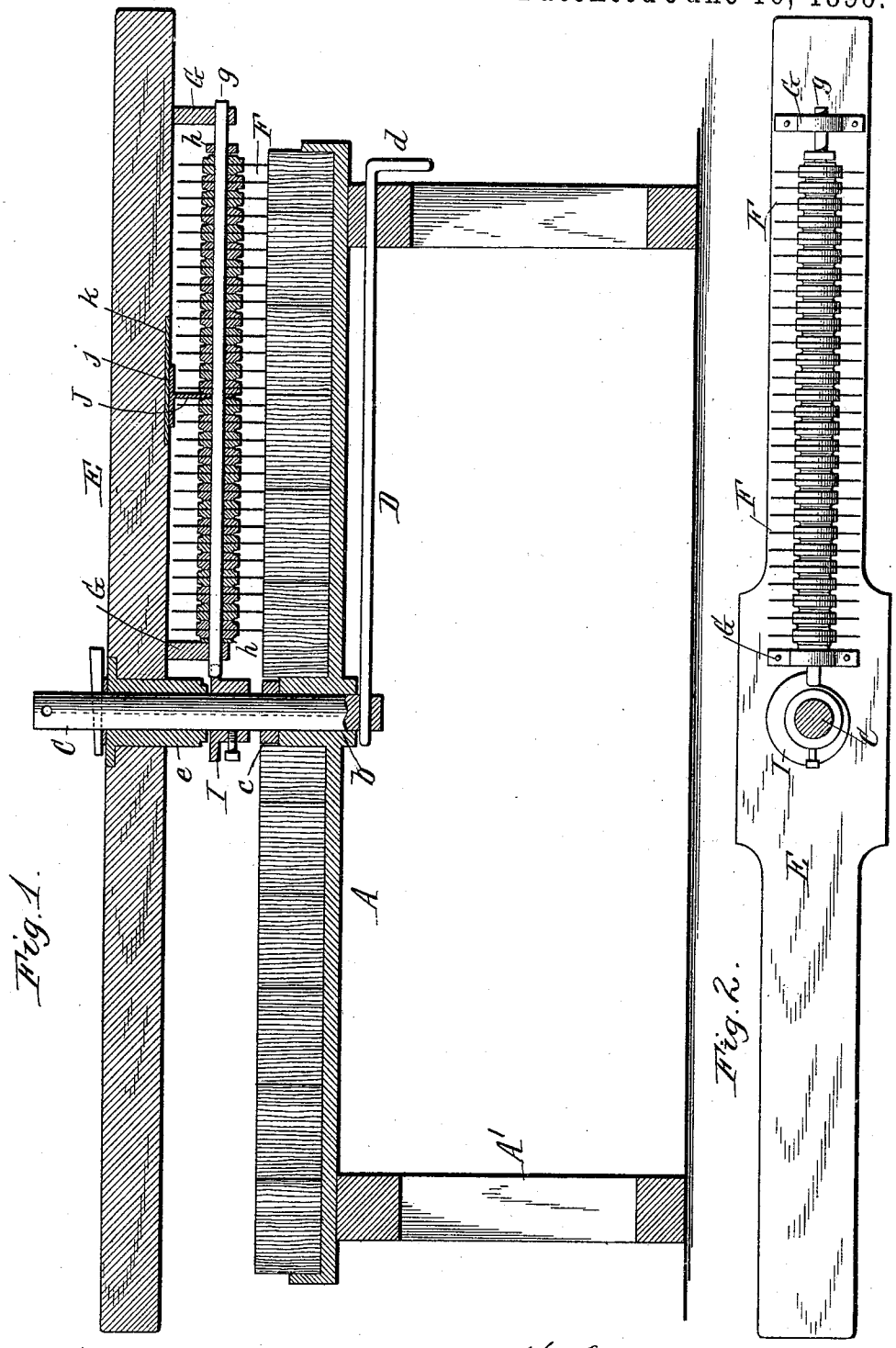
(No Model.) 2 Sheets—Sheet 1.

H. ELLIS.

MACHINE FOR CUTTING LEATHER.

No. 562,126. Patented June 16, 1896.



WITNESSES:
Theo. L. Popp
Henry L. Deck

H. Ellis
By Wilhelm Bonnet
ATTORNEYS.

INVENTOR.

