

(No Model.)

2 Sheets—Sheet 1.

A. JOHN.  
DRILLING MACHINE.

No. 335,758.

Patented Feb. 9, 1886.

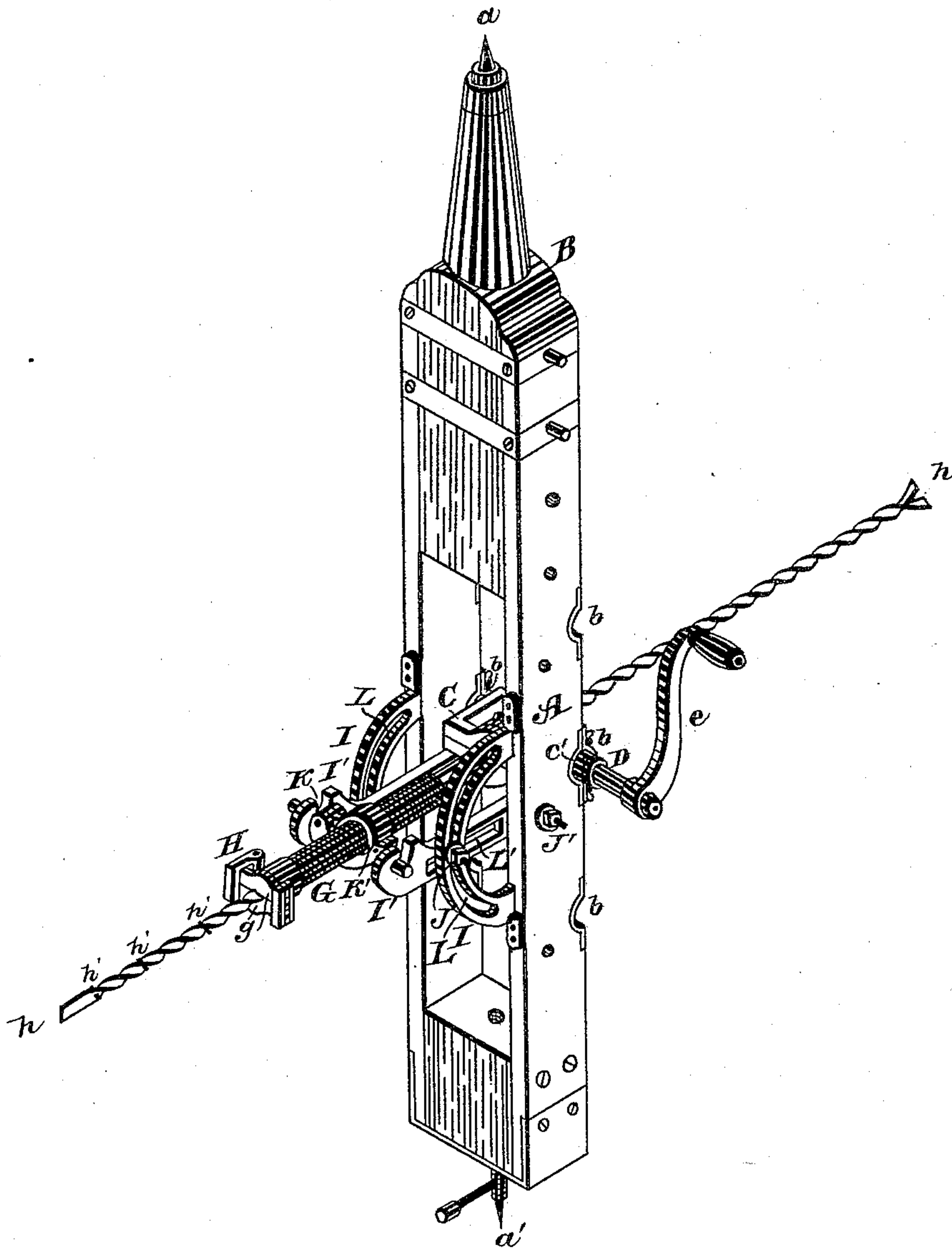


Fig. 1.

WITNESSES:

Harry Grease.

