

(No Model.)

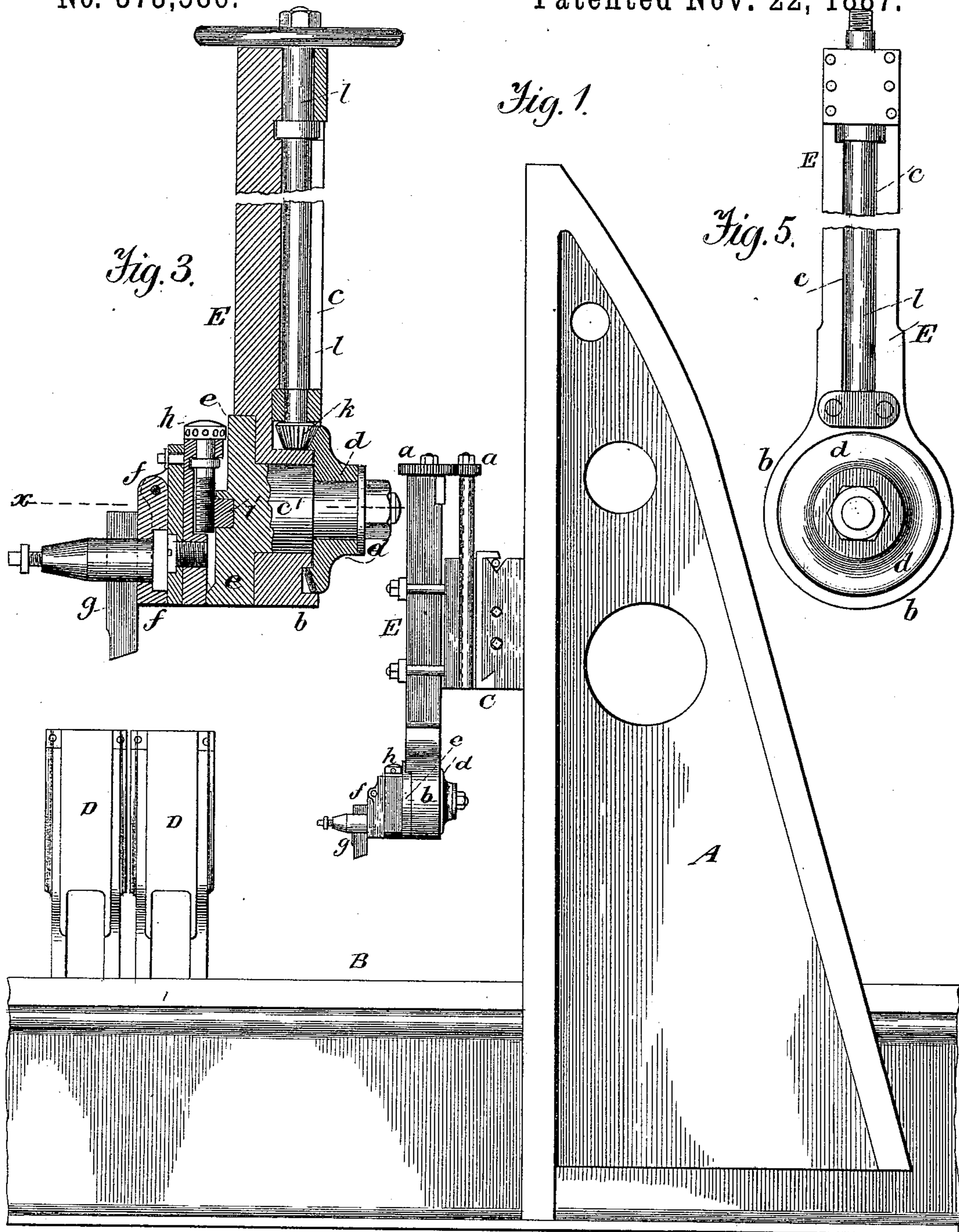
2 Sheets—Sheet 1.

C. F. GEYER.

DEVICE FOR PLANING CURVED SURFACES.

No. 373,586.

Patented Nov. 22, 1887.



Witnesses:
A. Ruppert,
C. B. Thompson

Inventor:
Christof F. Geyer,
by W. J. Howard,
Att'y.