ANDREW B. GRAHAM, PHOTO-LITHO WASHINGTON, D.C.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

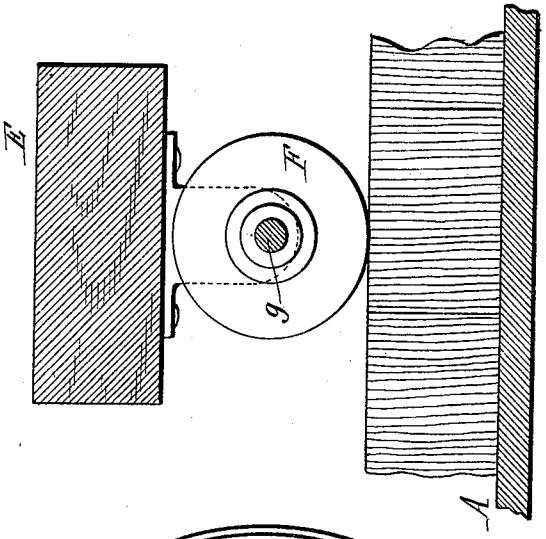
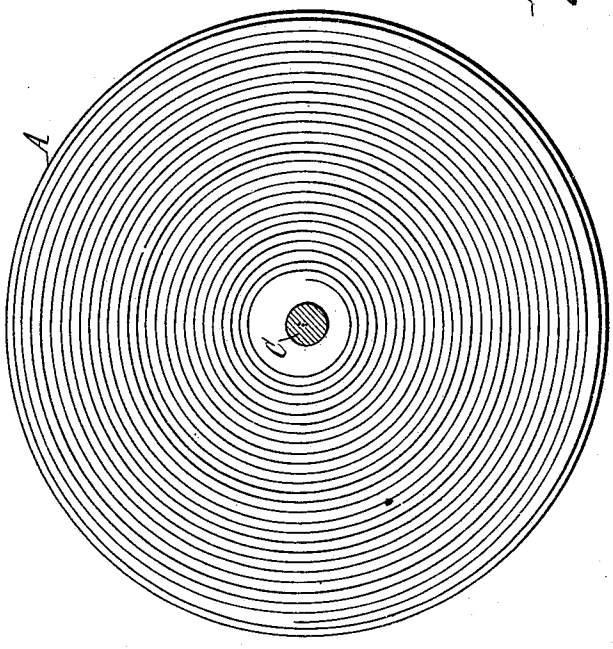


Fig. 3.



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UNITED STATES PATENT OFFICE.

HARRY ELLIS, OF ST. CATHARINES, CANADA.

MACHINE FOR CUTTING LEATHER.

SPECIFICATION forming part of Letters Patent No. 562,126, dated June 16, 1896.

Application filed July 9, 1895. Serial No. 555,397. (No model.)

To all whom it may concern:

Be it known that I, HARRY ELLIS, a citizen of the Dominion of Canada, residing at St. Catharines, in the county of Lincoln and Province of Ontario, Canada, have invented new and useful Improvements in Machines for Cutting Leather, of which the following is a specification.

This invention relates to a machine for cutting hides into continuous strings or straps; and it has for its object to produce a simple machine whereby this is accomplished in an expeditious manner.

In the accompanying drawings, consisting of two sheets, Figure 1 is a sectional elevation of my improved leather-cutting machine. Fig. 2 is a bottom plan view of the rotating head which carries the cutters. Fig. 3 is a top plan view of the table on a reduced scale, showing the continuous spiral incision made in the hide by the cutters. Fig. 4 is a vertical cross-section, on an enlarged scale, of the cutter-shaft, the rotary carrying-head, and the table.

Like letters of reference refer to like parts in the several figures.

A represents a table upon which the hides to be cut are stretched in any suitable manner. This table preferably consists of a flanged metallic bed supported upon legs or uprights A′ and having a wooden facing composed of blocks placed on end. The metallic bed is provided centrally with a vertical socket or sleeve *b* in which is arranged a stationary upright shaft or spindle C. This spindle extends above the table and is supported by a collar *c*, secured to the shaft and resting upon the socket *b*. The wooden facing of the table is formed with a central opening for receiving the socket *b* and collar *c*. The shaft extends below the lower end of the socket *b* and is removably confined in the same by a key D, which passes with its inner portion through an opening formed in the shaft below the sleeve and with its outer portion through an opening formed in one of the supporting-frames of the table, the key terminating in a suitable handle *d*, whereby it is inserted and withdrawn.