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Frederic W. Bond  
ATTORNEY

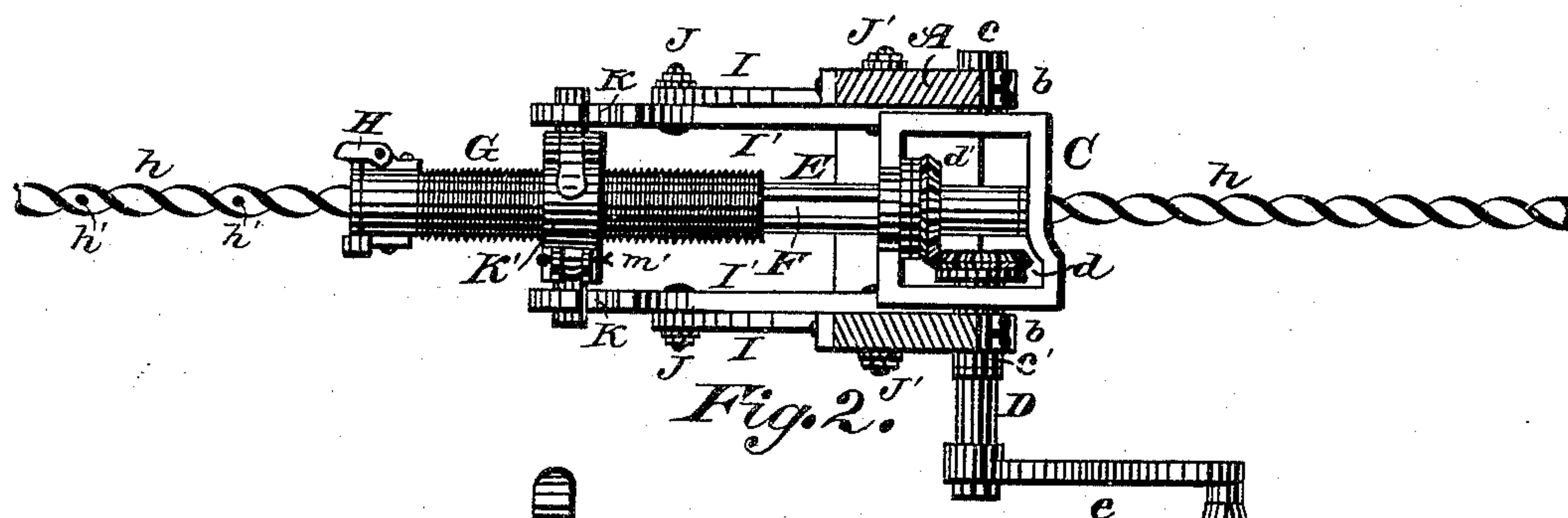
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2 Sheets—Sheet 2.

