

(No Model.)

2 Sheets—Sheet 1.

B. F. DUNHAM.
SKIVING MACHINE.

No. 586,308.

Patented July 13, 1897.

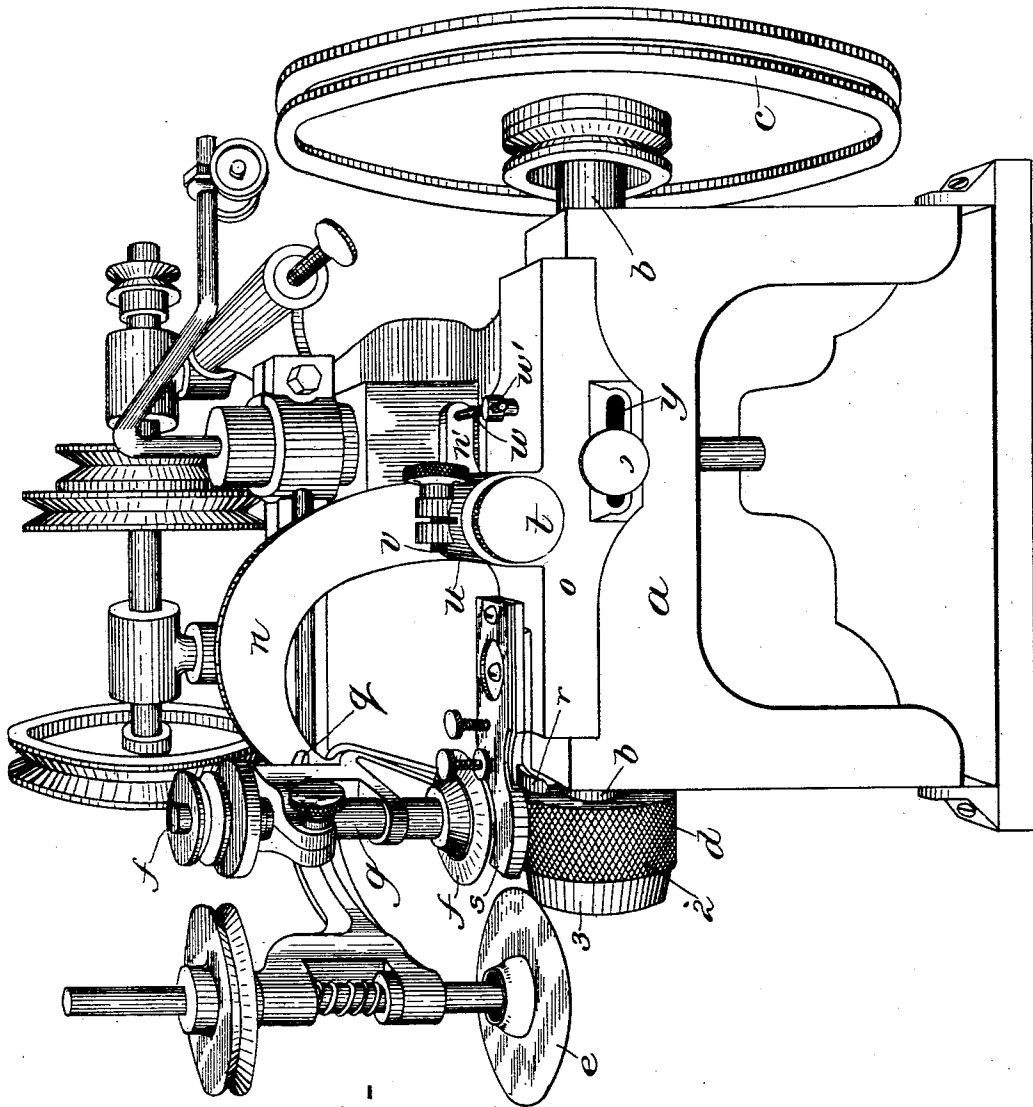


Fig. 1.

WITNESSES.
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C. C. Cat.

