

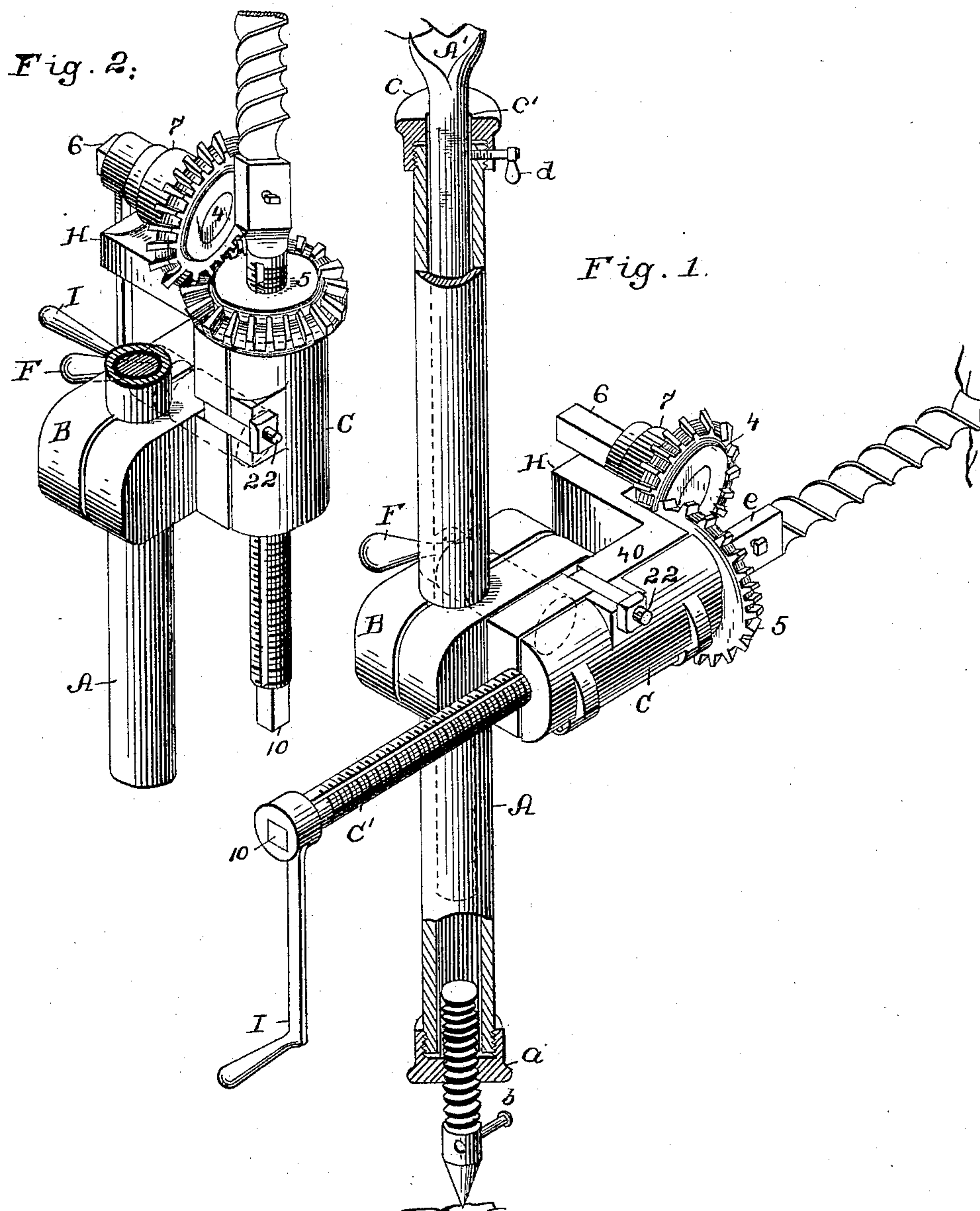
(No Model.)

2 Sheets—Sheet 1.

C. O. SUMNER & J. J. PULLEN.
COAL DRILLING MACHINE.

No. 398,289.

Patented Feb. 19, 1889.



WITNESSES:

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A. Mason

INVENTORS,

C. O. Sumner
and J. J. Pullen

By J. A. Higdon
ATTORNEY.

