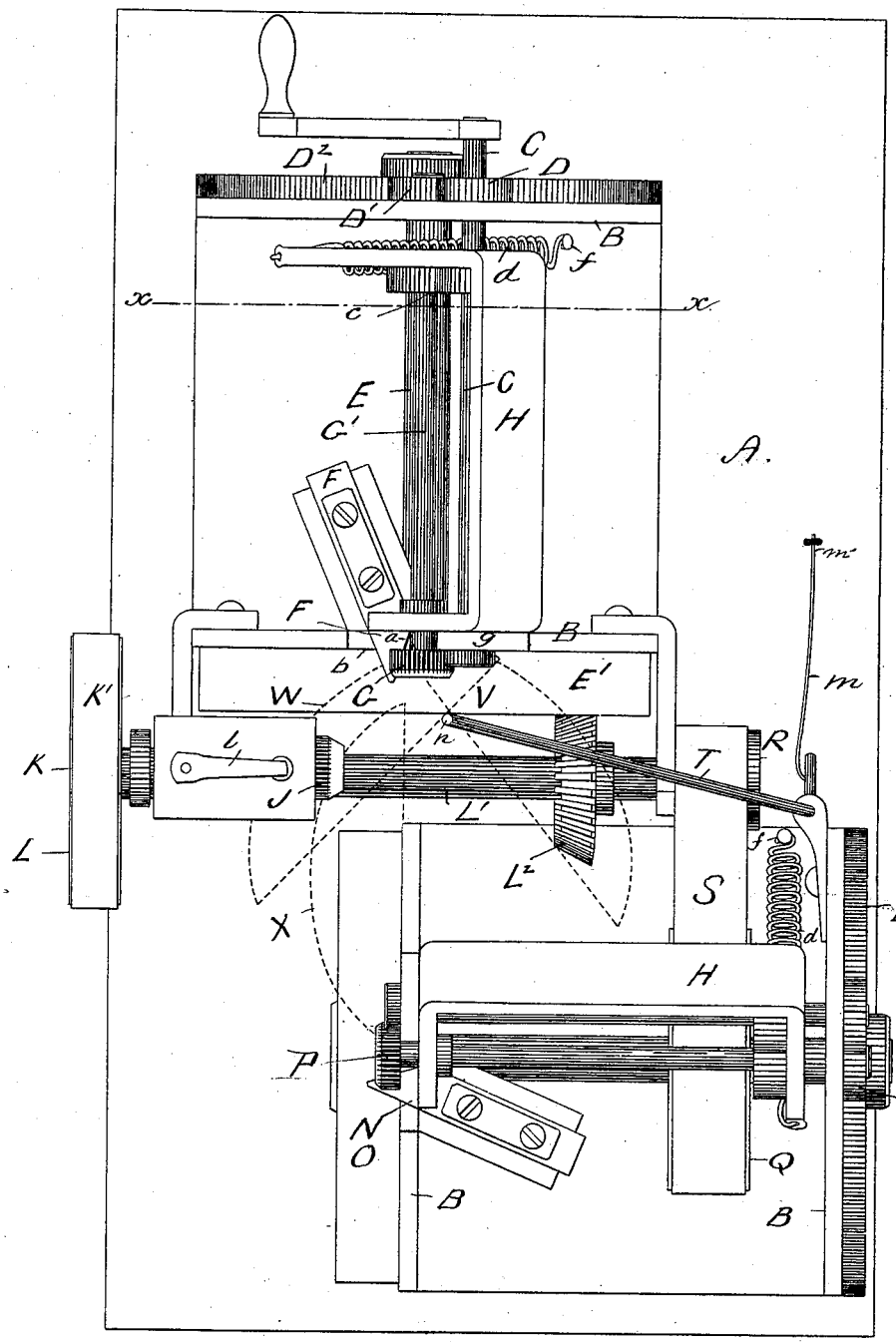
2 Sheets—Sheet 1.

O. GILMORE.

Leather-Skiving Machine.

No. 221,050. Patented Oct. 28, 1879.



Witnesses.
Chas. E. Hibbard
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Fig. 1.

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2 Sheets—Sheet 2.

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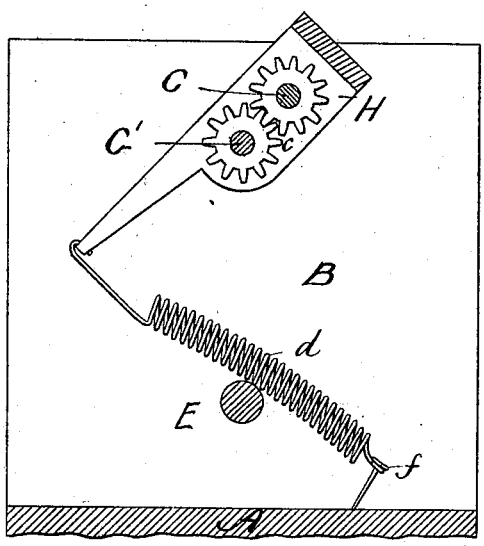

Fig. 3.

