

J. P. ELDRIDGE & S. KNOWER.
Machines for Dressing Stove-Plates.

No. 153,890.

Patented Aug. 11, 1874.

Fig. 1.

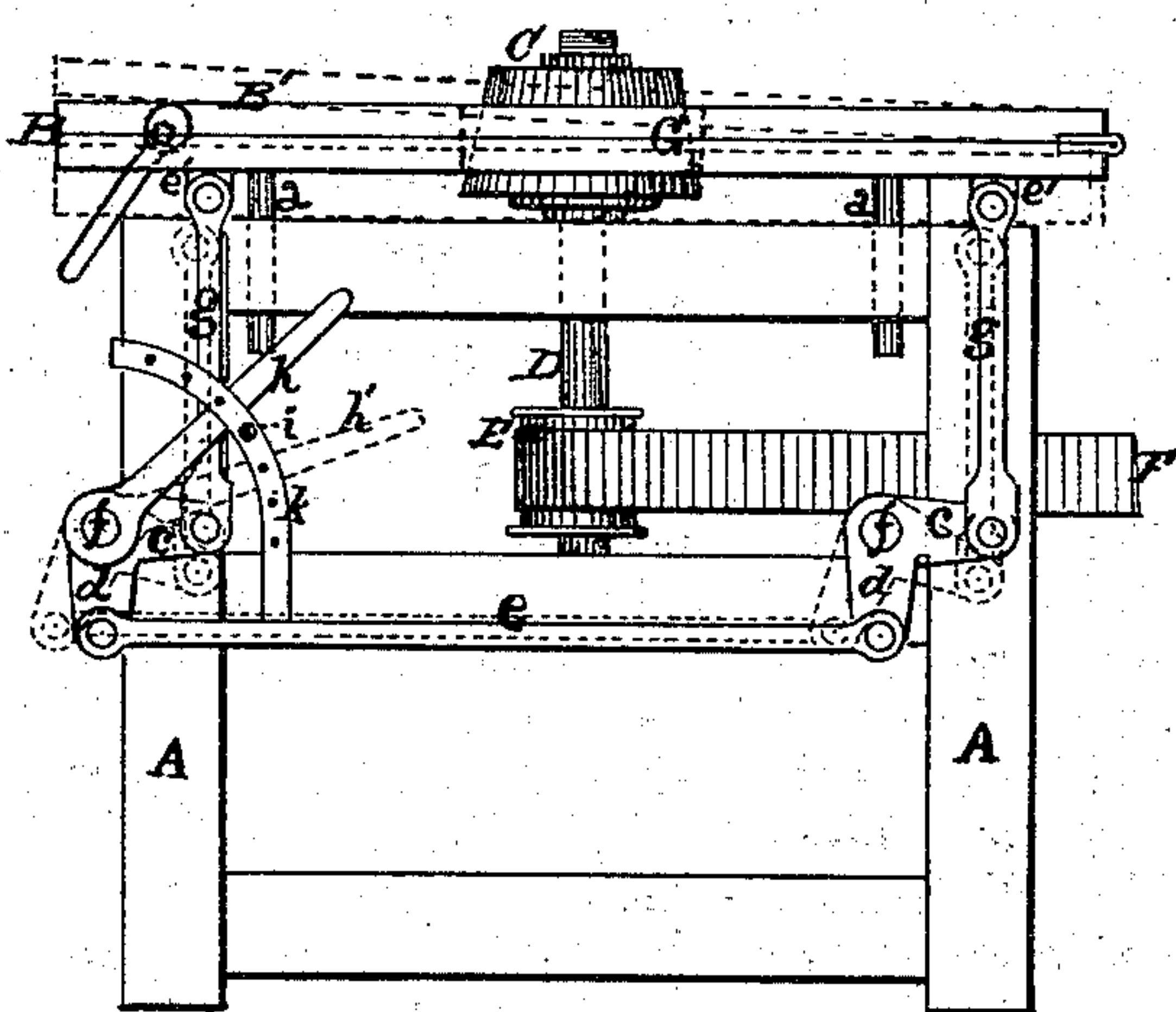
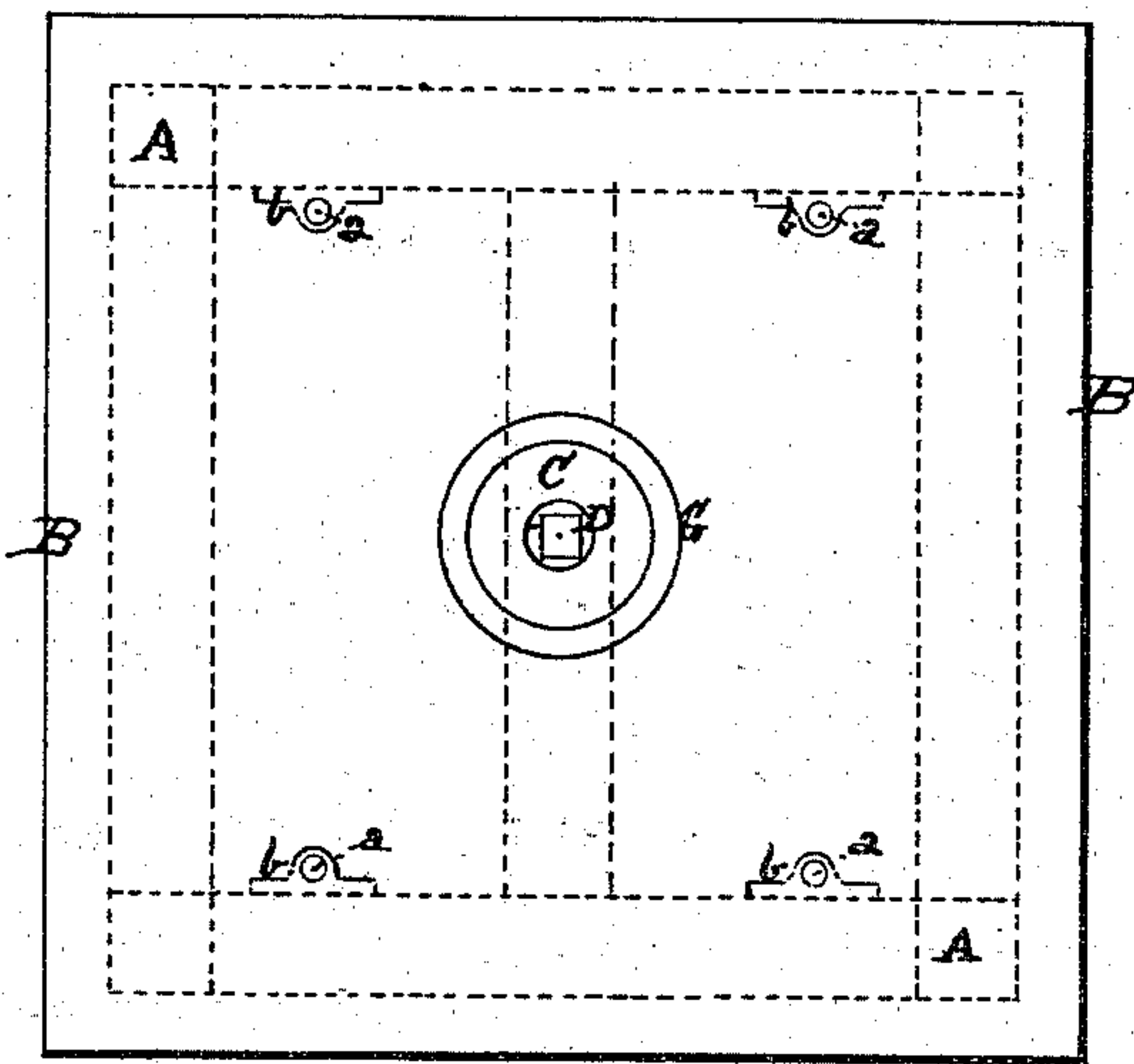


