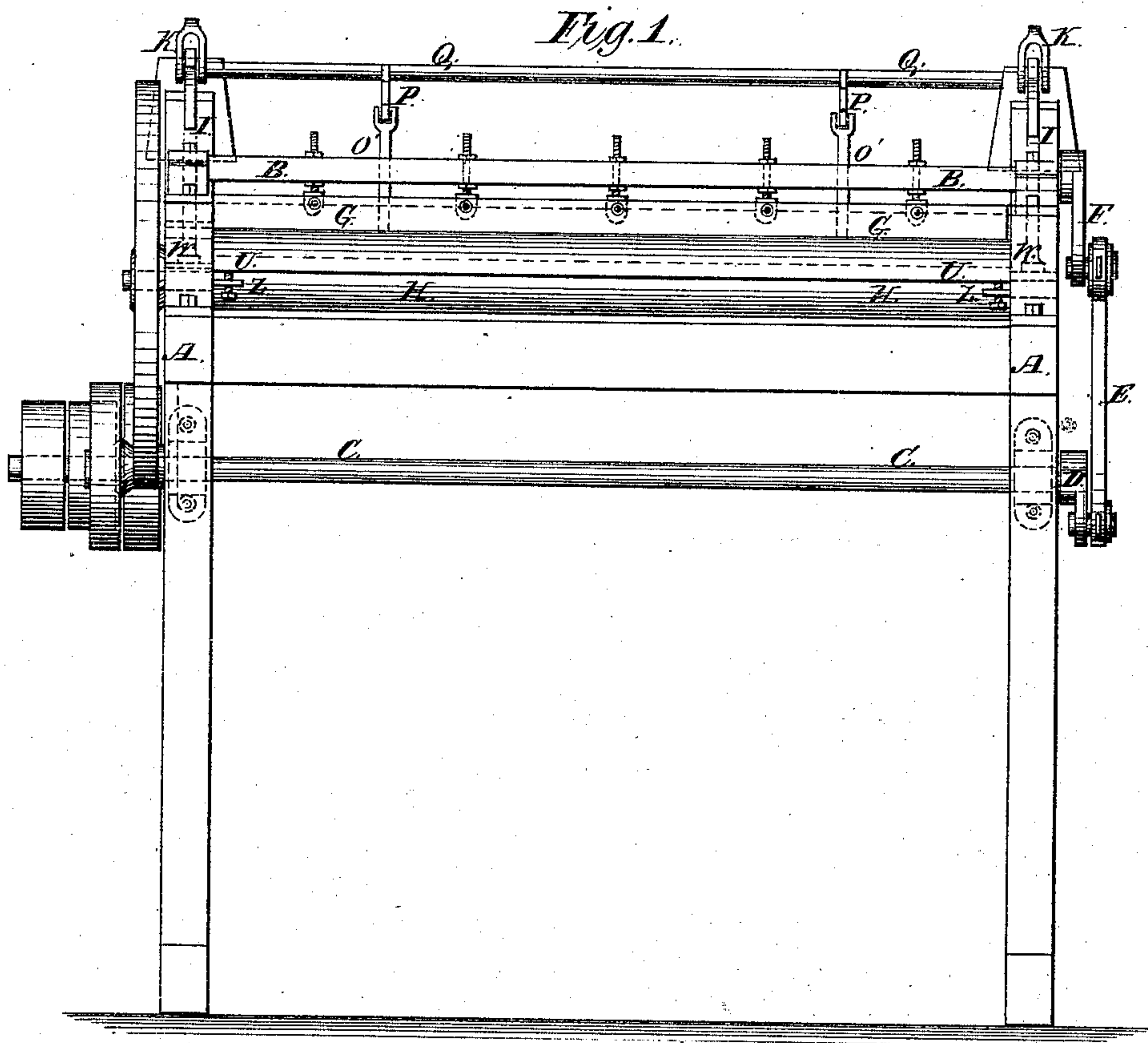


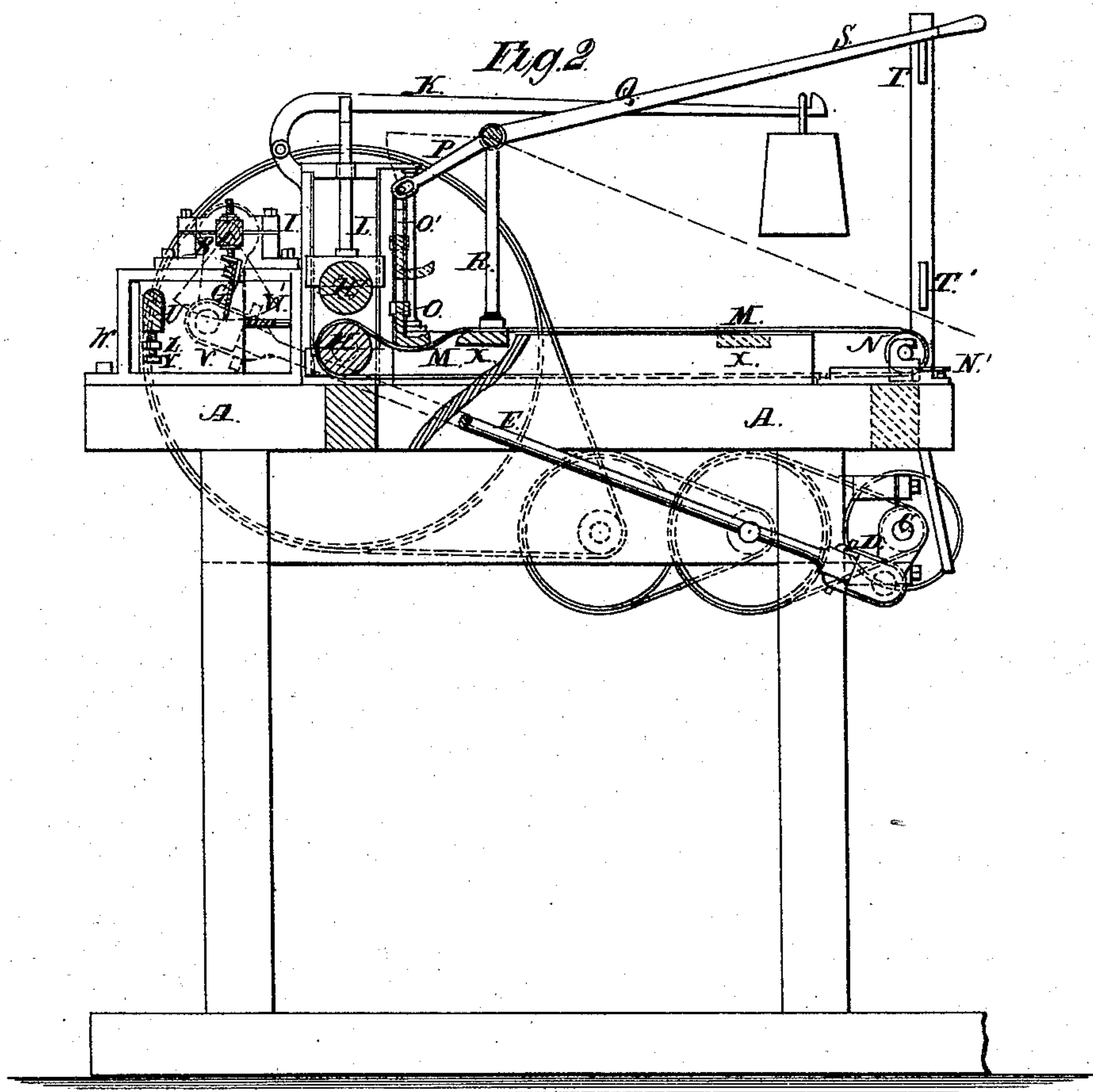
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Machinery for Dressing and Finishing Hides and Skins.
No. 152,811. Patented July 7, 1874.



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UNITED STATES PATENT OFFICE.

JOHN PULLMAN AND JOHN R. EDMONDS, OF WONERSH, ENGLAND.

IMPROVEMENT IN MACHINERY FOR DRESSING AND FINISHING HIDES AND SKINS.

Specification forming part of Letters Patent No. **152,811**, dated July 7, 1874; application filed May 26, 1874.

To all whom it may concern:

Be it known that we, JOHN PULLMAN and JOHN R. EDMONDS, both of Wonersh, in the county of Surrey, England, have invented a new and useful Improvement in Machinery Used in the Process of Dressing and Finishing Hides, Skins, and Leather; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification.

Our invention relates to improved machinery for "frizing," "fleshing," and "scudding" hides and skins, and for staking and grounding leather. The machine consists of a suitable frame, in which is mounted a shaft, on which a long knife or a rubber is carried. Motion is imparted to the shaft, and to the knife or rubber which it carries, from a main shaft suitably disposed. The skin is laid upon a traveling apron, by which it is fed between a pair of rollers in proximity to the knife-shaft and parallel therewith, the skin, after having passed through these rollers, being held by the operator against the knife or rubbers. Means are provided to stretch the skin and keep it flat when on the apron, and prevent it falling into folds or wrinkles in passing between the rollers.

Figure 1 is a front elevation of the machine; and Fig. 2 is a side elevation of the same, partly in section.

We have illustrated the machine as adapted for "kniving" skins.