E is a rotary horizontal head or frame mounted upon the spindle C above the table, and F represents a gang or series of cutters carried by said head or frame and adapted to cut the hide stretched upon the table. This head consists of a bar or beam provided in its center with a hub *e*, whereby it turns upon the spindle C, and extending beyond the sides of the table, so that it can be conveniently turned by the operator. The cutters are preferably circular or disk-shaped and are loosely mounted side by side upon a radial shaft *g*, which is supported in hangers or brackets G, depending from the under side of one arm of the rotary head E.

h represents stops or collars secured to the cutter-shaft at opposite ends of the series of rotary cutters for holding the cutters against lateral movement on the shaft. The cutter-shaft is free to slide endwise in its bearings, or in the direction of its length, so that the series of cutters may recede from and approach the spindle C as well as revolve with the carrying-head E about the axis of the latter.

I is a guide whereby the cutter-shaft is moved endwise or outwardly in its bearings at the same time that the same revolves with the carrying-head, thereby causing the advancing cutters to move in spiral lines. In the construction shown in the drawings, this guide consists of a cam secured horizontally to the stationary spindle C and having a spiral face against which the inner end of the cutter-shaft bears, so that upon turning the rotary head in the proper direction the cutter-shaft and the cutters mounted thereon are shifted outward or toward the edge of the table.

The cutters are arranged at uniform distances apart and the throw of the guide or cam I is equal to the distance between adjacent cutters. By this construction and arrangement of the parts, upon giving the carrying-head one complete turn, each cutter produces a spiral cut extending from its point of beginning to a point directly opposite that point. As the cutters are equidistant and arranged radially in line, each cutter starts at the point at which the preceding cutter ends and the various cutters thus produce collectively a continuous spiral incision whereby the hide is cut into a continuous string or strap of uniform width, as shown in Fig. 3. Before applying a hide to the table, the spin-

dle C, with the parts connected therewith, is removed from its socket by withdrawing the key D. After securing the hide in place, a hole is cut in the same for the passage of the spindle and the latter, with the carrying-head and cutters, is then replaced in its socket and secured by the key. Before turning the rotary head, the cutter-shaft is pushed inward in contact with the starting-point of the spiral guide I, as shown in Figs. 1 and 2.

After cutting a hide, the spindle is removed from the table in the manner just described preparatory to removing the hide.

In order to stiffen the cutter-shaft between its end bearings, the same is provided with a laterally-movable stay-bar J, secured at its lower end to the middle of the cutter-shaft and provided at its upper end with a shoe or bearing-plate *j*, which slides upon a wearing-plate *k* of the rotary head in following the movements of the cutter-shaft.

I claim as my invention—

1. In a machine for cutting a hide into a continuous strip, the combination with a table adapted to support the hide, of a shaft supported radially above said table and capable of longitudinal movement on its support, a gang of cutters mounted equidistant on said shaft, and a spiral cam operating to shift said shaft and having a throw equal to the distance between adjacent cutters of the gang, substantially as set forth.

2. The combination with a table adapted to support the hide to be cut into a continuous strip, of a rotary head or frame arranged above said table, a shaft carried by said rotary frame and capable of moving radially thereon, a gang of cutters mounted equidistant on said shaft, and a spiral cam operating to shift said shaft on said rotary frame and having a throw equal to the distance between adjacent cutters of the gang, substantially as set forth.

3. The combination with a table adapted to support the hide to be cut into a continuous strip, of a rotary head or frame arranged above said table, a shaft carried by said rotary frame and capable of moving radially thereon, a gang of cutters mounted equidistant on said shaft, and a spiral cam secured to the axis of said rotary frame and operating against the inner end of said cutter-shaft, substantially as set forth.

4. The combination with a table adapted to support the hide to be cut into a continuous strip, of a vertical spindle removably supported on said table, a rotary head or frame mounted on said spindle, a shaft carried by said frame and capable of movement toward and from said spindle, a gang of cutters mounted equidistant on said shaft and a spiral cam operating to shift the cutter-shaft on the rotary frame, substantially as set forth.

5. In a machine for cutting a hide into a continuous strip, the combination with a supporting-table having a socket, of a stationary spindle removably seated in said socket, a rotary head or frame mounted on said spindle, a spiral cam or guide secured to said spindle, a shaft carried by said frame, capable of sliding radially thereon and bearing at its inner end against said cam or guide and a gang of cutters mounted equidistant on said shaft, substantially as set forth.

Witness my hand this 15th day of May, 1895.

HARRY ELLIS.

Witnesses:
JOHN W. COY,
H. FLUMERFELT.