

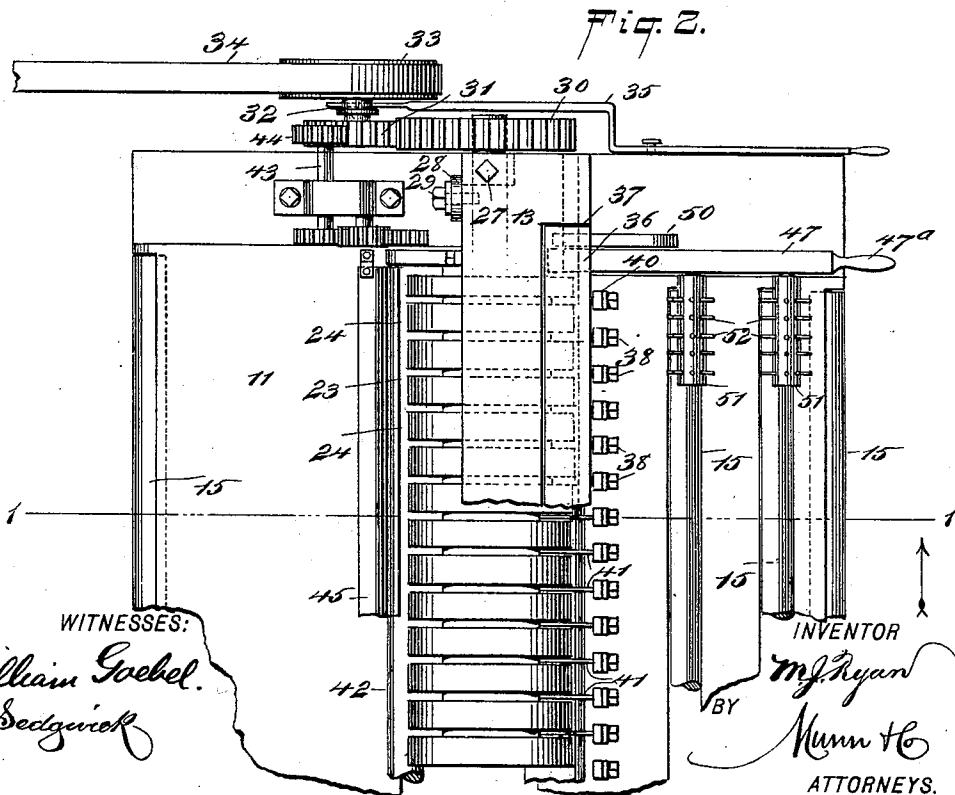
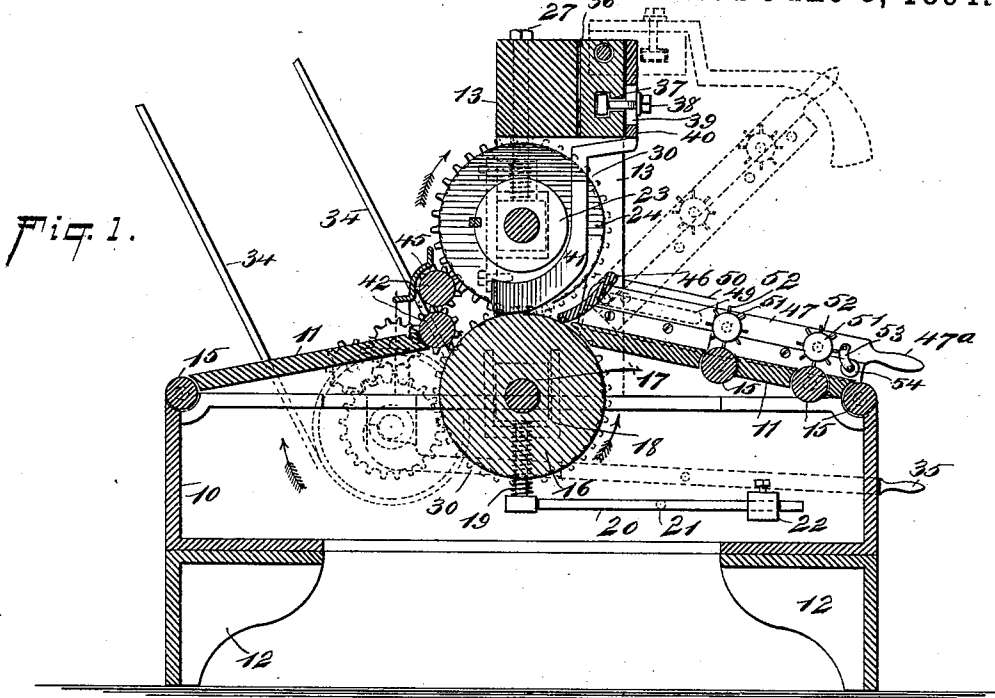
(No Model.)

