

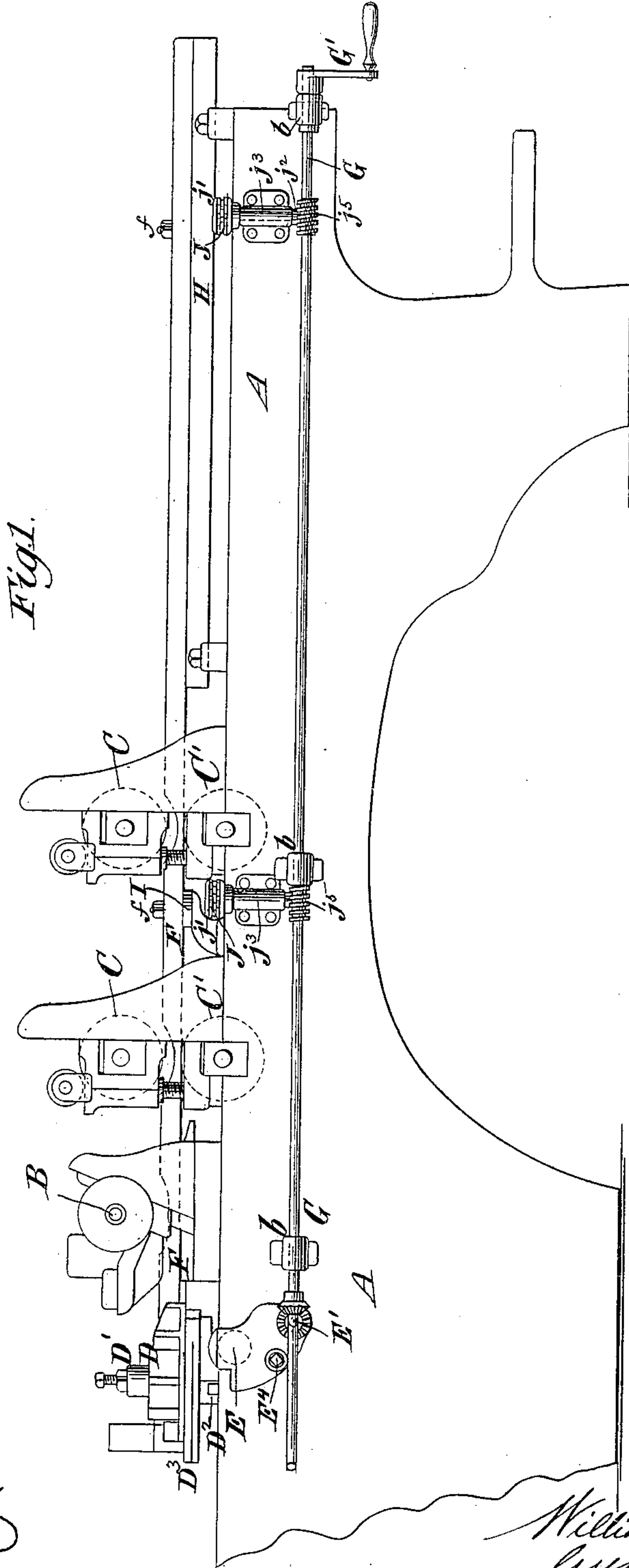
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4 Sheets—Sheet 1.

W. H. GRAY.
WOOD PLANING MACHINE.

No. 377,250.

Patented Jan. 31, 1888.



Witnesses.
Emil Carter.
Jos. Haynes

Inventor.