INVENTOR.
B. F. Dunham.
A. W. Crossley,
att.

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2 Sheets—Sheet 2.

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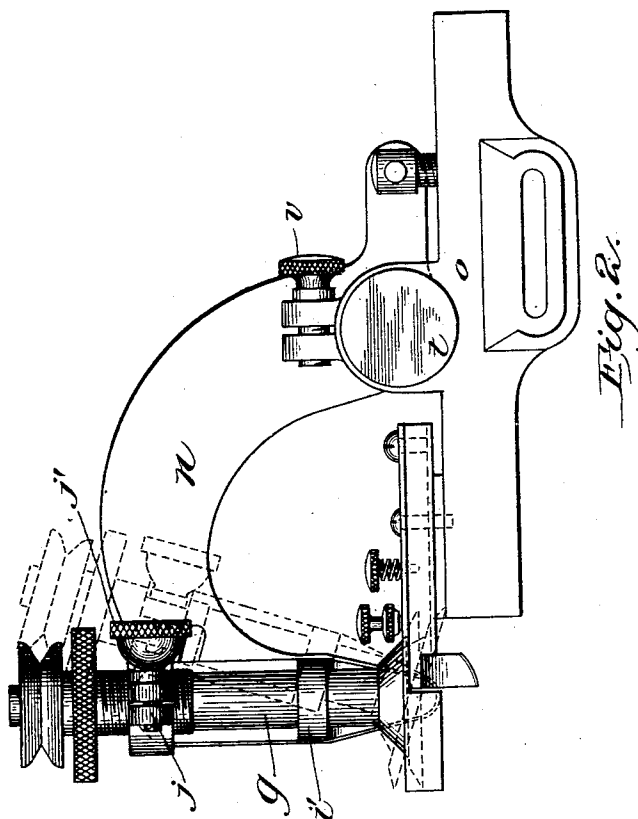


Fig. 2.

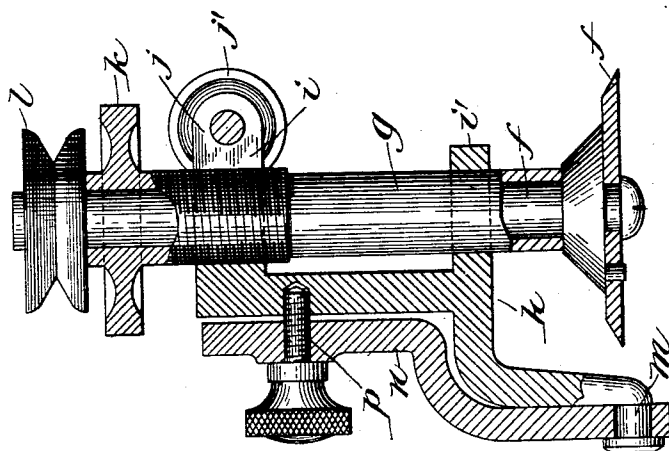


Fig. 3.

Witnesses:

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C. C. Cate.

Inventor:

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UNITED STATES PATENT OFFICE.

BENJAMIN F. DUNHAM, OF BROCKTON, MASSACHUSETTS.

SKIVING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 586,308, dated July 13, 1897.

Application filed March 17, 1897. Serial No. 627,980. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. DUNHAM, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain
5 new and useful Improvements in Skiving-Machines, of which the following is a description sufficiently full, clear, and exact to enable those skilled in the art to which it appertains or with which it is most nearly connected to
10 make and use the same.

This invention has relation to that kind or class of machines for skiving leather used in the manufacture of boots and shoes, harnesses, &c., commonly known to the trade as
15 "Amazeen" skiving-machines, which employ in their construction a feed-roll, a feed presser-disk, a cutting or skiving disk, and a guide or guides.

It is the object of the invention to so reorganize machines of the class mentioned as that the same may be greatly simplified in their construction, and hence cheapened in the cost of their manufacture and rendered ready of use by less highly skilled labor than it has
25 been necessary heretofore to engage for the purpose.

