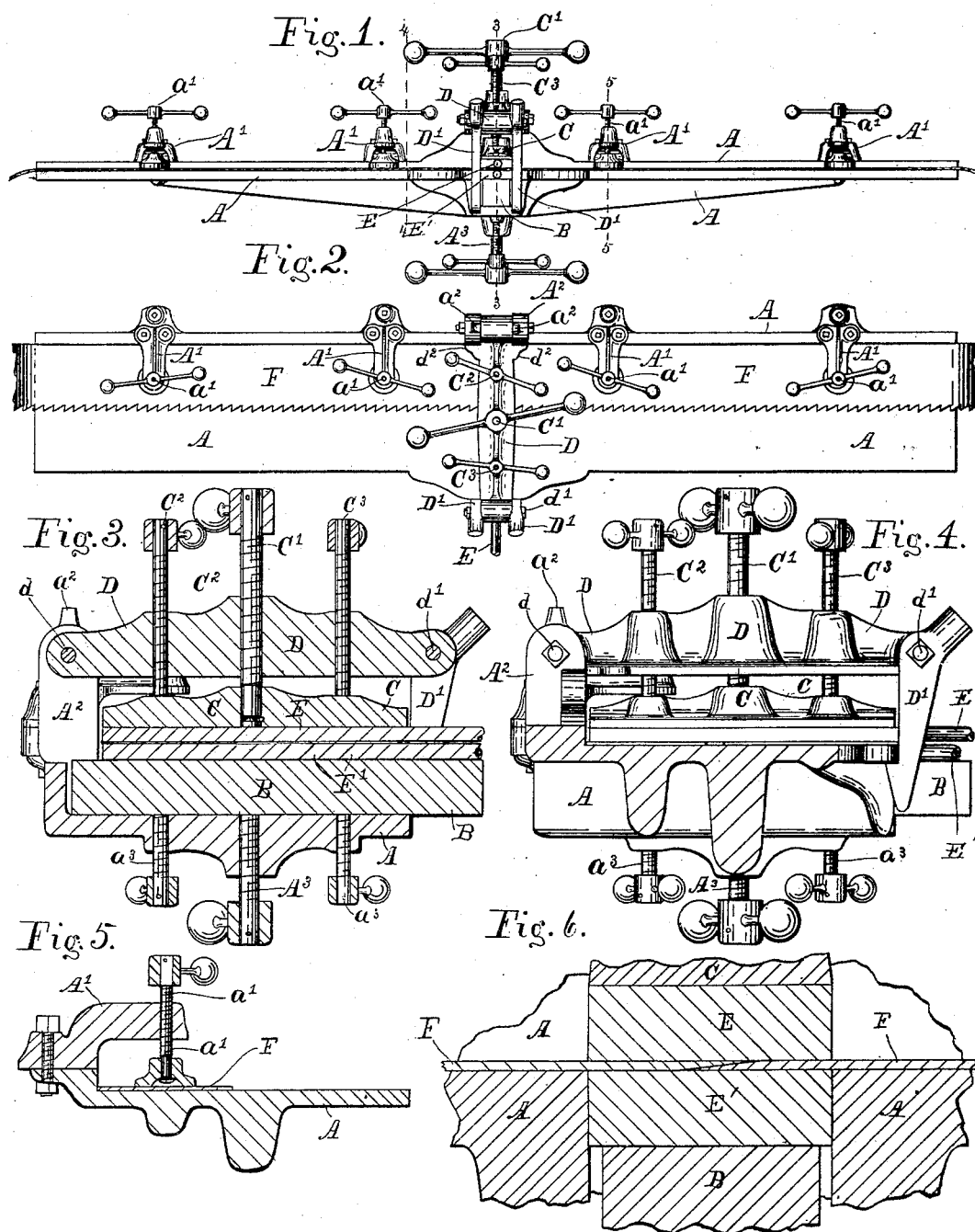


(No Model.)

G. S. BLACK.
BRAZING MACHINE.

No. 353,245.

Patented Nov. 23, 1886.



WITNESSES.

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BRAZING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 353,245, dated November 23, 1886.

Application filed June 18, 1886. Serial No. 205,583. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. BLACK, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Brazing-Machines, of which the following is a specification.

The object of my said invention is to produce an apparatus by which the ends of band-saws can be firmly held while being brazed together.

It consists of a main bar or plate upon which the saw rests, and adjustable clamps by which it is secured in the desired position, and also by which the brazing-bars are secured against the sides of the saw ends which are to be operated upon.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a front elevation of my improved apparatus; Fig. 2, a top or plan view of the same; Figs. 3, 4, and 5, transverse vertical sectional views, looking toward the right from the dotted lines 3 3, 4 4, and 5 5, respectively, on an enlarged scale; and Fig. 6, a detail longitudinal section through the saw ends and immediately adjacent parts, on a still further enlarged scale.

