

No. 640,216.

Patented Jan. 2, 1900.

F. MONK.

MACHINE FOR WORKING LEATHER.

(Application filed Nov. 26, 1897.)

(No Model.)

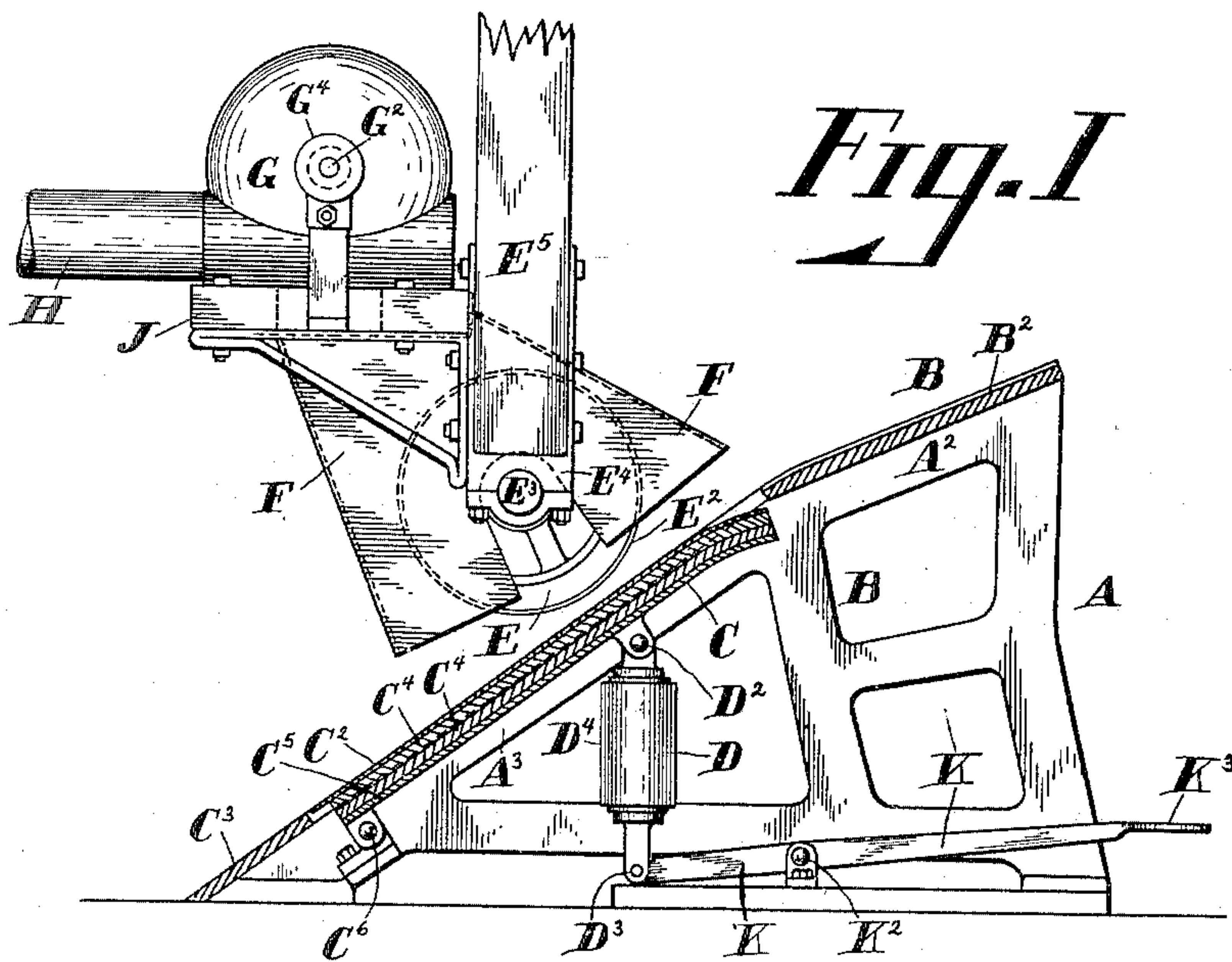
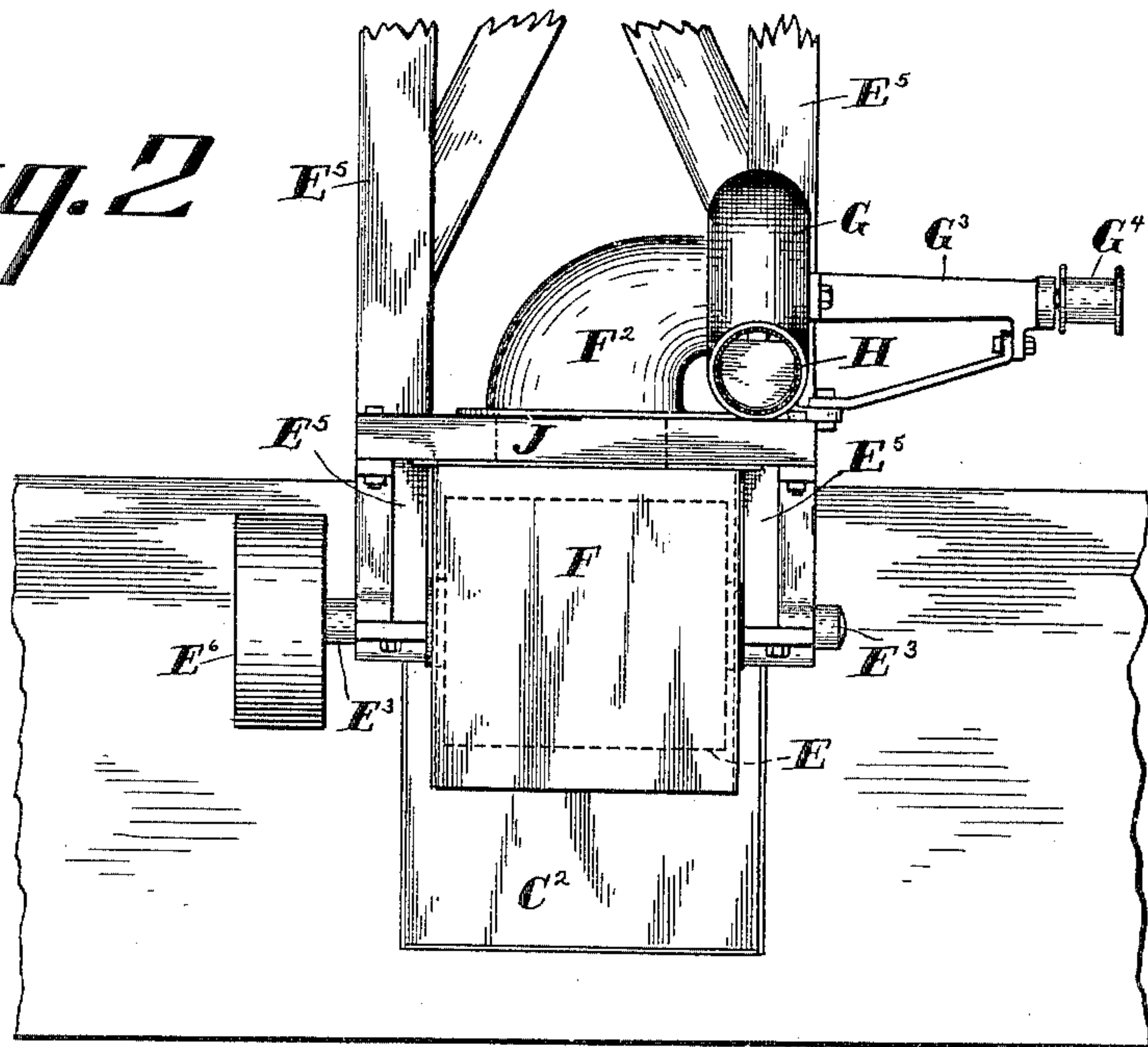