It is also the object of the invention to provide improved means of adjusting the parts needing adjustment relatively to each other, whereby the machine is rendered more efficient than heretofore, and whereby also a laborer of ordinary skill may use the machine to perfection.

To these ends the invention consists of the
35 improvements which are hereinafter set forth in detail and are then pointed out with particularity in the claims hereto appended.

Reference is to be had to the annexed drawings, and to the letters and numerals marked
40 thereon, forming a part of this specification, the same letters and numerals designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 is a perspective
45 view of my reorganized or improved machine, the driving-belts being omitted from the illustration. Fig. 2 is a front view of the rotary cutter and the guides and the adjuncts of and parts for supporting the cutter and guides.
50 Fig. 3 is a transverse vertical sectional view of Fig. 2, drawn to a larger scale, showing the

manner of adjusting the rotary cutter to vary the degree of "stunt" or bluntness of the scarf made by it.

In the drawings, *a* designates the bed of the machine, in which is suitably journaled the feed-shaft *b*, operated by a pulley *c* and provided with the usual or a suitable feed-roll *d*.

e is the feed-disk, mounted, as is usual in this class of machines, upon the lower end of a vertical rotary spring-pressed shaft, so that it may press the leather being acted on upon the feed-roll.

f is the rotary cutting-disk or knife, which is secured to the lower end of a vertical rotary shaft, which shaft I arrange in a stationary sleeve *g*, set at its lower end in a recess formed in the upper side of the hub of the knife or cutting-disk, all as is shown and described in Letters Patent granted to me May
70 26, 1891, No. 452,996.

h designates a bracket supporting the stationary sleeve, rotary knife-shaft and knife, and immediate adjuncts. From the said bracket there project two collars *i i'*, the former, *i*, being interiorly threaded and formed as a pinch-collar provided with a split ear *j*, through which is passed a thumb-screw
75 *j'* to set or pinch the said collar as tightly as need be on the sleeve. At the point where the sleeve *g* passes through the said collar it is exteriorly threaded to match the threaded pinch-collar, and on the upper end of the sleeve there is a milled disk or head *k*, so that by turning the said sleeve in the pinch-collar
85 the knife may be adjusted up or down relatively to the material being acted upon, so as to regulate the depth of cut made by the knife.

It will be understood that the knife-shaft may be rotated by the pulley *l*, operated by a belt, the said pulley being secured to the upper end of the said shaft.

The bracket *h*, which supports the rotary knife or disk *f*, is pivotally connected, as at
95 *m*, at its lower end with the free end of the overhanging arm *n*, which extends up and forwardly from a base-plate *o*. The pivotal axis *m* is on a plane coincident with the lowermost point of the axis of the cutting-disk or knife *f*, as will be clearly seen by an inspection of Fig. 3. The bracket *h* at its up-
100

per part is provided with a thumb set-screw *p*, tapped therein, with the shank thereof extending through a slot *q* in the arm *n*. With this construction it will be seen that the bracket *h* may be swung to a limited extent on its pivot *m*, so as to tip or incline the knife or move it to horizontal position and then fix and maintain it in such position, and, moreover, it will be seen that in this adjustment of the knife the center of its lower face will not be at any time moved out of a plane coincident with its pivotal point or axis *m*. Again, the axis or center of the lower face of the cutting-disk, however the said disk may be inclined or tipped, does not vary as to position vertically with respect to its relation to the feed-roll, and, moreover, the center of the cutting-disk is not moved to an appreciable extent out of the central line of the scarf made upon the goods. This is an important feature of the invention.

It will be understood, of course, that the variation in the inclination of the knife is for the purpose of varying the "stunt" or bluntness or sharpness of the scarf made by the knife.

It is known by those skilled in the art that the skiving is done only on that part 2 of the feeding-roll which is milled, and that on the part or portion 3, which is offset or smaller in diameter than the portion 2, no skiving is done. Hence in providing for the depth of the scarf by adjusting the knife up and down and for the degree of "stunt" of the scarf by varying the inclination or tip of the knife the width of the scarf must also be provided for, and this is done by the usual edge-gage *r*, attached (adjustably, if need be) to the bed-plate *o*. Extending over the gage *r* is the finger *s*, which serves to keep the goods down in position on the feed-roll that they may be properly acted upon by the knife. This finger is also secured to the bed-plate.