William H. Gray
by his attys
Brown & Hall

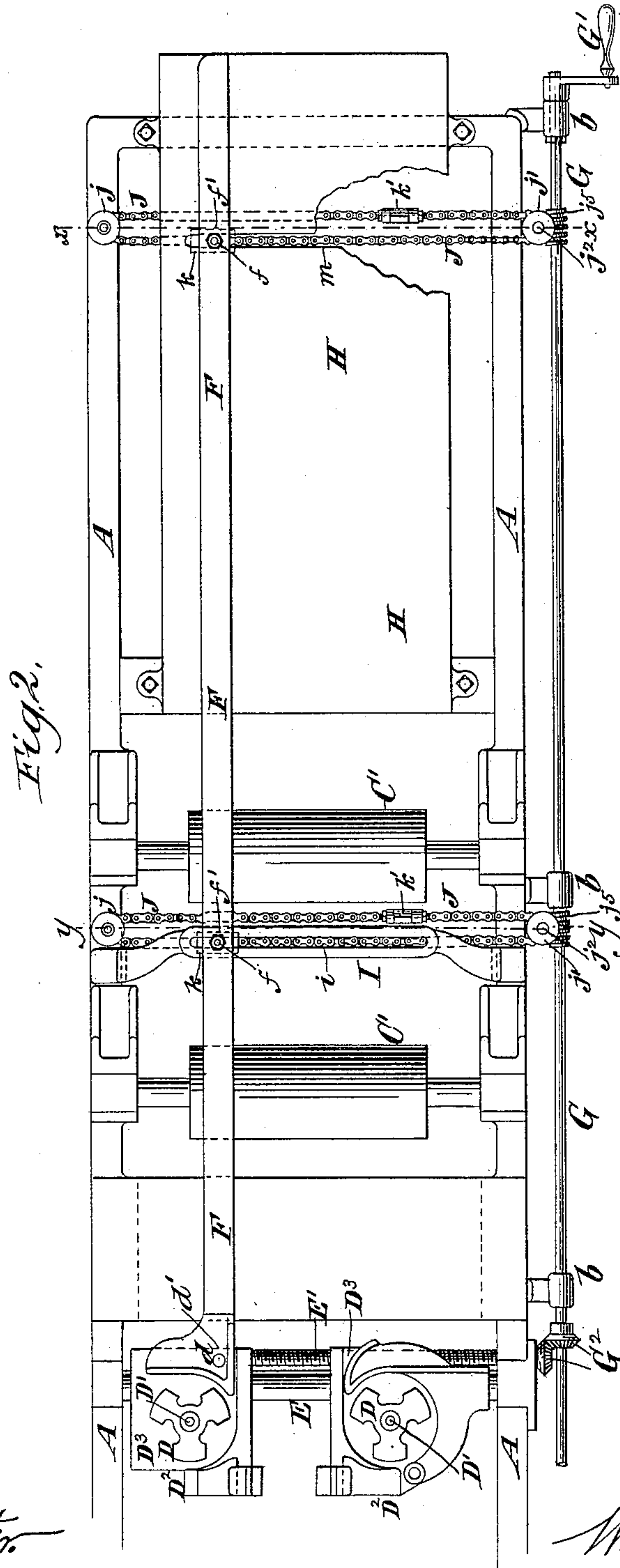
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W. H. GRAY.
WOOD PLANING MACHINE.

No. 377,250.

Patented Jan. 31, 1888.



Witnesses.
Emil Renter.
Jas. H. Hayes.