2 Sheets—Sheet 1.

M. J. RYAN.
LEATHER STRIPPING MACHINE.

No. 521,048.

Patented June 5, 1894.



WITNESSES:

William Goebel.
C. Sedgwick

INVENTOR

M. J. Ryan
BY
Kunn & Co.
ATTORNEYS.

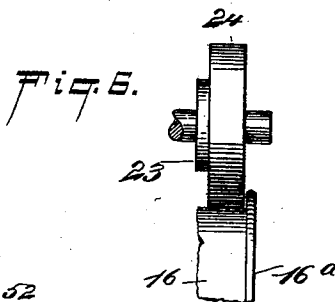
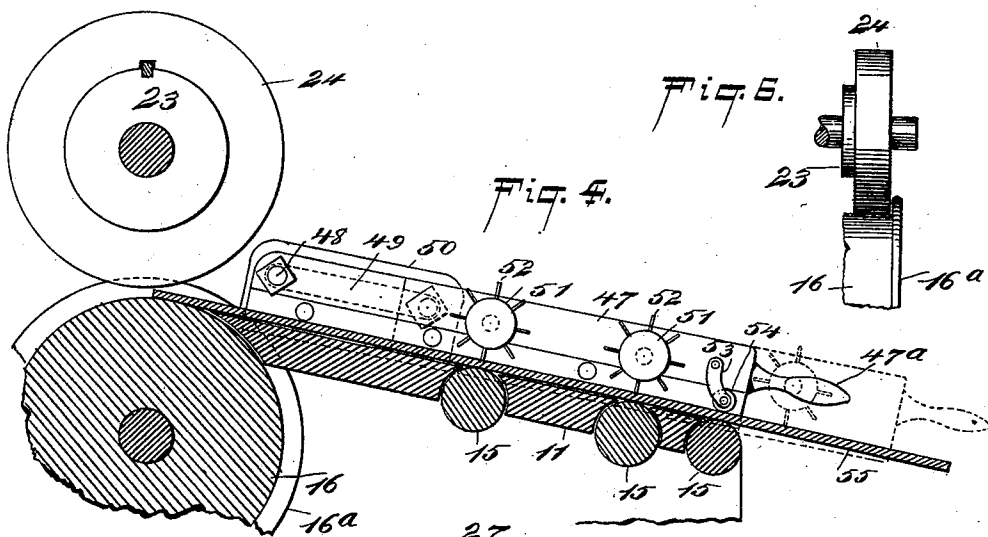
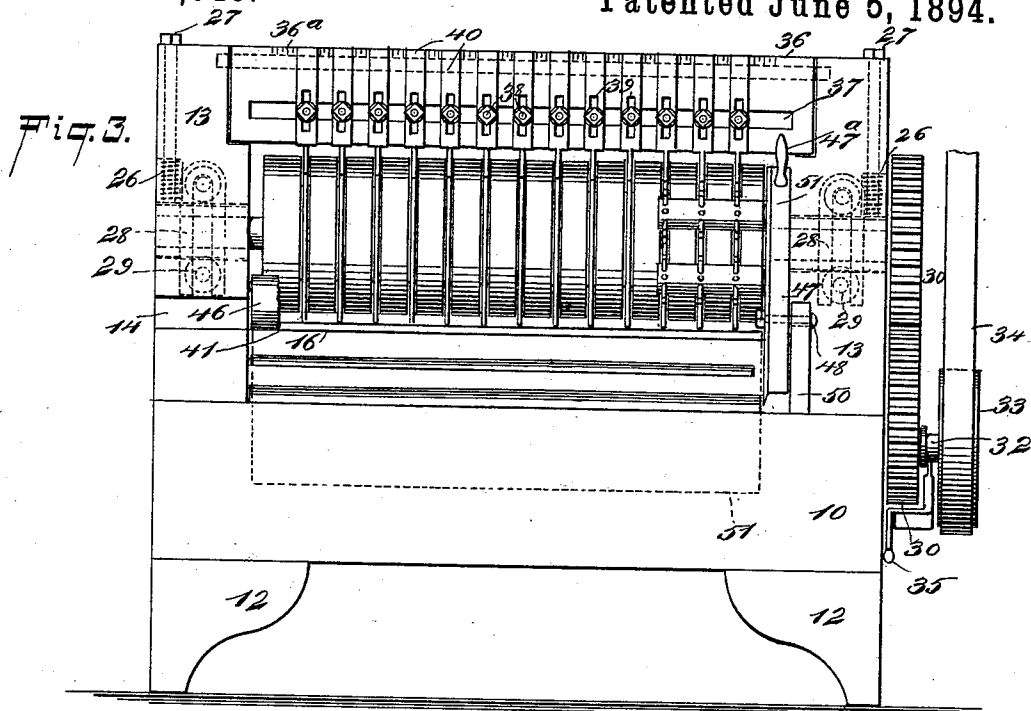
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2 Sheets—Sheet 2.

