(No Model.)

V. L. WILLIAMS.

EXCELSIOR MACHINE.

No. 449,097. Patented Mar. 24, 1891.

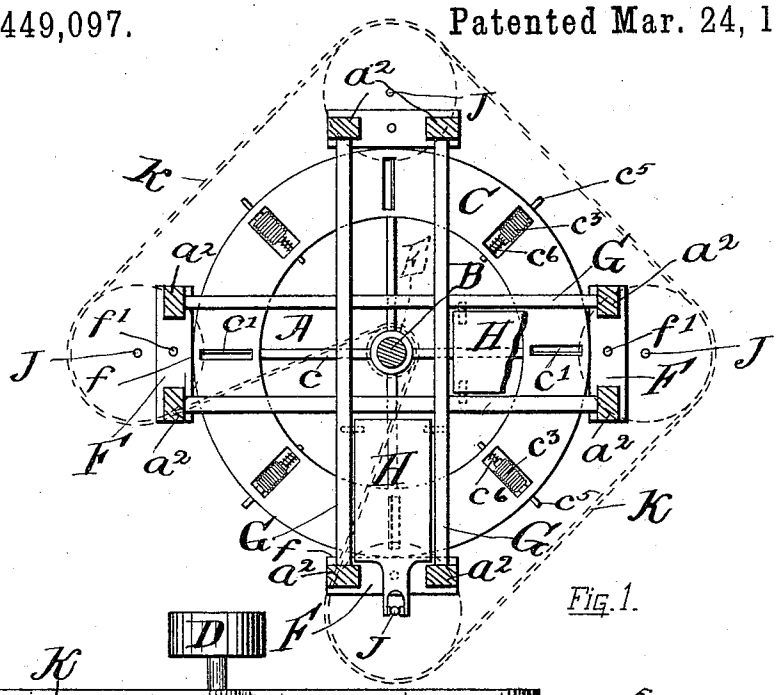


Fig. 1.

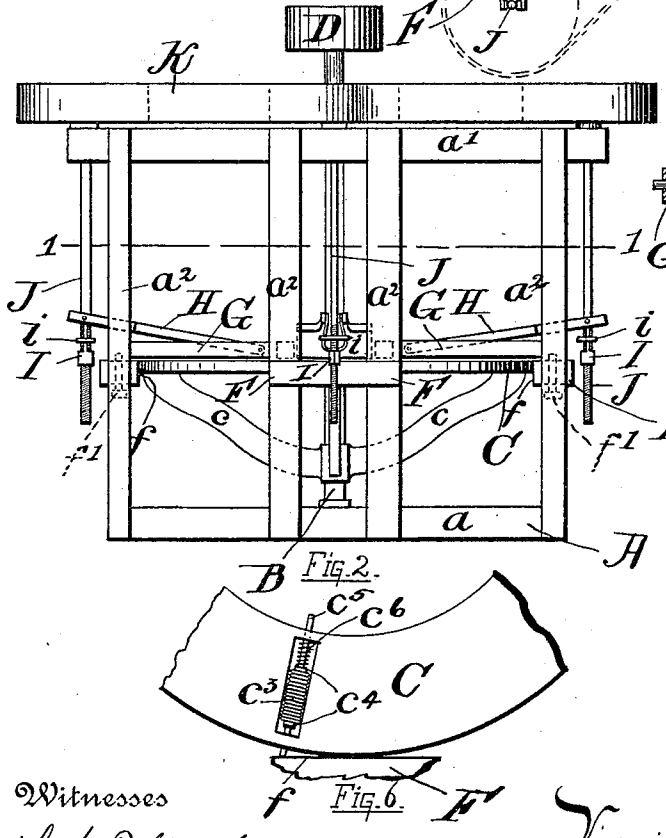


Fig. 2.

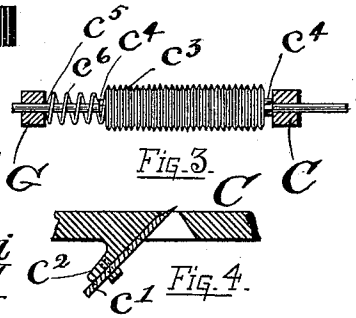


Fig. 3.

Fig. 4.

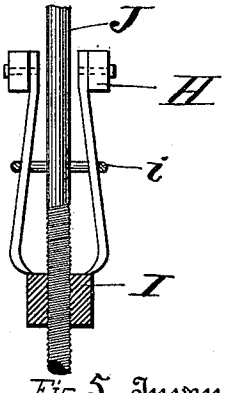


Fig. 5.

Fig. 6.

Witnesses

Luke F. Hayden.

Inventor

Virgil L. Williams

By his Attorney

Albert H. Ward

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

VIRGIL L. WILLIAMS, OF CLARKSTON, GEORGIA.

EXCELSIOR-MACHINE.

SPECIFICATION forming part of Letters Patent No. 449,097, dated March 24, 1891.

