

(No Model.)

W. GLEASON.

TOOL STOCK FOR IRON PLANERS.

No. 280,812.

Patented July 10, 1883.

Fig. 1.

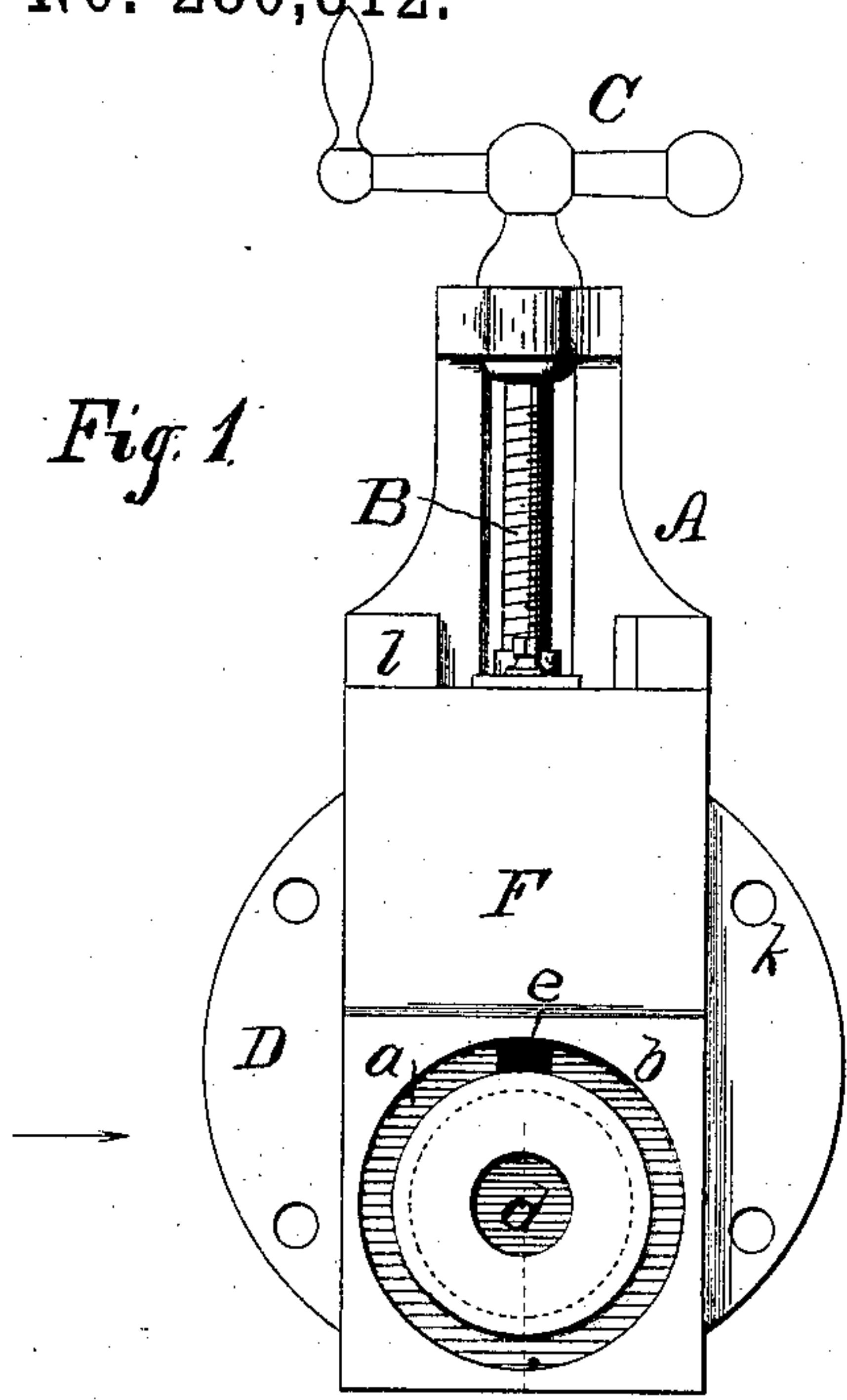


Fig. 2.

