2 Sheets—Sheet 1.

G. E. WOODBURY.

Planing Machine.

No. 101,072. Patented March. 22, 1870.

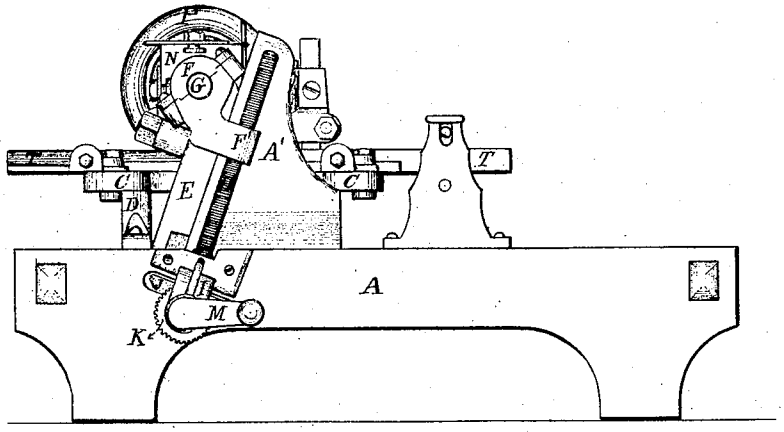

Fig. 2.

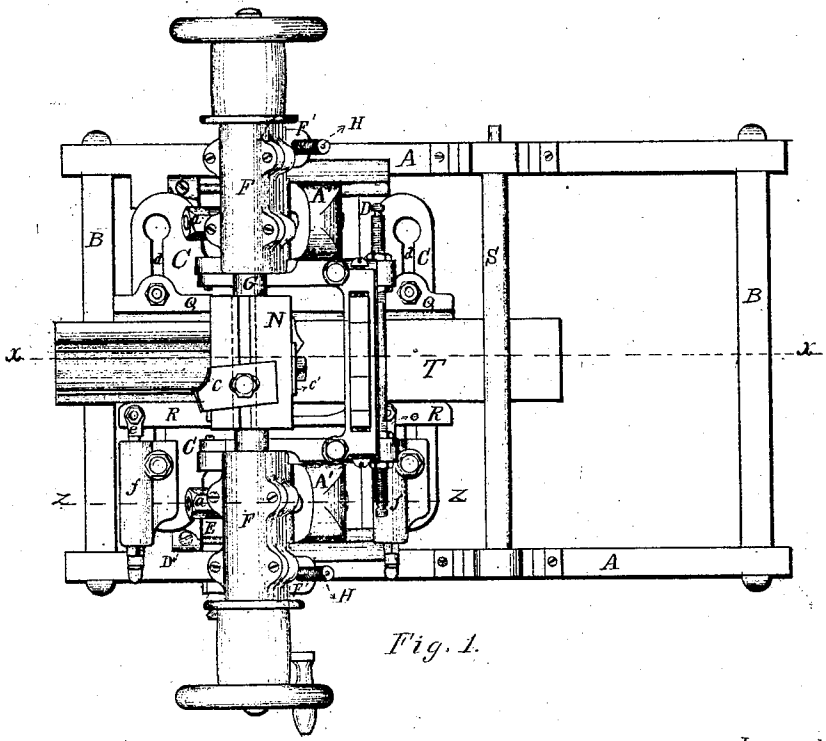

Fig. 1.

Witnesses.

N. C. Leonard

D. B. Hanson

Inventor.

George E. Woodbury

2 Sheets—Sheet 2.

G. E. WOODBURY.

Planing Machine.

No. 101,072. Patented March. 22, 1870.

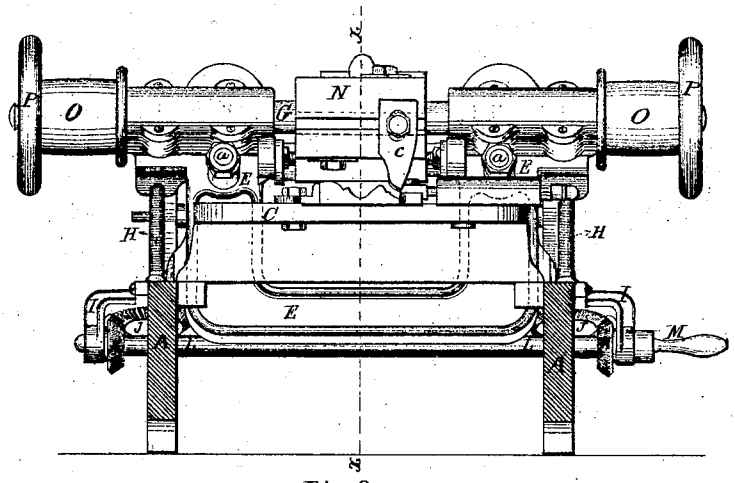

Fig. 3.

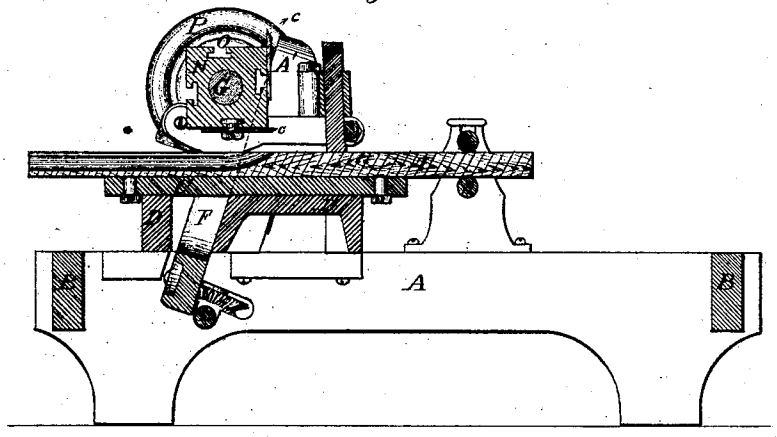

Fig. 4.

