G. TUGNOT.

Lathe.

No. 12,008. Patented Nov. 28, 1854.

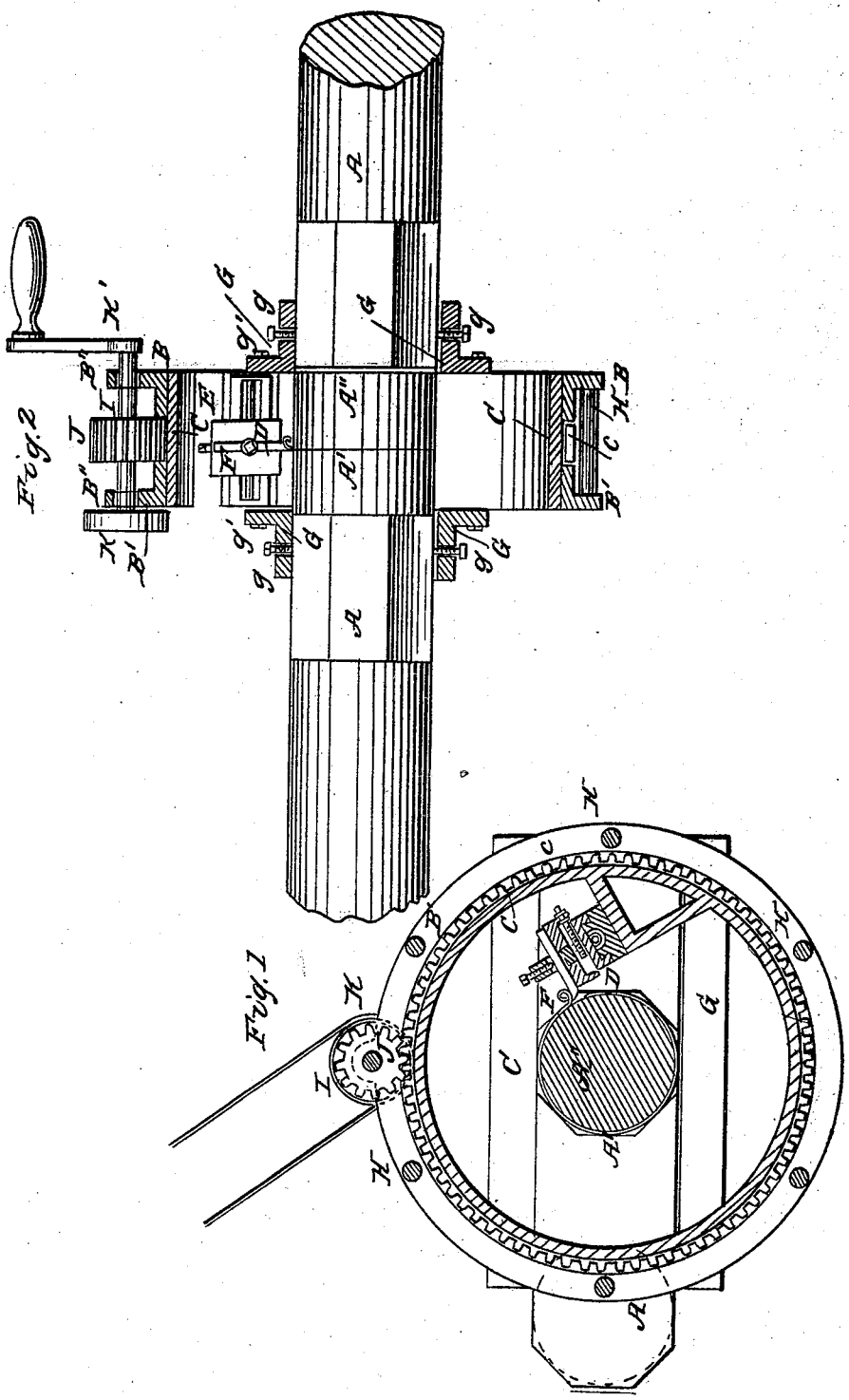

Fig. 2

Fig. 1

UNITED STATES PATENT OFFICE.

DANIEL VAN FLEET, OF SANDUSKY CITY, OHIO.

PLANING-MACHINE.