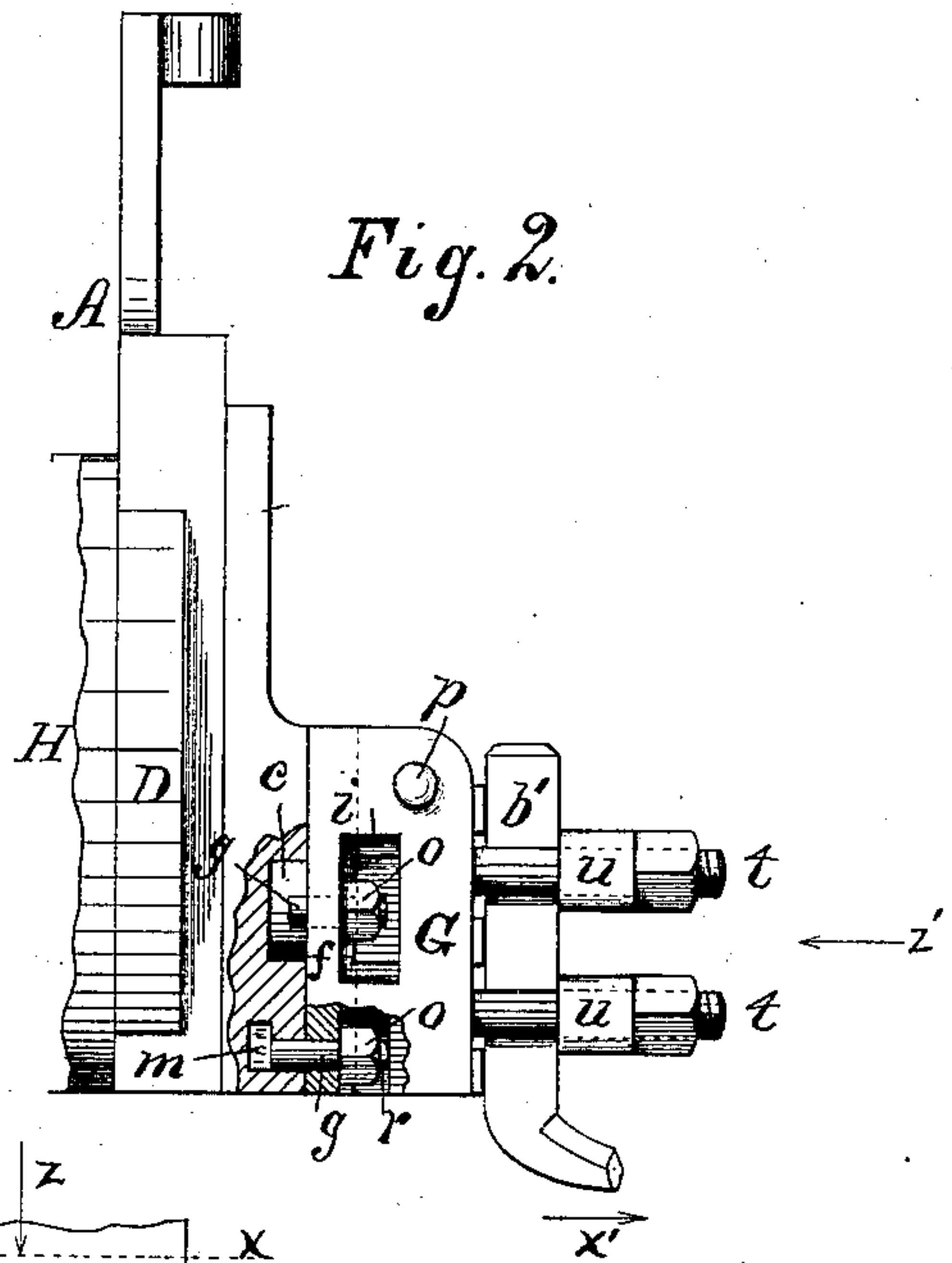
