

G. H. BLISS & M. REES.
MANUFACTURE OF WOOD PAPER STOCK.

No. 103,968.

Patented June 7, 1870.

Fig. 1.

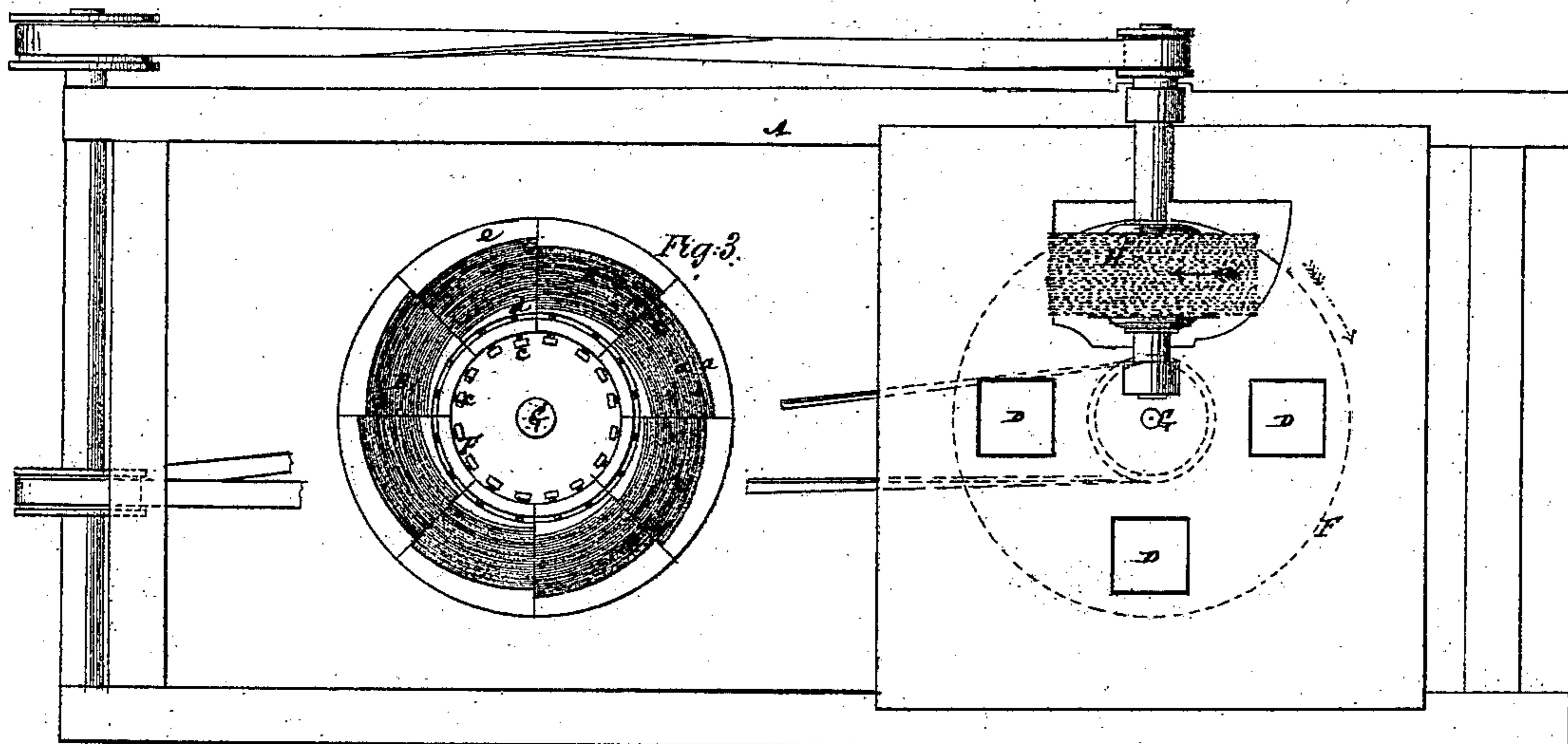


Fig. 4.

Fig. 5.