Inventor.
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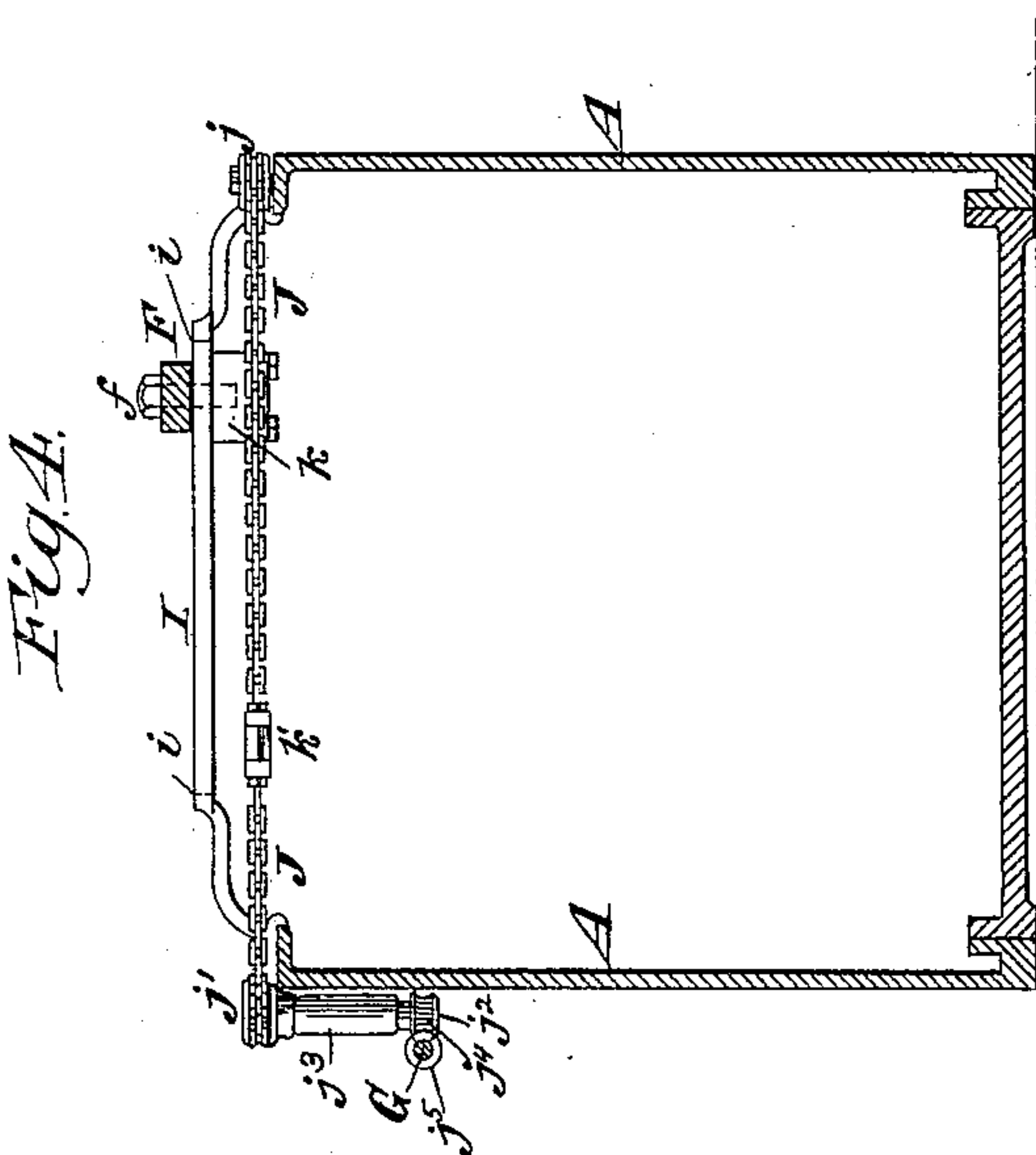