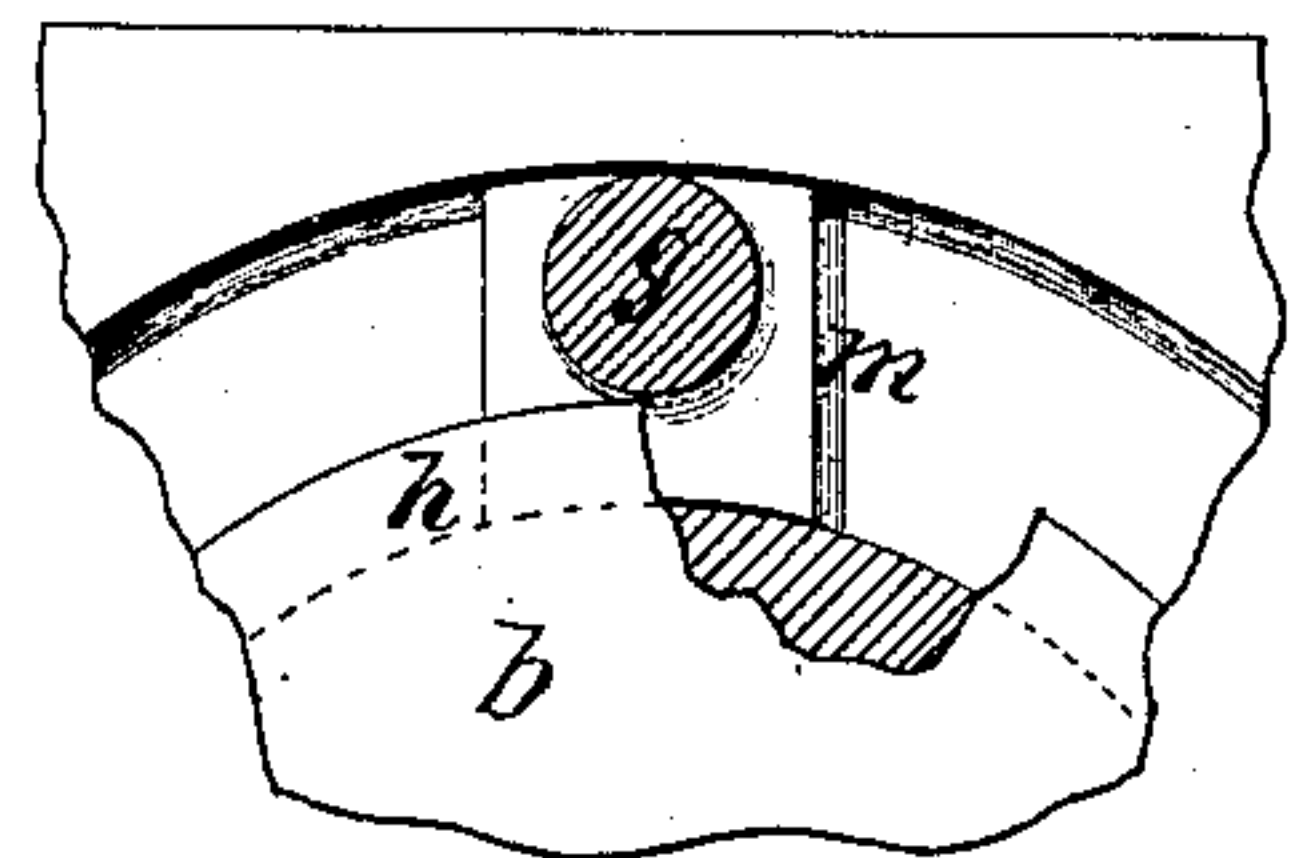
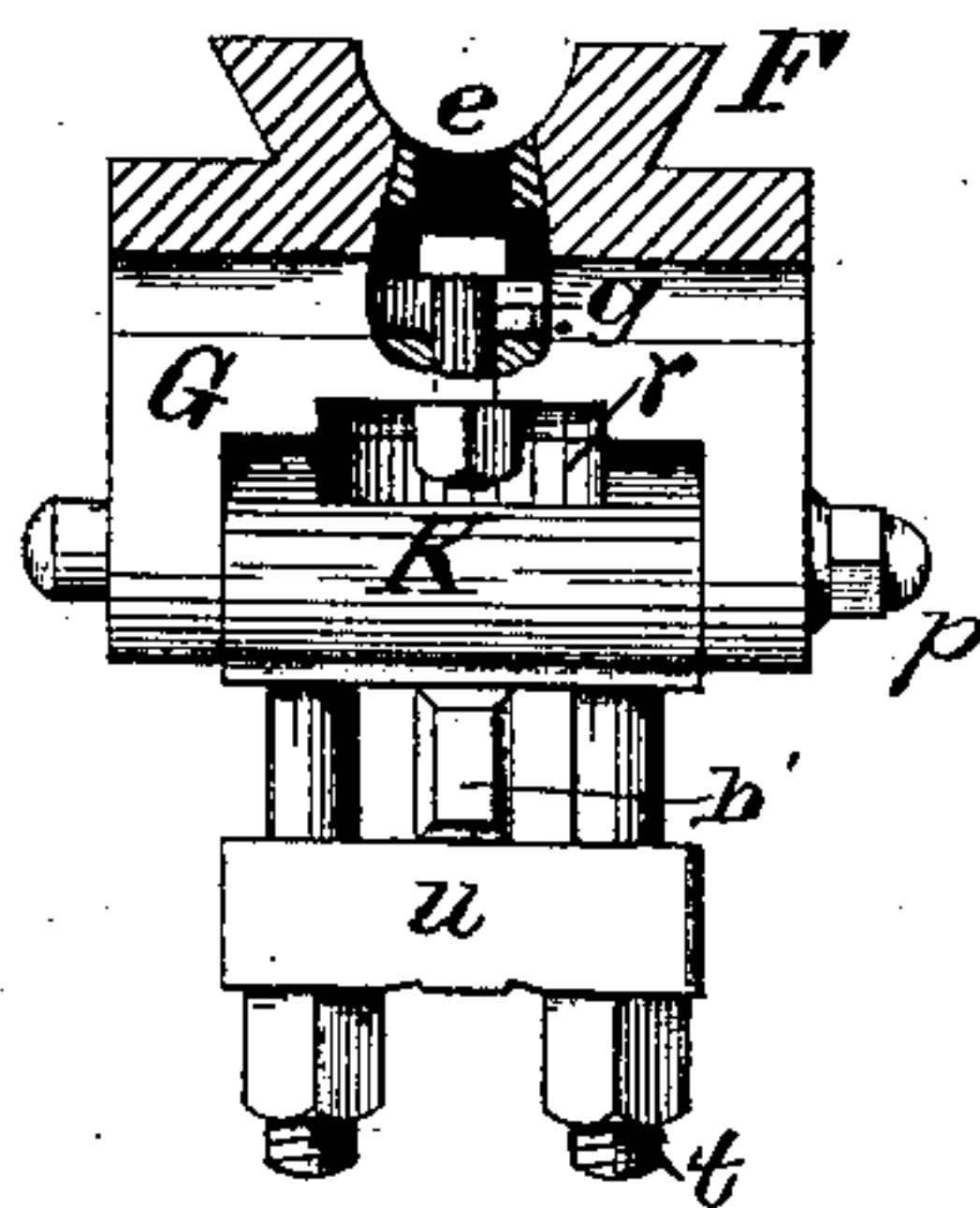