M. J. RYAN.
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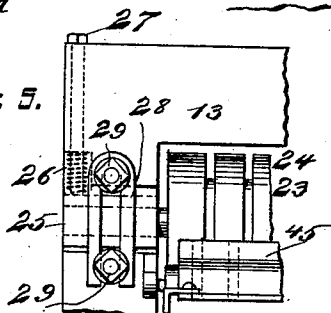
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William Grebel.
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INVENTOR
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BY
Munn & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

MICHAEL J. RYAN, OF NEW ORLEANS, LOUISIANA, ASSIGNOR TO HIMSELF
AND JAMES F. KELLY, OF SAME PLACE.

LEATHER-STRIPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 521,048, dated June 5, 1894.

Application filed January 24, 1894. Serial No. 497,864. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. RYAN, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Leather-Stripping Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of machines which are used for cutting leather into strips.

The object of my invention is to produce a simple, durable and efficient machine, which is adapted to cut a wide piece or an entire side of leather into a series of strips of a desired width, and also to arrange the parts so that the leather will be properly fed and guided, and strips smoothly and rapidly cut.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal section, on the line 1—1 of Fig. 2, of the machine embodying my invention. Fig. 2 is a broken plan view of the machine. Fig. 3 is a front elevation of the machine. Fig. 4 is a broken detail sectional view, illustrating the arrangement of the straightening and guide knife in connection with the feed rolls. Fig. 5 is a broken rear elevation of a portion of the frame and shows the manner in which the upper feed roll is hung; and Fig. 6 is a broken detail view of an end portion of the two feed rolls, showing particularly the guide flange on the lower roll.

The machine has a suitable frame 10, the top of which inclines from both front and rear toward the center, so as to form a table 11, and the frame is supported on legs 12 which are preferably detachable.

Near the center of the machine is an arm 13 which is strong enough to support the upper roller and the knives, as hereinafter described, this arm being fastened rigidly to one side of the machine and extending across the top and partly down the other side, see Fig. 3, leaving an open space 14 at one edge

of the table, through which space a side of leather may be conveniently slipped if desired.