Fig. 2



WITNESSES

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# UNITED STATES PATENT OFFICE.

FRANK MONK, OF CINCINNATI, OHIO, ASSIGNOR TO THE AMERICAN OAK LEATHER COMPANY, OF SAME PLACE.

## MACHINE FOR WORKING LEATHER.

SPECIFICATION forming part of Letters Patent No. 640,216, dated January 2, 1900.

Application filed November 26, 1897. Serial No. 659,892. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK MONK, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Machines for Working Leather, of which the following is a specification.

The several features of my invention and the various advantages resulting from their use, conjointly or otherwise, will be apparent from the following description and claim.

In the accompanying drawings, making a part of this specification, and in which similar letters of reference indicate corresponding parts, Figure 1 represents a side elevation of a machine embodying my improvements. Fig. 2 is a front elevation of the same.

Two parallel vertical frames, as A, are present. The upper edge of each frame is inclined. The upper front part A<sup>2</sup> of these frames upholds a stationary flat piece B, usually covered with metal B<sup>2</sup>. The remainder A<sup>3</sup> of the inclined sides of the frames supports an oscillating table C, suitably hinged or pivoted at C<sup>6</sup>. The preferred means for elevating the table is as follows, viz: To the under side of the table is connected pivotally at D<sup>2</sup> a connecting-rod D, whose lower end is pivotally connected at D<sup>3</sup> to one end of a lever K, pivotally fulcrumed at K<sup>2</sup>. The free end of the lever is provided with a foot or treadle piece K<sup>3</sup>.

The connecting-piece D is preferably so constructed as to be capable of compression and resilience. To this end a spring D<sup>4</sup> forms a part of the piece D. Such a spring may consist of a piece of rubber, as indicated.