Fig. 2.

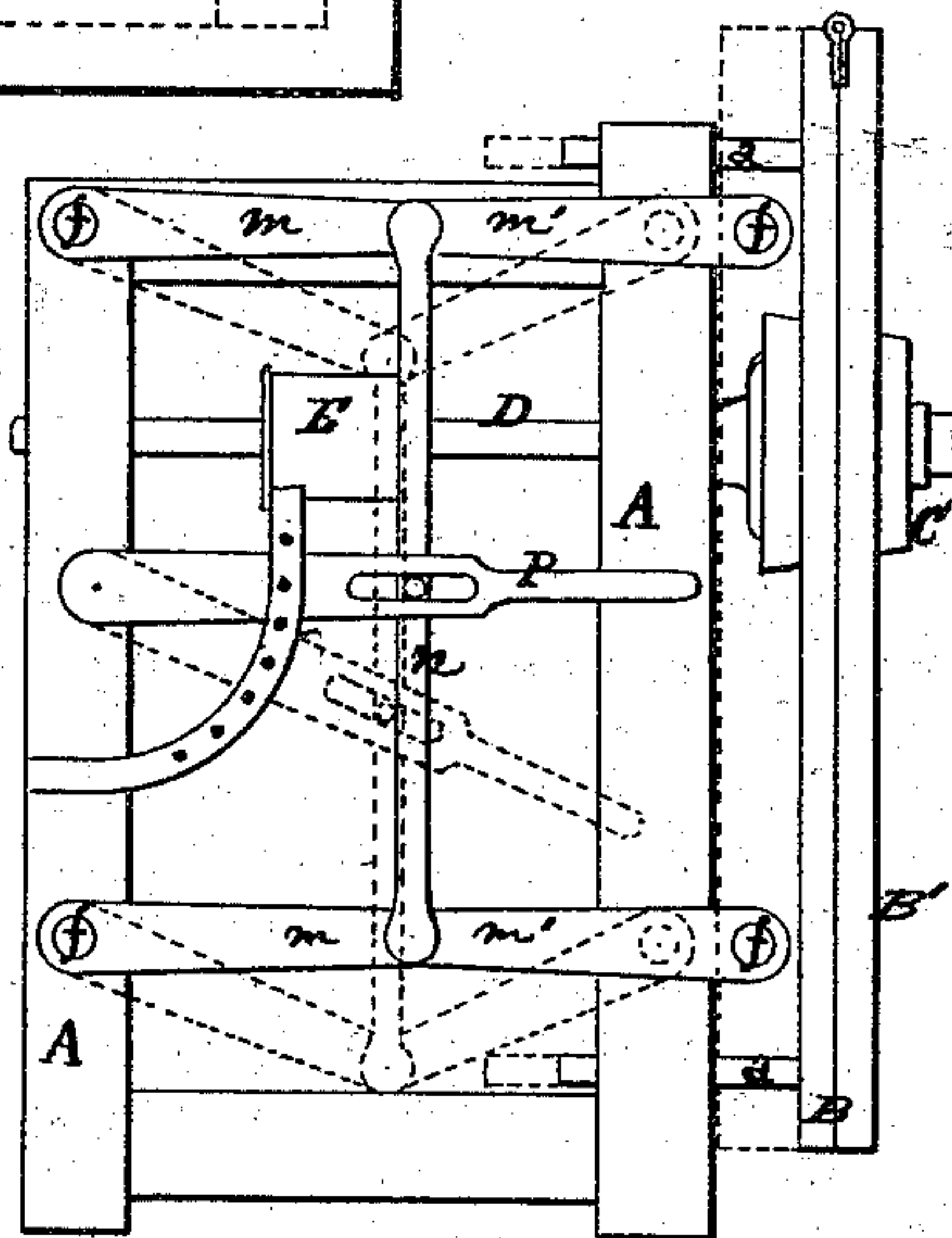


Fig. 4.