In said drawings, the portions marked A represent the main plate or bar of the apparatus; B, the lower clamping-bar; C, the upper clamping-bar; D, a swinging bar or frame which carries the upper clamping-bar; E E', the brazing-bars, and F the saw.

The main plate or bar A is also the frame of the apparatus. It is planed true upon the upper side, and the saw-plate rests thereon during the operation of brazing. Several overhanging projections, A', are provided in which are clamping-bolts a', which, when the saw is in position, are screwed down upon said saw, and thus hold it firmly. It also has a groove to receive the lower clamping-bar, and projections or standards A², to which the carrying-bar for the upper clamping-bar is pivoted or hinged.

The lower clamping-bar, B, is in the main a simple straight rectangular bar, which rests in the groove provided to receive it in the central portion of the plate A. It is adapted to be adjusted in said groove as desired, and

said adjustment is effected by means of hand-screws A³ a³, which are mounted in screw-threaded holes in the plate A, beneath said clamping-bar B, as shown most plainly in Fig. 3.

The upper clamping-bar, C, is secured to the carrying-bar D by a hand-screw, C', by which it is moved up and down, as desired. Additional hand-screws, C² C², are provided which operate upon the ends of this clamping-bar, and thus pressure can be brought upon its ends to any desired extent, as well as upon its center.

The carrying-bar D is secured to the standards A² by a pivot, d, and when in operative position extends across the plate A parallel with the clamping bars B and C. It is provided on its forward end with catches D', which are secured thereto by a pivot-bolt, d', and are adapted to engage with or hook under the main plate A, as shown. (See particularly Fig. 4.) Upon the sides of this carrying-bar D are lugs d', which serve as stops and prevent said carrying-bar from dropping too far forward, and upon the standards A² are lugs a², which serve as stops to prevent said carrying-bar from dropping too far back when raised up.

The brazing-bars E E' are simply two flat bars having appropriate handles, the operating portions of which are substantially the size of the clamping-bars B and C, and are adapted to be placed between the adjacent faces of said clamping-bars. As these brazing-bars are to be heated to a high temperature their handles are usually of considerable length.

The operation is as follows: The ends of the saw F are first mitered, as shown in Fig. 6, and brought together at the center of the clamping-bars, after having been properly treated and the proper flux and solder applied. The brazing-bars having meantime been heated to the proper temperature, are placed one on each side of said saw ends, and are forced tightly against them by means of the hand-screws operating upon the clamping-bars, as will be readily understood, and are allowed to remain in this position until nearly or quite cool. When the operation has been completed, the hand-screws are loosened up somewhat, the catches D' are swung out from their

engagement with the plate A, the carrying-bar carrying the upper clamping-bar is swung back until it rests against the stops α^2 , the clamping-screws α' are loosened up and the saw removed.

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

1. The combination, in a brazing-machine, of a main plate or frame, A, having a transverse groove, and projections or standards along sidesaid groove, a clamping-bar arranged in said groove, a bar pivoted to said standards carrying a second clamping-bar, catches for securing said pivoted bar in operative position, and hand-screws for forcing the clamping parts toward each other.

2. The combination of the main plate A, the overhanging projections A', with clamping-screws therein, the carrying-bar D, two clamping-bars, brazing-bars, and hand screws for operating the same.

3. The combination of the main bar or plate A, having a transverse groove and standards, a clamping-bar arranged in said groove, a carrying-bar having a second clamping-bar attached, pivoted to said standards, means for securing the free end of said carrying-bar, and stops upon said carrying-bar and said standards to limit the movement of said carrying-

bar in either direction, substantially as set forth.

4. The combination, in a brazing-machine, of a plain surface upon which the saw to be brazed rests, and bars which come in immediate contact with both sides of the parts to be operated upon, which are adjustable vertically by means of hand-screws arranged above and below said parts, substantially as set forth.

5. The combination, in a brazing-machine, of a bar or plate upon which the saw to be brazed rests, brazing-bars which come in immediate contact with the saw ends, clamping-bars, and means for operating said clamping-bars.

6. The combination, in a brazing-machine, of a bar or plate forming a frame for the machine and a rest for the saw, clamping-bars arranged transversely of said plate, a swinging bar carrying the upper clamping-bar, and catches for holding said swinging bar in position.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 7th day of June, A. D. 1886.

GEORGE S. BLACK. [L. s.]

In presence of—

C. BRADFORD,

W. E. MURBARGER.