In the table are transverse rollers 15, the tops of which are a little above the table top, and on these the leather runs and the rollers enable it to be easily moved. The table is open in the center transversely, as shown best in Fig. 1, and in this opening are hung the horizontal feed rollers, the lower one 16 being made of paper, wood, or some material which will not injure the edge of a knife, and this roller 16 has its shaft hung in boxes 17 which are vertically movable, being supported on springs 19, which are arranged around the shanks of forks 18 in which the boxes have sliding movement. The shanks of the frames or forks 18 rest on levers 20 which are fulcrumed on the side of the machine, as shown at 21, and provided with weights 22, and by adjusting the weights the required tension may be given to the roller 16 and still permit the roller to yield under the pressure of leather. As the upper roller is also hung in spring bearings, the two rollers readily adapt themselves to leather of different thicknesses. Above the lower feed roller is the upper feed roller 23 which is provided with numerous narrow collars 24, which are placed at regular distances apart and the width of the collars should be less than the width of the leather strips to be cut. The collars come into close contact with the lower roller and form the bearing surface of the upper roller. The shaft of the upper roller is mounted in boxes 25, which rest in recesses in the sides of the arm 13, and the boxes are normally pressed downward by springs 26 arranged around the guide bolts 27, as shown in Fig. 5.

The boxes 25 are held in place by slotted plates 28 which are held to the arm 13 by bolts 29, and by removing the plates the boxes may be slipped from the arm and the upper roller removed. The upper and lower rollers are connected by gears 30 and the lower gear meshes with a gear wheel 31 on a driving shaft 32, which is journaled on one side of the frame, as shown in Figs. 2 and 3, and the driving shaft is provided with a friction pulley 33, of the usual kind, which is driven by

a belt 34 and is actuated by a lever 3 5 on the side of the machine. Instead of the friction pulley, tight and loose pulleys may be used, or any other suitable driving mechanism employed.

On the front side of the upper part of the arm 13 is hung a bar 36, which is adapted to swing forward, and in this bar is a longitudinal slot 37 which is enlarged at its inner end to receive the heads of the bolts 38, which project through holes 39 in the shanks 40 of the stripping knives 41. This arrangement enables the knives to be readily adjusted so as to cut strips of the right width, and to facilitate this operation the upper edge of the bar is provided with gage marks 36^a.

The knives 41 curve downward and rearward between the collars 24 of the upper roller, and the cutting portions of the knives come just behind the bite of the rollers so as to cut the leather near the point where it is held, and this causes the leather to be cut very smoothly as it cannot twist, curve or turn. The arrangement of the knives enables them to be readily adjusted as specified, and it also enables the bar 36 to be swung up, as shown by dotted lines in Fig. 1, so that the knives may be brought into a position where they may be conveniently sharpened.

Immediately behind the main feed rollers are supplemental feed rollers 42, which are geared together and which are also geared to a countershaft 43, see Fig. 2, which is mounted on the machine and is provided with a gear wheel 44 meshing with the driving gear 31. The object of the supplemental feed rollers is to assist in drawing the leather through the machine, and to prevent it from curling over the upper roller 42 a hood or cover 45 is used which is supported on the sides of the frame and lies above and behind the upper roller.

In front of the main feed rollers is a presser bar 46 which is pivoted on the arm 13 and is adapted to lie on the leather as it is fed through the machine so as to hold it smooth and straight. On one side of the machine, above the table top, is a knife 47 which terminates at its outer end in a handle 47^a and the knife extends at right angles to the feed rollers and is, at its inner end, pivoted on a bolt or pin 48 which is held in a slot 49 in a bracket 50 at one side of the machine on the top thereof, and this arrangement enables the knife to be swung vertically, as shown by dotted lines in Fig. 1, and also to be pulled longitudinally as shown by dotted lines in Fig. 4.