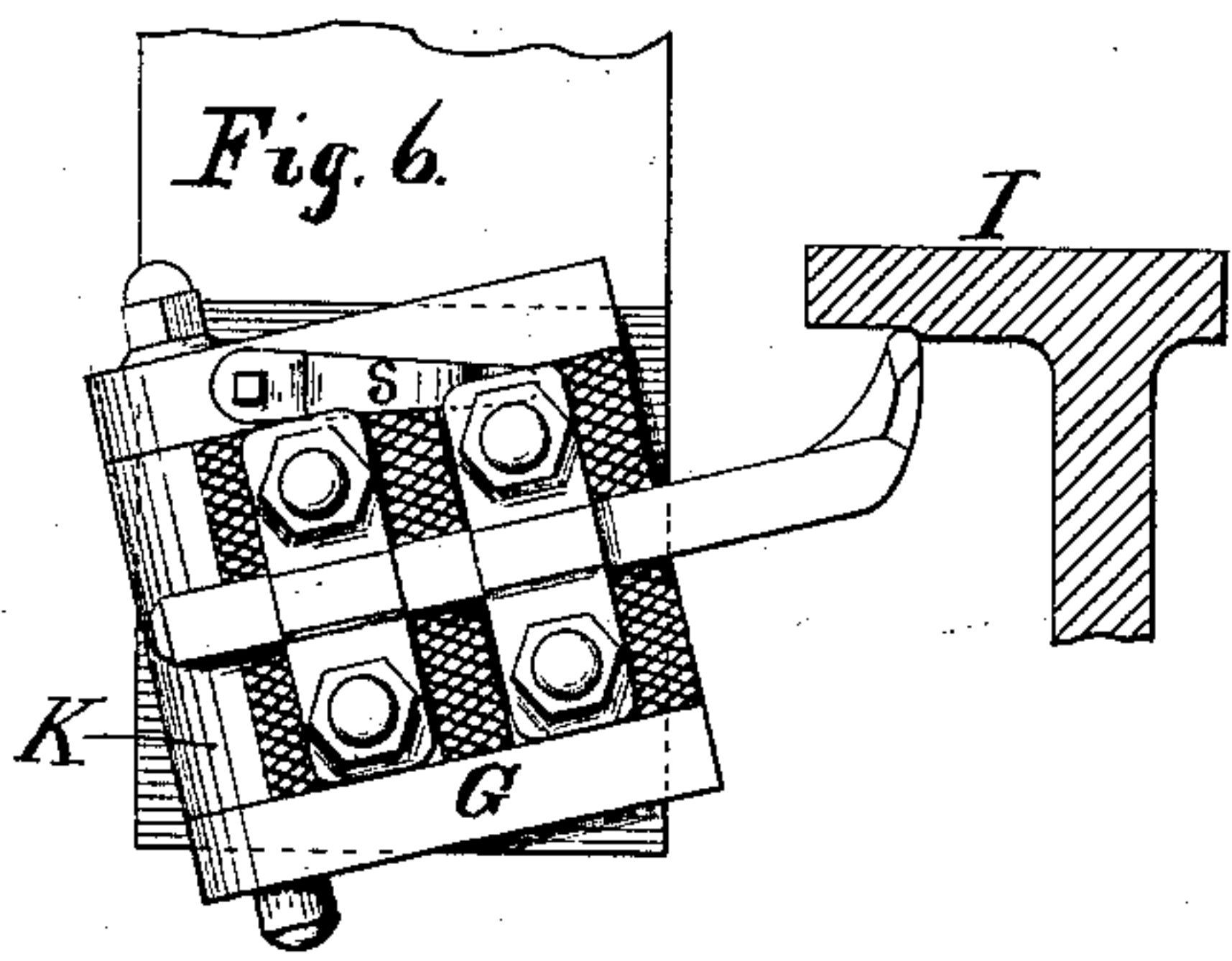