The arm *n* is connected with the bed-plate through the medium of a stud *t*, having a bearing *u* in said bed-plate, and the said stud is made adjustable longitudinally by means of a thumb-screw *v*, so that as the knife wears away it may be adjusted backward and forward with relation to the feed-roll in order to keep it in proper position for skiving.

w designates a steadying-pin extending from a projection *n'* on the arm *n* through a stud *w'* on the bed-plate. This is for the purpose of insuring that the arm *n* may not turn on the stud *t* when being adjusted backward and forward.

The bed-plate *o*, to which the cutter and gages are attached, is secured to the frame or bed *a*, so as that it may be longitudinally adjusted thereon, and this may be done by a set-screw *x* passed through a slot *y* in the bed *a*, as is clearly portrayed in Fig. 1.

It will now be observed that to adjust the gage *r*, so as to vary the width of the scarf, it will be necessary to adjust the bed-plate *o*

longitudinally on the bed *a*, and this adjustment will carry with it in unison—that is, to exactly the same extent—the knife or rotary cutter and its adjuncts as well, and it is this feature that forms the most important part of the invention. Once having set the cutter to suit a particular class of work, the width of the scarf is regulated by adjusting the bed-plate *o*, which carries the knife, as well as the gage *r*, with it.

So far as I am aware I am the first to adjust the knife and gage and their adjuncts in unison and by a single operation, and I do not therefore confine myself to the particular means by which this end is accomplished.

The maintenance of the center of the knife to all intents and purposes in its operation on the central line of the scarf and the simultaneous and uniform adjustment of the knife and gage and their coacting parts are of the essence of the invention, and I have therefore not thought it necessary to show or describe more than one practical way of accomplishing these ends, notwithstanding the fact that I recognize that the ways in which these things may be carried out may be varied from what I have shown by mechanics of ordinary skill.

I have not thought it necessary to describe the functions of the various pulleys and other operating parts shown in Fig. 1, since these are so well understood in the art as not to need description herein.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all the modes of its use, it is declared that what is claimed is—

1. In a skiving-machine, a rotary knife or cutter and its support and means for adjusting the angle or inclination of knife without varying the position of the center of the same, as set forth.

2. In a skiving-machine, the combination, with the feed-roll, of a rotary knife or cutter, and means for adjusting the same at varying angles without varying the position of the center of the cutter with relation to the feed-roll, as set forth.

3. In a skiving-machine, the combination, with the rotary knife or cutter and its shaft, and means for supporting said shaft, said means being in turn pivotally supported on a plane coincident with the center of the lower face of the knife, as set forth.

4. In a skiving-machine the combination, with the rotary knife or cutter and its shaft, means for supporting said shaft, said means being in turn pivotally supported on a plane coincident with the center of the lower face of the knife, and means for clamping the support for the shaft in fixed position.

5. In a skiving-machine, the combination, with the feed-roll, of the rotary knife or cutter, a gage, and a bed-plate to which the knife

and gage are attached, said bed-plate being adjustable longitudinally whereby the parts mentioned may be adjusted in unison and at one operation, as set forth.

5 6. In a skiving-machine, the combination with the rotary knife or cutter and the gage, of means for adjusting the same in unison and at one operation, as set forth.

10 7. In a skiving-machine, the combination with the rotary knife or cutter and its shaft, of the overhanging arm supporting the same,

the stud *t* to which the said arm is connected and the screw *v* for adjusting the said stud, as set forth.

In testimony whereof I have signed my 15 name to this specification, in the presence of two subscribing witnesses, this 6th day of March, A. D. 1897.

BENJAMIN F. DUNHAM.

Witnesses:

ARTHUR W. CROSSLEY,
ARTHUR F. RANDALL.