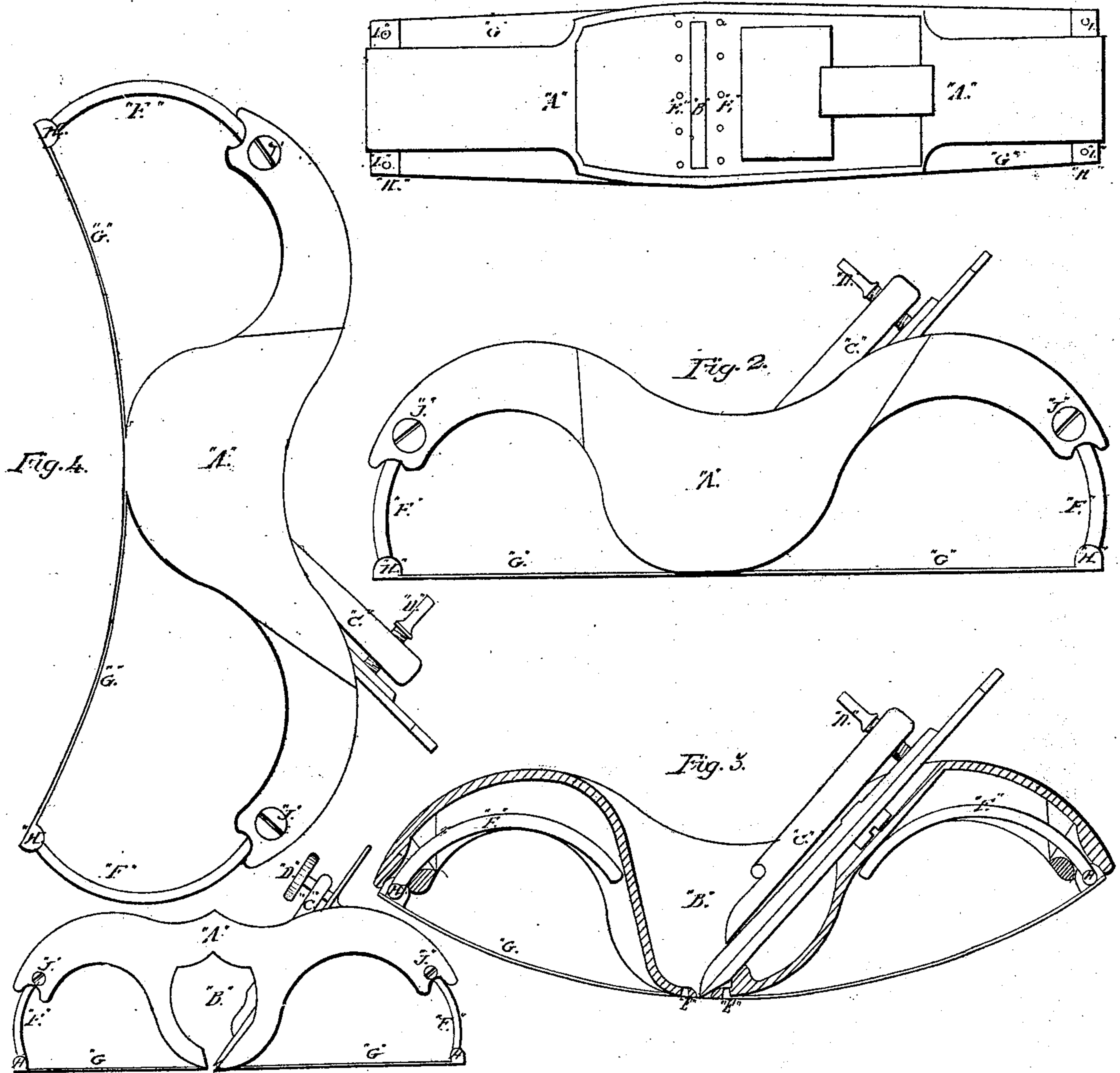


G. F. Evans, Bench Plane.

No. 4,1983.

Patented Mar. 22, 1864.
Fig. 1.



Witnesses:
C. C. Panderson
Sydney W. Cobb

Inventor:
George F. Evans

UNITED STATES PATENT OFFICE.

GEORGE FRANKLIN EVANS, OF NORWAY, MAINE.

IMPROVEMENT IN PLANE-STOCKS.

Specification forming part of Letters Patent No. 41,983, dated March 22, 1864.

To all whom it may concern:

Be it known that I, GEORGE FRANKLIN EVANS, of Norway, in the county of Oxford and State of Maine, have made new and important Improvements in the Plane that was patented January 28, 1862; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a plan. Fig. 2 is a longitudinal elevation with the face-plate in a straight position. Fig. 3 is a longitudinal vertical section with the face-plate in a convex position. Fig. 4 is a longitudinal elevation with the face-plate in a concave position or reversed from that in Fig. 3. Fig. 5 is a longitudinal elevation of the rabbet and grooving plane with the face-plate in a straight position.

The nature of my improvement consists not only in the manner of making the stock, but in the combination of the arms which connect the ends of the spring face-plate to the stock, the same admitting the spring face-plate to be curved either convexly or concavely on its outer surface. These planes are so constructed that they may be more readily adjusted to conform to concave and convex surfaces of different degrees of curvature, whereby such circular parts may be as easily and smoothly planed, grooved, or rabbeted as a plane surface can be by the ordinary straight-faced plane.

In the drawings, A is the stock or body of the plane, the same having a throat or shaving passage, B, formed vertically through it, (horizontally in the grooving-plane, Fig. 5.) In the said passage is the plane-iron, which is secured by the lever-chip C and the thumb-screw D.

Instead of forming the lower face of the stock A as a straight plane, I cause the same to be curved upward and downward, in the manner as shown in the drawings.

To the lower face of the stock I fasten on a flat steel plate by means of ten steel rivets, E E, on the lower part of the throat-passage—five rivets on the forward part and five rivets on the rear part of the throat-passage, as shown in Fig. 1.

Within the two ends of the stock A pass

the connecting-rods F F in the form of a segment of a circle. The lower end of each connecting-rod has a hinge-joint, and is received by a socket or hollow pipe with solid ends, which pipe or socket is fastened to the ends of the steel plate G G by means of two steel rivets, I I. In each end of the stock A is a set-screw, H, which holds the connecting-rods F F in position, as shown in Figs. 2 and 4.

A plane constructed on the above-described improved manner can be readily adjusted to plane any circular, concave, or convex piece of wood; also to groove or rabbet the same by simply bending the plate G to the desired position and securing it by means of the connecting-rods F F and the set-screws J J.

From the above and by inspection of the drawings it will be perceived that my improved plane has its stock formed with two curved ends or projections extending from the part B, which hold the plane-iron, and so adapted to receive the curved arms F F as to allow them to play or move in curved paths both toward and away from the said part B. Now, this mode of making the plane-stock not only enables the spring face-plate to be bent either into a convex or concave form, but it renders the curved ends or projections very convenient as handles by which the plane may be held and operated. Furthermore, they not only give to the connections F F a long range of motion, but keep their upper ends always within the stock when the face-plate is convex on its outer surface, there being no projection of the connections F F above the top surface of the plane-stock when the G is bent to its extreme position, as shown in Fig. 3.

What, therefore, I claim as my invention or improvement in the plane made with the spring face-plate is—

The construction of the connecting-rods F F and their receiving parts of the stock, curved substantially in the manner and so as to operate together as specified.

GEORGE FRANKLIN EVANS.

Witnesses:

HENRY UPTON,

C. C. SANDERSON.