A. Richardson,

Splitting Leather,

No. 1,967. Patented Feb. 9, 1841.

Fig: 3.

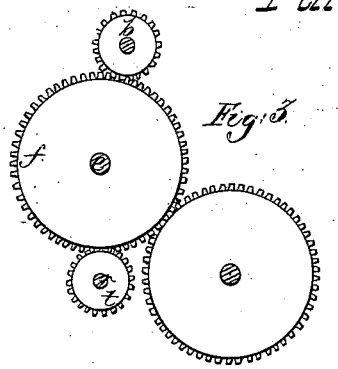


Fig: 1.

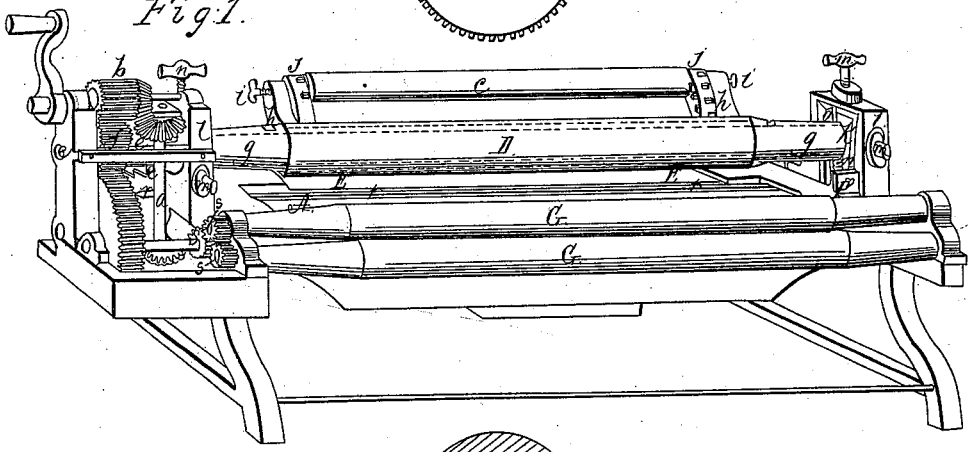
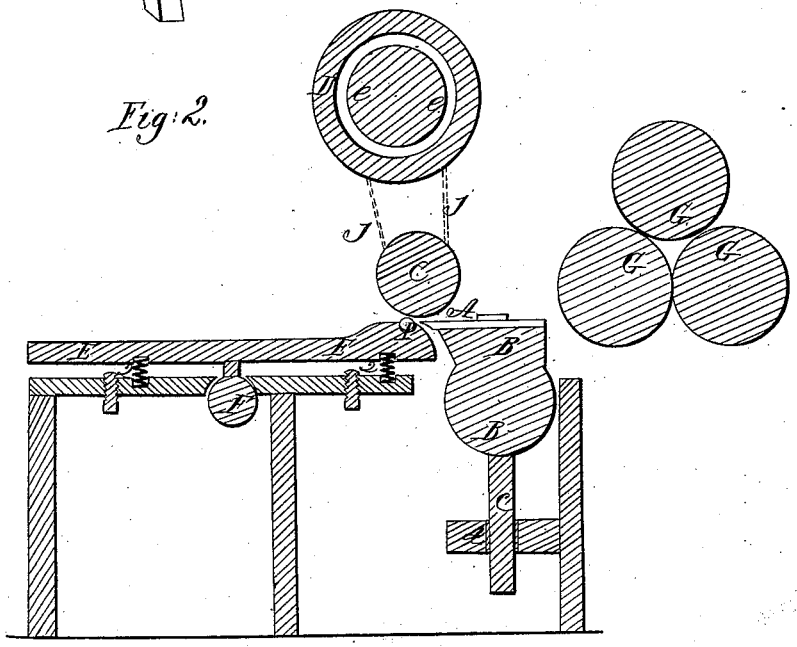


Fig: 2.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALPHA RICHARDSON, OF BOSTON, MASSACHUSETTS.

METHOD OF CONSTRUCTING MACHINES USED FOR SPLITTING LEATHER.

Specification of Letters Patent No. 1,967, dated February 9, 1841.

To all whom it may concern:

Be it known that I, ALPHA RICHARDSON, of the city of Boston, in the State of Massachusetts, have invented certain Improvements in Machines for Splitting Leather or Green Hides; and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawings Figure 1, represents my machine in perspective, Fig. 2, is a transverse section through the middle thereof, and Fig. 3 an inside view of the end gearing.