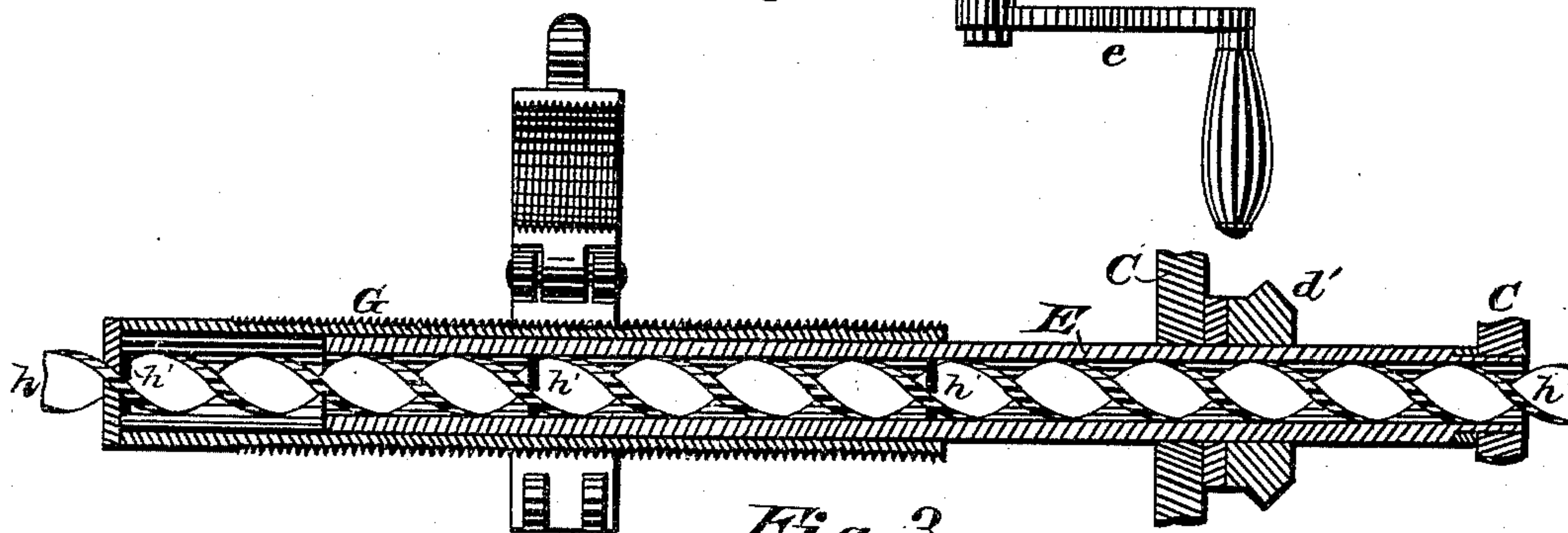
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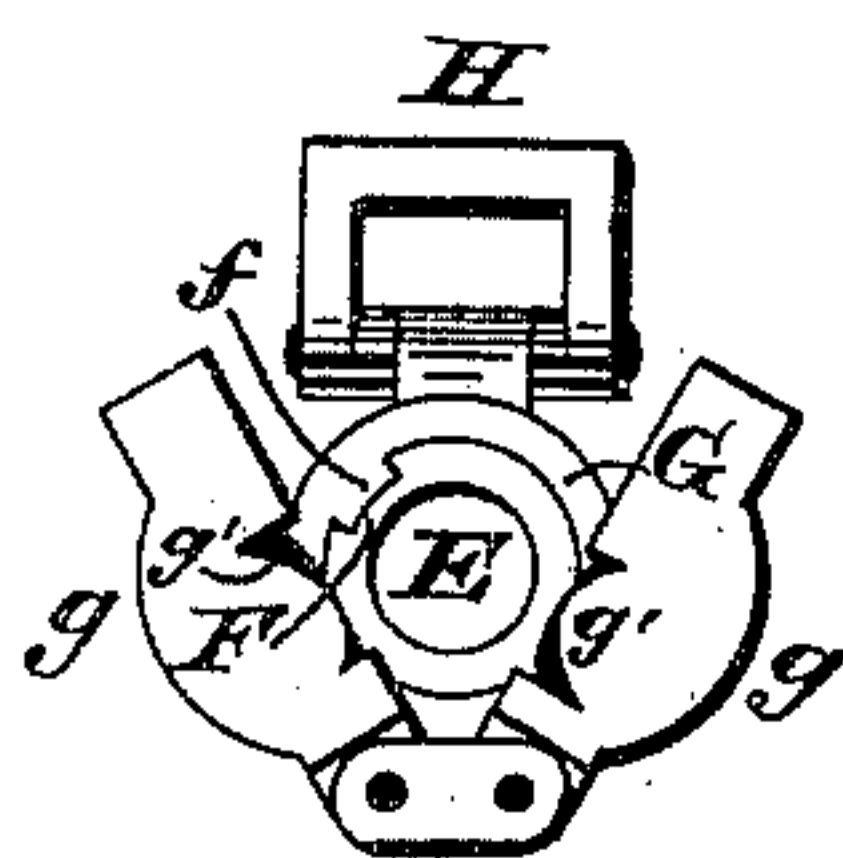
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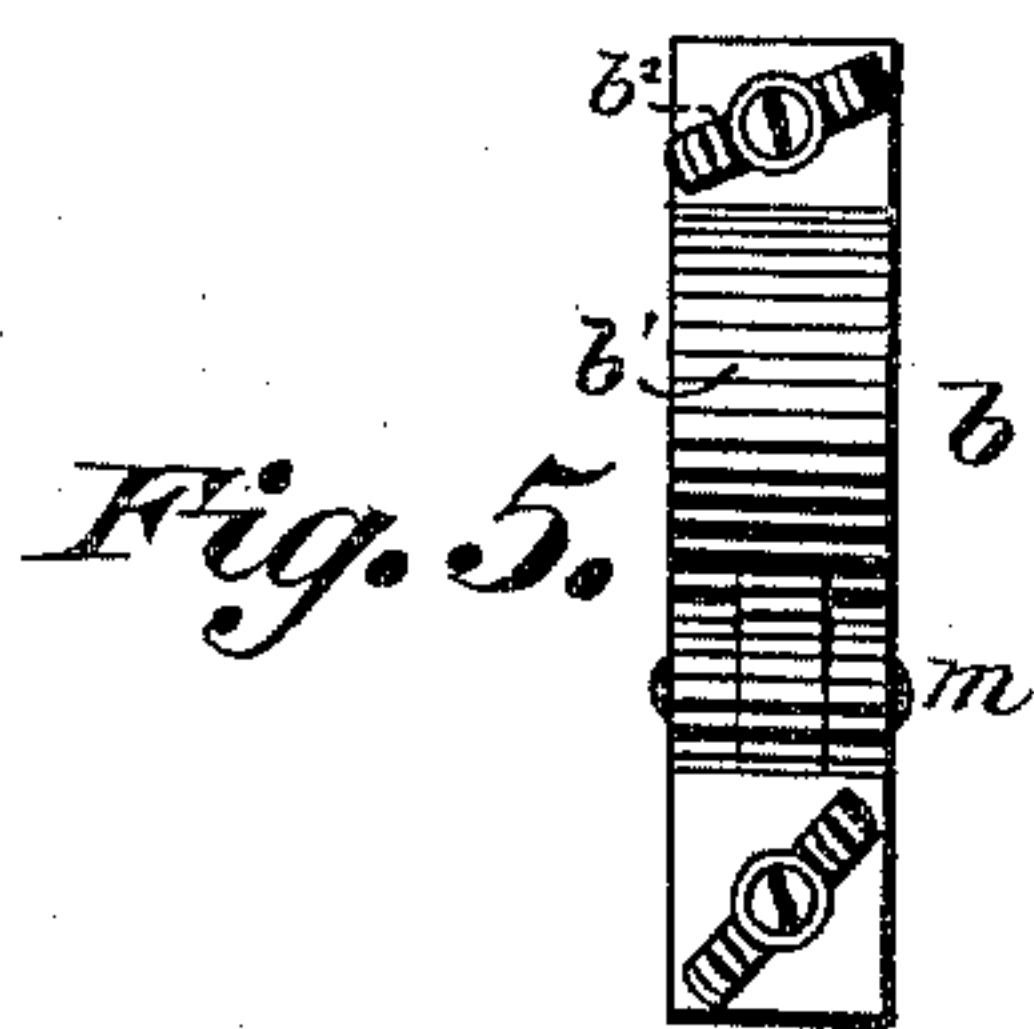
*Fig. 2.*