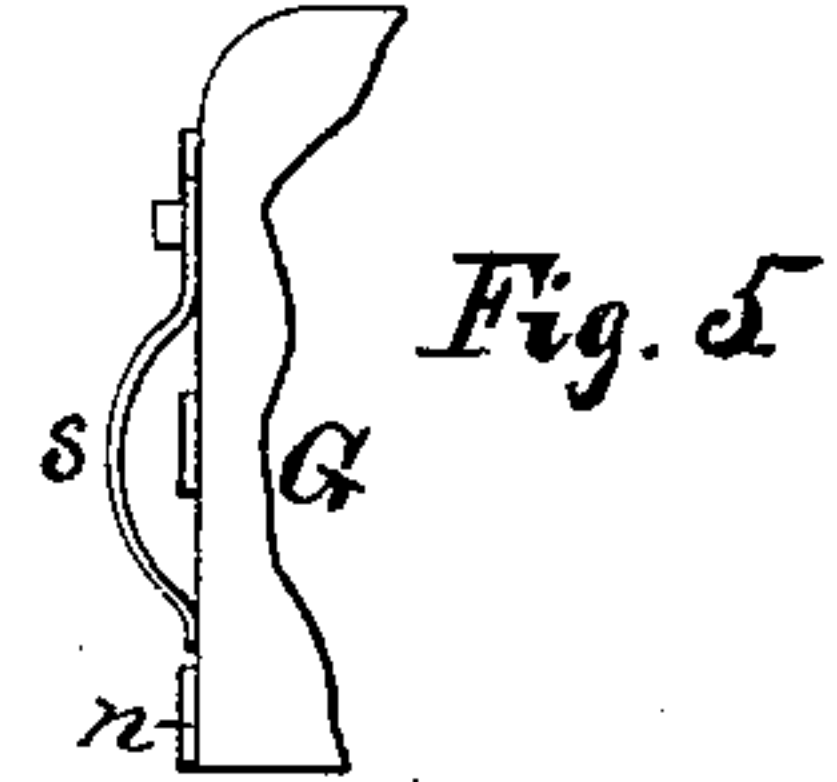
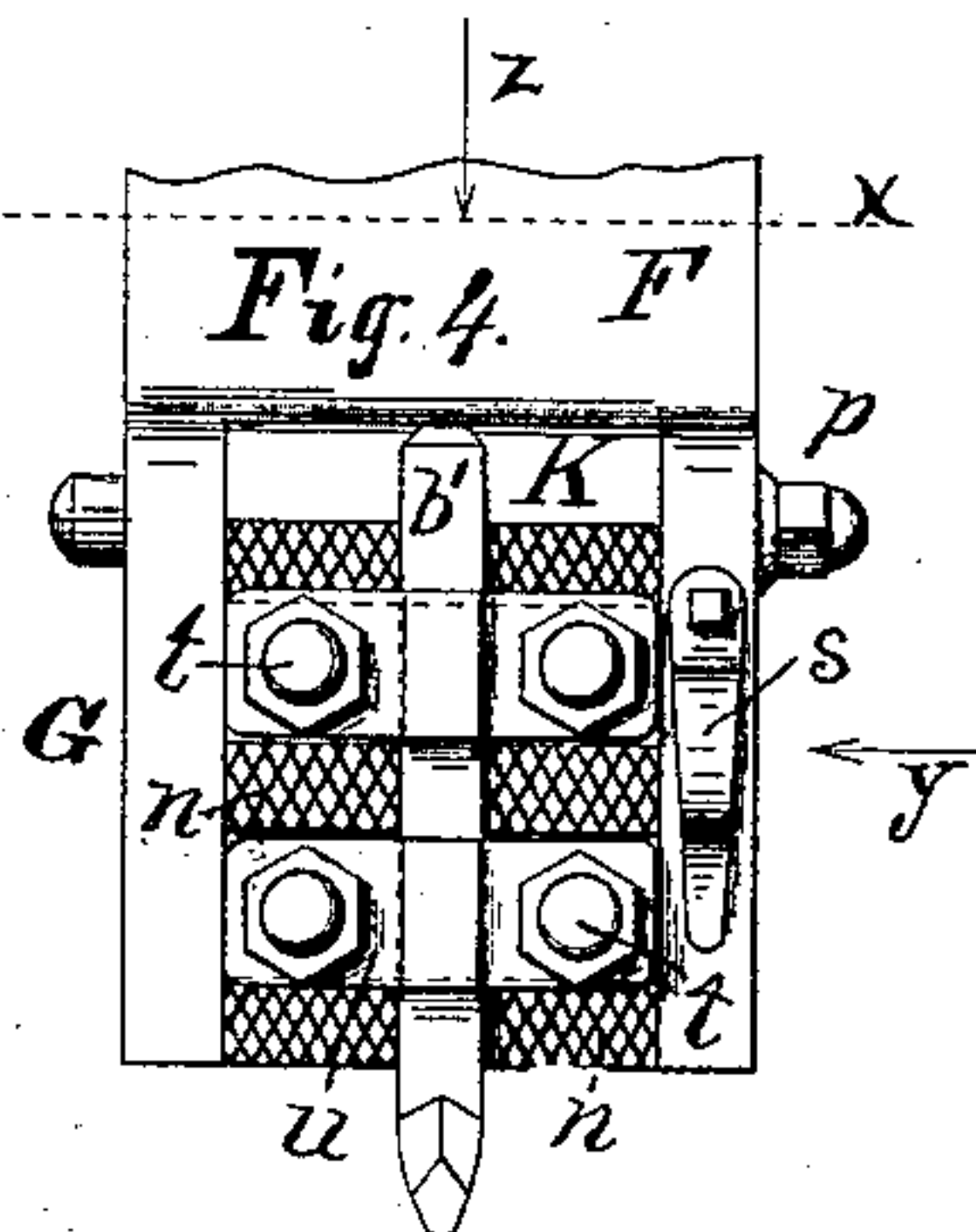
