2 Sheets, Sheet 1.

J. S. Brown,

Grinding File Blanks.

No. 43,005. Patented June 7, 1864.

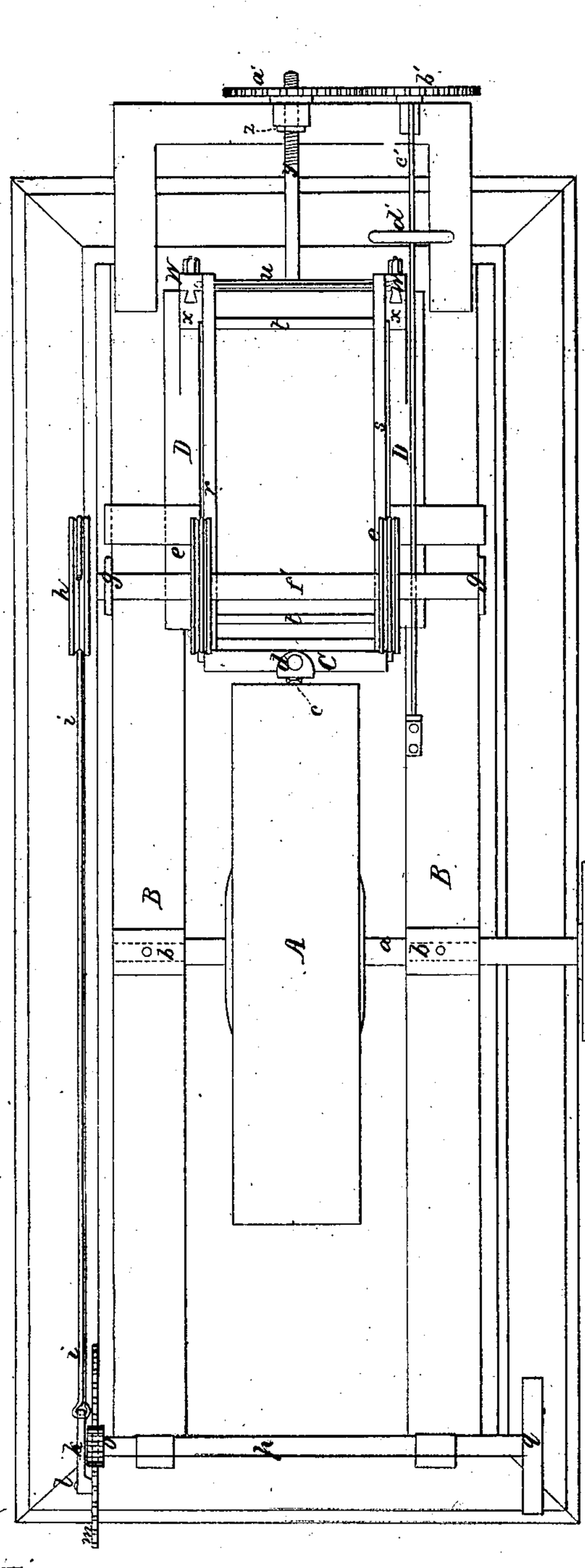

Fig. 1.

Witnesses
F. P. Hale Jr
Frederick Curtis.

Inventor
James T. Brown
by his attorneys
R. H. Eddy

J. S. Brown,

2 Sheets, Sheet 2.

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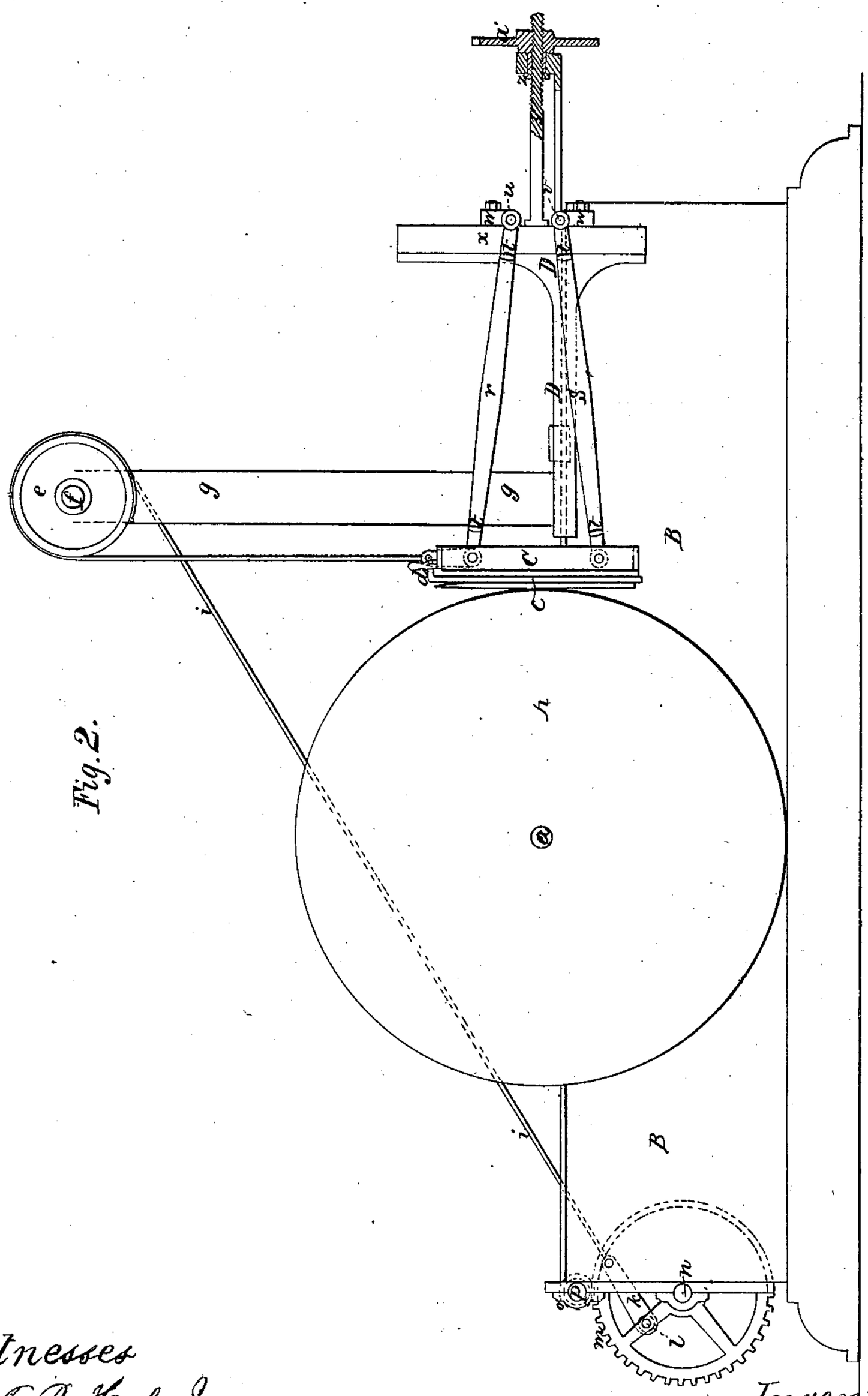