In each of these figures, where like parts occur they are designated by the same letters of reference.

In the section, I have shown the respective parts on a larger scale than in the perspective view, in order to render them more distinct. The perspective view is taken from that side of the machine at which the split leather is delivered from it.

A, is the knife, which in Fig. 1, is nearly hidden by the drawing, or feeding rollers, to be presently described. This knife receives a vibrating motion longitudinally, in any of the modes of communicating such motion employed in other leather splitting machines. The vertical shaft *a*, which is shown as driven by bevel gear from the driving pinion *b*, may, for this purpose, be made to carry a crank on its lower end. The knife is supported along its whole length by the bed piece B, B, from which descends a rod *c*, that enters a slot, or mortise, in a piece *d*, attached to the frame, to serve as a guide to the knife as it traverses endwise. The bed piece B, is sustained at its two ends by suitable bearings upon which it slides, and which supports are made adjustable as in other machines, so as to regulate the distance of the edge of the knife from the gage.

C, is the gage roller which receives a revolving motion from a shaft *e*, *e*, that is turned by the wheel *f* into which wheel the driving pinion *b*, meshes.

D, is a tubular shaft within which the shaft *e*, *e*, revolves, as shown by the dotted lines; it embraces the shaft *e*, at its ends *g*, *g*, so as to make friction upon it, but is not otherwise connected with it; its main office being to support the two standards *h*, *h*, through which pass the screws *i*, *i*, upon which the gage roller revolves. Chain bands *j*, *j*, pass around the ends of the gage roller, and around the shaft *e*, *e*, within the tubular shaft D, which shaft has perforations at its side to admit them; there are teeth, or protuberances on the ends of the gage roller, and on the shaft *e*, *e*, which hold the links of the chain bands, and prevent their slipping. In Fig. 1, the gage roller is shown as turned up out of its place when in action; in Fig. 2, it is turned down over the edge of the knife. The gage is made adjustable as well as the knife, the shaft *e*, *e*, running in bearings *k*, in the heads *l*, *l*, which are adjusted by set screws *m*, *m*, and borne up at their lower ends by springs *n*, in a manner well known; *o*, is a stop, which when the gage is turned down, bears against the adjusting screw *p* and keeps the gage in place.

When the skin to be operated upon is passed into the machine, it is laid upon the elastic plate, or table, E, E, which vibrates upon a shaft F, running along its middle, or in any other convenient way, and is borne up by adjusting screws and springs at *q*, *q*. Along the inner edge of the plate, runs a round, elastic, steel rod, *r*, *r*, which is colored yellow in Fig. 1; this rod is made to revolve by the gearing of a pinion *t*, on one of its ends, with the wheel *f*, the gearing being so adjusted as to cause it and the gage roller to revolve with corresponding velocities. This steel rod is sufficiently stiff to bear the leather up against the gage roller, while it is, also, flexible enough to yield to the unequal surface of the flesh side which bears upon it, causing the upper, or grain, side to be cut to a more regular thickness than by the large roller, or other devices which have been heretofore employed.

Instead of the roller for receiving the split skin employed in other leather-splitting machines, I employ the drawing, or feeding, rollers G, G, G, between which the split skin is received and compressed with sufficient force to draw it forward. These are geared together by pinions *s*, *s*, *s*, causing them to move with the proper, and with a uniform, speed, which cannot be the case when the leather passes, and is wound, around a roller.

Having thus fully described the nature of my machine, and shown the manner in which the same operates, what I claim therein as constituting my invention, and desire to secure by Letters Patent, is—

1. The manner in which I have combined the gage roller *c*, the shaft *e*, by which it is

driven, and the tubular shaft D, so as to give the revolving motion to the gage roller by means of the chain bands *j*, *j*. I claim also, the use of the elastic steel rod *r*, *r*, in combination with the elastic plate, or table, E, E, arranged and operating as described.

2. I claim, likewise, the combining with such a machine, the drawing, or feeding, rollers G, G, G, operating in the manner, and for the purpose, set forth.

I do not claim to have invented anything new in the general mode of gearing, or of employing springs, and adjusting screws, these being common to machines used for the same, and for other, purposes; but I confine my claim to the particulars above stated, with such variations thereof as will be substantially the same, producing a like effect by analogous means.

ALPHA RICHARDSON.

Witnesses:

THOS. P. JONES,

GEORGE WEST.