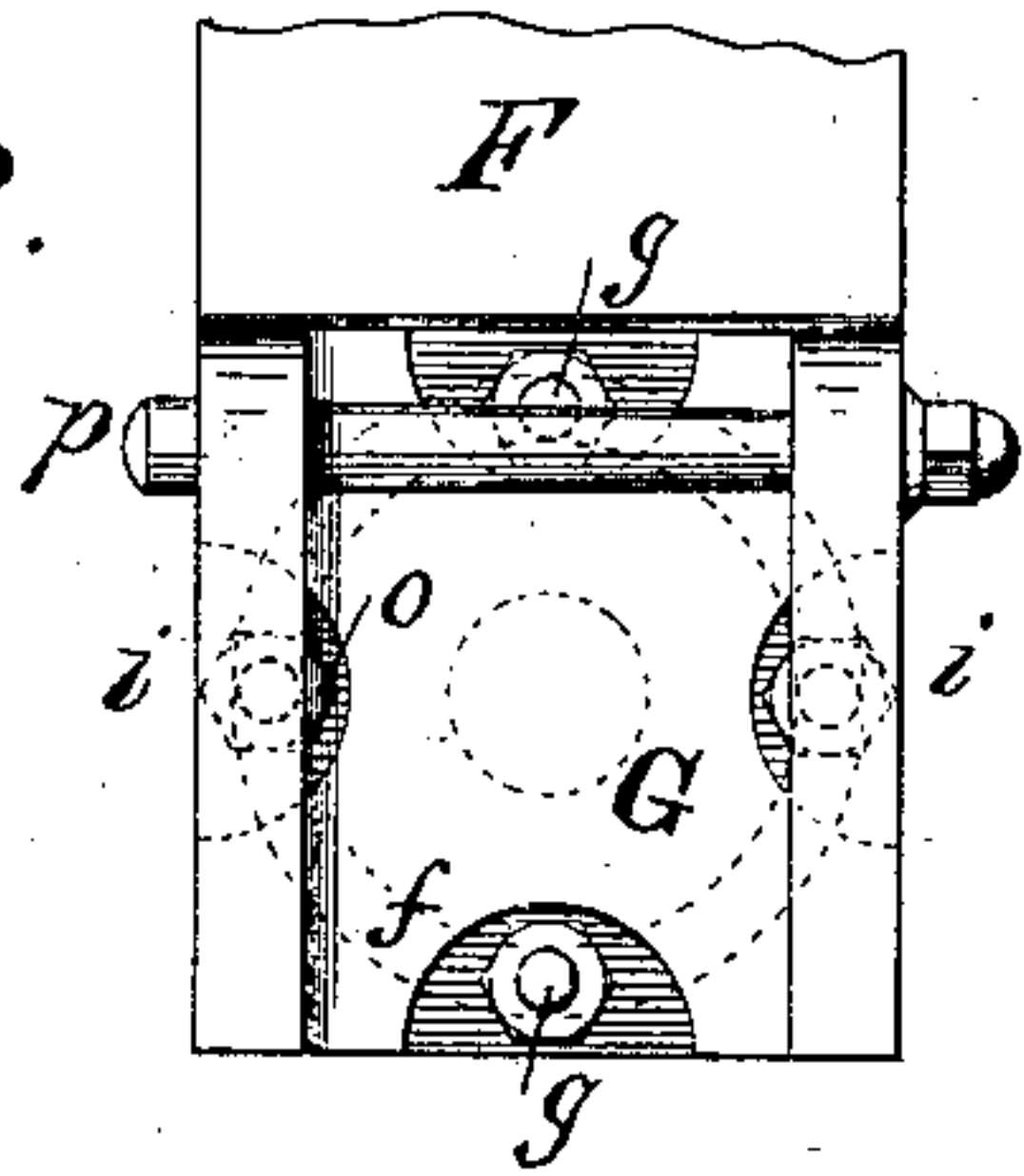


