

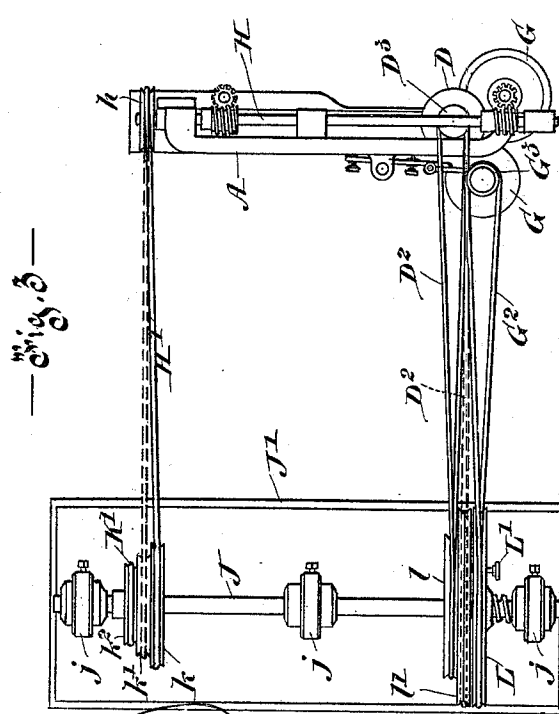
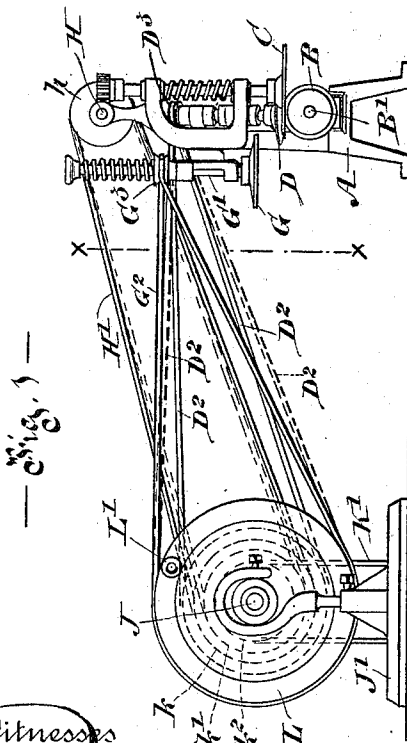
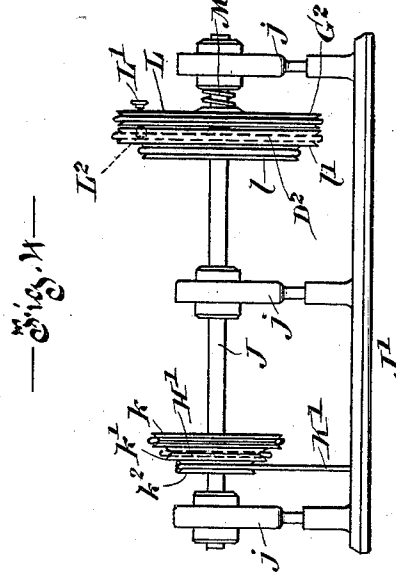
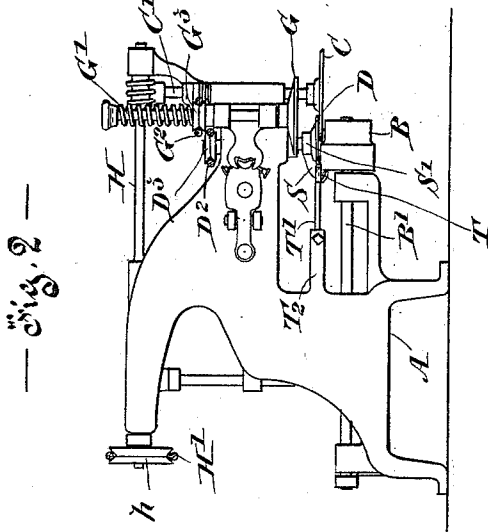
(No Model.)