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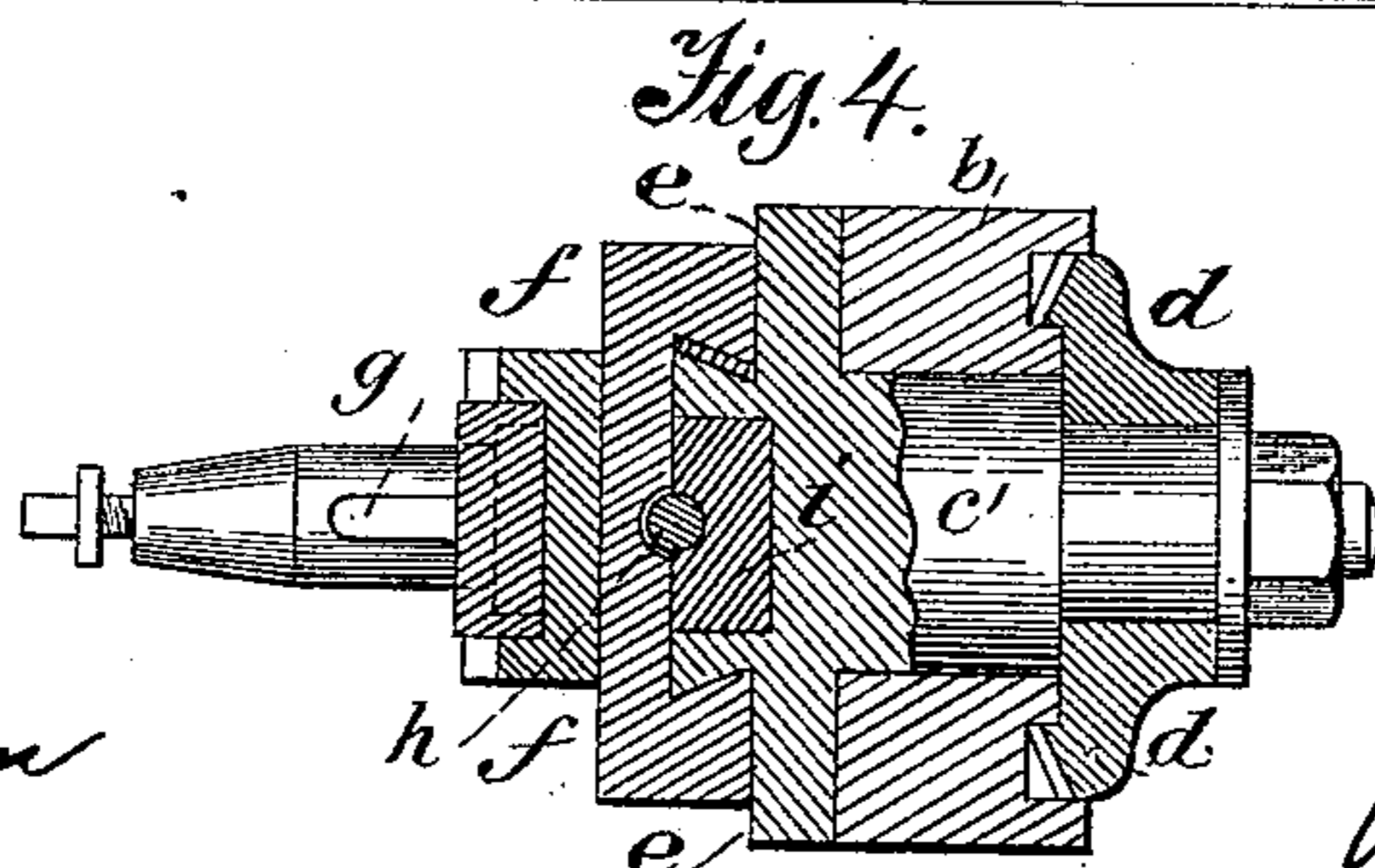
