

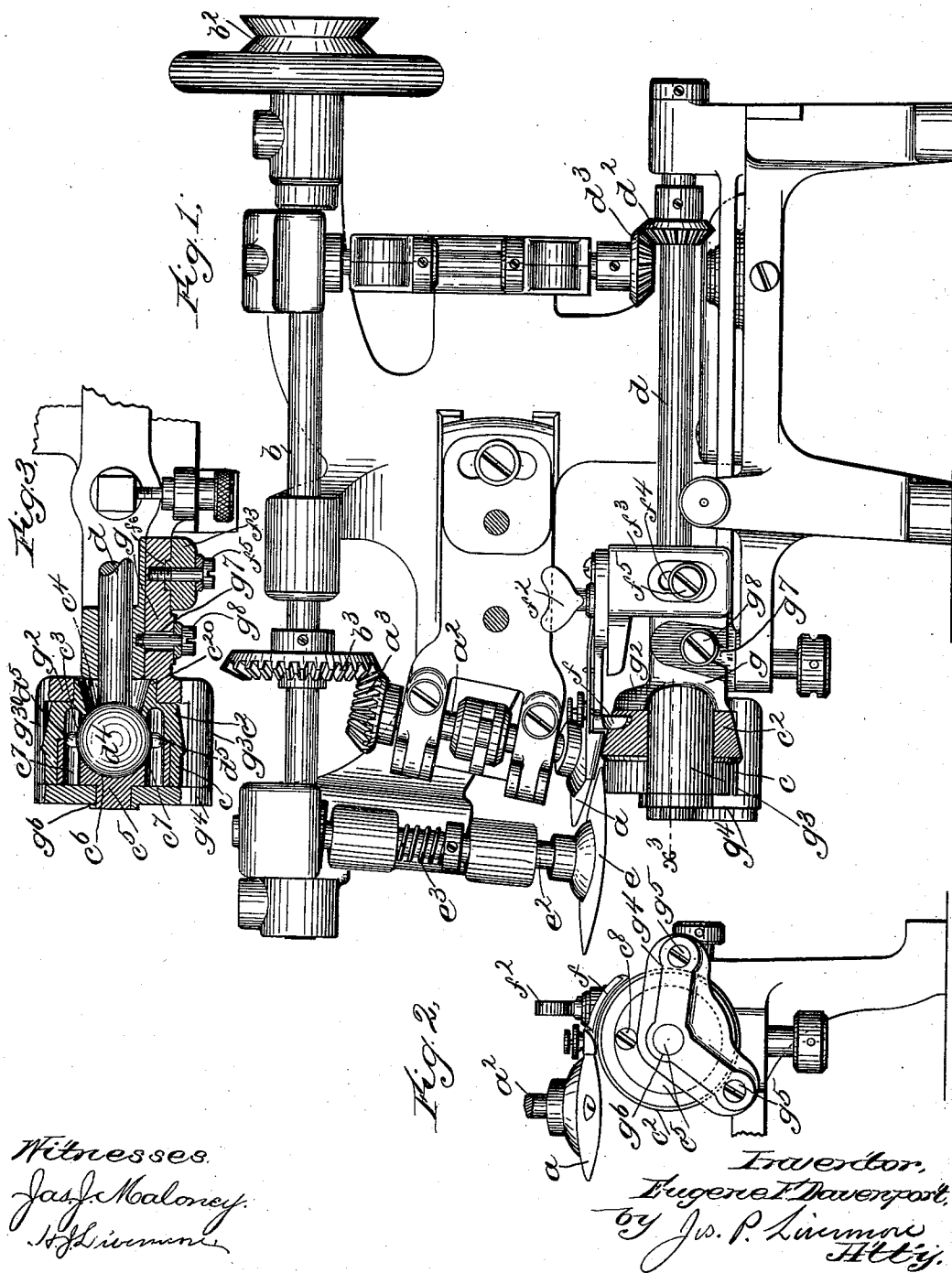
(No Model.)

2 Sheets—Sheet 1.

E. F. DAVENPORT.
SKIING MACHINE.

No. 578,547.

