J. F. Cory,

Bit Stock.

No. 32,618, Patented June 25, 1861.

Fig 1

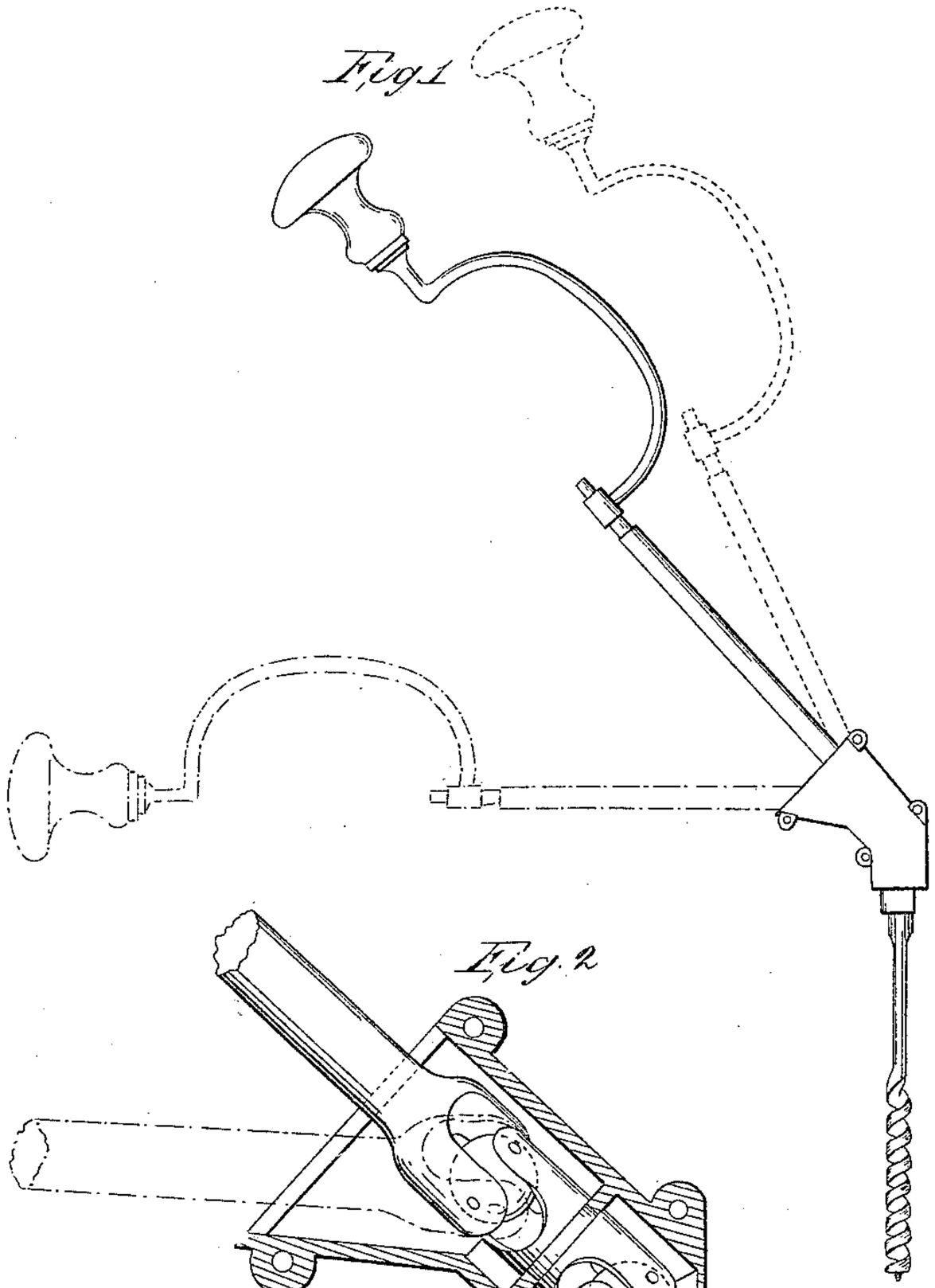

Fig. 2

Witnesses

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JOHN F. CORY, OF NEW YORK, N. Y.