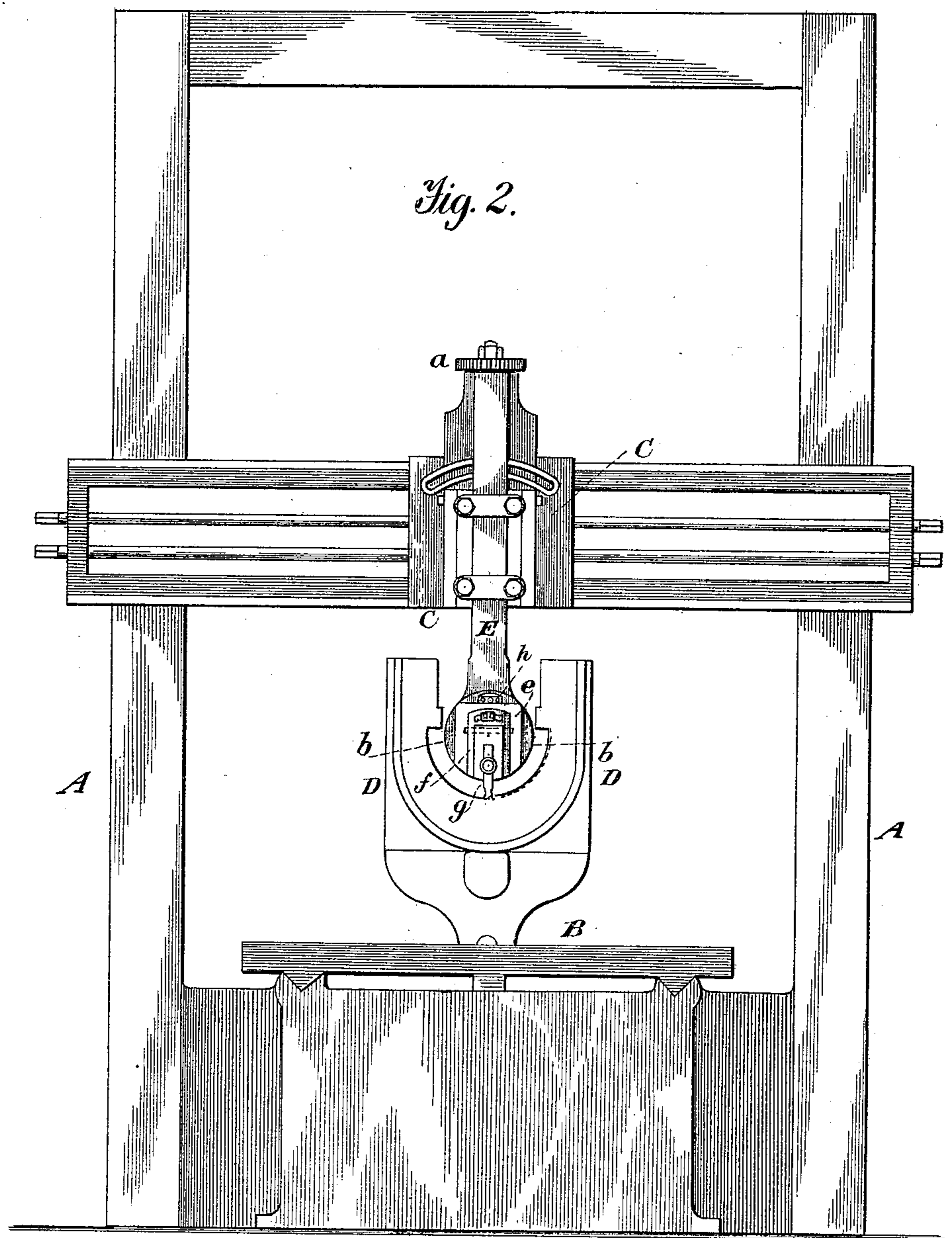
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C. B. Thompson