Fig. 2.

Witnesses

F. P. Hale Jr

Frederick Curtis.

Inventor

James T Brown

by his attorney

R H Eddy

UNITED STATES PATENT OFFICE.

JAMES S. BROWN, OF PAWTUCKET, RHODE ISLAND.

IMPROVED MACHINE FOR GRINDING FILE-BLANKS.

Specification forming part of Letters Patent No. **43,005**, dated June 7, 1864.

To all whom it may concern:

Be it known that I, JAMES S. BROWN, a resident of Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Machine for Grinding File-Blanks or Various other Articles; 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 top view, and Fig. 2 a verti cal longitudinal and central section, of it.

The purpose of my invention is to enable a file-blank to be ground to the requisite form by means of a grindstone or grinding-wheel, and whether such form be composed of either straight or curved surfaces, or a combination of the two. The machine is automatic in its action, and grinds one or more file-blanks at one and the same time.

In the drawings, A denotes a grinding wheel or stone, having its shaft *a* supported in suitable boxes, *b b*, resting on a frame, B. In rear of the grindstone A is a tablet or file-blank carrier C, which is a plate against whose inner surface the file-blank *c* or blanks to be ground are affixed by a holder, *d*, or by any suitable means. This carrier is sus pended from the periphery of two pulleys, *e e*, by means of two ropes or chains, *f f*, which are respectively attached to such pulleys.

The two pulleys *e e* are fixed on a horizontal shaft, *f'*, having its journals supported in the upper parts of two standards, *g g*, raised on the frame B. There is another pulley, *h*, fixed on the shaft *f'*, and having a cord, *i*, attached to and going partially around its periphery, such cord also being affixed to an arm, *k*, which turns on a pin, *l*, projecting from the side of a gear, *m*, which is fixed on a shaft, *n*, and engages with a pinion, *o*, fixed on a shaft, *p*, the whole being arranged as shown in the drawings. On revolving the shaft *p* by a belt going around a pulley, *q*, carried by the said shaft, a reciprocating rotary movement will be imparted to the shaft *f'*, and its pulleys *e e*, such as will alternately raise and depress the carrier C. The said carrier C is supported by two sets of arms, *r r s s*, each two arms of each set being arranged and connected together by two cross-bars, *t t*, as shown in Figs. 1 and 2. Each set of arms at its front is jointed or hinged to the carrier, and is supported at its rear by one of two adjustable centers or cross-rods, *u v*, each of which is sustained by two slides, *w w*, which are so applied to two posts, *x x*, as to be capable of being moved vertically and clamped or fixed in position thereon—that is to say, each of the rods or centers of the two sets of arms *r r s s* is to have adjustments and clamping devices by which its altitude may be changed and fixed as circumstances may require. The two posts *x x* project upward from a carriage, D, which is so supported on the top of the frame B as to be capable of being moved horizontally thereon, and either toward or away from the grindstone A. A screw, *y*, extends back from such carriage and screws into a shaft, *z*, of a gear, *a'*, which engages with a gear, *b'*, fixed on a hand-wheel shaft, *c'*, arranged and furnished with a hand-wheel, *d'*, as shown in Fig. 1. By taking hold of the hand-wheel and rotating it the carriage D may be put in motion and so as to feed the file-blank up to the grinding-wheel, as circumstances may require.

The form of the surface ground on the file will depend on the positions of the centers or rods *u v*, and as these rods are adjustable they may be so arranged as to cause the file-blank to be ground either with a concave, convex, or plane surface.

I claim as my invention—

1. The combination of the two series of arms *r r s s*, or their mechanical equivalents, and their adjustable centers or rods *u v*, provided with adjustments, as described, with the file-blank carrier C, and arranged so as to operate with a grinding wheel or stone, substantially in manner as specified.

2. The combination of the file-carrier and its adjustable arms and centers, having adjusting devices, as explained, with the carriage D, provided with devices for moving or adjusting it, substantially as explained.

JAMES S. BROWN.

Witnesses:

JAMES BROWN,

CHAS. A. WARLANE.