W. S. FITZGERALD.

SKIVING-MACHINE.

No. 192,645. Patented July 3, 1877.

Fig 1.

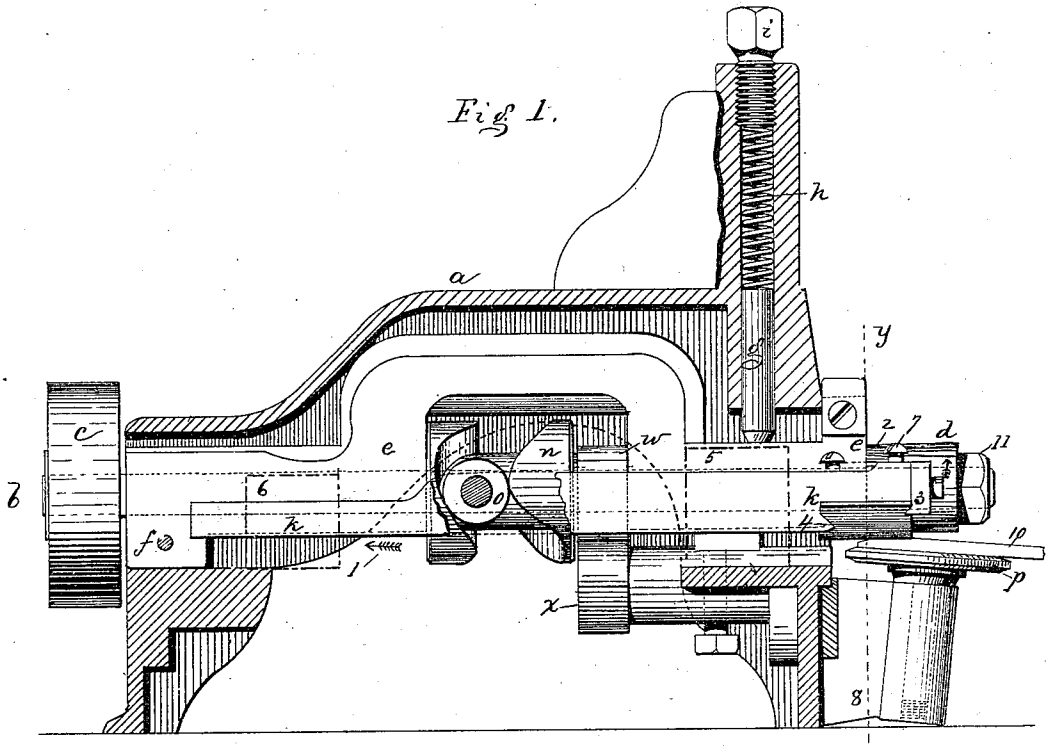


Fig 2.

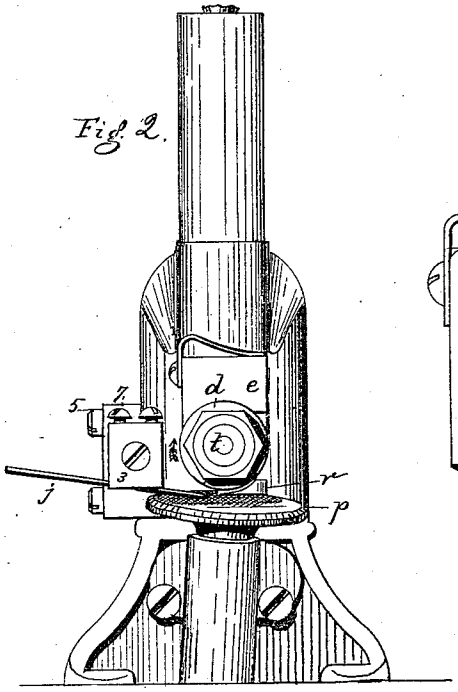


Fig 3.

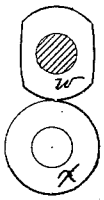
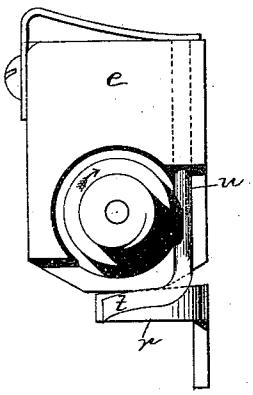


Fig 4.



Witnesses
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UNITED STATES PATENT OFFICE.

WALTER S. FITZGERALD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SKIVING-MACHINES.

Specification forming part of Letters Patent No. **192,645**, dated July 3, 1877; application filed December 11, 1876.