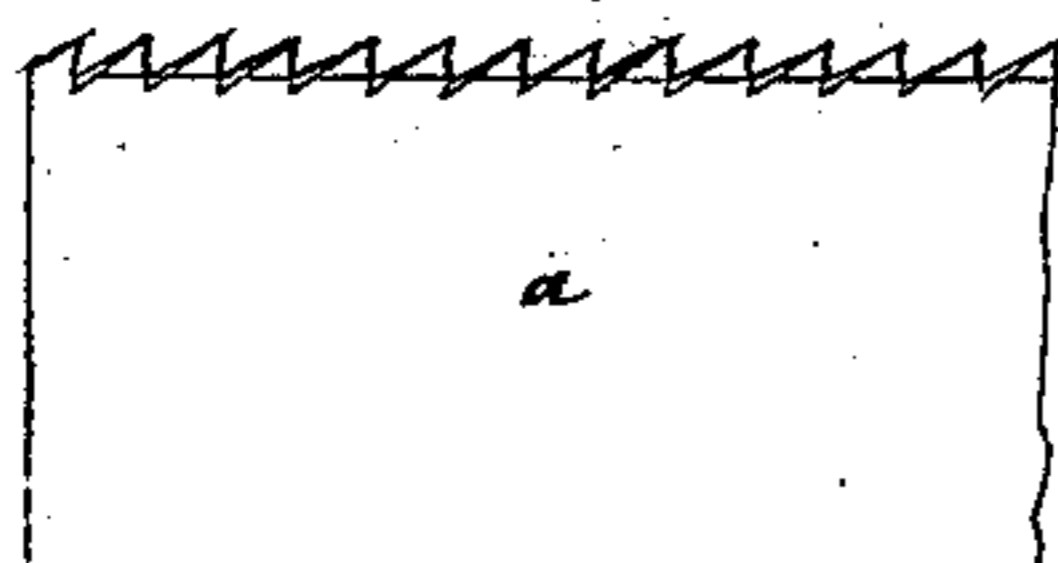
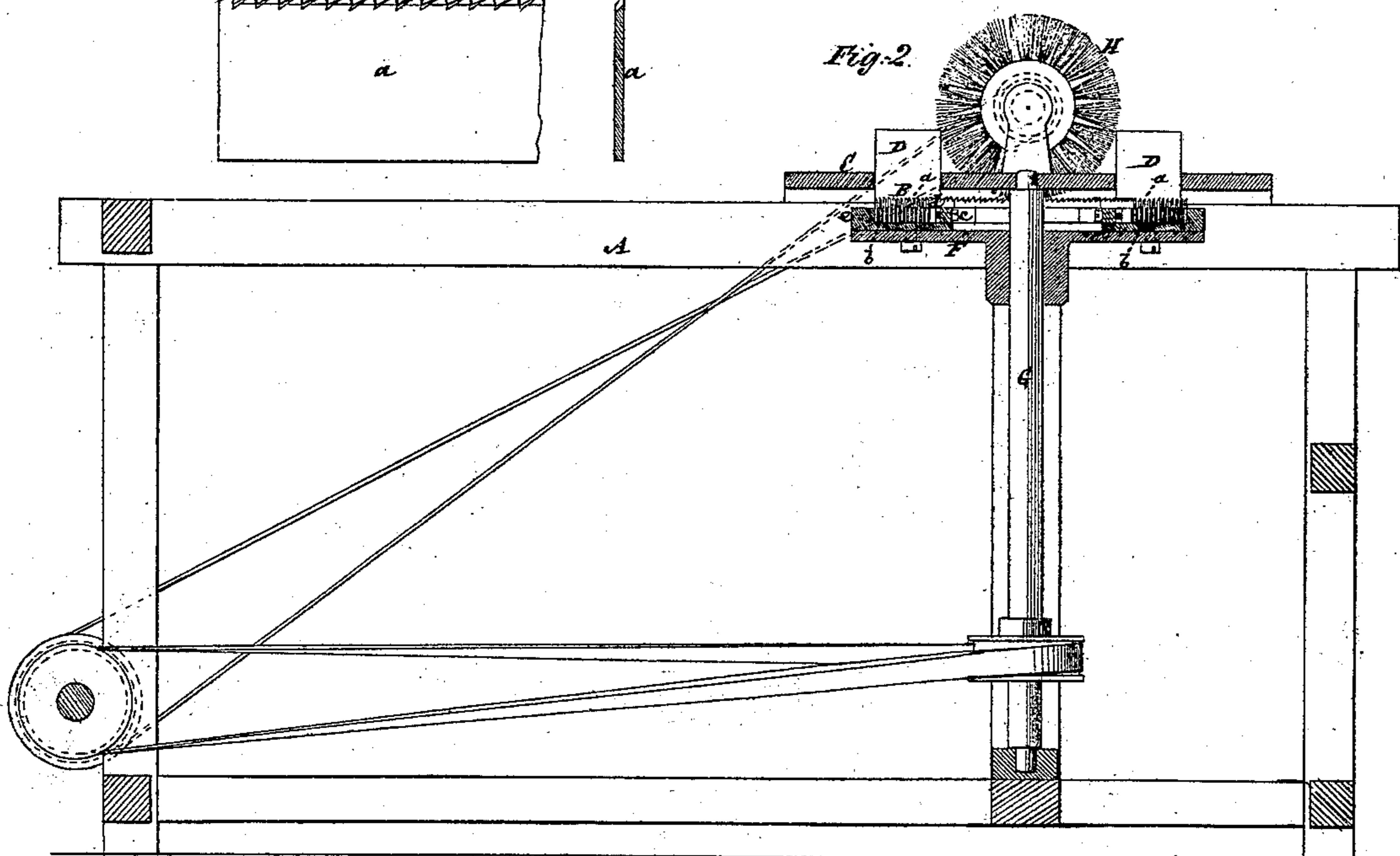