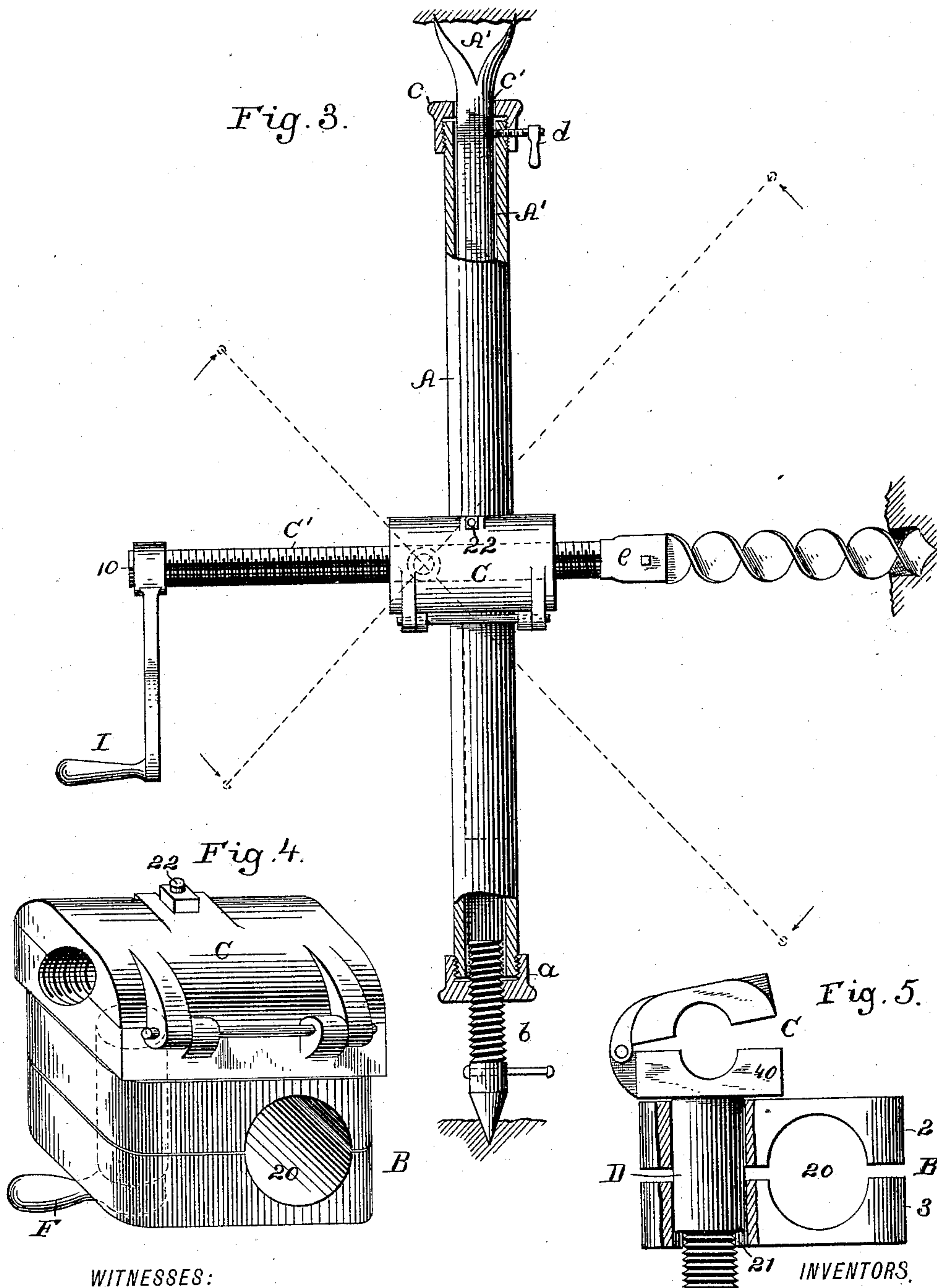
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UNITED STATES PATENT OFFICE.

CHARLES O. SUMNER AND JABEZ J. PULLEN, OF SCAMMONVILLE, KANSAS.

COAL-DRILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 398,289, dated February 19, 1889.

Application filed April 2, 1888. Serial No. 269,334. (No model.)

To all whom it may concern:

Be it known that we, CHARLES O. SUMNER and JABEZ J. PULLEN, of Scammonville, Cherokee county, Kansas, have invented certain new and useful Improvements in Coal-Drilling Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to portable machines having an extensible standard; and it may be said to consist in the peculiar construction, combination, and arrangement of devices hereinafter set forth, and pointed out in the claims.

The object of the invention is to provide a light and serviceable machine of this class having a single post or standard, and which can be worked in any height of coal.

In the drawings which illustrate the manner of carrying out our invention, Figure 1 is a perspective view, partly in section, showing the machine in position for operation. Fig. 2 is a broken perspective view illustrating the different positions in which the feed-box may be located with respect to the supporting-standard. Fig. 3 is a side view of the machine in a slightly-modified form. Fig. 4 is a detail perspective view of a clamp and feed-box used in making up the invention, the same being detached from the standard; and Fig. 5 is a detail view illustrating the construction of these last-named parts.

A indicates the standard, which is constructed of tubing or gas-pipe and made extensible for different heights of coal by means of an extension-rod, A'.