Inventor:

Christof F. Geyer,

by Wm. J. Hoffman
attys.

UNITED STATES PATENT OFFICE.

CHRISTOF F. GEYER, OF AURORA, ILLINOIS.

DEVICE FOR PLANING CURVED SURFACES.

SPECIFICATION forming part of Letters Patent No. 373,586, dated November 22, 1887.

Application filed March 14, 1887. Serial No. 230,780. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOF F. GEYER, of Aurora, in the county of Kane and State of Illinois, have invented a new and useful Improvement in Planing-Machines, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to means whereby a driving-box of a locomotive may be planed out to receive the brass shell which forms the journal-box of the axle.

In the accompanying drawings, Figure 1 is a side view of a part of a planing-machine provided with my invention. Fig. 2 is a front view of the parts shown in Fig. 1. Fig. 3 is an enlarged vertical section of the tool-holding bar. Fig. 4 is a transverse section on line *x x* of Fig. 3. Fig. 5 is a rear view of Fig. 3.

Similar letters of reference indicate similar parts in the respective figures.

This invention is applied to an ordinary planing-machine having a longitudinally-moving bed, a vertically-adjustable cross-head, an automatic feed, and other features common to such machines, which need not be here enumerated.

A represents the main standard of the planing-machine; B, its longitudinally-moving bed; C, its vertically-adjustable cross-head, and *a a* parts of the ordinary feeding-gear.

D D represent two driving-boxes to be operated upon, resting upon the bed of the machine.

E is a forged steel bar made sufficiently heavy and strong to withstand the strain to which it is subjected. At the lower end of the bar is a circular enlargement, *b*, and at the rear of the bar is a groove, *c*. Concentric with the circular enlargement *b* is a shaft or spindle, *c'*, upon which is mounted a gear-wheel, *d*, and a face-plate, *e*. The front part of this face-plate is shown in Fig. 4, and is of dovetailed shape in cross-section, the plate serving as a vertical guide for the tool-carrier *f*, the tool being represented by *g*. The tool-carrier is made vertically adjustable upon the dovetailed projection by means of the screw *h*, which works within a half nut, *i*, set into the face-plate *e*. The gear-wheel *d* is driven by the gear-pinion *k* upon the end of the shaft

l, which rests within the groove at the rear of the bar E. The shaft *l*, and with it the gears which give rotation to the face-plate *e*, may be driven by hand or by ordinary feed gear-wheels. It is of course understood that the bar E may be given a lateral movement on the cross-head by the ordinary means.

Supposing it is desired to plane out a number of such driving-boxes as are shown in Figs. 1 and 2, the boxes are suitably placed in line with each other and fastened to the bed-plate. The tool being properly secured within its post, the shaft *l* is revolved so as to rotate the spindle, and accordingly the face-plate carrying the tool. The tool being brought under one of the shoulders of the driving-boxes and motion given to the bed-plate of the machine, the said shoulder of each driving-box will be squared. On giving a suitable partial revolution to the shaft *l* and a corresponding movement to the tool the tool will be moved around a center formed by the shaft or spindle *c'*, and the entire circular part of the driving box, by repeated movements of the bed-plate, will be planed out. It is of course understood that the tool must be adjusted for each cut in order to complete the entire curve.

The bar E and the devices forming the subject-matter of my invention may be held in the tool-holder of a planing-machine in the way in which any ordinary cutting-tool is held, and the tool may be operated by hand or power, as preferred by the operator.

An important advantage arising from the use of this invention is, that a number of boxes may be operated upon at one time, the number being only limited by the length of the table or bed.

Should the operator prefer, both shoulders of the driving-box may be squared up before the planing of the circular part is begun; but the entire operation will be a familiar one to those who are accustomed to work upon ordinary planing or slotting machines.

By planing two or more driving-boxes out at one operation greater accuracy is obtained, and the boxes may be used interchangeably.

The invention is not intended to be confined solely to the work of planing driving-boxes for locomotives, as it is obvious that it may be

used for performing any work requiring the movement of the tool in a circular direction and open on one side.

Having described my invention, I claim—

5 1. A bar and a face-plate having a spindle mounted therein and serving as a support for the tool-carrier, combined with a gear-wheel mounted upon said spindle and a pinion on a shaft carried by the bar, by means of which
10 gearing the carrier may be rotated, substantially as set forth.

2. A bar, a face-plate having a spindle mounted therein, an adjustable tool-carrier carried by said face-plate, a gear-wheel
15 mounted upon said spindle, and a pinion on a shaft carried by said bar, substantially as set forth.

3. A bar having a circular enlargement at its lower end, and having its rear portion
20 grooved or slotted, combined with a face-

plate mounted upon a spindle journaled in said bar, an adjustable tool-carrier carried by said face-plate, a gear mounted upon said spindle, and a pinion engaging said gear-wheel and mounted upon a shaft lying in the groove 25 or slot of the bar, substantially as set forth.

4. A bar and a face-plate mounted therein, adapted to have rotary motion and provided with a dovetailed projection, combined with a tool-carrier having a recess adapted to fit on 30 the said dovetailed projection and being adjustable thereon by means of a screw and half-nut, substantially as specified.

In testimony whereof I have hereunto set my hand and seal.

CHRISTOF F. GEYER. [L. S.]

Witnesses:

SOL. HIRSH,

CHAS. J. PFRANGLE.