Fig. 3.



Attest:

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Fig. 7.

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UNITED STATES PATENT OFFICE.

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TOOL-STOCK FOR IRON-PLANERS.

SPECIFICATION forming part of Letters Patent No. 280,812, dated July 10, 1883.

Application filed April 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GLEASON, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Tool-Stocks for Iron-Planers, which improvement is fully set forth in the following specification and accompanying drawings.

The object of my invention is to produce an improved tool-stock for iron-planers, by means of which various kinds of work required of said planers may be more readily and conveniently done—such, for instance, as planing the under surfaces of horizontally-projecting parts or ledges of castings.

Referring to the drawings, Figure 1 is a front elevation of the swing-slide with screw, handle, and vertical slide, (the tool-holding stock being omitted,) showing the annular groove and center opening in the vertical slide; Fig. 2, a side elevation of the same with the tool-stock and tool added, parts being broken away and other parts vertically and centrally sectioned, viewed as indicated by arrow in Fig. 1; Fig. 3, a front elevation of a part of the vertical slide and the tool-box, the annular groove and center opening being shown in dotted lines; Fig. 4, a front elevation of the same, having the apron with the clamping-bolts and returning-spring added, viewed as indicated by arrow *z* in Fig. 2; Fig. 5, an outline figure, showing more fully the form of the returning-spring, viewed as indicated by arrow *y* in Fig. 4; Fig. 6, a front elevation of the parts shown in Fig. 4, with the tool-stock turned and adapted to plane an under surface, a proper tool being supplied, and the returning-spring adjusted to bear upon the apron; Fig. 7, a view of the parts shown in Fig. 4, viewed as indicated by arrow *z* in said latter figure, the swing-slide being horizontally sectioned on the dotted line *x*; and Fig. 8, a detached portion of the seat for the tool-stock, drawn to a larger scale, with parts sectioned, showing more clearly the annular groove or slot and hook-head of a bolt resting therein. Figs. 1, 3, 4, 6, and 8 show the parts as being viewed from the same point of observation.

Referring to the parts, A is the swing-slide, provided with the V-ways *l*, screw B, handle C, and circle D, all of usual form, said swing-

slide being secured in the ordinary way to the circle H of the cross-slide of the planer by bolts passing through the holes *k*. The vertical slide F, adapted to move vertically in the V-ways of the swing-slide, is formed differently from the corresponding piece in other planers, in the respect that it is formed with a plane vertical face, *b*, only slightly raised or projected from the body of the vertical slide, and provided with an annular slot, *a*, and central circular opening, *d*. The face *b* forms a seat for the tool-box G, the rear surface of the back plate, *f*, of which is made plain to fit the surface *b*, and provided with a central projecting part, *c*, fitted to the opening *d* in the face *b*, as shown in Fig. 2. By means of this construction the tool-stock may be turned in a vertical plane on the face or seat *b*, or have a swivel movement thereon.

The forming of the tool-stock separate from the slide F and attaching the same thereto in a manner permitting it to have a swivel movement is the essential part of this invention.

