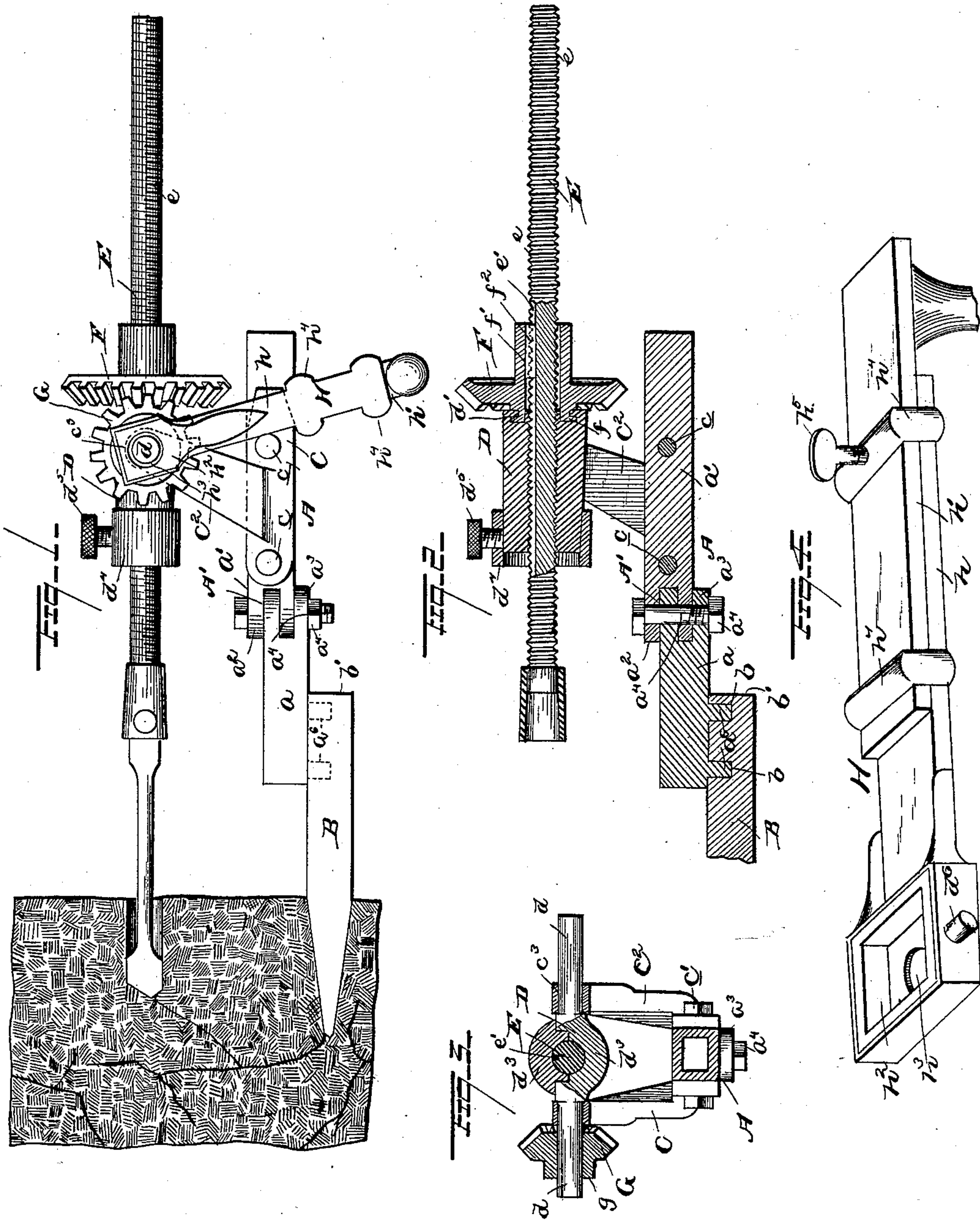


(No Model.)

S. JONES.
COAL DRILLING MACHINE.

No. 358,202.

Patented Feb. 22, 1887.



Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL JONES, OF WHAT CHEER, IOWA.

COAL-DRILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 358,202, dated February 22, 1887.

Application filed July 28, 1886. Serial No. 209,325. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL JONES, a citizen of the United States, residing at What Cheer, in the county of Keokuk and State of Iowa, have invented a new and useful Improvement in Coal-Drilling Machines, of which the following is a specification.