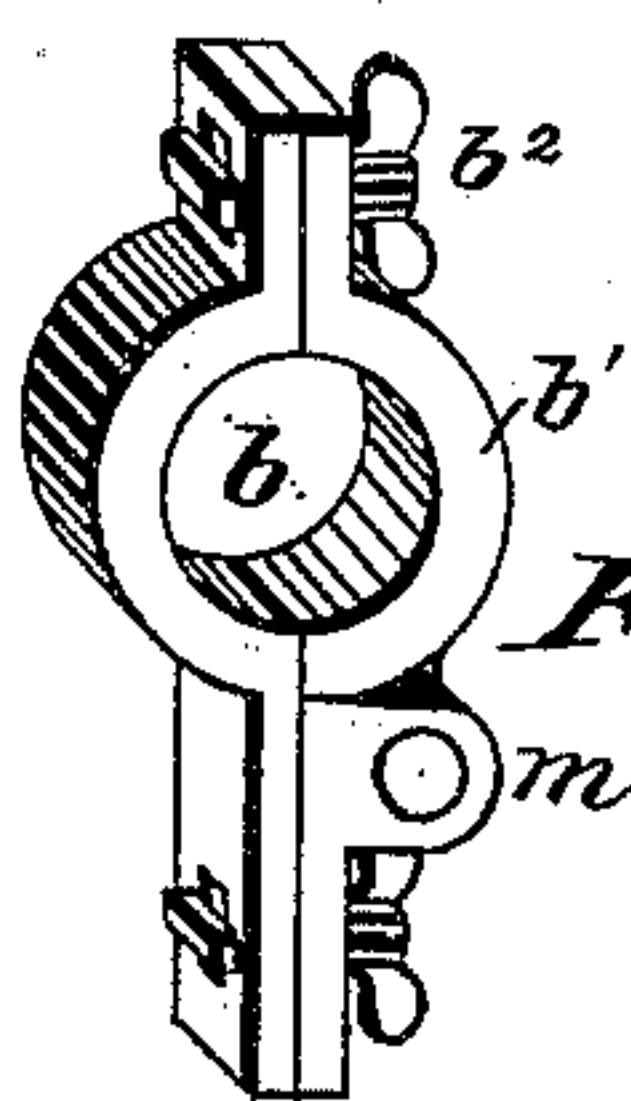
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Fig. 6.*