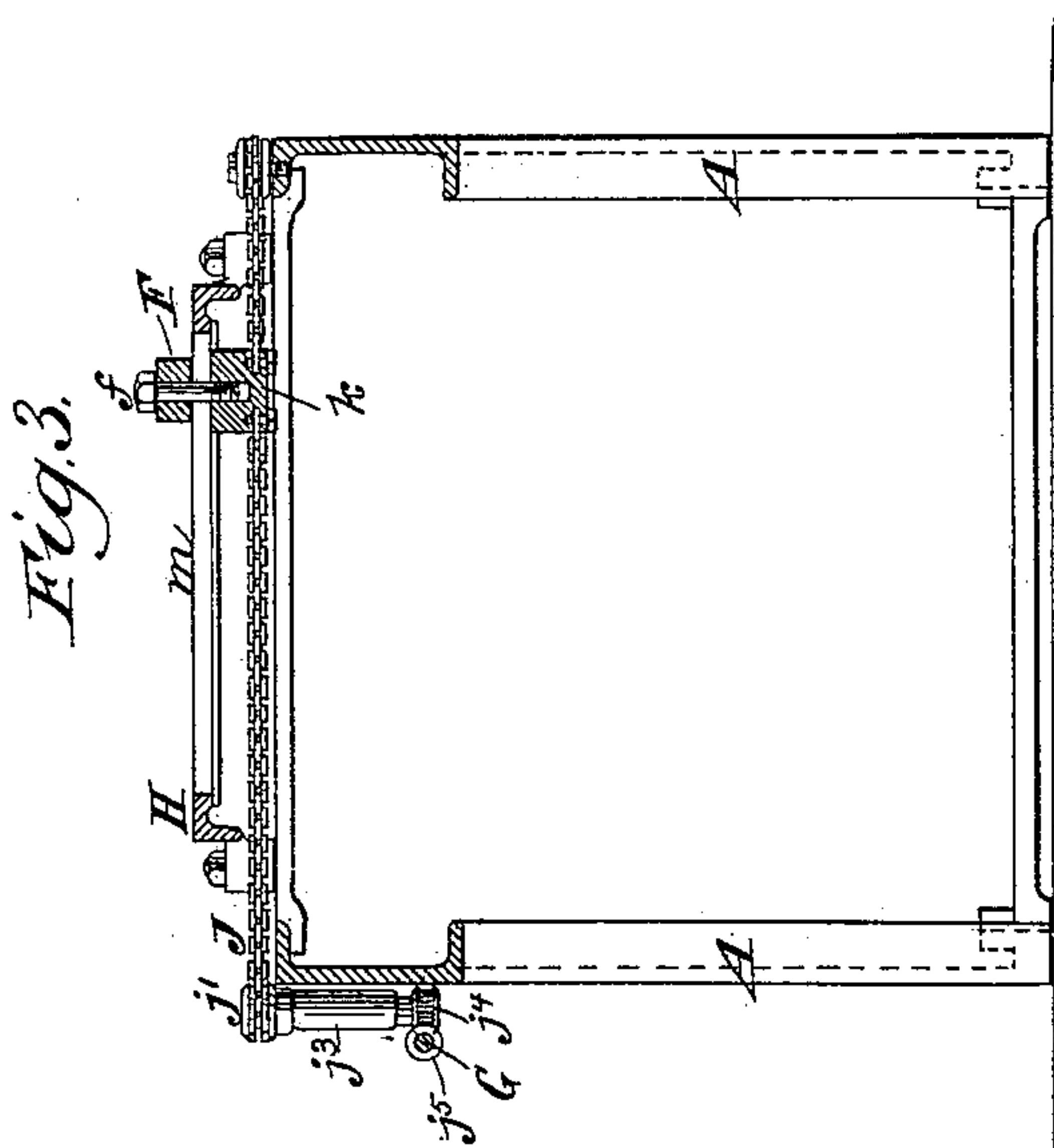
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4 Sheets—Sheet 3.

