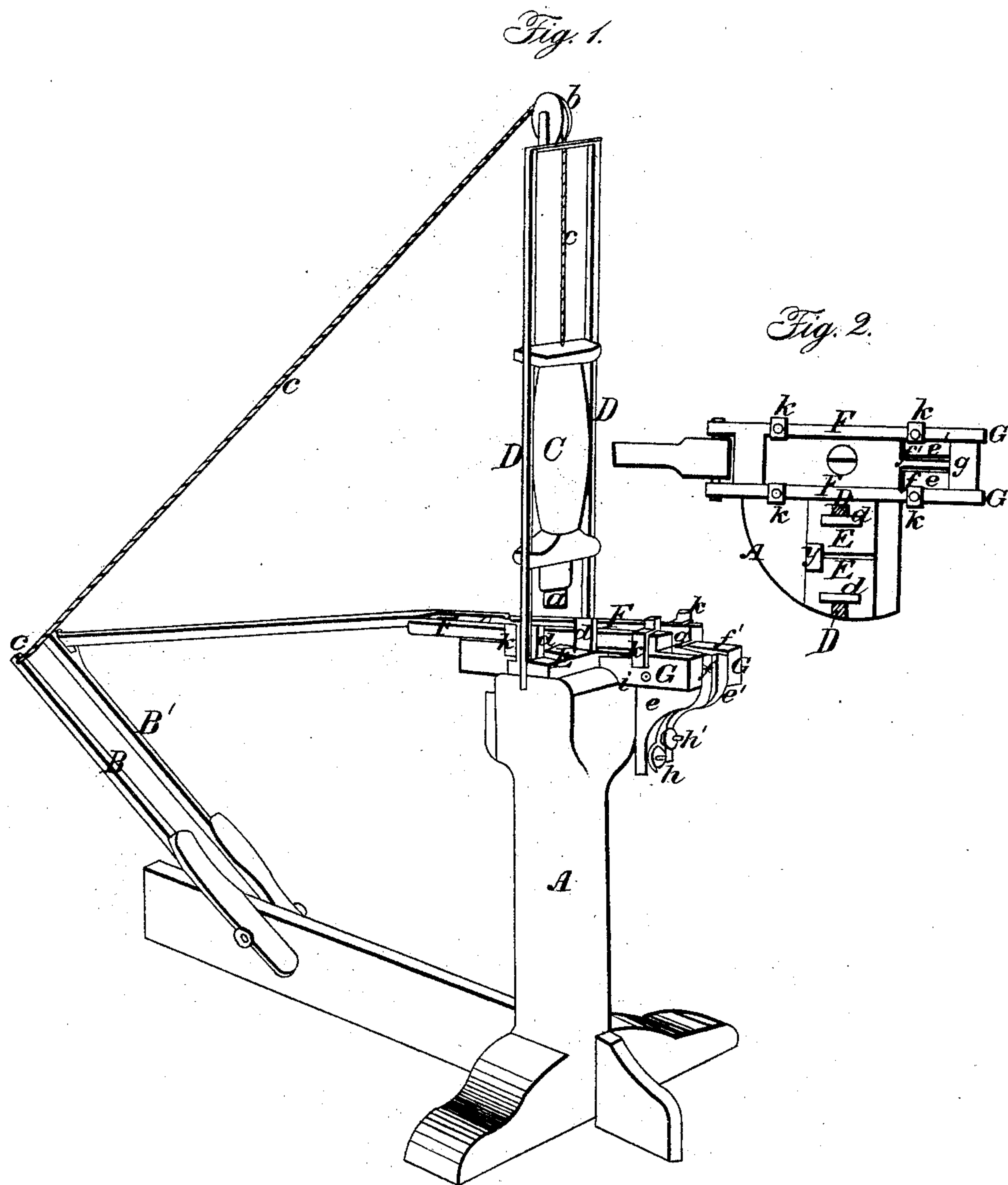


J. W. CRAWFORD.

Grafting-Machine.

No. 30,617.

Patented Nov. 13. 1860.



Witnesses:

J. W. Crawford
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UNITED STATES PATENT OFFICE.

JAMES W. CRAWFORD, OF ROCKPORT, INDIANA.