WITNESSES:

Harry Freese.

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# UNITED STATES PATENT OFFICE.

AUGUST JOHN, OF MASSILLON, OHIO, ASSIGNOR OF TWO THIRDS TO FRANK KRAUSER AND AUGUST KRAUSER, BOTH OF SAME PLACE.

## DRILLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 335,753, dated February 9, 1886.

Application filed October 2, 1885. Serial No. 178,815. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST JOHN, a citizen of the United States, residing at Massillon, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Coal-Drilling Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon, in which—

Figure 1 is a perspective view. Fig. 2 is a top view showing the post removed. Fig. 3 is an inside view of drill-guide, showing screw-clamp attached and open. Fig. 4 is a rear end view of the drill-guide, showing drill-clutch open. Fig. 5 is a side view of shaft-boxing. Fig. 6 is a perspective view of shaft-boxing.

The present invention has relation to that class of coal-drilling machines designed to be used in drilling coal for blasting purposes; and its nature consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A represents the post, which is substantially of the form shown, and is for the purpose of attaching the different parts, as hereinafter described. The top or upper end of said post is provided with a sharp-pointed metal projection, *a*, which is for the purpose of securely holding the post in proper position at its top or upper end. The bottom or lower end of said post is provided with a sharp-pointed threaded bar, *a'*, which is for the purpose of holding the bottom or lower end of said post in proper position, the bars *a* and *a'* being forced into the roof and bottom of the coal-mine by turning the screw-threaded bar *a'*. The length of the post A may be adjusted by means of the sliding block B. To one side of the post A are attached the crank-shaft boxes *b*. In the drawings three sets of boxes are shown, and are for the purpose of changing the position of the crank-shaft and the different parts connected and belonging thereto.

The frame C is substantially of the form shown in Figs. 1 and 2, (best seen in Fig. 2,) and is securely held in proper position by means of the arms *c* and *c'*. The arm *c'* is formed hollow, and is for the purpose of holding the crank-shaft D in proper position. To the crank-shaft is rigidly attached the beveled wheel *d*, as shown in the drawings. Said wheel meshes into the beveled wheel *d'*, said wheel *d'* being rigidly attached to the drill-guide E, and motion being communicated to the drill-guide by means of the crank *e* and the wheels *d d'*.

The drill-guide E is substantially of the form shown in the drawings, and is attached to the frame C so as to revolve. Suitable bearings are provided in said frame C for the drill-guide E. The drill-guide is provided with the groove F, which extends from the frame C to the rear end of the guide E, as shown in Figs. 2 and 4, and is for the purpose of receiving and holding the bar *f*, which is rigidly attached to the hollow screw G, (said bar *f* being best seen in Fig. 4,) motion being communicated to the hollow screw G by means of the groove F and the bar *f*.