The knife 47 acts as a guide as well as a knife, and its purpose, when used as a knife, is to straighten the ragged or crooked edge of a side of leather. The leather is usually longer than the knife and consequently the front end of the knife is sharpened as well as its lower edge, and this enables the leather to be drawn through the feed rollers and to be cut by the front edge of the knife. On the

inner side of the knife are rollers 51 which are provided with spurs 52 which are adapted to engage the leather, as it is drawn forward, and prevent it from slipping laterally, holding it against the knife so that the latter may serve its function as a guide. The knife has also, on its inner side and near its free end, a swinging presser foot, which holds the leather down to the table and which comprises a swinging arm 53 and a roller 54 in the front end of the arm. Opposite the pivoted end of the knife is a flange 16^a which is produced on one end of the roller 16 and which acts as a continuation of the knife to guide the leather to the machine.

When the machine is used, the knives 41 are adjusted, as specified, the machine is set in motion, the knife 47 is raised, a side of leather 55 is placed on the table with its ragged or crooked edge beneath the knife 47, and the knife 47 is then forced downward so as to cut and straighten the edge of the leather, and the knife is then pulled longitudinally to increase the length of the cut and to enable the leather to be pushed forward into engagement with the feed rollers 16 and 23. As soon as the leather is engaged by the feed rollers it is drawn quickly between them and also between the supplemental feed rollers 42, and this movement causes the knives 41 to sever the leather into parallel strips which are delivered on the rear end of the table.

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

1. The combination with the feed rollers, of movable boxes in which one of the said rollers is journaled, frames in which the said boxes have sliding movement, levers on which the said frames rest, springs interposed between the boxes and the frames, and adjustable weights held on the said levers, as and for the purpose set forth.

2. The combination with the upper feed roller and the lower feed roller having a guide flange, of a vertically swinging knife arranged essentially in the plane of the said guide flange of the roller, substantially as described.

3. A leather stripping machine, comprising a pair of feed rollers, the upper roller having projecting bearing faces, a swinging bar mounted above the upper roller, and a plurality of laterally adjustable knives secured to the said bar and projecting downward between the bearing faces of the upper roller, substantially as described.

4. A leather stripping machine, comprising a pair of feed rollers, the upper roller having a plurality of spaced collars thereon, a swinging knife bar above the upper roller, the knife bar having gage marks upon it, and a series of laterally adjustable knives secured to the knife bar and extending downward between the collars of the upper feed rollers, substantially as described.

5. A leatherstripping machine, comprising a table, an arm extending across the table top, and open on one side, a roller mounted in the table top, a second roller mounted
5 above the first and provided with a plurality of spaced collars, a knife bar hung above the upper roller, and a series of knives carried by the knife bar and projecting downward between the collars of the upper roller, sub-
10 stantially as described.

6. The combination, with the table top and the feed rollers mounted thereon, of the supplemental feed rollers arranged behind the main feed rollers, the knives held in grooves
15 in the upper roller, and the presser bar pivoted in front of the main feed rollers, substantially as described.

7. In a leather stripping machine, the combination with the table and the feed rollers
20 thereon, of the vertically swinging knife arranged at right angles to the main feed rollers and near one edge of the table, substantially as described.

8. The combination, with the feed rollers,
25 and the table, of the vertically swinging knife

on the table top, and the spur rollers journaled on the inner side of the knife, substantially as described.

9. The combination, with the table and the feed rollers, of the vertically swinging
30 straightening knife, and the presser foot on one side of the knife, substantially as described.

10. The combination, with the table, and the feed rollers, of the vertically swinging
35 knife having a sharpened lower and front edge, the knife being longitudinally movable on its pivot, substantially as described.

11. The combination, with the frame of the machine and the feed roller arranged therein,
40 of a bar pivoted to the frame and extending longitudinally of the roller, and knives secured to the said pivoted bar and adapted to project adjacent to the feed roller, substantially as described.

MICHAEL J. RYAN.

Witnesses:

W. B. MURPHY,
R. D. FAIREX.