BIT-STOCK.

Specification of Letters Patent No. 32,618, dated June 25, 1861.

To all whom it may concern:

Be it known that I, JOHN F. CORY, of the city, county, and State of New York, have made a new, useful, and important invention; which I designate "Universal Angular Bit-Stock;" and I do hereby declare that the following is a full and exact description of the same, which I have prepared with a view to the obtaining of Letters Patent therefor.

The accompanying drawings and the letters of reference thereon form a portion of this specification.

Figure 1 is a view of the invention complete with its attachments ready for use. Fig. 2 is a corresponding view of the invention alone on a larger scale with a part of the case removed to show the interior.

Similar letters of reference designate corresponding parts in both the drawings.

My invention is intended to allow of boring holes in close proximity to a wall or other fixed object which would interfere with the use of an ordinary bit stock, and to allow the working of the same at any angle desired instead of confining the work to a certain fixed angle. It possesses advantages over any bit stock for such uses which was before known to me.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation by the aid of the drawings and of the letters of reference marked thereon.

A is an ordinary bit to be turned. B is an ordinary stock for receiving motion from the hand. My invention is interposed between these in the manner represented.

C is a socketed shaft adapted to receive the end of A. This is loosely jointed to a shaft E by means of a universal joint D. The shaft E is by means of another universal joint F loosely jointed to a shank G which latter is at its outer end adapted to be received and turned by B. The joint F communicates the rotation of G to E and the joint D communicates this to C.

A case H of cast iron or other suitable material is made to inclose and support the parts in the manner represented. Shallow grooves *c*, and *e*, are turned in the parts C and E at the points represented, and the case H is made to enter and fit closely within the same so as to support C and E in all directions but to allow them each to rotate freely on their respective axes. The case H thus supports the parts and serves as a convenient means of steadying and directing the work. It has a wide opening at that end thereof which embraces G. This opening is represented by *h*, and allows the shank G to stand and rotate in a variety of positions relatively to the other parts of my invention. It may operate in the position represented in red, black or dotted lines, or in any position intermediate between these.

It will be obvious that the case H changes its position as the auger or bit A advances into the wood. It may be guided in such motion either by the hand of the operator or by any obvious means of guiding or of aiding to guide the same. During the whole period of boring a hole the shank G may stand in any of the many angles to the other parts in which it is by my invention made capable of operating. By this liberty my invention avoids the necessity experienced with rigid bit stocks of securing an unobstructed circuit of considerable range around the prolonged axis of the bit A, and also avoids the necessity experienced with Hill and Adams angular bit stocks patented in 1858, of working the part B at any uniform angle relatively to the bit A. It also, by the use of the short shaft E, in connection with the two joints D and F, obtains a greater range of angularity than could be obtained by the use of one joint alone as shown in the patent of C. C. Plaisted, July 28, 1857. Both these properties are important. The ability to work at any angle, is important because it enables me to bore in places and in directions not possible with a rigid bit stock. The ability to vary the angle at will either at the commencement or during the operation of boring a hole, is important for two reasons first because there are places where any given angularity, as 45° for example, would not suffice but a greater or less angularity must be employed throughout the operation, and second because workmen acquire by operating with ordinary rigid bit stocks a habit of holding the rest at the end of B very rigidly in place, and such a holding of B with an angular bit stock involves or requires a gradual change of the angle of G with E as the boring proceeds. My invention is in this point very different from that of Hill and Adams which requires the rest to be supported not rigidly as is desired by the habits of all skilful work-

men but to be moved partially sidewise as the boring advances a movement which is very awkward and difficult to acquire by a workman.

It will be seen that I can work the part G at a right angle to the bit A, as is shown by the red lines, which could not be done with a single joint like that used in Plaisted's patent. Frequently, in boring under a shelf or other confined space this property is important, and it is possessed by no previous instrument so far as I am aware.

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

The combination of the case H, with the shank G, and socket C, by means of the universal joint in the manner and for the purposes set forth.

In testimony whereof I have hereunto set my name in the presence of two subscribing witnesses.

JOHN F. CORY.

Witnesses:

THOMAS D. STETSON,

WM. B. SMITH.