIGOURNEY, IOWA.

COAL-DRILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 375,262, dated December 20, 1887.

Application filed July 8, 1887. Serial No. 243,766. (No model.)

To all whom it may concern:

Be it known that we, AMAZIAH COVEY and SAMUEL JAMES COVEY, citizens of the United States, residing at Sigourney, in the county of Keokuk and State of Iowa, have invented a new and useful Improvement in Drilling-Machines, of which the following is a specification.

Our invention relates to an improvement in coal-drilling machines; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a drilling-machine embodying our improvements. Fig. 2 is a top plan view. Fig. 3 is a vertical longitudinal sectional view taken on the line *x x* of Fig. 2. Fig. 4 is a vertical transverse sectional view taken on the line *y y* of Fig. 2.

A represents a bar, which is rectangular in cross-section and is adapted to be driven in the bed of coal or other material to be drilled or mined. Spikes are provided to engage more firmly with the coal-bed.

B is a collar or sleeve, which fits on the said bar and is adapted to slide longitudinally thereon, and the said collar or sleeve is provided with a set-screw, C, by means of which it may be clamped at any desired longitudinal adjustment on the bar. From the upper side of the sleeve or collar B projects a vertical headed stud, D, on which is journaled a frame, E. The said frame comprises two sections, F, made of cast metal and bolted together on opposite sides of the stud D, and provided with outwardly-extending arms G, the ends of which are upturned and provided with transverse aligned openings H.

I represents a frame, which is provided with projecting trunnions K, journaled in the openings H. From the upper side of the frame, on the sides thereof projecting from the trunnions, extend two pairs of vertical ears, L, that are provided with aligned openings M. The sides of the frame intermediate between the pairs of ears are provided with screw-threaded collars N, which align with each other and are arranged at right angles to the axes of the trunnions.

O represents a screw, which extends through and works in the collars N in the frame I. The said screw is provided with a longitudinal groove, P, and on the ends of the screw are secured heads or sockets R, which are removable from the screw and are adapted to receive the inner ends of boring bits or drills.

T represents a cylindrical sleeve, which is slipped over that portion of the screw between the openings M. From one side of the sleeve T projects a spindle, U, which is arranged at right angles with relation to the sleeve and has its outer end reduced and provided with screw-threads.

V represents a sleeve, which slips over the spindle U and is adapted to rotate freely thereon, and to the inner end of the said sleeve is attached a miter gear-wheel, W. Said wheel may be formed integrally with the said sleeve. The outer end of the sleeve is squared and adapted to fit a detachable crank-handle, X.

Y represents a miter gear-wheel, which is arranged on the screw between the opposing ends of the sleeve T and one of the openings N. This gear-wheel is feathered or splined on the screw and is engaged by the wheel W, as shown.

Z represents a hollow box, which is fitted on the sleeve V and in which the latter rotates, and the opposite sides of the said box are flattened and thereby adapt the box to fit between either pair of ears L. A pin, A', is adapted to pass through the transverse openings of the upper ends of the ears and over the block Z to secure the latter in position.

The crank X is provided with an opening, B', of a suitable size and shape to adapt it to be fitted onto one of the heads or sockets R, and thereby permit the screw to be turned directly by means of the said crank when in confined spaces in which there is not sufficient room to attach the crank to the ends of the sleeve V. By this arrangement, also, the drill can be attached to either head R and drill from either end.

By providing the frame I with the pairs of ears L on opposite sides thereof, and by pivoting the sleeve T on the screw, the spindle, the sleeve V, and the box Z may be swung to one side of the frame, and thereby enable the crank to be attached to either side of the same,

and consequently permit the boring-tool to be operated from either side of the screw. When the crank-handle is attached to the outer end of the sleeve V, a nut, B², is screwed onto the threaded end of the spindle U and caused to bear against the outer side of the crank, and thereby clamp the latter in position on the sleeve.

Having thus described our invention, we claim—

1. The combination, in a drilling-machine, of the frame I, having the aligned threaded openings N on opposite side, the screw-shaft O, passing through and engaging said openings, the miter-wheel G, feathered to said screw-shaft, the sleeve T, journaled loosely on the said screw-shaft and having the spindle U, the sleeve V, journaled on said spindle, and the miter-pinion W, attached to said sleeve and meshing with wheel G, substantially as described.