Patented Mar. 9, 1897.



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

(No Model.)

E. F. DAVENPORT.
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Fig. 4.

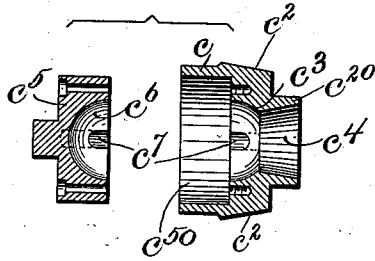


Fig. 5.

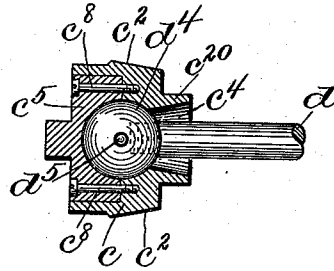


Fig. 6.

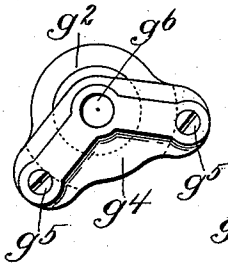


Fig. 7.

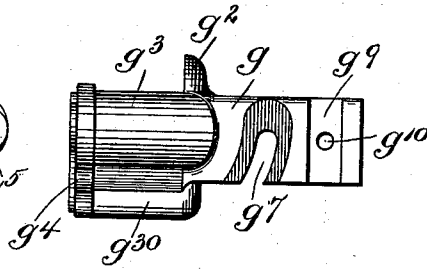


Fig. 8.

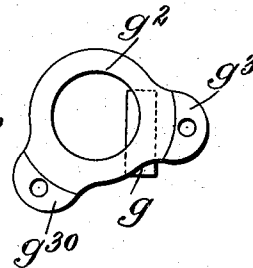
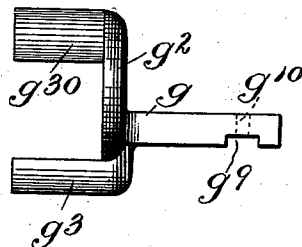


Fig. 9.



Witnesses

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J. J. Livermore

Inventor.

Eugene F. Davenport.
by J. P. Livermore
Att'y.

UNITED STATES PATENT OFFICE.

EUGENE F. DAVENPORT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO
GEORGE W. BROWN AND CHARLES H. BAYLEY, OF SAME PLACE.

SKIVING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 578,547, dated March 9, 1897.

Application filed November 13, 1896. Serial No. 611,961. (No model.)

To all whom it may concern:

Be it known that I, EUGENE F. DAVENPORT, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Skiving-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 The present invention is embodied in a skiving-machine, and relates mainly to the rotating cutting-bed, which supports the stock and presents it to the cutter, the said cutting-bed being adjustable with reference to its
15 axis of rotation, so as to present the stock to the cutter at any desired angle in order to change the slant of the bevel along the edge of the skived leather.

20 The invention is herein shown as applied to a machine of that class in which a rotary disk cutter is employed, to which the stock is adapted to be presented by the cutting-bed embodying the invention and a feeding device cooperating therewith, the main portion of
25 the machine being substantially the same as that shown and described in prior patents, Nos. 220,909 and 273,931, granted to C. Ama-
zeen.

30 The machine comprises a cutter adapted to be rotated by a main shaft, the said cutter being supported at the lower end of an approximately vertical spindle, so that the disk or plate which forms the cutter proper lies in a generally horizontal plane, being preferably, however, somewhat inclined, so that
35 when stock is presented thereto lying horizontally the natural angle of the cutter operating upon the edge of said stock will cause the same to be skived on a certain bevel.

40 The cutting-bed consists of a drum mounted to rotate upon a horizontal shaft, the surface of said drum being adjacent to the skiving-knife, and the stock, which is held against the said drum by a cooperating feed-disk and
45 a spring-actuated presser, will thus be presented to the knife so that a strip is cut from the edge thereof.