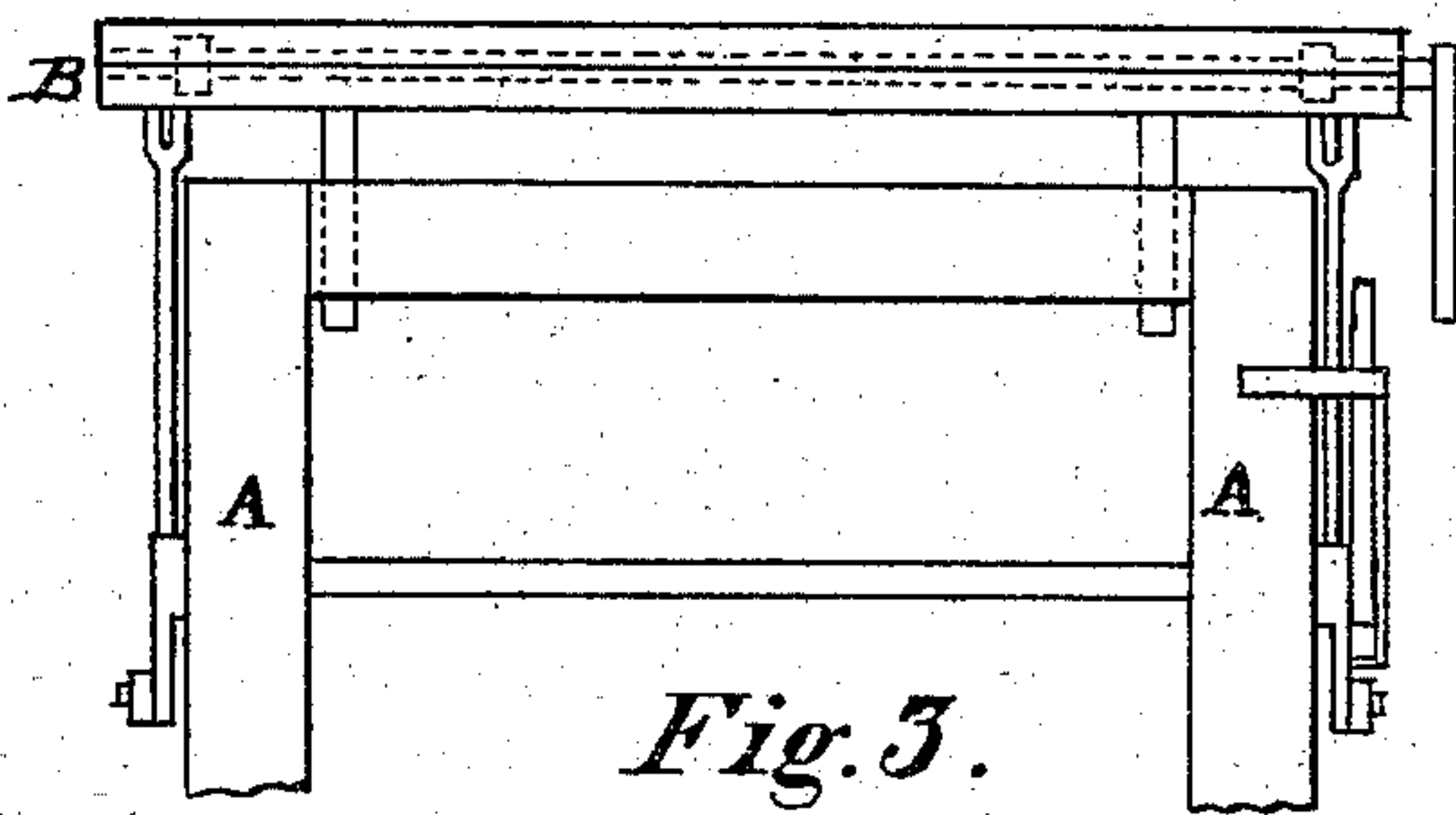


Fig. 3.

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IMPROVEMENT IN MACHINES FOR DRESSING STOVE-PLATES.

Specification forming part of Letters Patent No. 153,890, dated August 11, 1874; application filed August 1, 1873.

To all whom it may concern:

Be it known that we, JOSIAH P. ELDRIDGE and SAMUEL KNOWER, both of the city and county of Albany and State of New York, have invented certain new and useful Improvements in Machines for Dressing Stove-Plates; and we hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a top view of the machine embodying the improvements in this invention. Fig. 2 is a side elevation of the same. Fig. 3 is a side view; and Fig. 4 is a side elevation of a machine modified in its parts and illustrating the same principle.

Our invention relates to a machine for dressing the edges of stove-plates, in which an emery-wheel or other equivalent dressing or grinding wheel is employed; and consists in the combination of a supplementary table with an adjustable table and an emery-wheel in such a manner that the said supplementary table can have given to it any desired inclination to effect different angles with the emery-wheel, as may be required by the nature of the edges to be operated with.

To enable others skilled in the art to make and use our invention, we will proceed to describe it in reference to the drawings and the letters of reference marked thereon, the same letters indicating like or similar parts.

In the drawings, A A represents the frame-work of the machine. B is an adjustable table, capable of being set nearer to or farther from the said frame. C is an emery-wheel, or any grinding-wheel of equivalent material, secured to the mandrel D, and driven by the pulley E through the medium of the band F, connecting with any suitable driving-pulley. (Not shown.) The said mandrel D is supported by bearings attached firmly to the frame-work, and may stand vertically, as in Fig. 2, or horizontally, as in Fig. 4. The table B is steadied by the guide-pins *a a*, secured to the table from its side next to the frame, and working into the ways *b b* secured to the frame A, as shown. The said guide-pins *a a* and their ways *b b* are intended to preserve the said table in the same relative lateral position with the frame-work