2. The combination, in a drilling-machine, of the frame I, having the aligned threaded openings N, and the pairs of ears L on opposite sides and arranged at right angles to the openings N, the screw-shaft O, extending through and engaging said openings, the wheel Y, feathered to said screw-shaft, the sleeve T, journaled loosely on said screw-shaft and having the spindle U projecting at right angles, the sleeve V, journaled on said spindle, the miter-pinion W, attached to said sleeve and meshing with wheel Y, and the box Z, in which the sleeve V rotates and adapted to be fitted between either pair of ears, for the purpose set forth, substantially as described.

3. The combination, in a drilling-machine, of the sleeve or collar B, longitudinally movable on the draft-bar, the said collar having the headed stud D, the frame E, journaled on the said stud and comprising the two sections F, bolted together and provided with the outwardly-extending arms G, the frame I, having the trunnions journaled in openings in the ends of the said arms, the screw-shaft, and the operating-shaft secured to the said frame and geared together, substantially as described.

4. The combination, in a drilling-machine, of the sleeve or collar B, the frame E, swiveled thereto, the frame I, journaled to frame E and having the ears L on opposite sides and threaded collars N at right angles to the said ears, the screw-shaft O, engaging the said openings and extending through the frame I, the sleeve T, loosely mounted on the said screw-shaft and having the spindle U projecting from one side thereof, the miter-wheel Y, feathered or splined to the screw-shaft and arranged between one end of the sleeve T and the opposing end of one of the openings N, the sleeve V, journaled on the spindle U and having the pinion adapted to engage the wheel Y, the outer end of the sleeve being adapted for the attachment of the crank, and the box Z, arranged on the sleeve V and in which the latter is journaled, said box being adapted to en-

ter the spaces between either pair of the ears L, substantially as described.

5. In combination with the shaft O, connecting with the augers or bits, the gear Y, mounted on the shaft O, the sleeve T, encircling the shaft O and turning thereon on one side of the gear Y, the shaft U, projecting from the sleeve T, the sleeve V, fitted on the shaft U and carrying gear W to mesh with the gear Y, and the handle connecting with the sleeve V, for operating the same, and thereby turning the gear W, the said gear W, sleeve V, and handle being capable of reversal from one side of the machine to the other through the sleeve T, turning on the screw-shaft O, and locking devices to hold the parts in either of their adjusted positions, as set forth.

6. The combination, in a drilling-machine, of the frame I, having the aligned threaded openings, and the pairs of ears L at right angles to the said openings, the screw-shaft O, engaging the threaded openings, the miter gear-wheel Y, feathered on said shaft, the box Z, adapted to be secured between either pair of ears L, and the miter gear-pinion W, having its sleeve or shaft journaled in the box and adapted for the attachment of a crank, as set forth.

7. In a drilling-machine, the combination of the draft-bar A, the collar or sleeve B, movable longitudinally on the said draft-bar and having the headed stud D on the upper portion thereof, the frame E, comprising the two arm-sections F, mounted on said stud D, the frame I, having the trunnions K, engaging with the upper portion of the arm-sections F and comprising the aligned screw-threaded collars N and the vertical bars L, the screw-shaft O, having the groove P and extending through said collars N, the miter-wheel Y, feathered to the said screw-shaft O, the sleeve T, the spindle U, having the sleeve V and the box Z, and the miter-wheel W, mounted on its inner portion and engaging with miter-wheel Y, the pin A', and the crank-handle X, having the elongated slot B', adapted to be attached to the outer end of the spindle U and to either end of the screw-shaft O, substantially as described.

8. The combination, with the frames E and I, the latter having ears L, of the shaft O, the gearing Y therefor, the gear W, for working the gearing Y on the shaft O, the spindle U, on which said gear W is mounted, and which is swiveled to the shaft O at right angles thereto by the collar T, so as to allow a reversal from one side to the other, and the handle connected to the gear W to turn the same in its movements, the sleeve V and box Z, mounted on said spindle, and the removable pin A', passing through the ears L of the frame I, to hold the spindle U in its adjusted position, substantially as described.

9. In a drilling-machine, the supporting-bar A and the sleeve or collar B, having the stud D and movable on said bar, in combination

with the frame E, having arm-sections F jour-
naled to the stud D on the sleeve B, whereby
said frame may be moved longitudinally or
laterally, and the frame I, trunnioned in the
5 frame E and carrying the collars N, the screw-
shaft O, and the gears W and Y, said frame I
allowing a vertical adjustment of the auger or
bit, substantially as described.

In testimony that we claim the foregoing as
our own we have hereto affixed our signatures to
in presence of two witnesses.

AMAZIAH COVEY.

SAMUEL JAMES COVEY.

Witnesses:

S. HAND,

W. H. KLINE.