2 Sheets—Sheet 1.

N. DUFRESNE.  
LEATHER SKIVING MACHINE.

No. 519,282.

Patented May 1, 1894.



Witnesses  
J. M. Frost  
Fred J. Sears

Inventor  
Napoleon Dufresne  
By His Attorney  
Rusby Cuyler

(No Model.)

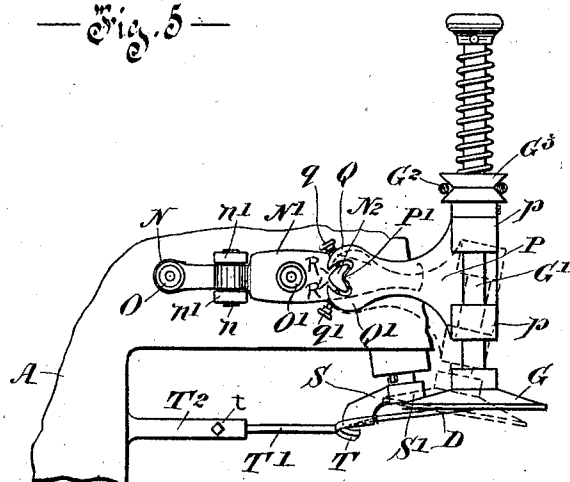
2 Sheets—Sheet 2.

N. DUFRESNE.  
LEATHER SKIVING MACHINE.

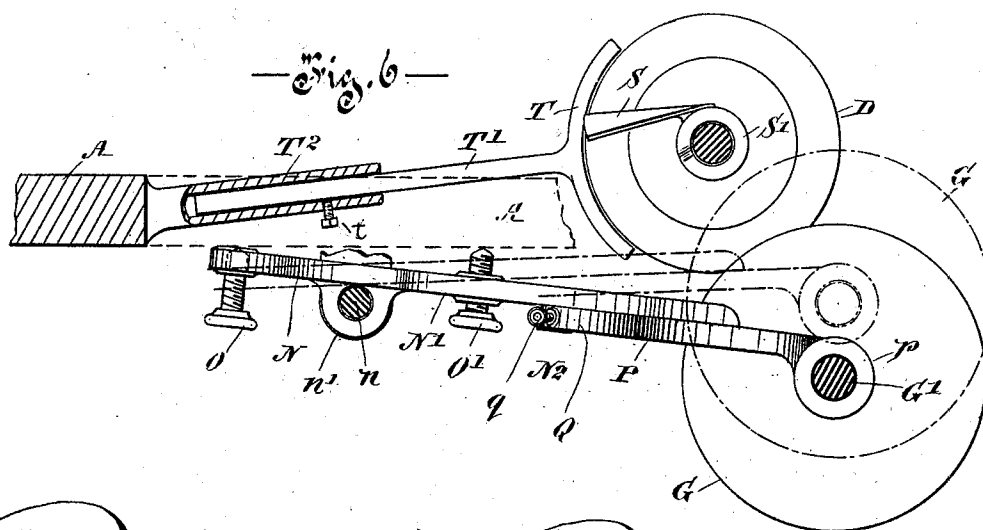
No. 519,282.

Patented May 1, 1894.

—Fig. 5—



—Fig. 6—



Witnesses

*Wm. M. Frost*

*Jud. J. Sears*

Inventor

*Napoleon Dufresne*  
By *his Attorney*  
*Harold C. Lyman*

# UNITED STATES PATENT OFFICE.

NAPOLEON DUFRESNE, OF MONTREAL, CANADA, ASSIGNOR OF ONE-HALF  
TO ROBERT WHITE, OF SAME PLACE.

## LEATHER-SKIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 519,282, dated May 1, 1894.

Application filed November 9, 1892. Serial No. 451,469. (No model.)

