E. C. Cleveland.

Planing Metal.

No. 15,413. Patented Jul. 29, 1856

Fig. 2

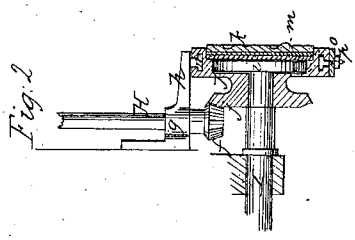
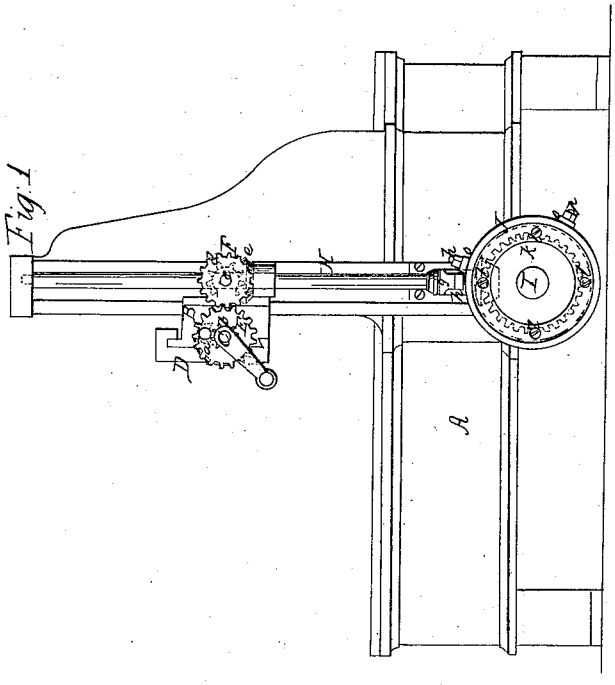


Fig. 1



THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

E. C. CLEVELAND, OF WORCESTER, MASSACHUSETTS.

METAL-PLANER.

Specification of Letters Patent No. 15,413, dated July 29, 1856.

To all whom it may concern:

Be it known that I, E. C. CLEVELAND, of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and Improved Feeding Device to be Applied to Metal-Planers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side view of a planer with my improvement attached to it. Fig. 2, is a detached view of the friction box bisected through its center.

Similar letters of reference indicate corresponding parts in the two figures.

My invention consists in the employment or use of a friction box connected by gearing with the screw which operates the tool stock. The friction block being provided with adjustable dogs; the above parts being arranged as will be hereinafter described; whereby the tool may be adjusted or fed at varying distances, as desired, at each stroke of the bed according to the nature of the work.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents the framing of an ordinary power planer; and B, represents the cross bar which contains the screw, C, that passes through the nut of the stock, D, to which the tool is attached; the stock, D, being allowed to slide upon the bar, B, in the usual manner. On one end of the screw, C, there is placed loosely a pinion, E, having a pawl, (*a*), on its inner side, which pawl catches into a pinion, (*b*), attached permanently to the screw, C. (See dotted lines, Fig. 1.) The pinion E, gears into a pinion, F, which is placed on one end of a shaft, (*c*); said shaft being fitted in a bearing attached to the bar, B. On the opposite end of the shaft, (*c*), a bevel pinion, (*d*), is placed, which pinion gears into a bevel pinion, (*e*), placed loosely on a vertical shaft, H, at the side of the framing, A. To the lower end of the shaft, H, a bevel pinion, (*f*), is attached; and the lower bearing, (*g*), of the shaft, H, has a projecting arm or stop, (*h*), attached to it.

I, represents a cross shaft at the lower part of the framing, A. This cross shaft has a circular disk, (*i*), formed on its end; and a box, J, is placed over the disk, (*i*); said box extending a short distance around the shaft, I, and having a bevel wheel, (*j*), upon it, which wheel gears into the pinion, *f*. To the outer side of the box, J, a circular plate, (*k*), is attached by screws, (*l*); and washers, (*m*), constructed of raw hide or other proper material, is placed between the disk, (*i*), and plate, (*k*). (See Fig. 2.) The box, J, is of circular form, and a T-shaped groove, (*n*), is made in its periphery, in which groove, dogs, (*o*), (*o*), are fitted and secured therein by screw bolts, (*p*). These dogs project a suitable distance beyond the periphery of the box, J, so that they may strike against the arm or stop, (*h*), which projects over the box, J, as shown clearly in Fig. 2.

The dogs, (*o*), (*o*), are adjusted upon the box, J, in such positions that they will strike against the arm, (*h*), and prevent the box, J, from turning when the plate or article to be planed passes underneath the cutter which is attached to the stock, D. When either of the dogs, (*o*), are in contact with the arm, (*h*), the shaft, I, rotates, while the box, J, is stationary; the plate, (*k*), being screwed up against the washers, (*m*), sufficiently tight to cause the box to rotate with the shaft, I, when the box is not arrested by the arm, (*h*), and at the same time the plate, (*k*), is not screwed up so tight as to prevent shaft, I, rotating independently of the box when its motion is arrested in consequence of the dogs striking against the arm, (*h*).

From the above description it will be seen that by properly adjusting the dogs, (*o*), upon the box, J, the tool stock, D, may be moved laterally when the plate to be planed has passed underneath the cutter or tool, so that said tool may be adjusted for each cut; the box, J, rotating with the shaft, I, and operating the tool stock till one of the stocks comes in contact with the arm *h*, the lateral movement of the tool being stopped at this point and the tool acting upon the work. The shaft I and the box J, rotate in a reverse direction, as the work or plate to be planed moves backward and the tool is not moved laterally when the work is thus moving, as the pawl *a*, slips over the teeth of the pinion *b*.

By properly adjusting the dogs, *o*, *o*, the tool may be moved laterally a greater or less distance at each stroke or vibration of the bed and the work which is placed upon it, and as the pinion *e*, is placed loosely on

the shaft H, and is fitted or works in a groove therein, the bar B, and tool may be raised or lowered to suit the work.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

The friction box J, attached to the shaft I, as shown, and provided with adjustable dogs *o*, *o*, the box J, being connected with the shaft H, by the gearing *j*, *f*, and operating conjointly with the gearing E, F, *b*, and pawl *a*, on the shafts C, *c*, H, and the arm *h*, which projects over the box J, as shown, for the purpose specified.

E. C. CLEVELAND.

Witnesses:
W. W. RICE,
CHAS. C. COLEMAN.