The rear end of the hollow screw is provided with the clamp which consists of the hinged jaws *g*, which are substantially of the form shown in Fig. 4. These jaws *g* are provided with the recesses *g'*, which are formed so as to fit the twist of the drill. The jaws *g* are held securely together in a closed position by means of the hinged latch H, which embraces the free ends of the jaws *g*, as seen in Fig. 1.

The drill *h* is substantially of the form shown in the drawings, and is placed in the drill-guide E, as shown, and is securely held in proper position by means of the jaws *g*, and is prevented from being forced backward by means of the pins *h'*, one of said pins resting against the jaws *g*. Any desired number of the pins *h'* may be placed in the drill *h*, and are for the purpose of properly adjusting the drill *h* in the guide E.

To the post A are securely attached the segments I, which are substantially of the form shown in Fig. 1, and to the segments are attached the arms I', by means of the clamping-bolts J. The inner ends of the arms



I' are attached to the post A by means of the clamping-bolts J'. The outer ends of the arms I' are provided with the recesses K, which are for the purpose of receiving and holding the screw-clamp K', as shown in Figs. 1 and 2. The segments I are provided with slots L, which are for the purpose of permitting the clamping-bolts J to slide in said slots when it is desired to change the angle of the drill h. Said clamping-bolts J also slide in the slots L' in the arms I' in changing the angle of the drill.

It will be seen that by my peculiar arrangement I am able to place the drill at any desired angle within the limits of the slots L. The boxes b are provided with the hinged cap b', so as to remove the frame C by simply removing one of the clamping-bolts b<sup>2</sup> and turning the cap b' on the hinge m.

In use the post A is properly adjusted, and the drill h placed in proper position and securely locked by means of the jaws g, the latch A, and one of the pins h', when the clamp K' is closed over the hollow screw G and locked by means of the key m'. (See Fig. 2.) It will be seen that by communicating motion to the drill h by means of the locking-jaws g, the drill will be brought forward by means of the hollow screw G until said hollow screw is brought forward to the frame C, when the clamp K' is opened and the screw drawn back, first releasing the jaws g so that they, together with the hollow screw, will pass along the drill, when the clamp K' is again closed, and so on until the drill has entered the coal or other substance as far as desired.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a drilling-machine, the combination, with a supporting-frame and a screw-clamp supported thereby, of a hollow screw embraced by said clamp, a guide located and working in said hollow screw, a drill located within said guide, and gearing secured to the guide for operating the same, substantially as described.

2. In a drilling-machine, the combination, with the frame C and arms I' I', secured to post A, and a screw-clamp, K', supported thereby, of the hollow screw G, embraced by said clamp,

the hollow guide E, located within said hollow screw, the drill h, working in guide E, and provided with adjusting-pins h', and the clamping-jaws g g and latch H on the end of the hollow screw, substantially as described.

3. In a drilling-machine, the combination of the segments I I, secured to post A and provided with slots L, the arms I' I', secured to post A and provided with slots L' and recesses K, the screw-clamps K', supported in said recesses, the clamping-bolts J, the hollow screw G, embraced by said clamps, the clamping-jaws g g and latch H on the end of said screw, the hollow guide E, located in the hollow screw, and the drill h, working in the guide E, said drill being provided with adjusting-pins h' and engaged with the clamping-jaws g, substantially as described.

4. In a drilling-machine, the combination, with a supporting-frame and a screw-clamp supported thereby, of a hollow screw embraced by said clamp and provided at one end with hinged clamping-jaws and a latch therefor, a hollow guide engaged with and working in said hollow screw, and a drill located within said guide and engaged with the clamping-jaws at the end of the hollow screw, substantially as described.

5. In a drilling-machine, the combination of a supporting-frame, a screw-clamp, K', a hollow screw supported by said clamp and provided with an internal longitudinal rib, f, hinged clamping-jaws g g, attached to one end of said screw, and provided with recesses g' g', a latch, H, for securing said jaws, a hollow guide, E, having a longitudinal groove, F, engaged in the hollow screw, a drill located in said hollow guide and having adjusting-pins h', said drill being engaged with the recesses of the hinged clamping-jaws, and gearing attached to the hollow guide for actuating the drill through the intermediate connections, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

AUGUST JOHN.

Witnesses:

ISAAC ULLMAN,  
JACOB D. WETTER.