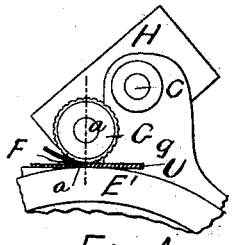

Fig. 4.

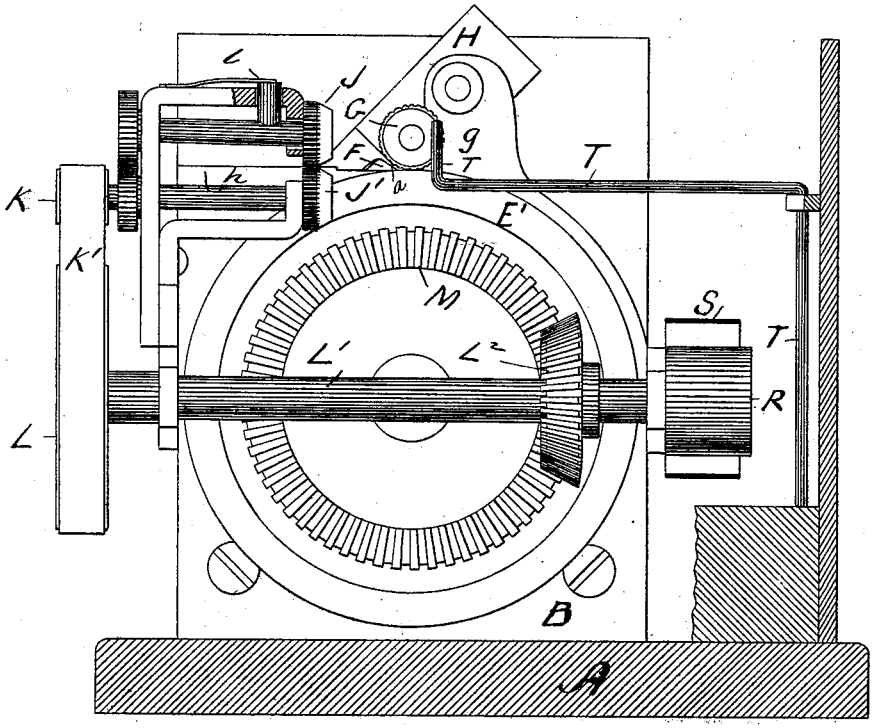

Fig. 2.

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UNITED STATES PATENT OFFICE.

OTHNIEL GILMORE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN LEATHER-SKIVING MACHINES.

Specification forming part of Letters Patent No. **221,050**, dated October 28, 1879; application filed January 11, 1879.

To all whom it may concern:

Be it known that I, OTHNIEL GILMORE, of Boston, county of Suffolk, and State of Massachusetts, have invented certain new and useful Improvements in Leather-Skiving Machines, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in machines for skiving leather; and it consists in a novel combination and arrangement of two sets of skiving-knives and feed-rollers, arranged at right angles to each other, and an intermediate set of feed devices, which are adapted to turn the leather, after being subjected to the action of the first skiving device, and carry it forward to the second, as more fully hereinafter specified.

The invention further consists in a feed-roller fixed on a shaft which has its journals in a swinging frame that is suspended or hung upon the driving-shaft, and is preferably subjected to the action of a spring, in combination with a skiving-knife and a wheel, said feed-wheel serving to bear and hold the leather upon the wheel, and both together feed the leather to the skiving-knife, substantially as hereinafter set forth, reference being had to the accompanying plates of drawings, in which—

In Plate 1, Figure 1 is a plan view. In Plate 2, Fig. 2 is an end elevation, partly in section; Fig. 3, a vertical section on line *x x*, Fig. 1; Fig. 4, a view in detail.

In the drawings, A represents a bed-plate carrying a system of vertical frame-pieces, B, of suitable character for the supports of the various parts of the improved skiving-machine to be now described.

C is the driving-shaft. This shaft C turns in suitable bearings of the frame B, and through its pinion-gear wheel D drives another pinion-gear wheel, D′, which in turn drives a large gear-wheel, D^2, that is attached to a horizontal shaft, E, carrying a vertical wheel, E′. The periphery of this wheel E′ is smooth, and over it is a knife-blade, F. The cutting-edge *a* of the knife-blade F lies across the periphery of the wheel E′, and at a vertical angle to its back edge, *b*.

The rotation of the wheel is toward the cutting-edge of the knife, and such cutting-edge skives the leather laid on the wheel and carried by its rotation to the knife.

G is a roughened feed-roller. This feed-roller bears upon and holds the leather to the wheel E′, where the knife F is skiving it, and, together with such wheel E′, feeds the leather forward to the knife. The feed-roller G is carried by a horizontal shaft, G′, which turns in suitable bearings of a frame, H, and it is geared at *c* to the driving-shaft. The carrying-frame H of the feed-wheel is swung on the driving-shaft as a center, and thus the feed-roller can recede from or approach to the wheel E′, a coiled spring, *d*, which is attached to the swinging frame H and to a fixed staple, *f*, holding the feed-roller to its work.

