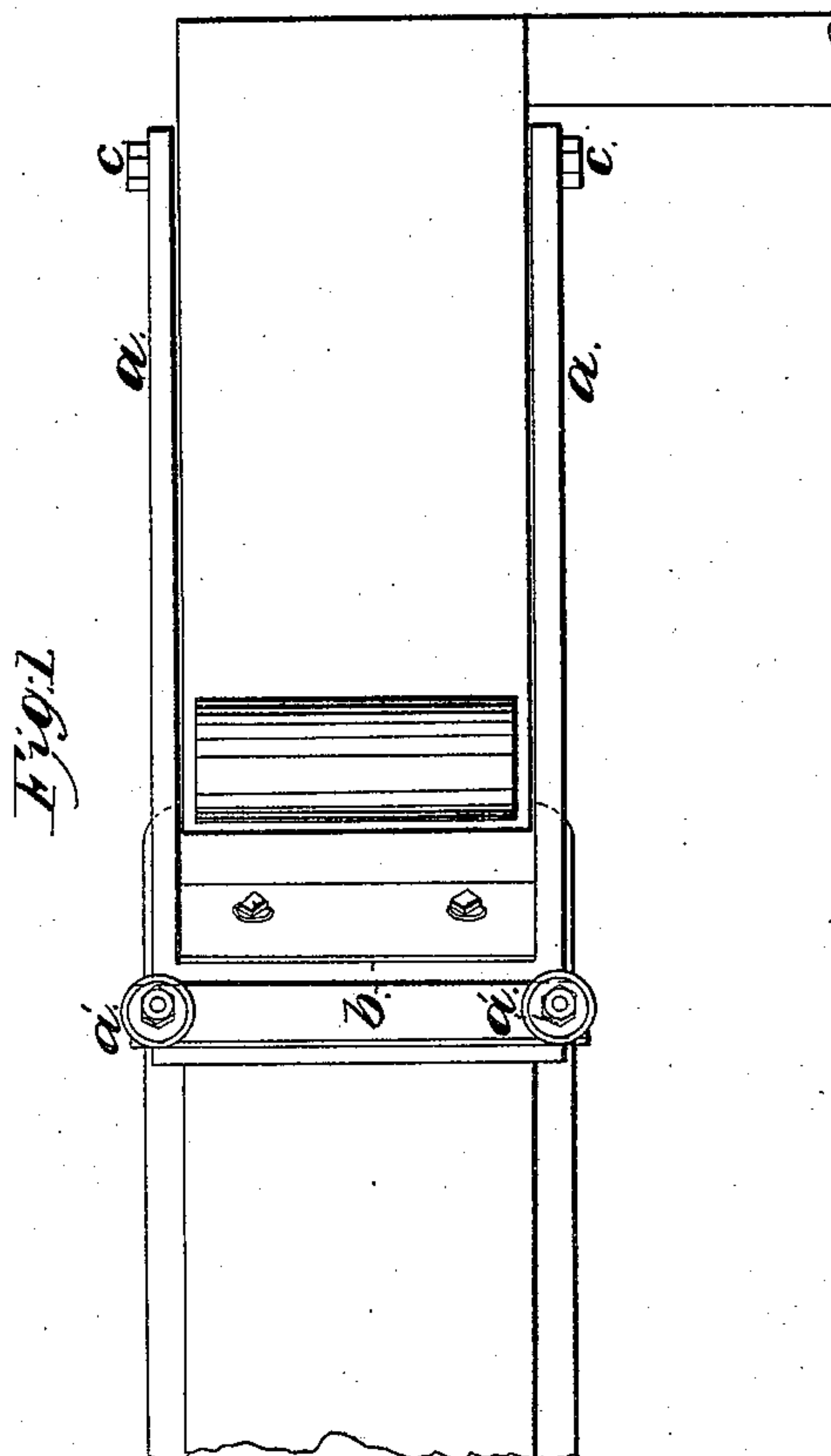
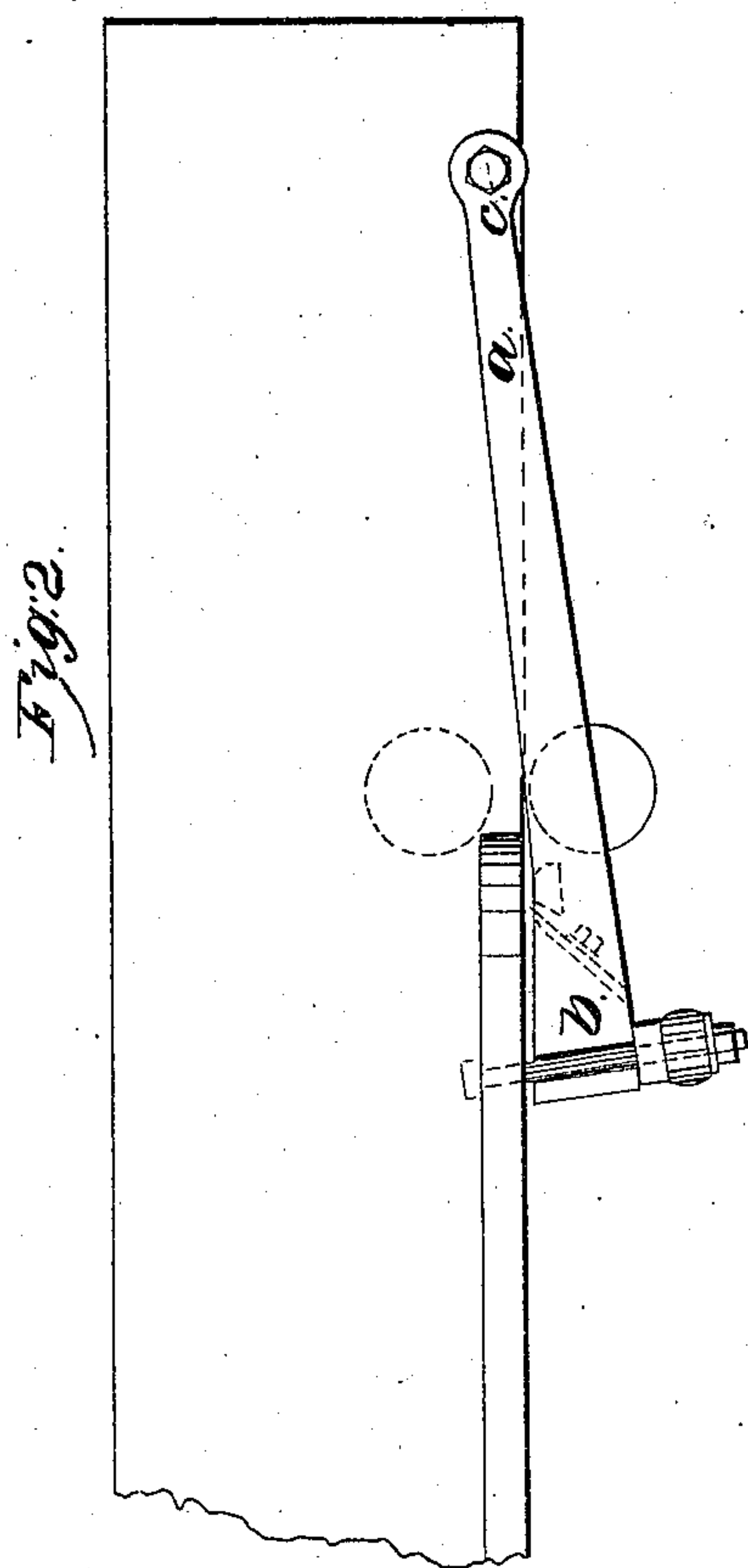