A is the frame of the machine, and B is the knife-shaft, mounted in bearings across the front of the machine. C is the main shaft, also mounted in bearings at the back of the machine. D is a crank-arm on shaft C, connected by a connecting-rod, E, to a similar crank, F, on the knife-shaft. A connecting-rod and cranks may be provided at both sides of the machine, if required. The crank F is made equal to about twice the radius of crank D, so that a rocking motion will be imparted to shaft B. An eccentric may, however, be substituted for crank D. G is the knife-blade, extending across the front of the machine and bolted to the shaft B, as shown. The knife has a straight edge, and is not set exactly radial to the shaft, but at a slight angle, as

shown, so that it will only act on the skin in its forward movement. The width of the machine and the length of the knife may be such that more than one skin may be worked simultaneously by different workmen. Motion being imparted from main shaft C, the knife is oscillated, as indicated. H H' are a pair of rollers mounted behind the knife, by which the skin is fed thereto. The lower or feed roller H is supported in fixed bearings on frame A, and the upper or pressing roller H', which is of metal, is fitted in bearings sliding vertically in slotted uprights I, fixed on the frame A. K K are weighted levers disposed at either side of the machine, each being fulcrumed on the upright I, and pressing by a rod, L, upon the axes of roller H', in order to cause the latter to gripe the skin and prevent it being drawn through faster than it is fed by the rollers. These levers may be otherwise arranged, beneath the frame A, for instance, as will be readily understood. M is the endless apron passing over roller H and over another roller, N, at the back of the machine. The roller N is carried in a bearing made adjustable by screws N', in order to tighten the endless cloth M when required. To stretch the skin flat and prevent it running into folds or wrinkles in passing between the rollers, we provide a presser-bar, O, directly in rear of the rollers H. This bar extends across the whole width of the apron, and is hung by rods O', jointed to the extremities of arms P, fixed on a transverse shaft, Q, mounted at the upper part of standards R, at either side of the machine. The presser-bar O is raised and lowered as required by means of a hand-lever, S, fixed to shaft Q, and worked by the attendant who lays the skins upon the apron. The bar O presses upon the apron, as shown, and thereby assists in retaining the skin, and prevents it being drawn too fast through the rollers. It is held in this position by placing the hand-lever S above a notch, T, on an upright fixed on the framing A. X X, cross-bars supporting apron M. The presser-bar is also shown in dotted lines in the raised position, in which it is held by placing lever S beneath a second notch, T'. Slow rotary motion is imparted to the feed-roller H from main shaft C, by band or spur gearing, by which the speed

is greatly reduced, in order that the skin may be fed forward gradually to the knife or rubber, as required. Change-wheels are provided for varying the rate of feed, according to the nature of the work to be performed. The skin, after passing between the rollers, is held by the workman in contact with the knife or rubber by passing it over an adjustable gage-bar, U, placed across the front of the machine. This bar is made movable horizontally away from the knife, to allow the operator to more readily pass his hand beneath the knife or rubber to take hold of the skin directly it begins to be fed between the rollers H. For this purpose the bar is supported at each end by a block, V, capable of sliding horizontally in a frame or box, W, placed beneath the bearings of the shaft B, and provided with an adjustable stop, W', by which the distance of the gage-bar from the knife or rubber is regulated. In order to regulate the action of the knife or rubber upon the skin, the bar U is also made adjustable vertically. For this purpose it is supported on screw-bolts Y, passing through lugs Z, projecting from the sliding blocks V, as shown in the front elevation; or other suitable means of adjusting the position of the bar may be employed. The workman holds the skin over the bar U so as to stretch it more or less tightly, in order that it may be properly acted on by the knife or rubber, the workman shifting his hold of the skin along from side to side, so that all parts may be acted on as required.

For grounding leather, the rock-shaft B is replaced by a rotating shaft carrying the cylindrical rubber covered with emery, ground glass, pumice, or equivalent material, and driven by spur or band gearing from the main shaft, as will be readily understood.

For frizing, fleshing, and scudding, the knife-blade would be replaced by another suited for the purpose.

Having described the nature of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The reducing devices fixed on a rocking shaft, as herein shown and described, in combination with a pair of rollers and a gage-bar, substantially as and for the purpose specified.

2. The combination, with the rollers H H', of the endless apron M and the presser-bar O, all arranged and operated substantially as shown and described, for feeding and holding the skin while the same is being operated on by a vibrating knife or a rubber, as set forth.

3. The combination of the roller H, adjustable roller H', endless apron M, presser-bar O, rock-shaft B, knife G, adjustable blocks V, and adjustable bar U, as and for the purpose specified.

The above specification of our invention signed by us this 22d day of April, 1874.

JOHN PULLMAN.

JOHN RICHARD EDMONDS.

Witnesses:

W. G. G. SIMMOND,
HY. SWALES.