My invention relates to machines for drilling coal and other mineral deposits for the purpose of blasting; and the object of my invention is to improve the construction of the drilling-machine shown and described in Letters Patent No. 341,013, granted to me May 4, 1886.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved drilling-machine. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a transverse section, and Fig. 4 is a detail view of the handle.

In the said drawings, A designates the grip, which is composed of two bars, a a' , said bars being bifurcated at their upper and lower ends, respectively, as shown at a^2 a^3 , and articulated at said ends, so as to form a hinged joint. A bolt, a^4 , passing laterally through the bifurcated ends of said bars and secured by a nut, a^5 , forms the pintle on which the joint turns. The lower end of the bar a is provided with two studs, a^6 , projecting from the outer side of the said bar, which enter corresponding sockets, b , in a wedge, B, the upper end of said wedge being formed flat, as shown at b' , to receive the blows of a sledge-hammer, by means of which the wedge is driven into the mass of coal.

The upper end of bar a' is embraced at opposite sides by two plates, C, which are secured to the arm by two bolts, c , passing laterally through the arm a' and the ends of said plates, and secured by nuts c' , as shown. Each of the plates C is formed with an integral arm or bracket, c^2 , which extends obliquely upward from said plate, and has an eye, c^3 , formed in its outer end to receive one of the two trun-

nions d of a boxing, D. The said boxing D is tubular or cylindrical in form and has a slight downward taper, the interior thereof being screw-threaded, to correspond with the external thread, e , of the drill-rod E, as shown. In the upper end of the boxing D is formed an annular internal groove or recess, d' , which receives a flange, f , on the hub of a beveled gear-wheel, F, as shown. This boxing D is divided longitudinally into half-sections d^2 d^3 , the former having the trunnions d , and these two sections are bound together at their lower ends by a ring, d^4 , carrying a set-screw, d^5 , so that the boxing properly surrounds the drill-rod E and the flange-hub or gear-wheel F. The upper part of the hub f of gear-wheel F is formed with an internal longitudinal spine, f' , to receive a key or feather, f^2 , which also enters an elongated longitudinal spine, e' , in the side of said rod.

G designates a beveled gear-pinion, which is placed upon one of the trunnions d outside of the corresponding arm or bracket, c^2 , and the teeth of which mesh with those of the beveled gear-wheel F. This pinion has a square or angular hub, g , which is embraced by the lower end of an operating-lever, H, a pin, d^6 , passing through the end of trunnion d and preventing the accidental displacement of the pinion and the lever, as shown.

The lever is composed of two sections, h h' , the section h having at one end a square or angular socket, h^2 , and hole h^3 , to receive the square or angular hub g of pinion G and the outer end of trunnion d , respectively. At its outer end the section h carries two loops, h^4 , the outer one of which is provided with a set-screw, h^5 , as shown. The section h' is slid more or less within the loops h^5 , so that the length of the lever is varied to increase or decrease the power imparted to the machine.

The bars a a' of the grip A are made hollow throughout, as shown, in order to increase both the lightness and strength of the grip.

The operation of this machine is obvious, and does not differ from that of other similar machines of its class, and consequently no particular description thereof is deemed necessary.

Having thus described my invention, I claim—

1. In a stone-drilling machine, a divided

boxing, D, having an annular socket, d' , in its upper end, and provided with a clamp or ring, d^t , binding its sections together, in combination with the gear F, having flange f to fit the socket d' , substantially as described.

2. The combination, with the gear-wheel F, having the angular flange f upon its hub, of the divided boxing D, having the annular socket d' in its upper end to receive the flange f , and provided with the ring d^t , embracing its outer sides, and having the set-screw d^s , substantially as described.

3. In combination with the wedge B, provided with sockets b , the grip A, composed of two parts jointed together so as to swing on a horizontal line, one of the parts of the grip having studs a^c , fitting in the sockets of the wedge, and the other part side plates, C, carrying the drilling machinery affixed to the grip, as set forth.

4. In combination with the wedge B, having sockets b , the grip A, having studs a^c , fit-

ting in the sockets, and the drilling machinery carried by the grip, as set forth.

5. In combination with the wedge B, the grip A, separate therefrom but connected thereto, said grip being composed of two parts pivoted together to move horizontally, and plates C, connected to the grip and having arms c^2 , to which the drilling machinery is connected.

6. In a stone-drilling machine, an operating-lever, H, composed of the section h , having angular socket, h^2 , and a circular opening, h^3 , in the socket, and carrying the loops h^4 , with the set-screw h^5 and the section h' , adjustable in said loops, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

SAMUEL JONES.

Witnesses:

S. D. MURDOCK,
OLIVER SEATON.