W. H. GRAY.
WOOD PLANING MACHINE.

No. 377,250.

Patented Jan. 31, 1888.



Witnesses.

Emil Heller
Fred Wagner

Indenter.

William H Gray
Lyhis Athys
Brown Hall

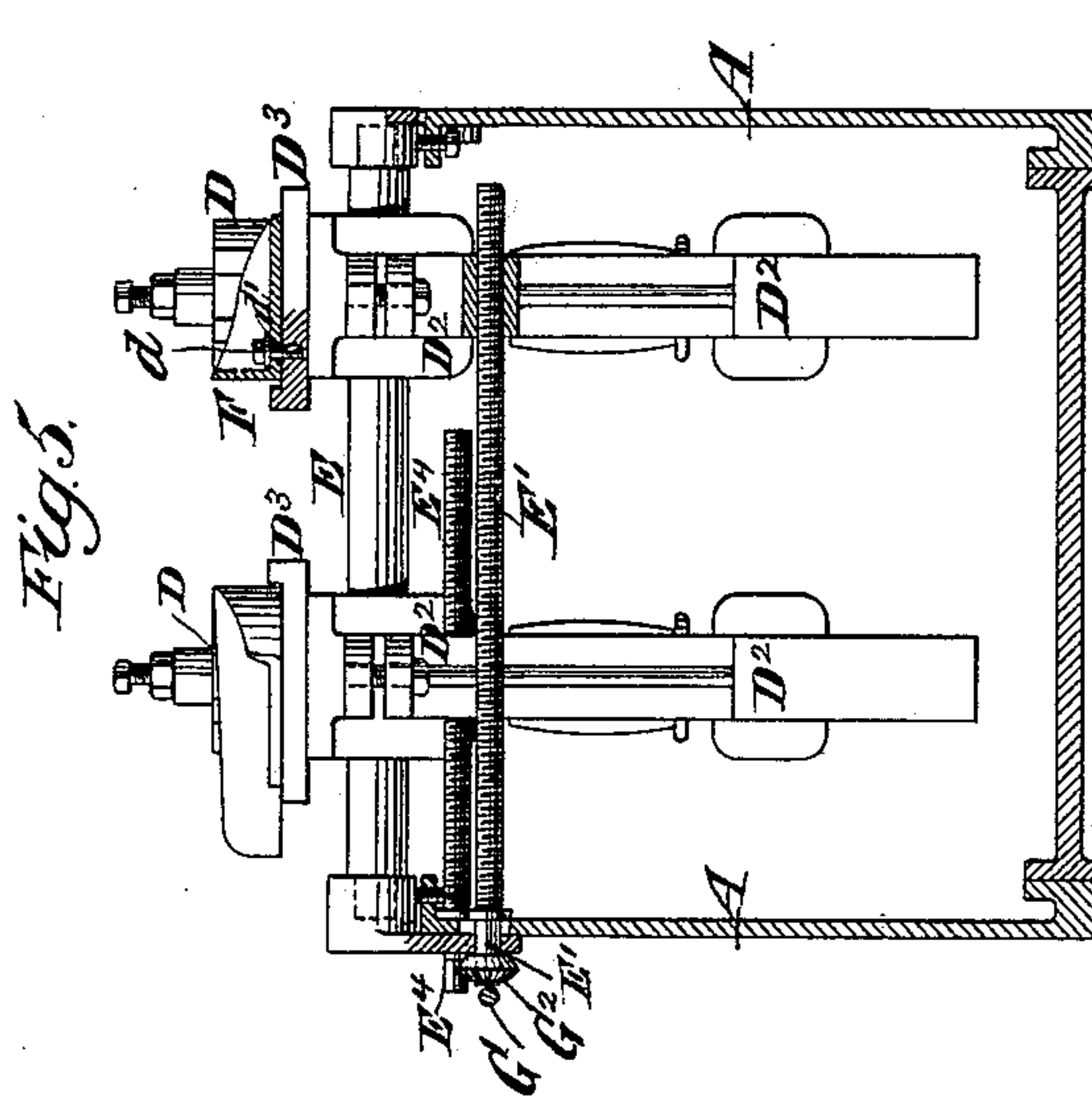
(No Model.)

4 Sheets—Sheet 4.

W. H. GRAY.
WOOD PLANING MACHINE.

No. 377,250.

Patented Jan. 31, 1888.



Witnesses:

C. Sundgren.
Joseph W. Pol.

Inventor:

William H. Gray
by his attys
Brown & Hall.

UNITED STATES PATENT OFFICE.

WILLIAM H. GRAY, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE GLEN COVE MACHINE COMPANY, (LIMITED,) OF SAME PLACE.

WOOD-PLANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 377,250, dated January 31, 1888.

Application filed May 23, 1887. Serial No. 239,077. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. GRAY, of Brooklyn, (Green Point,) in the county of Kings and State of New York, have invented
5 a new and useful Improvement in Wood-Planing Machines, of which the following is a specification.

In wood-planing machines having side cutter spindles and heads the frames supporting
10 such spindles are commonly shifted transversely of the machine, in order to suit different widths of lumber, by means of a screw or screws, and there is employed in connection with one of the side cutter-heads an edge
15 guide which extends forward to the front of the machine and forms a straight and true bearing for the edge of the board as it is inserted into the machine. Heretofore a screw or screws have commonly been employed to
20 shift this edge guide or side guide in addition to the screw which shifts the side cutter-spindle frame.

In carrying out my invention I employ endless chains which extend transversely to the
25 machine and are connected with said side guide, and a longitudinal shaft which is geared to operate the screw and chains and impart a simultaneous and equal movement to said spindle-frame and guide.

30 The invention consists in a novel combination of parts, hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation of such portions of a planing-
35 machine as are necessary to illustrate my invention. Fig. 2 is a plan of the parts shown in Fig. 1, the upper feed-rolls being removed in order to show the side guide clearly. Fig. 3 is a transverse section on the dotted line xx ,
40 Fig. 2; Fig. 4, a similar section on the dotted line yy , Fig. 2; and Fig. 5 is a transverse section of the machine at the side cutter-heads, showing the means whereby the spindle-frames for the side cutter-heads are adjusted trans-
45 versely of the machine.

Similar letters of reference designate corresponding parts in all the figures.