The upper side of the oscillating table C is provided with a smooth layer of hide C<sup>2</sup> for insuring durability and securing the minimum of friction. A continuation C<sup>3</sup> of the table is preferably present below the lower end of the oscillating table.

There is located above the oscillating table a cylinder or roller E, and the periphery of this roller is covered with sand or other finely-communited points E<sup>2</sup>. The roller is positively rotated by power being fixed on a shaft E<sup>3</sup>, duly journaled in fixed bearings E<sup>4</sup>, and

the latter are suitably supported by supports E<sup>5</sup>. In the present instance these supports are hangers, as shown. A convenient means of communicating power consists of the pulley E<sup>6</sup>, fixed on the shaft E<sup>3</sup> and receiving a belt (not shown) from the further source of power in the usual manner. The cylinder is enveloped in a large hood F, enlarging as it approaches the oscillating table. This hood at its front end—viz., at that end which is adjacent to the table—is much longer from front to rear—that is, in a direction up and down the table—than is the diameter of the roller E. The hood gradually diminishes at its rear end and there terminates in a communication F<sup>2</sup> with an exhaust (suction) device G, duly provided with a delivery-conduit H. The exhaust device and the hood are duly supported on fixed supports J. In the present instance these supports are duly connected to the hangers E<sup>5</sup> and braced therefrom substantially as shown. A pulley G<sup>4</sup> on that portion of the shaft G<sup>7</sup> of the exhaust device which extends beyond the adjacent journal-bearing G<sup>3</sup> of said shaft affords a convenient means for imparting rapid rotation to the fan of the suction device. This bearing G<sup>3</sup> is braced and supported substantially as shown.

The mode in which my invention operates and some of the uses to which it may be applied are as follows, viz: Leather in the hide after it has been tanned has a crust on it, and the fibers of the leather are implicated and involved. Furthermore, the hide is stiff. I have discovered that by using great pressure, &c., in connection with a finely-communited revolving roller I am enabled to remove this crust and to raise the nap of the leather and render this leather flexible, all in readiness for the same to receive a coating of japan or enamel. This process and the several steps thereof constitute the subject of a separate application of even date herewith for Letters Patent. The machine which I present when used as I shall describe is competent to carry into effect certain steps of that process. I take the tanned incrustated hide and lay as much of it as possible upon the table B with that side uppermost which is to be operated upon. The hide is then passed under the



rapidly-revolving roller, and the treadle is depressed until all necessary upward pressure is exerted upon the hide to cause it to bear against the roller hard enough to well and rapidly remove the crust. This pressure must be quite in excess of what that of the human hand could exert. The finely-comminuted periphery of this roller quickly removes all of the crust, and by proper handling the im-

10 plicated fibers are properly disturbed and the nap raised. While this work is going on the suction-hood draws all of the crust, severed fiber, and other dirt away from the hide and roller as fast as the same is separated from

15 the hide, and conveys it out of the way. The severed fiber, &c., cannot get between the roller and the hide. If it did, it would not only greatly retard the operation, but it would prevent the desired results from such operation being attained, for the severed fiber, if

20 driven into the hide, would bunch it and prevent the nap being raised at such places in the hide. The various necessary portions of the hide are successively presented to the ac-

25 tion of the machine. By a careful change of pressure upon the treadle the thicker portions are reduced to the thickness of the thinner ones, and a gentler pressure upon the latter will properly prepare them, as aforementioned.

30 I have ascertained also that this mechanism can be successfully used to remove the composition coating applied in the manufacture of patent or enameled leather when it is desirable to remove the same, be-

35 cause through accident it has become cracked. I am enabled to remove such coating and to

again raise the nap theretofore involved in the composition. There are other obvious uses in the treatment of tanned leather to which the same can be applied. 40

It is to be understood that the preferred construction of the oscillating table is as follows: The upper or working surface C<sup>2</sup> is of hide, as aforementioned. The next two layers C<sup>4</sup> are of rubber, and the foundation-layer or backing consists of a metal plate C<sup>5</sup>. Such a construction insures durability, sufficient pliability, and elasticity, enabling the table to adapt itself to the under surface of the hide as it is being operated on by the roller. 45 50

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

In a machine for working leather the combination of a supporting-frame having an inclined table, a second table pivoted at its lower end on said frame and adapted to be reciprocated in a slot in said inclined table, a spring-support pivoted to said reciprocating table, a treadle-lever adapted to operate said spring-support, an abrading-roll located above said reciprocating table, a hood surrounding said roll and having its lower end arranged substantially parallel to said reciprocating table and a suction device, substantially as described. 55 60 65

In witness whereof I have hereunto set my hand this 17th day of November, 1897.

FRANK MONK.

Attest:

C. A. GIRDER,  
A. H. WALBURG.