Specification of Letters Patent No. 12,009, dated November 28, 1854.

To all whom it may concern:

Be it known that I, DANIEL VAN FLEET, of Sandusky city, in the county of Erie and State of Ohio, have invented new and useful Improvements in Planing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, which make a part of this specification.

I construct my machines with top and bottom plates which are connected by posts upon which it stands. All may be of cast iron, and these together constitute the principal frame of the machine.

Figure 1 shows the top plate, or top of the machine. Fig. 2, is a side view or elevation. Fig. 3, the top of the machine with the upper plate removed.

The same letters in each of the figures indicate the same parts in the machine.

In Fig. 1, A is the upper plate, B, B, two of the posts. *b*, *b'*, *b''*, are three arms, these are in pairs, each shown upon the top, having a corresponding arm at the bottom (see Fig. 2). These arms are attached to the plates by bolts *a*, *a*, *a*, and turn upon them. *c*, *c'*, *c''*, are three other bolts, connecting the other end of the same arms in pairs together, the bolt *c*, on the left also connects the bed block *l*, with the knife frame S, S, and forms a joint, the bolt *c'*, also connects the other end of the knife frame with the front roller frame T, T, while the bolt *c''*, connects the same roller frame on the right. These three bolts move in the slots *d*, *d*, *d*, which are curved to correspond with the length of the arms.

The bed block *l*, the knife frame S, S, and front roller frame (T, T,) are shown in Figs. 2 and 3. E, is a bolt which secures one end of the back roller frame (marked M in Fig. 3,) the screw F, working against a spiral spring (dotted and marked O, in Fig. 3) adjusts and holds the other end, not firmly, the spring allowing it to yield slightly. N, is a block of wood or iron attached firmly to the plates. *f*, is the driving pulley. G, G, are mortises for the insertion of wedges which are kept in place by the screws *h*, *h*. *i*, is a screw, *k*, a rolling nut, I a crank.

In Fig. 2, A, A, are the upper and lower plates; B, B, B, three of the posts; *a*, *a*, *a*, bolts; *b*, *b*, *b*, *b*, *b*, *b*, are the three pairs of arms; *c*, *c'*, *c''*, bolts; *f*, driving pulley; *h*, *h*, screws; *i*, a screw passing through the rolling nut *k*. All these are seen and referred to in Fig. 1.

The rolling nut *k*, is attached to the post B, and turns freely upon it, to accommodate the positions of the screw *i* and the bed block *l*, as they change.

m, is an eye, strongly attached to the bed block *l*, having a hole through it countersunk on both sides, which the screw *i* works in.

n, *n*, are convex washers or nuts on either side of the eye *m*, and attached to the screw *i*.

G, *g*, G, *g*, are wedges in the mortises G, G, kept in place by the screws *h*, *h*, to secure the knife frame in its proper place when once adjusted.

S, S, is the knife frame, which by the removal of the bolt *c'*, may be opened outwardly like a door on hinges, for grinding, changing or adjusting the knives.

T, T, is the front roller frame. In this frame is the large driving wheel Q which moves the feed rollers by pinions (shown in red ink in Fig. 3).

In Fig. 3, M is the upper part of the back roller frame secured on the left by the bolt E, and on the right held by the screw F. In the frame M, are friction rollers, 1, 2, 3, 4, &c., and also feed rollers with pinions (in red ink). These are moved by a large driving wheel P, which also turns the wheel Q. Upon the shaft of pulley *f*, is a pinion *p*, which gives motion to the driving wheel P. *t*, *t*, *t*, *t*, *t*, are throats in the knife frame for the escape of the shavings, the side of each on the right being constructed in what is known as the ogee form, so that when a shaving first enters the throat, it is met by the swelled or raised portion of the ogee, which slightly resists its tendency to curl and passes it onward to the exact point where shavings in common planes always clog. At this point they reach the depressed part of the ogee and meeting no resistance, never clog, but are discharged freely. In the opposite side of these throats are affixed in any approved manner the knives, constructed so as best to suit the work to be done.

It will be perceived that I have provided a device for the adjustment of the planing knives, each to the receding surface of the plank as a shaving is successively taken off by each knife, and this adjustment has