B. Fitts,

Wood Plane Attachment.

No. 23,240. Patented Mar. 15, 1859.

Fig. 1.

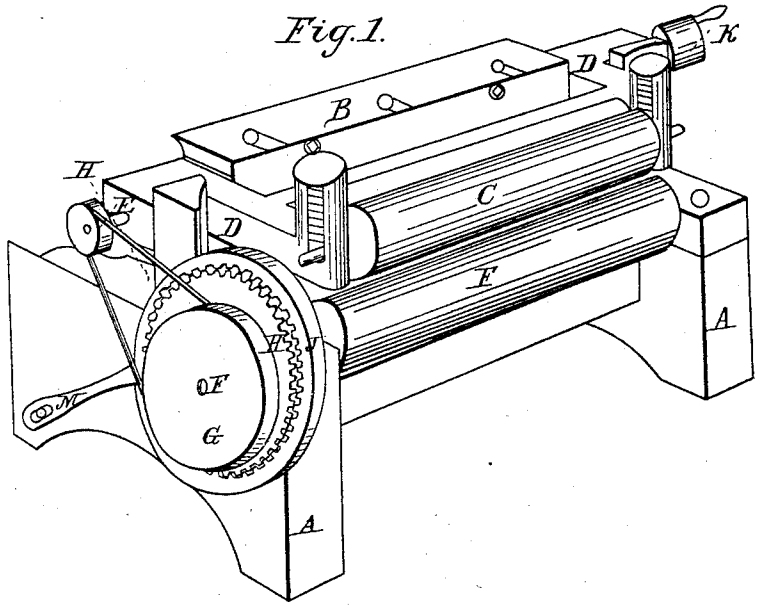
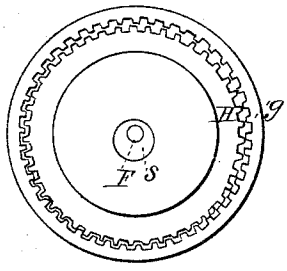


Fig. 2.



Witnesses.
H. A. Richardson
Edwin A. Wood

Inventor.
Benaiah Fitts,

A.M. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

B. FITTS, OF WORCESTER, MASSACHUSETTS.

METHOD OF OPERATING FEED-ROLLERS FOR PLANING-MACHINES.

Specification of Letters Patent No. 23,240, dated March 15, 1859.

To all whom it may concern:

Be it known that I, BENAIAH FITTS, of the city and county of Worcester and State of Massachusetts, have invented a new and useful Improvement in the Arrangement of Gears to Drive Feed-Rolls on Wood-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, making a part of this specification, and in which—

Figure 1 is a perspective view of the machine. Fig. 2 is a vertical section through X, Y, showing the gears H and I, (the same letters referring to the same parts on both) and also showing the eccentric which revolves on roll shaft F, giving motion to the gears.

The machine consists of frame A, A, on which the other parts rest.

B, is the cutting cylinder with a shaft projecting far enough for bearings and a pulley on each end.

C, is the top feed roll.

D, D, is a sliding frame in which hangs the cylinder B, and top roll C, and is raised or lowered for different thickness of lumber to be planed.

K, is a pulley on end of cylinder shaft whence power is applied to the machine.

F, F, is the bottom feed roll with shaft projecting far enough at one end to receive the gear I, the eccentric S, and the pulley G.

I is an internal gear made fast to roll shaft F.

H, is an external gear fitted loose upon eccentric S.

G, is a pulley fitted loose upon the shaft F, and is where power is applied to the feed roll from the cutting cylinder.

E is a pulley on cylinder shaft to drive the feed rolls.

S is an eccentric made fast to pulley G and revolves freely on shaft F, and inside of gear H, giving to H its motion.

M, is an arm fastened to gear H and also to the frame with a joint so as to hold the gear always in the same vertical position.

To operate the machine,—when the cylinder B revolves, giving motion to pulley G and eccentric S, causing gear H to move around a point a short distance from the center of gear I, this motion causes the gears to mesh in and move around similar to other gears, only there being one less tooth in gear H than in I, and one being an internal and the other an external gear it gives a motion of only one tooth, and as H is made fast, I must move forward one tooth, thus reducing speed from one revolution in pulley G to one tooth in gear I. The advantage of this arrangement is that it drives the feed rolls directly from the cutting cylinder, so that if the speed of the cylinder is checked by taking a large chip the speed of the feed will also be diminished. To do this with common gearing reducing the speed from a cutting cylinder which runs 4000 revolutions per minute to the rolls which run but 12 or 14 per minute requires a large amount of shafting and gearing, while my arrangement requires no extra shaft at all, and while it is much more simple in construction it is also much more efficient in its action.

Having thus fully described the construction and operation of my machine, what I claim as new and desire to secure by Letters Patent is—

The arrangement of the gears H and I in combination with the eccentric S when constructed and operating in the manner and for the purposes set forth.

In witness whereof I have hereunto set my hand and seal this fifteenth day of December in the year of our Lord one thousand eight hundred and fifty eight.

BENAIAH FITTS. [L. S.]

Signed and sealed in presence of—

H. A. RICHARDSON,

EDWIN A. WOOD.