IMPROVEMENT IN GRAFTING-MACHINES.

Specification forming part of Letters Patent No. 30,617, dated November 13, 1860.

To all whom it may concern:

Be it known that I, J. W. CRAWFORD, of Rockport, in the county of Spencer and State of Indiana, have invented a new and useful Improvement in Grafting-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the improved grafting-machine. Fig. 2 is a top view of one of the cutters and the bed-plate of the other.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is for splitting the stock and preparing the wedge on the scion in cleft-grafting faster and better than can be done by hand.

The invention consists in arranging on the top of a suitable standard a weighted cutter, which works between two perpendicular guide-ways operated by a foot-lever for splitting the stock; and it also consists in arranging by the side of this stock-splitter a reciprocating knife and inclined adjustable bed-pieces for preparing the wedge on the scion, as will be hereinafter described and represented.

To enable those skilled in the art to fully understand my invention, I will proceed to describe its construction and operation.

A is a perpendicular pedestal, supported at its base by feet, one of which is carried out some distance from the pedestal, and serves as a support for two foot-levers, B B', which are to operate the cutters, as will be hereinafter described. The top of the pedestal is enlarged sufficiently to receive two cutting devices, one of which is for splitting the old stock in a direction with its length, and the other is intended for preparing the wedge on the scion. For splitting the stock (in cleft-grafting) a knife or chisel, *a*, is used, which is fixed into the lower end of a weight, C, which works between two vertical guides, D D, which project up from one side of the head of the pedestal A a suitable distance, and carry a pulley, *b*, over which a cord or chain, *c*, passes, that connects with the weight C and with the long arm of foot-lever B.

E is a bed-plate, with a slot cut into its sur-

face, and *d d* are stops which prevent the knife from cutting into the bed-plate. The edge of the knife, when the end of weight C strikes the stops, just enters the slot in the bed-plate, and as the edge of the knife is thus prevented from striking any hard substance after it passes through the stock it will not require frequent sharpening. The knife will also make a clean cut in one stroke.

The next operation is to cut the young scions, so that one of their ends can be forced into the cleft stock. This is done by a knife, *g*, which is fixed to the under side of the horizontal sliding frame F, which works on two parallel bars, G G, that are securely bolted to the top of pedestal A. Between the ends of the slide-rests G G are pivoted, at *i*, two bracket-shaped portions, *e e'*, which have beveled surfaces at *f f'*. These brackets are made adjustable by screws *h h'*, so that the distance between the knife *g* and the beveled surfaces of the brackets may be increased or diminished at pleasure for large or small scions. One of these brackets, *f'*, at *i*, is half the thickness of a small scion below the knife. The other bracket, *f*, at *i*, is so adjusted that the knife barely passes over it, and it is so beveled that it makes the wedge on the scion thicker on one side than on the other, the thick side to be the outside in grafting, which makes the stock bind on it where the barks come together.

The knife-frame F is operated by the foot-lever B', and it is kept in place on the slide-bars G G by the side guides, *k k*.

The first operation is conducted by pressing the foot on the foot-piece of lever B, which raises the knife *a* and the weight C. The stock to be split is then placed on the bed-plate E, with the end against the gage-block *y*, Fig. 2. Then by suddenly reversing the pressure on the foot-piece the knife *a* and weight C will descend and split the stock. The second operation is to prepare a wedge on the scion which will fit into the split stock. This wedge is cut by the knife *g*, the end of the scion being placed on the beveled surface of the first bracket, *e*. Then by pressing on the foot-piece of lever B the knife makes one side of the wedge. Then reverse the pressure, and the knife is thrown back. Then turn the scion over and place it on the bevel of the other

bracket, and press again with the foot on the lever, and the knife makes the other side of the wedge.

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

1. The knife *a*, with its weight *C* and the device described for operating it, in combination with the slotted bed-plate *E*, stops *d d*, and gage *y*, as and for the purposes herein set forth.

2. In connection with the above, and on the pedestal *A*, the sliding knife *g*, its frame *F*, and slide-rests *G G*, with the adjustable inclined bed-pieces *e e*, arranged and operating as and for the purposes herein set forth.

JAMES W. CRAWFORD.

Witnesses:

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