Application filed May 23, 1890. Serial No. 352,934. (No model.)

To all whom it may concern:

Be it known that I, VIRGIL L. WILLIAMS, a citizen of the United States, and a resident of Clarkston, in the county of De Kalb and State of Georgia, have invented certain new and useful Improvements in Excelsior-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to machines for shaving wood, producing substance commercially known as "excelsior," relating more especially to the class of machines for such purpose which employ a rotary wheel, the object being to produce a device of this class which will not be open to the objections heretofore experienced in excelsior-machines, the details of all of which will be hereinafter fully described, and the parts thought to be new specifically pointed out in the claim.

In the accompanying drawings, Figure 1 is a plan of the machine, giving a top view of the operative parts thereof, being a section on line 1 1, Fig. 2. Fig. 2 shows the device in side elevation, further illustrating the parts shown in Fig. 1 as they are fully assembled in a machine. Fig. 3 is a detail of the rotary scorers, showing them journaled in the wheel. Fig. 4 is a detail of the knife, being a vertical section through said knife and portion of the wheel wherein it is seated. Fig. 5 is a detail of the split nut operating to cause the lead-screw to press the feed-plates when closed thereon. Fig. 6 is a detail of a portion of the wheel, showing therein the rotary scorers and indicating the position relative to the periphery of the wheel of the cam-surface, giving end motion to the scorers.

In the figures, like reference-marks indicating corresponding parts in the several views, the frame A is composed of top and bottom timbers a and a', respectively, cruciform in arrangement, each extremity of the top being connected with corresponding extremity at the bottom by vertical pieces a^2. The shaft B is journaled in a suitable step set at the point of intersection of the timbers a', and in a suitable journal-bearing passing through the intersection of the pieces a, said shaft having secured thereto the wheel C, and in the construction shown a driving-pulley D and a pulley E, which drives the feed, as hereinafter set forth. The upper side of the wheel C is its operative face, while in order to give strength the arms c are set at a downward angle to the hub, which is suitably secured to the shaft B at a point considerably below the plane of the operative face of the wheel. The wheel C carries cutting-knives c' and the scorers c^3. The knife c' is set therein by being bolted to the lip c^2, which projects downwardly from the under side of the wheel, said knife projecting upwardly through a suitable throat or recess in the wheel. This knife may be set radially in said wheel or at an angle to the radius thereof, as found most desirable. The scorers c^3 consist of circular plates of steel suitably beveled on their edges to cut or indent the surface of the bolt, being removably secured between nuts c^4 on the shaft c^5, which shaft is suitably journaled in the wheel C, being let into said wheel in a recess and having play therein endwise of the shaft c^5 and radially of the wheel. Owing to the circular motion of the operative face of the wheel C, the scorers would cut the arc of a circle on the bolt, which would make very brittle excelsior by reason of it being cross-grained. In order to obviate this difficulty the shaft c^5 has, as hereinbefore stated, end-play radially of the wheel, which is produced by the abutment of the outer end of the shaft c^5 against the face f of the block F, which said face is tangent or parallel to a tangent of the periphery of the wheel C, which will, as seen on reference to Fig. 6, force the said shaft c^5 inwardly during half of its contact with the surface f, while the spring c^6 will force it outwardly during the rest of its contact, and thus the motion of the scorers c^3 will be parallel to the surface f so long as it shall be in a position contacting with the surface F.

Pivoted to the cross-pieces G, extending between corresponding uprights a^2, are plates H, preferably of wood, which are so arranged that they may be brought down nearly to the

face of the wheel C and radially across the same, their downward motion being limited at a point just clear of the knives and scorers by means of a screw *f'*, passing upwardly through the block F, against which the said plate may contact, and by screwing the screw in or out the limit of downward motion of the plate H is regulated. The bolt is placed between the cross-pieces G in contact with the face of the wheel C, and this plate H is brought to bear on its top, after which the split nut I, depending from the arm of the plate H, is caused to engage with the screw J by means of the ring *i* being forced up on the diverging arms of the split nut. The split nut is adapted and the screw J cut a proper length to allow said nut to be run off the end of the said screw at the time the plate H contacts with the screw *f'*. The screw J, as best shown in Fig. 2, depends from and is journaled in the extremities of the cruciform top of the frame, and is driven by the belt K from a shaft B.

A very desirable system of belting is shown in Fig. 1, in which one belt suffices to drive four lead-screws.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a slivering-machine, the combination of the shaft B, the frame carrying said shaft, the wheel C, mounted on said shaft, the knives and scorers carried by said wheel, the plate H, hinged between the bars G of the frame, the block F, the regulating-screw carried by said block, the screw J, the split nut I, suspended from the outer end of the plate H and surrounding the said screw J, and the ring *i* for bringing the nut I in engagement with the screw J, substantially as and for the purpose specified.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

VIRGIL L. WILLIAMS.

Witnesses:
A. P. WOOD,
S. M. WOOD.