and the emery-wheel. The table B has made in it an opening, G, with a diameter equal to the largest diameter of the emery-wheel, as shown in Fig. 1, which opening is located at a point corresponding to the position of the emery-wheel, which it receives, as shown in Figs. 1, 2, and 3. The table B is so connected with the frame-work A A as to be capable of being thrown farther from or brought nearer to the said frame-work by means of mechanical devices, (shown in the drawings,) which consist in the crank-levers *c d*, Figs. 2 and 3, connected in pairs by means of the shafts *f*, supported in proper bearings, and passing from one side of the frame to the other, with the levers *d* of each pair connecting with similar levers *d* of the other pair through the rods *e*, as shown in Fig. 3, and with the levers *c c* of each pair connecting with the eyes *e' e'* secured to the table B by the connecting-rods *g g*, Figs. 2 and 3, which said crank-levers are operated by the handled lever *h* attached to one of the shafts *f*, or to one of the crank-levers, as shown in Figs. 2 and 3.

With this device, when the handle is placed in position shown by full lines in Fig. 2, the table will stand a little above the frame, and about midway around the emery-wheel C; and when thrown down to dotted lines *h'* the said table will be lowered; and when thrown in the reverse back of the full-line lever *h* the said table will be raised, when the table may be secured by means of any suitable pin *i* inserted in any of the holes made in the guard *k* on the lower side of the lever *h*, as shown.

By this arrangement of devices the table may be as variously adjusted with the frame A and the emery-wheel C as may be required by the nature of the work to be done.

Another arrangement of equivalent devices for effecting the same relative adjustment of the table with the emery-wheel and its frame is shown in Fig. 4, in which are used the levers *m m* and *m' m'*, the levers *m m* being connected with the frame and the levers *m' m'* connected with the table, and also with the levers *m m*, and operated by the connecting-rod *n* through the medium of the handled lever *p*, which will operate the same as the devices shown in Figs. 2 and 3, for the same purpose, as shown by full and dotted lines in Fig. 4.

In some cases we would arrange the table B with the frame A, so as to be horizontal, as in Fig. 2, while in other cases we would make it to be in a vertical position, as in Fig. 4, and again, in other cases, to be inclined, (not shown,) as might be required, but would, in all cases, so arrange the several parts that the axis of the emery-wheel and its mandrel would be at right angles to the said table, and the said table rendered capable of adjustment with the emery-wheel in its longitudinal extension.

The emery-wheel C is preferably made in the form of a truncated cone, as shown, and with its sides having an angle corresponding with the angle given to the edges of the plates for a good draft from the sand; yet the emery-wheel may be made with any other form.

With the table B we make a supplementary table, B', hinged to the same at one end, as shown in Figs. 2 and 4, and capable of being relatively adjusted with the said table B at an incline, as shown in said figures, so as to effect any desired angle with the surface of the said table B and the periphery of the emery-wheel, so as to adapt the machine for operating with the edges of metal having other angles. By means of the table being made adjustable with the emery-wheel, as described, the whole extent of the periphery of the said emery-wheel can be used, so as to preserve an even wear of the wheel, and the edges of the metal plate standing at right angles or inclined with the plane of the surfaces of the plates to be operated upon can be brought into effective contact with the emery-wheel for dressing off the plate and cleaning the said edges for grinding in an effectual manner, and without any great expenditure of labor, as the table will support the plate operated with in its proper position, and the operator will be only

required to crowd the plate against the periphery of the said wheel. In the old mode of operation, the table not being used, the operator had to support or carry the plate being operated with, and could not hold the plate in the proper position for effectual action to preserve it in the same inclination to correspond with the edge made with the plate; and, as the angles of the edges of plates are generally varied in the old method, the operator had to guide the plate in its inclination by his eye, while in our invention the table gives the proper relative inclination at which the plate is sustained.

By means of the supplementary table B' any angle can be given for dressing, and the labor required will only be for holding the plate in contact with the grinding-wheel.

The advantages connected with our improvement are apparent, for it is readily seen that the table supporting the plate obviates the necessity for the operator carrying the plate, while with the cone-shaped emery-wheel and the adjustable table B' a proper angle can always be secured.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

In combination with the emery-wheel C, revolving in a plane parallel with the face of the adjustable table proper, B, the supplementary table B', carried by the said table proper, and capable of being variously inclined in relation to the same, and set at various angles with the emery-wheel, substantially as and for the purposes set forth.

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