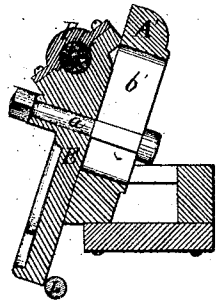

Fig. 5.

Witnesses.

N. C. Lombard

D. B. Hanson.

Inventor.—

George E. Woodbury

United States Patent Office.

GEORGE E. WOODBURY, OF CAMBRIDGE, MASSACHUSETTS.

Letters Patent No. 101,072, *dated March* 22, 1870.

IMPROVEMENT IN PLANING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

I, GEORGE E. WOODBURY, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Wood-Planing and Molding-Machines, of which the following, with the accompanying drawings, is a specification.

Nature and Objects of the Invention.

My invention relates in the first place to the manner of arranging, applying, and operating the movable frame or yoke which carries the cutter-shaft, whereby the cutter-head is made more accessible for applying, adjusting, and removing the cutters, while, at the same time, the yoke-frame is secured to the standards on the main frame, at such a point as to hold the cutter-shaft more firmly than when the yoke-frame is above the cutter-shaft, as heretofore practiced; and

It consists in so arranging the bed of the machine, and the yoke-frame on which are formed the two bearings for the cutter-shaft, that the whole of said yoke-frame shall be below the cutter-shaft, and that portion of the yoke-frame that connects the two boxes passing across the machine under the bed of the machine, as will be more fully described.

It also consists in securing the yoke-frame to the standards on the main frame by bolts placed below the cutter-shaft, passing through slots in the standards, and nearer to the main frame than heretofore, thereby reducing the height of the standards, and consequently diminishing the tendency of said standards to spring, and cause the cutter-head to chatter or tremble.

My invention relates in the second place to the means employed to balance and equalize the motion of the cutter-shaft, and consists in the use of a fly-wheel and driving-pulley on each end of the cutter-shaft, whereby a perfect balance of said shaft is obtained.

Description of the Accompanying Drawings.

Figure 1 is a plan of a machine embodying my improvements;

Figure 2 is a side elevation with one driving-pulley and fly-wheel removed;

Figure 3 is a front elevation with the front girt cut away;

Figure 4 is a vertical longitudinal section on line *x x* on figs. 1 and 3; and

Figure 5 is a section on line *z z*, showing the manner of securing the yoke to the standards on the main frames.

General Description.

A A are the main side frames of the machine, from the top of which rise the standards A′ A′, and are connected together by the girts B B.

C is the bed or table, resting upon and secured to the bearers D D.

E is the yoke-frame, made in the form of a letter U, and provided at the upper end of the two upright portions with boxes, F F, in which is mounted the cutter-shaft G.

This yoke-frame is fitted to the standards A′ A′, and firmly secured thereto by the bolts *a a*, which are so fitted to the yoke as to move up and down with it, the back end of said bolts passing through the slots *b b* in the standards A′ A′, with a head at the back end and a nut on the front end.

H H are two screws, working in nuts formed in the bosses F′ F′ cast upon the side of the yoke-frame E.

The screws H H have bearings in the stands I I, and carry at their lower ends the bevel-gears J J, which are acted upon by the bevel-gears K K on the horizontal shaft L, which also has its bearings in the stands I I.

M is a crank, by which the shaft L may be rotated, and by the action of the bevel-gears, revolve the screws H H, and move the yoke-frame up or down, to bring the cutters to the work, as may be desired.

N is the cutter-head, having a T-shaped groove formed in each of its different faces to receive the heads of the bolts for securing the cutters *c c* to the head.

O O are the driving-pulleys, and

P P are fly-wheels, which may be attached to said pulleys, or they may be made separate, and secured to the cutter-shaft independently of the pulleys.

By the use of a driving-pulley and fly-wheel on each end of the cutter-shaft, an important advantage is obtained in the equalization of the strain and the motion of the cutter-shaft.

Q is a gauge, secured by bolts to the bed or table C, and capable of adjustment by moving the bolts in the slots *d d*.

R is a pressure-bar, for holding the work up to the gauge, and is attached at either end to the rods *e e*, fitted to the sockets *f f*, which encase spiral springs surrounding the rods *e e*, and serve to force the pressure-bar against the work fed to the machine.

The sockets *f f* are secured to the bed or table C by bolts fitted to the slots *d d*, as shown.

The gauge Q and pressure-bar R are intended for use in working moldings.

S S represent a pair of feed-rolls, to be driven in the usual manner, and

T represents a piece of stock being cut into a molding.

The operation of my machine may be clearly understood from the above description without further explanation.

Claim.

What I claim as new, and desire to secure by Letters Patent, is—

The yoke-frame E, arranged in relation to the cutter-shaft G and bed or table C, substantially as described, for the purpose specified.

Executed at Boston, this 8th day of January, 1870.

Witnesses: GEORGE E. WOODBURY.

N. C. LOMBARD,

D. B. HANSON.