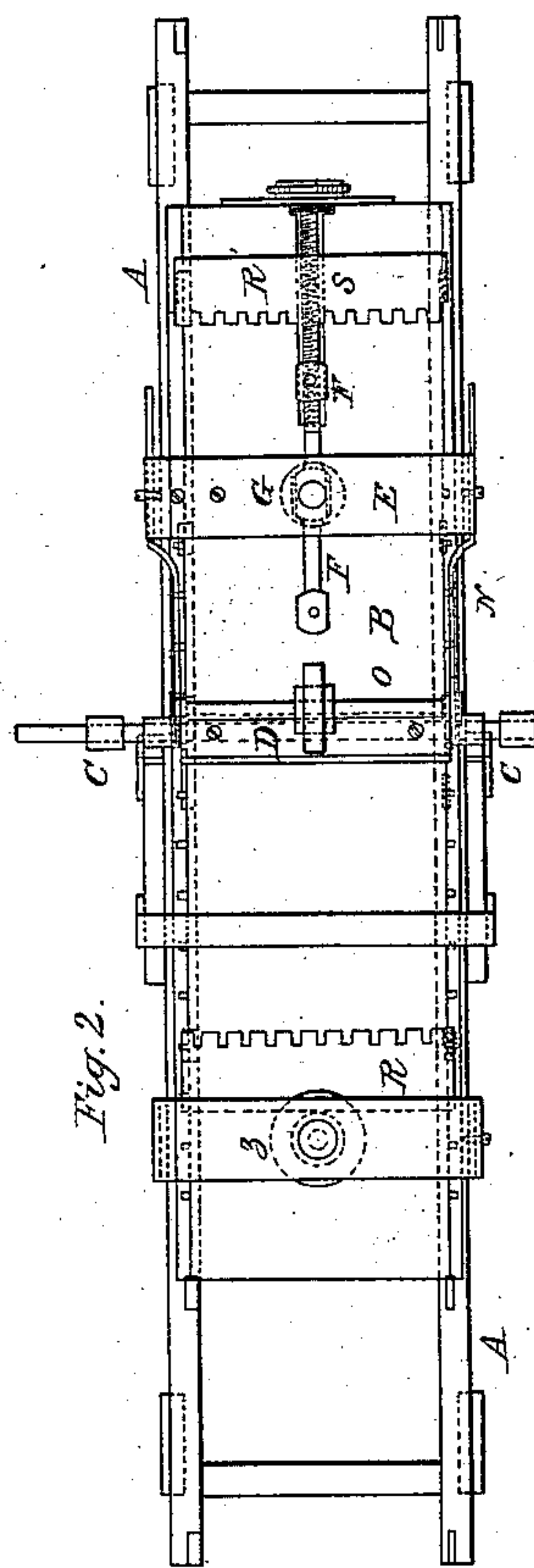
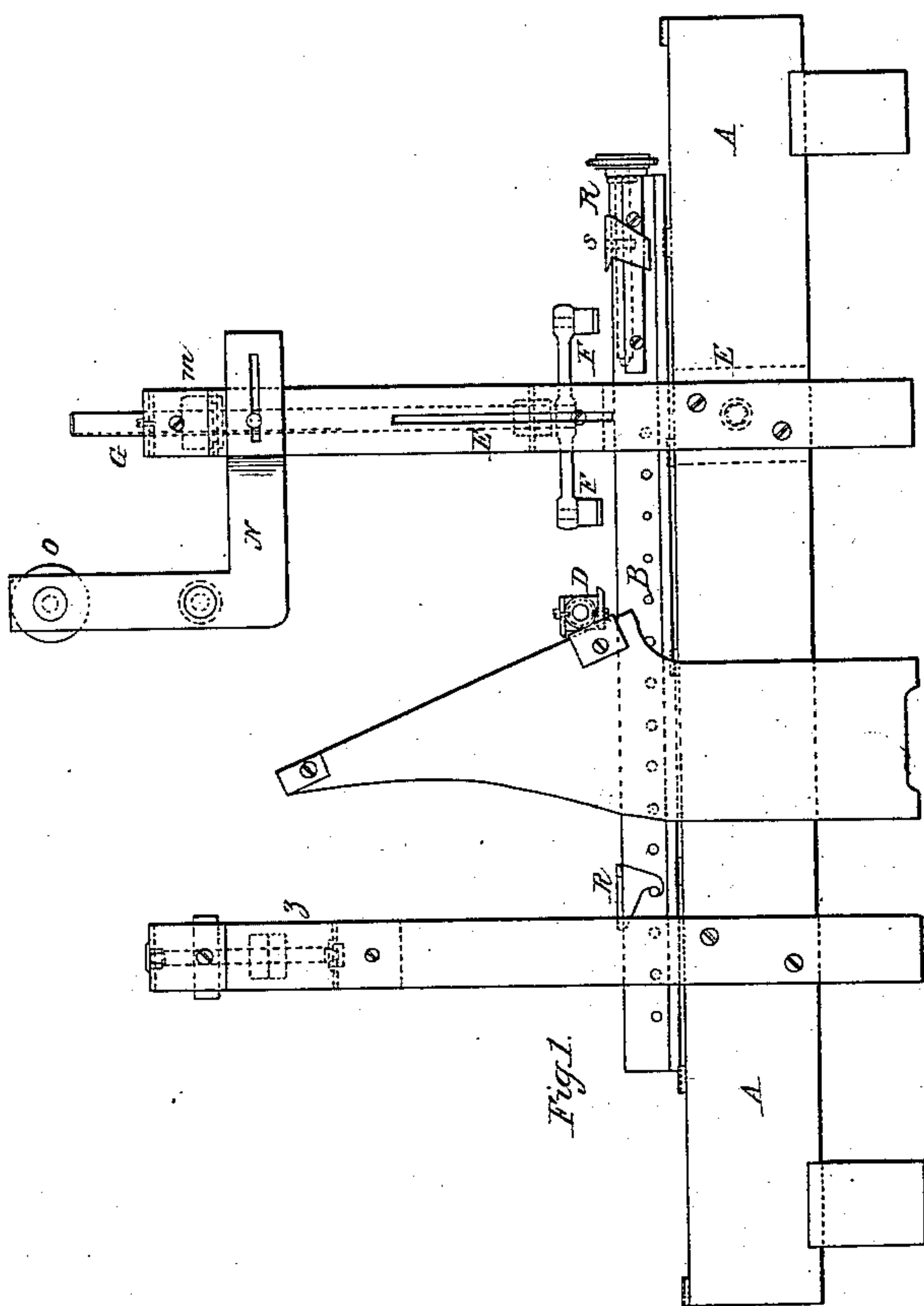