*To all whom it may concern:*

Be it known that I, NAPOLEON DUFRESNE, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in Leather-Skiving Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates more particularly to the speeding or running of the machine in the first place; and secondly, to means for keeping the work and cutter clear of the parings from the work and for the protection of such work.

The object of the invention is to secure a more rapid and steady operation of the cutter and at the same time to maintain such increase in speed notwithstanding what the variable character of the source of running power may be, and to provide means for keeping the work and cutter clear of the parings from the work and for preventing the part of the work already operated upon from accidentally coming in contact with the cutter a second time.

For full comprehension however of the invention, reference must be had to the annexed drawings forming a part of this specification, in which like symbols indicate corresponding parts, and wherein—

Figure 1 is a side elevation of a skiving machine with my improvements added; Fig. 2 a rear elevation of the machine proper giving a view, from the rear, of the operating parts; Fig. 3 a plan view of the complete machine; Fig. 4 a rear view of the additional counter shaft or speed controlling mechanism; Fig. 5 an enlarged detail elevation of the cutter and the grinder-attachment, and Fig. 6 an enlarged detail view of the clearance and work protecting attachments.

While I have shown in the drawings and incidentally allude herein to a particular form of grinder attachment I make no claim to same as it is embodied in a separate application made by me dated December 8, 1893.

The frame A of the machine is of the usual form and adapted to be bolted to any convenient base or table in the customary way. B is the feed roll or drum; C the feed disk; D the revolving cutter; G the grinding disk and

G' its shaft or spindle carried in a novel form of attachment described in detail in my said separate application; H is the usual main shaft carrying one or more pulleys such as h and in gear connection with the feed roll shaft B', and the feed disk shaft C', and operating feed mechanism only, instead of as formerly being in gear connection with and operating the cutter shaft D' and connected by belting with and operating the grinder shaft G'. All these parts with the exceptions noted are of the same construction and arrangement as heretofore and therefore require no special description.

In order that the cutter and grinder may both be run at a much higher speed than heretofore with consequently better results I make their running independent of the shaft H which operates the feed, by introducing a counter shaft J between the initial source of power and the main shaft H such shaft J being mounted for rigidity in three standards j j j standing up from a base J' which can be secured in any way to the base carrying the frame A of the machine or form a part of such frame. On the shaft J at one end is mounted the main driving pulley connected with the initial source of power by belting K', and in the form of a variable speed or cone pulley comprising three varying diameters  $k$   $k'$   $k^2$  while on the opposite end a second cone pulley of two varying diameters  $l$   $l'$  is rigidly mounted and a further pulley L which is loosely mounted on the shaft corresponds in diameter to the larger part  $l'$  of the cone pulley and is adapted to be connected with same in the following manner: A spiral spring M coiled around the shaft J between the hub of the pulley L and the blocks of the bearing j nearest to it serves to continually press the pulley L against the part  $l'$  of the cone pulley without however sufficient friction to enable it to be rotated by such part this being only effected by the turning of a thumb screw  $L'$ , carried by the pulley L near its periphery which causes it to protrude and become lodged in a recess or socket  $L^2$  in the adjacent face of the part  $l'$  thereby effecting the positive connection necessary to secure the rotation of the pulley L.

From either of the diameters of the cone

pulley  $k k'$  on the shaft J a band  $H'$  is taken to the pulley  $h$  on the shaft H to run the feed mechanism, while a similar band  $G^2$  is taken from the pulley L to a pulley  $G^3$  on the grinder shaft  $G'$ , and yet another band  $D^2$  from either of the diameters of the cone pulley  $l l'$  to the pulley  $D^3$  on the cutter shaft  $D'$ . Should the initial power slacken in any way so as to fall below a rapid normal speed (during which normal speed the bands are arranged upon the smallest diameters of the cone pulleys) the bands can be transferred to the larger diameters and thus maintain the normal speed so far as the operation of the working parts proper are concerned and furthermore the use of the separate counter shaft and its solid bearing renders it possible to establish a much higher normal rate of speed for the cutter and grinder than has hitherto been possible in these machines.