The above-described swinging of the carrying-frame for the feed-roller is such that when a piece of leather is being skived by the knife F the bite of the feed-roller on the leather will be just in front or over the cutting-edge of the knife F, and when there is no leather passing through the feed-roller will lie in advance of the cutting-edge of the knife F.

The standard *g* of the supporting frame-work B projects above the wheel E′ just in advance of the knife F, and this standard *g* acts as a guide and bearing for the edge of the leather passing to the skiving-knife.

J J′ represent two feed-rollers. These rollers are located between the two skiving devices, in such relative position thereto as to sieze and turn the leather as it passes from the first skiving device and feed it forward to the second skiving device. These two rollers are geared together, and the shaft *h* of the lower one has a pulley, K, connected by a belt, K′, to the pulley L of a horizontal shaft, L′, which shaft L′ has a bevel-gear wheel, L^2, gearing into a bevel-gear wheel, M, of the shaft E, which carries the wheel E′, before referred to, and thus the two feed-rollers J J′ are driven from the driving-shaft C, said connection being such as to turn them in a direction to feed from and at right angles to the vertical plane of rotation of the wheel E′ and its feed-roller G.

The upper one of the feed-rollers J J′ is arranged to lift against a bent spring, *l*, and their situation above described is such relative to the feed of the wheel E′ and its feed-

roller as to take the leather skived by the knife of such wheel E′ and feed-roller and turn it and carry it forward to another skiving-knife, N, wheel O, and feed-roller P, which are each and all constructed and arranged together in a similar manner to that described for the knife F, wheel E′, and feed-roller G, and to operate similarly thereto, but in a plane at right angles therewith.

The wheel O and feed-roller P are driven from the driving-shaft C, the connection being made through pulleys Q R and belt S with the horizontal shaft L′, hereinbefore referred to as driving the feed-rollers J J′ from the driving-shaft C.

T is a horizontal swinging arm acted upon by a bent spring, *m*, one end of which bears against said arm, and the other end, *m′*, is secured to the base of the machine. This swinging arm T is arranged to bear by its outer and upwardly projecting end, *n*, against the edge of the leather which is opposite to the edge being skived by the knife F, and thus the edge of the leather to be skived by that knife is forced and held up against the face of the projection *g* of the standard B.

To skive a counter in the machine above described, place the counter between the feed-roller G and the wheel E′, with its circular or arc-shaped edge toward the face of the projection *g* of the standard B, and the spring-arm T against the other or straight edge thereof, as shown in dotted lines at V, Fig. 1. The counter is then carried forward to the skiving-knife, and as so carried forward its arc-shaped edge is skived, the spring-arm always keeping it to the face of the projection *g* of the standard B. The counter is thus swung under the feed-roller J, and as it is so swung it enters between the feed-rollers J J′, by which it is turned and carried forward to the wheel O and its feed-roller and knife N, and its straight edge is presented to the action of such knife to be skived by it, which completes the operation.

The feed-roller for each skiving-knife F N may be arranged in inclined slotted bearings instead of being carried by a swinging frame, as described, and obviously the same bearing relative to the skiving-knife would be obtained.

The skiving-knives are attached in position so that they may be removed and adjusted at pleasure.

The rotation of the several feed-rollers is to be relatively such as to secure a proper working in unison for the results described.

In Fig. 1 the position of the counter in the operation of skiving it is shown in three positions. In dotted lines at V it is in position for the commencement of the skiving on its arc-shaped edge. At W it is between the feed-rollers J J′, in position to be turned and carried forward to the second skiving-knife, N, and at X in position to be skived on its straight edge by the knife N, after being turned and carried forward by the rollers J J′.

In the detail view Fig. 4, is shown the operation of the skiving-knife F when skiving a piece of leather or counter, U, the counter being in section.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a skiving mechanism, consisting, in substance, of a knife, F, wheel E′, feed-roller G, and guide *g*, arranged together, substantially as described, of a self-adjustable and spring bearing-arm, T, for holding the leather being skived to the guide *g*, substantially as described, for the purpose specified.

2. The combination, with two skiving mechanisms, arranged to work in planes at an angle to each other, of feed-rollers J J′, for turning and carrying the leather being skived from one skiving mechanism to the other, substantially as described.

3. The feed-roller G, fixed on a shaft which has its journals in a swinging frame that is suspended or hung upon the driving-shaft, in combination with the skiving-knife and the wheel E′, said feed-wheel serving to bear and hold the leather upon the wheel E′, and both together feed the leather to the skiving-knife, substantially as set forth.

4. The feed-roller G, fixed on a shaft which has its journals in a swinging frame that is suspended or hung upon the driving-shaft and is subjected to the action of a spring, in combination with the skiving-knife and the wheel E′, said feed-wheel serving to bear and hold the leather upon the wheel E′, and both together feed the leather to the skiving-knife, substantially as set forth.

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