M. G. Hubbard,
Wood Plane Attachment.
N^o 12,162. Patented Jan. 2, 1855.



Inventor:
M. G. Hubbard.

UNITED STATES PATENT OFFICE.

M. G. HUBBARD, OF NEW YORK, N. Y.

MODE OF HANGING THE KNIFE IN PLANING-MACHINES.

Specification of Letters Patent No. 12,162, dated January 2, 1855.

To all whom it may concern:

Be it known that I, M. G. HUBBARD, of the city, county, and State of New York, have invented a new and useful Improvement in the Machine for Planing Boards, &c., for which I obtained Letters Patent heretofore, and which is also applicable to other machines for planing with stationary knives; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1, is a side elevation; Fig. 2, is a top plan.

The nature of my improvement consists in hanging the front knife which is to remove the surface of the material to be planed (that contains the grit and other matter which would dull the succeeding knives) on the ends of two arms that are attached to the permanent frame a considerable distance in front of the knife, so as to allow the knife a play up and down without much deviation of the inclination of the edge of the knife. Heretofore the first or floating knife has been attached to the frame by a pair of bolts, on which it could slide perpendicularly up and down, it being pressed down to its place with springs, or it has had a compound or oscillating motion, rising in front or rear by means of two sets of springs, one in front, the other in rear, as in the machines of Barlow, Beardslee, and others:— but in this construction the whole pressure

of the cut is sustained by the resistance of the bolts on which the plane stock slides to bending, which is not sufficiently permanent for my purposes, and is subject to binding on these bolts; to obviate this difficulty, I project two arms forward, as shown at (a) some distance beyond the stock of the plane at (b), and attach them by a bolt, on which they can turn, at (c), so as to allow the heel of the stock to rise and fall; to hold this down I employ the ordinary bolt and spring used in all the stationary knife planing machines; by this construction it will be seen that I secure the knife permanently to the bed, within the curve of its motion, and thus prevent the twisting and friction consequent to the former device; by this means I get an easy and certain rise and fall of the first knife with greater stability in the construction.

Having thus fully described by improvement in planing machines, what I claim therein as new, and desire to secure by Letters Patent, is—

Hanging the first knife on arms projecting from the stock horizontally, or nearly so, by which it is attached to the frame, substantially in the manner and for the purpose set forth.

M. G. HUBBARD.

Witnesses:

JACOB HATZEL,
WM. GREENOUGH.