The clearance device for keeping the cutter free from the "skivings" as the work progresses consists of a vertical guide plate or barrier slightly inclined and extending tangentially outward from the stationary lower collar or bearing  $S'$  in which the shaft  $G'$  rotates, this serving to prevent the strip from winding around the cutter shaft.

The protecting device for preventing an already skived portion of the work from returning upon the knife while the remaining portion is being operated upon consists of a curved plate  $T$  conforming to the shape of the cutter and inclined downward from the point at which such work is likely first to come in contact with it to a point below the cutter so that such work will be guided downward and away from the cutter. This plate is mounted on the end of an arm  $T'$  made adjustable in a socket projection  $T^2$  from the frame A in order to follow up the gradual diminishment of the cutter through being ground a set screw  $t$  being provided for fixing it in position.

What I claim is as follows:

1. In a leatherskiving machine having feeding and cutting devices and a main shaft, such as H, and gear mechanism for operating the feeding devices:—a single separate and independent counter shaft J carrying pulleys  $k k'$  of varying diameters or speeds and pulleys  $l, l'$  and being interposed between the initial source of power and said shaft H, a band connection between the initial source of power and the pulley  $k^2$  on the intermediate shaft J, an independent band connection between either of the pulleys  $k k'$  and said shaft H running the feed operating mechanism and another independent band connection between either of the pulleys  $l l'$  and the shaft of the cutting device, for the purposes set forth.

2. In a leatherskiving machine having feeding and cutting devices and a main shaft, such as H, and gear mechanism for operating the feeding devices,—a single separate and in-

dependent counter shaft J (suitably mounted in similar fixed bearings  $j j j$ ) carrying pulleys  $k k' k^2$  of varying diameters or speeds and pulleys  $l l'$ , the pulley  $l$  being of a smaller diameter than that  $l'$ , and such shaft J being interposed between the initial source of power and said shaft H, a band connection between the initial source of power and the pulley  $k^2$  on the intermediate shaft J, an independent variable band connection between either of the pulleys  $k k'$  and said shaft H running the feed operating mechanism and another independent variable band connection between either of the pulleys  $l l'$  and the shaft of the cutting device, for the purpose set forth.

3. In a leatherskiving machine having feeding and cutting devices and a main shaft, such as H, and gear mechanism for operating the feeding device; a single separate and independent counter shaft J, interposed between the initial source of power and said shaft H, pulleys  $k k' k^2, l$  and  $l'$  of varying speeds fixedly connected with said counter shaft, a band connection between the initial source of power and the pulley  $k^2$ , an independent band connection between either of said pulleys  $k k'$  and said shaft H running the feed operating mechanism, and another independent band connection between either of the pulleys  $l l'$  and the shaft of the cutting device, as set forth.

4. In a leatherskiving machine, a clearance device or barrier in the form of a single guide plate or strip of metal slightly inclined out of the vertical and extending tangentially and fixedly outward from the collar or bearing immediately above the cutter and being shaped along its lower edge so as to be flush with the upper surface of the cutting edge and hub of such cutter as and for the purpose set forth.

5. In a leatherskiving machine, a stock protecting device in the form of a guide consisting of a bar or strip of metal curved or bent to correspond with the circular edge of the cutter disconnected from such cutter and its shaft but adjustably held adjacent to such edge and with one end projecting in a downward direction below same, as and for the purpose set forth.

6. In a leatherskiving machine, a stock protecting device in the form of an adjustable guide consisting of a bar or strip of metal curved or bent to correspond with the circular edge of the cutter disconnected from such cutter and its shaft but held adjacent to such edge and with one end projecting in a downward direction below same, and means for effecting the lateral adjustment thereof, as and for the purposes set forth.

Montreal, 22d day of October, 1892.

NAPOLÉON DUFRESNE.

In presence of—

FRED. J. SEARS,  
WILL P. MCFEAT.