A designates the side frames of a planing-machine; B, the upper cutter-spindle, which
50 is mounted in suitable bearings; C C', the upper and lower feed-rolls, of which two pairs

are here represented; and D designates the side cutter-head, which is mounted upon a spindle, D', journaled in a suitable frame, D², which is surmounted by the usual head-plate, D³. The spindle-frames for the side cutters
55 are arranged to slide and be clamped upon the bar E, and by means of screws E' E^t, extending to the side of the machine, as best shown in Fig. 5, they may be shifted toward and from
60 each other in a direction transverse to the length of the machine.

At one side of the machine is a longitudinal shaft, G, provided at the front end with an
operating handle or crank, G', and connected
65 by bevel-gears G² with the screw. This shaft is mounted in suitable bearings, b , on the main frame A. In the present example of the invention the screw E' operates only the frame D² of the side cutter-spindle, D', which is on
70 the right hand looking from the front of the machine rearward, and the left-hand frame is shifted by the screw E^t, which is shown best in Fig. 5, but also in Fig. 1.

F designates a side guide which is secured
75 to the right-hand cutter-head plate, D³, by a bolt, d , and which is slotted at d' , so as to provide for its adjustment lengthwise relatively to the head-plate and the cutter-head; and this side guide, which is best shown in Fig. 2, the
80 upper feed-rolls, C, being removed to more fully expose it, is above a table, H, and also above a bar, I, which extends transversely of the machine adjacent to the first pair of feed-rolls, or thereabout.
85

Connected with the side guides, F, are two
endless chains, J, (best shown in Fig. 2,) and which pass around idler wheels or pulleys j at one side of the machine, and around operating chain-wheels j' at the opposite side of
90 the machine. These operating-wheels j' are upon short upright shafts j^2 , which are mounted in suitable bearings, j^3 , and which have upon their lower ends worm-wheels j^4 , engaging worms or screws j^5 upon the longitudinal shaft
95 G. By turning the longitudinal shaft G the short upright shafts j^2 will be turned and the endless chains J will be moved in one or other direction to shift the side guide, F.

As best shown in Figs. 3 and 4, each end-
100 less chain comprises in its length a solid block, k , with which the side guide, F, is connected

by a bolt, *f*, and the bolt *f*, which secures the chain *J* at the front of the machine to the side guide, works through a slot, *m*, in the table, while the bolt which secures the other chain 5 to the side guide works through a slot, *i*, in the bar *I*. The holes in the side guide, *F*, through which the bolts *f* pass, are slotted, as shown at *f'*, in order to permit of the adjustment of the side guide lengthwise to vary its relation 10 to the cutter-head plate and cutter-head *D*³ *D*.

In addition to the blocks *k*, the chains are provided with turn-buckles *k'*, whereby the slack in their length may be taken up, and the blocks *k* are properly fitted to guides upon the 15 under side of the table *H* and the bar *I*, as best shown in Figs. 3 and 4. If desired, while operating the machine the bolts *f* may be tightened, so as to clamp the blocks *k* and the side guides strongly upon the opposite sides of the 20 table *H* and the bar *I*, and the worm-wheels *j*⁴ and worms *j*³ are so proportioned as to move the side guide, *F*, through the chains, simultaneously with and at a speed equal to the movement of the right-hand cutter spindle and 25 frame, *D*². Thus it will be seen that from the

longitudinal shaft *G* motion transversely of the machine may be imparted to the side guide, *F*, by a system of mechanism less expensive than screws.

What I claim as my invention, and desire to 30 secure by Letters Patent, is—

The combination, with the table and cross-bar *H I*, slotted transversely of the machine, and the side guide, *F*, overlying the same, of the longitudinal side shaft, *G*, upright shafts 35 *j*², connected by worm-gearing with said shaft *G*, and surmounted by chain-driving wheels *j'*, the idler-wheels *j* at the opposite side of the machine, endless chains *J*, passing around said wheels in a horizontal plane and each having 40 in its length a block, *k*, guided on the table or cross-bar, and bolts *f*, connecting said blocks with the side guide through the slots in the table and cross-bar, substantially as herein described.

WM. H. GRAY.

Witnesses:

FREDK. HAYNES,
HENRY J. McBRIDE.