The rod A' is provided with a fish-tail at its upper end, while its body is adapted to slide loosely within the hollow standard A and be clamped in any desired position therein by means of set-screw d, which latter passes through said standard and engages said bar.

The upper end of standard A is provided with a perforated cap, c, the extension-rod A' working through a perforation, c', in said cap. The opposite end of the standard is also provided with a cap, a, through which jack-screw b is threaded for the purpose of holding standard in any desired position in the coal.

B is a clamp composed of opposite jaws, 2

and 3, which engage the standard on opposite sides, and through which loosely passes the clamping wrist-bolt D, which latter carries the feed-box C on one end, its opposite end being threaded and provided with hand-nut F. It will thus be observed that the clamp B is provided with a vertical passage, 20, for the standard A, and also with a horizontal passage, 21, located at right angles to the first-named passage. It will also be observed that the standard A, the clamp D, and the feed-box C form the frame-work of the machine. The box C is in two parts, hinged together and fastened by latch-bolt 22, so that the drill-stock C' may be quickly removed therefrom whenever required, said drill-stock being threaded to engage the said feed-box in the usual way. The portion 40 of box C, to which the wrist-bolt D is attached, is provided with a lateral extension, H, and a short shaft, 6, carrying bevel-wheel 4 at its inner end, is mounted in a suitable bearing, 7, on said extension. Another bevel-wheel, 5, is feathered to the screw-threaded drill-stock C', so as to mesh with the wheel 4 and be driven thereby when crank I is placed on squared end of shaft 6. One end of drill-stock C' is provided with drill-socket e, for the reception of the drill, while its other end is provided with a squared portion, 10, for the reception of crank I.

With this construction it is obvious that the clamp B, carrying the drilling mechanism, can be moved up or down and turned upon the standard and located in any desired adjustment, and that the box C, carrying the drill-stock, can be secured upon said clamp at any desired angle, thus making it possible to drill holes at any angle with relation to the standard, as clearly indicated in the several figures. By loosening the hand-nut F the clamp B is loosened on standard A, and at the same time the feed-box C is loosened on said clamp, loosening a single nut, thus accomplishing both purposes and permitting the entire drilling mechanism to be moved up and down upon the standard or turned at any angle.

The operation of this construction is as follows: By placing the crank on shaft 6 the bevel-wheel 4 will cause wheel 5 to turn, together with the drill-stock C'. Where there is plenty of room, the crank I is placed di-

rectly on the squared end 10 of said drill-stock, driving said stock direct without the intervention of the gearing.

As a modification of our invention, we may dispense with the gear attachment illustrated in Figs. 1 and 2 and simply use the means shown in Figs. 3, 4, and 5, in which latter case the hand-crank is directly attached to the drill-stock, as before stated, and the feed-box C is devoid of extension H.

In practice it is desirable to have a feed-box of both patterns close at hand, so that one may be quickly substituted for the other when required, the feed-box without the extension H being used where there is plenty of room and the one with extension being used in close quarters.

The operation of setting the machine at work is as follows: The extension A' is drawn out sufficiently far to suit the height of coal and locked at the desired adjustment by means of set-screw *d*, after which, by manipulating jack-screw *b*, the machine is securely held in position for operation.

Having thus described our invention, what we claim is—

1. In a drilling-machine, the internally-threaded feed-box attached to the externally-threaded wrist-bolt D, in combination with separated jaws 2 and 3, which are provided with passages 20 and 21, said passage 21 being located at right angles to the first-named passage, hand-nut F, which is located on said threaded wrist-bolt, and a suitable standard, substantially as specified.

2. In a drilling-machine, the combination of the two-part internally-threaded feed-box, one part of said box being provided with lateral extension H, which is formed integral therewith, shaft 6, mounted in a suitable bearing carried by said extension, bevel-wheel 4, mounted on the inner end of this shaft, the drill-stock, bevel-wheel 5, feathered on said drill-stock to mesh with wheel 4, externally-threaded wrist-bolt D, separate jaws 2 and 3, provided with passages 20 and 21, the passage 21 being located at right angles to the first-named passage, hand-nut F, located on said threaded wrist-bolt, a suitable standard, and a hand-crank, substantially as specified.

3. In a coal-drilling machine, the tubular standard A, constructed of piping and screw-threaded at opposite ends, in combination with perforated caps *a* and *c*, which are internally threaded and located on the threaded ends of said standard, extension-rod A', located in perforation *c'* in cap *c* and provided with a fish-tail at its outer end, set-screw *d*, which is threaded through said standard and engages said bar, and jack-screw *b*, located in the perforation of cap *a*, substantially as specified.

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

CHARLES O. SUMNER.
JABEZ J. PULLEN.

Witnesses:

HENRY G. TRIPP,
W. S. ANDERSON.