50 In order to vary the slope or angle at which the strip is cut, it is obviously necessary to change the position of the knife with relation to the stock, or vice versa, such adjustment

having been heretofore accomplished by changing the position of the knife, which necessitates a change in the position of the gears and is a somewhat difficult adjustment to
55 make.

The present invention aims to provide means for producing the desired change in the position of the stock with relation to the knife by adjusting the rotating cutting-bed
60 axially, so that the stock fed forward thereby will be presented to the knife at any desired angle, it thus being unnecessary to make any change in the position of the cutter and its actuating-gears. To accomplish this, the cut-
65 ting-bed, upon which the stock is supported and the rotation of which contributes to its forward feed movement, is connected with its actuating-shaft by a universal joint, and means are provided for adjusting the angular
70 position of the axis thereof with relation to the knife, such adjustment being effected without interfering with the proper operation of the cutting-bed, since the universal joint, by which it is connected to its operating-
75 shaft, admits of its rotation by said shaft while its axis is set at any desired angle to that of the shaft.

Figure 1 is a front elevation of an Amazeen skiving-machine having a cutting-bed em-
80 bodying the present invention applied thereto. Fig. 2 is a detail showing the said cutting-bed in end elevation. Fig. 3 is a horizontal section of the cutting-bed, taken on the line x^3 of Fig. 1. Fig. 4 is a vertical sectional
85 detail of the parts of the cutting-bed before they are assembled. Fig. 5 is a similar vertical section of the cutting-bed assembled and connected with the operating-shaft therefor, said shaft being shown in elevation. Fig. 6
90 is an end elevation of the supporting or adjusting bracket for said cutting-bed detached; Fig. 7, a side elevation thereof; Fig. 8, an end elevation of the bracket shown in Fig. 6 with the plate which forms the bearing or
95 support for the outer end of the cutting-bed removed; and Fig. 9 is a top plan view of the main portion of said bracket, also with the above-described plate removed.

100 The machine herein shown to illustrate the invention is provided with the knife *a*, consisting of a disk with a sharpened edge, said

disk being mounted on a spindle a^2 , having a beveled gear a^3 meshing with a similar gear b^3 on a shaft b , shown as provided with a driving-pulley b^2 .

5 The cutting-bed embodying the present invention consists in a drum c , mounted upon a shaft d so as to rotate therewith, the said shaft d being suitably connected with the shaft b , as by the bevel-gears d^2 d^3 , so that as
10 the drum turns the upper portion thereof moves toward the knife a during the operation of the machine. The stock which is fed to the machine is supported upon the said drum c and carried forward by the knurled
15 surface c^2 thereof in coöperation with a feed-disk e , mounted on a spindle e^2 and pressed downward toward the drum c by means of a spring e^3 . When, therefore, the stock is pushed between the surface of the drum c and
20 the feed-disk e , it will be carried forward toward the knife a , the said knife being herein shown as set at a slight angle, so that it will cut or skive a strip from the edge of the stock. The lateral position of the said stock is determined by a gage f , lying close to the knurled
25 surface c^2 and adjustably secured with relation thereto by means of a set-screw f^2 , the said gage being constructed and arranged in any suitable or usual way.

30 The drum c , as has been stated, is adapted to be rotated by the shaft d , and in order that the angular position of the knurled surface c^2 may be changed with relation to that of the knife a the said drum is connected with the shaft d by means of a universal joint, herein
35 shown as consisting of a sphere or ball d^4 , (see Figs. 3 and 5,) connected with the shaft d and coöperating with a socket within the drum c , which may be constructed, as shown, in the following manner: The said drum c is
40 made in two sections, the main portion c of which consists, as shown in Fig. 4, of a shell having within it a spherical socket c^3 , provided with an opening c^4 , through which extends the shaft d , the said socket being hemispherical in shape, so as to fit the ball d^4 . The
45 other section c^5 consists of a block having a hemispherical socket c^6 , the said block being cylindrical in shape and adapted to be inserted in a cylindrical bore c^{50} in the shell c , so that when it is in place it completes the spherical socket for the ball d^4 .