H. D. Stover,
Wood Plane Attachment.

N^o 84,847.

Patented Dec. 8, 1868.



Witnesses.
Geo. H. Hockley.
W. D. Stover.

Inventor.
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United States Patent Office.

HENRY D. STOVER, OF NEW YORK, N. Y.

Letters Patent No. 84,847, dated December 8, 1868.

IMPROVEMENT IN PLANING-MACHINE.

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

Know all men by these presents:

That I, HENRY D. STOVER, of the city, county, and State of New York, have invented certain new and useful Improvements in "Planing-Machines;" and I do hereby declare the following to be a sufficiently clear and exact description of the same, so that any one skilled in such matters may construct and use them.

Figure 1, sheet 1, is a side elevation of the machine.

Figure 2, sheet 2, is a plan, as seen in looking down upon it.

Like letters refer to like parts in all the drawings.

The chief feature of my invention consists in a practical combination of the two well-known planing-devices, as the arm of Daniel's planer, with the cylinder of Woodworth's, in one and the same machine, so that they may be used either separately or in conjunction, as desired.

A A is the foundation-frame of the machine, upon which the carriage B, for holding the lumber, travels.

C O is the frame for supporting the cylinder or cutter-head D, which is constructed and arranged in the usual style of such mechanism.

At E, or just in front of the cylinder-frame and cutters, is arranged another frame, so constructed as to conveniently carry the arm-cutters F F.

These cutters are mounted upon arms which are supported by the shaft G, said shaft being conveniently arranged in bearings, so as to be capable of any desired adjustment vertically.

That the belt may always run to the same point, I have constructed the pulley with a spline or key, a key-way being formed in the shaft G, so that said shaft may slide freely up and down through the pulley, it being held by the ratchet m, one end of which fits in a groove in the pulley.

Motion may be communicated by a belt from the counter-shaft at Z, but I prefer to drive it from the counter-shaft at O, which is placed above the machine, and at a right angle to the shaft G; and by a quarter belt, guided and strained by the friction-roller, as at N, a much more excellent result is obtained with less mechanism.

The lumber to be planed is held upon the carriage B by the clamps or dogs R and R'. The one at R is simply formed with hooks and loops at each end, to hook over the pins which project from the side of the carriage.

The dog or clamp at R' is provided with a binding-screw, which works through a pivoted nut, as at S, upon which the clamp can oscillate, so as to fit the ends of any lumber not precisely square.

The ends of this clamp are also curved down by the edges of the carriage, and turned in to a rebate, or under a projection of the carriage, which helps to hold the clamp in its proper working position.

In practice, I so construct the frame E of the arm-planer as that it may be easily and quickly detached from the frame A by simply forming guides upon the frame, as indicated by the dotted lines at E', fig. 1, which receives the upright, E, between them, and then it is confined by a single bolt binding it to the sides of the frame A.

The combination of the arm-planer with the cylinder, as I have arranged them, produces many advantages not possessed by the machine when operated separately; and, as example, I may mention that in dressing large timbers, the first cut or chip is taken by the cutters F F before passing to the cylinder-cutters at D; consequently all the sand and dirt are thereby removed before the work of finishing is commenced.

The labor of handling and readjusting the work is also an item of great gain by such an arrangement; and since the same frame and carriage, with the feeding-mechanism, serve admirably for both machines, the first cost is much less than when constructed separately.

Having thus described my invention,

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

1. The frame of a planing-machine, constructed in the manner described, so that the arm-cutters F F may operate simultaneously with the cylinder D, substantially as and for the purpose set forth.

2. The oscillating clamp R', when constructed in the manner and for the purpose described.

3. The adjustable brackets N, in combination with the frame E, for supporting the driving-shaft O, and tighteners, when constructed and arranged as described.

4. The clamp R, when provided with a single hook at each end, to take hold of pins inserted in the sides of the carriage, as described.

5. The iron uprights, E, in combination with a bed, A, when such bed is used for the support of the vertical and horizontal cutters D and F F, in the manner described and for the purpose set forth.

H. D. STOVER.

Witnesses:

A. MOORE,

J. H. S. MILLER.