Fig. 2.



Witnesses
Fred. Haynes
R. Chabau

George H. Bliss
Martin Rees
per Brown, Goodrich & Co.
Attorneys

United States Patent Office.

GEORGE H. BLISS AND MARTIN REES, OF WEST STOCKBRIDGE, MASSACHUSETTS.

Letters Patent No. 108,968, dated June 7, 1870.

IMPROVEMENT IN THE MANUFACTURE OF WOOD PAPER STOCK.

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

To all whom it may concern:

Be it known that we, GEORGE H. BLISS and MARTIN REES, of West Stockbridge, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Machines for Making Wood Paper Stock, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a plan of our improved machine;

Figure 2, a longitudinal sectional elevation of the same;

Figure 3, a plan of the saw-like devices by which the wood is reduced; and

Figures 4 and 5, an inside face view and transverse section on a larger scale of one of the saw-plates or sections.

Similar letters of reference indicate corresponding parts.

Our invention relates to the production of wood paper stock by saws or saw-like devices having a combined longitudinal and lateral action on the wood, which is thereby disintegrated in long fibers. Said invention consists in the use for such purpose of what may be termed eccentric crown-saws or saw-like devices; also includes a peculiar construction of the saw-teeth.

Referring to the accompanying drawing,

A represents the frame of the machine, and

B, the crown-saws or saw-like devices which are arranged to rotate beneath a table, C, through which the wood, in the form of short blocks D, is fed in a positive manner by any suitable means or combination of mechanism for action on it of the saw-like devices beneath.

The saw-like devices B are made of numerous saws, which may be cut out of grooved blocks, but it is preferred to build them up of saw-blades or sections *a*, with thin strips of metal *b* in between them, and to clamp or hold them by screws *c* in position between movable and fixed ribs, *d e*, on the revolving head F, which carries them. Said saw-like devices are not complete rings, but are arranged in clusters or sections, each section consisting of a portion of a ring,

and, in order to produce a lateral action, as well as a longitudinal action or movement coinciding with the lines of the saws to operate on the wood, as hereinbefore referred to, said clusters or sections of saws are arranged eccentrically to the shaft G, which carries the saw-head F, as clearly represented in fig. 3 of the drawing.

The wooden blocks D are fed to the saw-like devices, so as to present the length of the grain of the wood in lines, as nearly as practicable coinciding with, or at a suitable obliquity or tangent to the lines of motion of the saws, and the eccentric saws in their revolution cross each others paths, and so cut away the entire surface of each block and reduce it to fiber.

H is a brush made to revolve at a somewhat higher velocity than the saws, but in the same direction, and arranged to sweep on or over the saw-teeth for the purpose of cleaning or keeping them clear.

Each saw-blade *a* it is preferred to construct as shown in figs. 4 and 5, with the teeth filed away from the inside face of the blade, leaving a flush or flat surface on the opposite side and beveled off on their back edges from the flat side of the blade, which construction gives a pointed as contradistinguished from a chisel finish to the teeth, that, when the saws are arranged eccentrically, or so that they have a lateral as well as a longitudinal operation as described, has a more definite action upon the wood or effects the disintegration by what may be termed a scratching process, which produces a longer and superior fiber.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The eccentric crown-saw or saw-like devices B, arranged to operate upon the wood, substantially as specified.

2. The saws *a*, having their teeth flat or perpendicular on their one side and beveled off on their back edges from the flat side of the saw or saw device, essentially as herein set forth.

GEORGE H. BLISS.
MARTIN REES.

Witnesses:

WM. C. SPAULDING,
W. A. ROGERS.