Heretofore in planers the tool-box G and the slide F have been formed in one piece, the former being only a forward horizontal extension of the latter.

The slot *a* is cut under on its inner periphery, as indicated by dotted circle in Fig. 1 and shown more clearly in Fig. 8, and the tool-box G is held against the face *b* by means of hook-headed clamping-bolts *g*, Figs. 2 and 8, having their heads *m* resting in the slot *a*, with the hook part of the head turned under the strong ledge *h* of the groove. These bolts pass through holes in the back plate, *f*, of the tool-box, and are provided with ordinary screw-nuts, *o*, as shown in Figs. 2 and 3, four of which bolts I prefer to use. To make room for the nuts *o* at the sides of the tool-box, and to permit a wrench to be used to turn the same, semicircular openings or slots *i* are formed in the part G, and openings *r*, for the same purpose, are formed in the rear surface of the apron K, as shown. The apron K rests within the tool-box in the usual manner, and is hung upon a tapering pin, *p*, upon which it may swing out to raise the point of the tool from the work while the latter is moving back or in the direction indicated by the arrow *x'* at the point of the tool.

The usual roughened surfaces, *n*, clamping-bolts *t*, and clamps *u* are supplied to hold the tool *b'*. By loosening the nuts *o* the tool-stock may be turned around on the seat *b* to any desired position of adjustment, the heads *m* of the bolts sliding around in the slot *a* as the tool-stock is turned.

The tool-box *G* and apron *K*, with the clamping-bolts *t* and clamps *u*, together constitute the tool-stock, all of which turn in a vertical plane upon the seat *b*, as above stated.

Fig. 6 shows the tool-stock as having been turned around through an arc of something more than ninety degrees to the left, and provided with a tool bent to one side and adapted to plane the under horizontal surface of a projecting piece, *I*, which may be supposed to represent the lateral extension of the upper side of a lathe-bed or other similar casting. By adjusting the tool-stock and tool to the position shown in said figure, and putting in operation the usual cross-feed of the planer, the under surface of the piece *I* may be planed as conveniently as upper-surface planing is done by planers provided with the old form of tool-stock.

In planing an upper surface in the usual manner, when the table of the planer is moving back after a cut has been taken, carrying the work in the direction indicated by the arrow *x'*, the point of the tool will be swung forward and slightly raised, as above stated, by the work rubbing against the under surface thereof. After the work has passed the point of the tool, the apron, from gravity, will drop back onto its bearing within the tool-box, bringing the tool again into position to take the next cut; but in planing an under surface it is clear that the tool-box will not thus operate.

To insure the returning of the apron to its place within the tool-box at all times, when from its position it would not be returned by the action of gravity, I employ a spring, *s*, Figs. 4 and 5, secured to one side of the tool-box in such a manner that its free end may be adjusted to bear against the surface of the apron, as shown in Fig. 6. Now, if the tool-stock is turned around more than ninety de-

grees from a vertical, as shown in Fig. 6, the point of the tool will tend, from gravity and from the friction of the work rubbing against it while running back, to drop or swing away from the work. I employ the spring *s* as a means to prevent the point of the tool thus moving too far away from the work, and to insure its return to position for each successive cut.

The bolts *g* are inserted in the slot *a*, at the rear side of the slide *F*, through a hole, *e*, at the bottom of said slot, before said slide is put to place on the swing-slide, the hole *e* opening out through the back surface of the slide *F*, as shown in Fig. 7.

I claim as my invention—

1. In an iron-planer, in combination with the vertical slide *F*, provided with the vertical face or seat *b*, circular undercut groove or slot *a*, and circular opening *d*, the tool-box *G*, having its back surface fitted to the seat *b*, and provided with a projecting part, *c*, to fit the opening *d*, by means of which said tool-box may have a swivel movement upon the slide *F*, with means to fasten said tool-box rigidly to the slide *F*, substantially as shown and described.

2. In an iron-planer, the vertical slide *F*, provided with the vertical seat *b*, undercut groove or slot *a*, central circular opening, *d*, and opening *e* from the back surface of the slide *F* through to the bottom of the slot *a*, substantially as and for the purpose set forth.

3. The tool-box *G* of an iron-planer, fitted to a seat, *b*, upon the slide *F*, substantially as shown, jointly with clamping-bolts *g*, to hold the tool-box and slide together, the tool-box being provided with the openings *i*, in which to enter a wrench to turn the screw-nuts *o*, substantially as set forth.

4. The tool-box *G* of an iron-planer, provided with the returning-spring *s*, in combination with the apron *K*, substantially as shown and described.

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Witnesses:

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M. A. THOMPSON.