To all whom it may concern:

Be it known that I, WALTER S. FITZGERALD, of Boston, in the county of Suffolk and State of Massachusetts, have invented Improvements in Skiving-Machines, of which the following is a specification:

This invention relates to machines for skiving leather, paper-board, &c., and has reference to the combination, with a supporting bed or table and a feeding mechanism, of a reciprocating cutting blade or knife adapted to reciprocate in a path or plane intersecting the plane of the surface of the supporting-bed; also, in the combination, with an inclined supporting-bed for the material to be skived, of a cylindrical or wheel feeding-surface, adapted to be raised or lowered, so as to move the material forward against the knife when the latter is cutting the material, and to rise from the material when the knife is moving away from the edge-gage, such combination permitting the knife and feed to be operated by a single shaft; also, in the combination, with an inclined support and a feeding device, substantially as described, of a holder to retain the material while the knife moves away from the edge-gage and the feed releases the material.

Figure 1 represents, in side elevation, a skiving-machine provided with my invention, a portion of the frame being broken away to clearly show the construction of the parts; Fig. 2, a front view thereof; Fig. 3, a detail to be referred to, and Fig. 4 a section on line *y y*.

The frame *a* may be of any suitable shape to sustain the working parts.

The main shaft *b*, provided with a suitable driving-pulley, *c*, and, at its forward end, with a feeding cylinder or wheel, *d*, is mounted in a bearing or journal-box, *e*, pivoted at *f*. The bearing is held down by the action of a pin or rod, *g*, and a suitable spring, *h*, adjustable by means of a set-screw, *i*, so as to cause the feeding device *d* (provided at 2 with a toothed or roughened surface) to bear with more or less force upon the leather or other material to be moved by it to the action of the skiving blade or knife *j*, provided with a chisel-shaped edge, and held, in this instance, between jaws 3 4 of the reciprocating knife-carrying rod or bar *k*, adapted to slide in boxes or brackets 5 6, attached to the frame, as shown in dotted lines, Fig. 1. One box, 5, is partially shown in Fig. 2. Screws 7 assist in holding the knife in position, and permit it to be adjusted.

A cam-grooved hub, *n*, on the main shaft *b* receives a roll, *o*, on a stud projecting from the reciprocating knife-carrying bar *h*, and imparts to said bar and knife their reciprocating motions.

To skive a piece of leather and form an edge of less thickness than the main portion of the stock requires that the supporting-surface for the leather and the edge of the knife or cutting-instrument be placed in angular position with relation to each other.

I have placed the supporting-surface *p* (in this instance a circular bed, free to rotate on its axis) in an inclined position, as shown, and the knife *j* moves in substantially a horizontal plane, nearly or quite intersecting the edge of the bed near the edge-gage *r*, which governs the edge of the material being skived.

It is obvious that the bed might be horizontal, and the knife-blade be moved in a plane at an angle to the bed, and accomplish the same result.

The knife cuts or skives only when it is drawn toward the edge-gage, or in the direction of the arrow 1, Fig. 1, and at that time the feeding device is pressed down upon the material and moved in the direction of the arrow thereon, the material being crowded forward against the edge of the blade as the blade is drawn toward the edge-gage.

In this way the cut is a "draw-cut," the same as usual when a knife is operated by hand to skive leather. The cutting-edge of the blade extends forward substantially to the point where the feeding device and support are nearest together. The material being skived passes under the feeding-surface and between the knife and bed.

A holder, *t*, made as a point, (see Fig. 4,) projecting from a rod, *u*, and operated upon by a spring, *v*, enters the material resting upon the bed when the feeding device is elevated, as it is while the blade *j* is moved away from the edge-gage. The main shaft *b* has a cam, *w*, (see Fig. 3,) that bears upon a cylin-

drical roll or support, *x*, and as the shaft rotates, this cam causes it and the journal *b* and feeding device to rise against the action of the spring *h*, the pivoted point of the journal being at *f*. When the journal and shaft are depressed the upper end of the rod *w* is above the journal *e*, so, when the shaft and journal are elevated, the point of the holder *t* does not rise, but, pressed by the spring, it enters the material and holds it stationary.

The support *p* may be supplied with a spring at the lower end of its post, as shown in dotted lines at 8, Fig. 1. In such figure, 10 represents a piece of leather. The feeding device is held upon its shaft *b* by the nut 11. The bed *p* will be preferably made adjustable as to its inclination from a horizontal position, and it may or may not be rotated positively, as in some channeling-machines.

I claim—

1. In a skiving-machine, the supporting-bed and feeding mechanism, in combination with a cutting blade or knife adapted to be reciprocated in a path or plane intersecting the plane of the surface of the support, substantially as and for the purpose described.

2. An inclined supporting-bed, in combination with a continuously-rotating cylindrical or wheel feeding device, and with mechanism to intermittingly raise and lower the feeding device, so as to move the material being skived forward against a knife, it then acting to cut the material and to release the material when the knife is moving away from the edge-gage, so as to prevent the feed from then moving the material, substantially as described.

3. An inclined supporting-surface, a horizontally-reciprocating knife or blade, and a rotating feeding-surface, in combination with a holder to hold the material when the feeding device is elevated from it, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER S. FITZGERALD.

Witnesses:
G. W. GREGORY,
S. B. KIDDER.