In order that the drum may be rotated by the shaft d , the ball d^4 is provided with projections d^5 , adapted to enter grooves c^7 , a portion of each groove being formed in the shell c and the remainder in the block c^5 , (see Fig. 4,) so as to register and form a continuous groove, as shown in Fig. 3, when the parts
60 are assembled. It will be seen, therefore, that the drum constructed as above described may be set so that the knurled surface c^2 will stand at any desired angle to the cutter a by moving the said drum on the ball d^4 as a pivot
65 and that during the rotation of the shaft d the said drum, if properly held, will maintain the same position with relation to the knife, ac-

commodating itself to the shaft during the rotation thereof by the action of the ball-and-socket joint. The block c^5 is secured to the shell c by means of screws c^8 , Figs. 2 and 5, and in order that the drum may be properly adjusted and maintained in position with relation to the knife the said drum is mounted
70 in a support or bracket g , having a bearing g^2 for an extension c^{20} of the said drum and arms g^3 and g^{30} , extending substantially parallel to the axis of the drum, which is secured in said bracket by means of a plate g^4 , secured by screws at g^5 to the ends of said arms, respectively, and having a central opening
75 g^6 , which forms a bearing for the block c^5 , as shown in Fig. 3. Thus the said drum has a bearing at each end in said bracket g , so that it will rotate therein, its plane of rotation being determined by the position of said bracket, it being obvious that the bracket can be moved while the drum pivots upon the ball d^4 of the universal joint which connects the said drum with the shaft d . In order
80 that the plane of rotation of the said drum may be varied with relation to the plane of rotation of the knife a and secured in any desired position to which it may be adjusted, the said bracket is provided with a slot g^7 , through which extends a screw g^8 , secured to a portion of the frame of the machine, as indicated in Fig. 3, so that by loosening the said screw the bracket may be moved upon the ball d^4 as a pivot until the knurled surface c^2 of the drum bears the proper relation to the knife a .
85 90 95 100

After the adjustment is made the screw g^8 is tightened to secure the bracket in place, and the said drum will then be rotated by the shaft d , the universal joint operating to drive the said drum in its bearings g^2 and g^6 , so that the upper surface of the knurled portion c^2 will feed the stock forward and support it at the proper angle to the knife a .
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The gage f is secured upon a post f^3 , having a slot f^4 , by means of which it is adjustably secured by a set-screw f^5 to the bracket g , the said gage being substantially the same in construction and arrangement as in machines heretofore constructed.
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To guide the gage in its movement, the said gage is shown as provided with a tongue f^6 , adapted to enter a groove g^9 , Figs. 3, 7, and 9, a screw-threaded opening g^{10} being provided for the screw f^5 .
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I claim—

1. In a skiving-machine, the combination with a cutting-blade, of a cutting-bed for presenting the stock to said cutting-blade consisting of a rotatable drum, and means for adjusting said drum to vary the axis of rotation thereof with relation to the cutting plane of the blade, substantially as described.
125

2. In a skiving-machine, the combination with the cutting-blade of a cutting-bed comprising a drum mounted on a rotating shaft and adapted to support the stock and present it to said cutting-blade, a driving-shaft for
130

rotating said drum, a universal joint connecting said shaft and said drum, and means for adjusting the axis of rotation of said drum relative to that of its driving-shaft, substantially as described.

5 3. In a skiving-machine, the combination with the cutting-blade of a cutting-bed consisting of a drum mounted on a rotating shaft and adapted to support the stock and present
10 it to said cutting-blade, a shaft for rotating said drum, a universal joint connecting said shaft and said drum, a support having bearings for said drum, and means for adjustably securing said support to the frame of the machine, substantially as described.

15 4. In a skiving-machine, the combination with the cutting-blade, of a cutting-bed for

presenting the stock to said cutting-blade consisting of a rotatable drum, means for adjusting said drum to vary the axis of rotation
20 thereof with relation to the cutting plane of the blade; and a gage for the stock adjacent to the periphery of said drum and movable therewith; whereby it retains the same relation to the periphery thereof when the axis of
25 rotation is varied, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EUGENE F. DAVENPORT.

Witnesses:

H. J. LIVERMORE,
N. P. FORD.