

June 23, 1925.

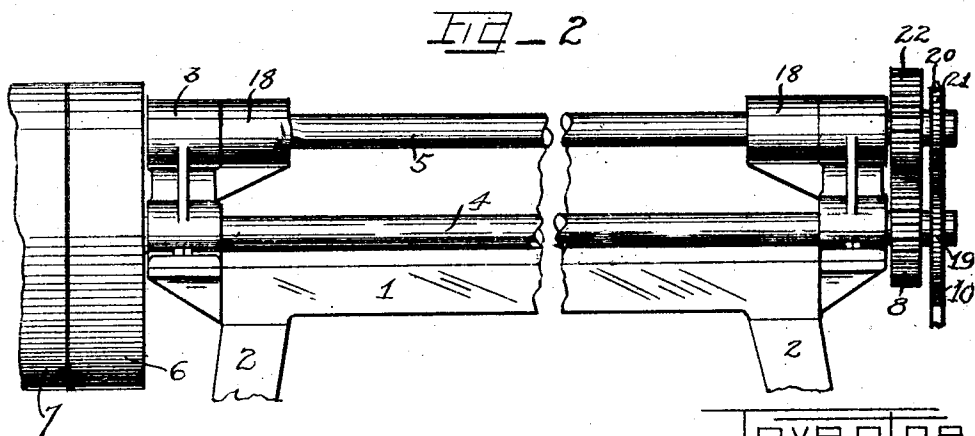
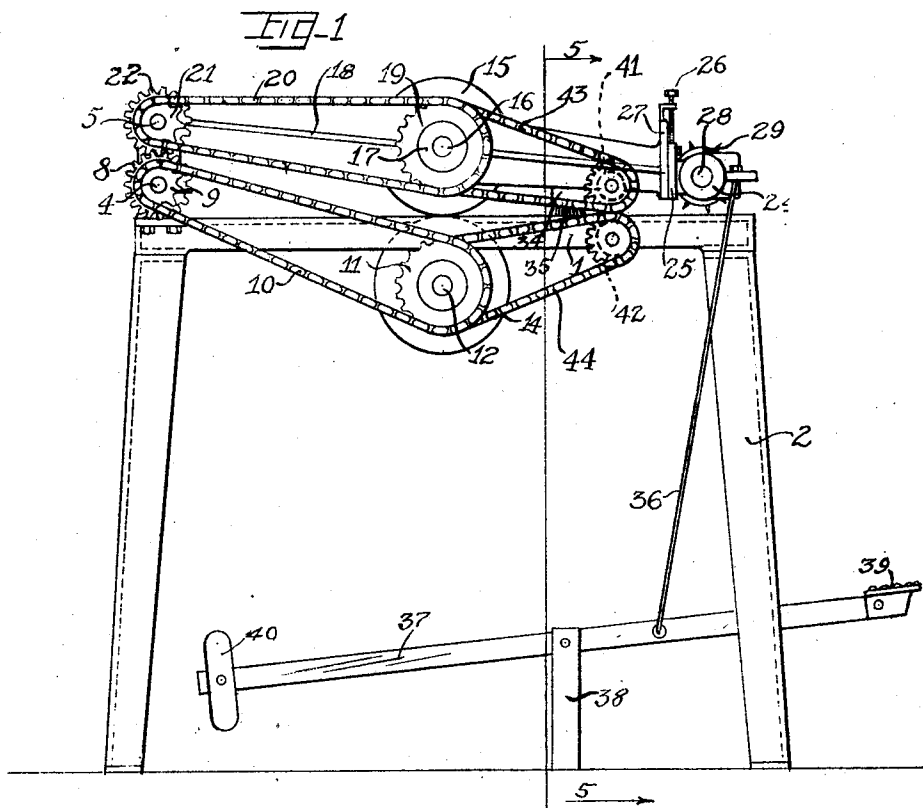
1,542,885

W. F. HORSTING

LEATHER ROUGHENING MACHINE

Filed Jan. 5, 1924

3 Sheets-Sheet 1



INVENTOR

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1,542,885

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FIG-3

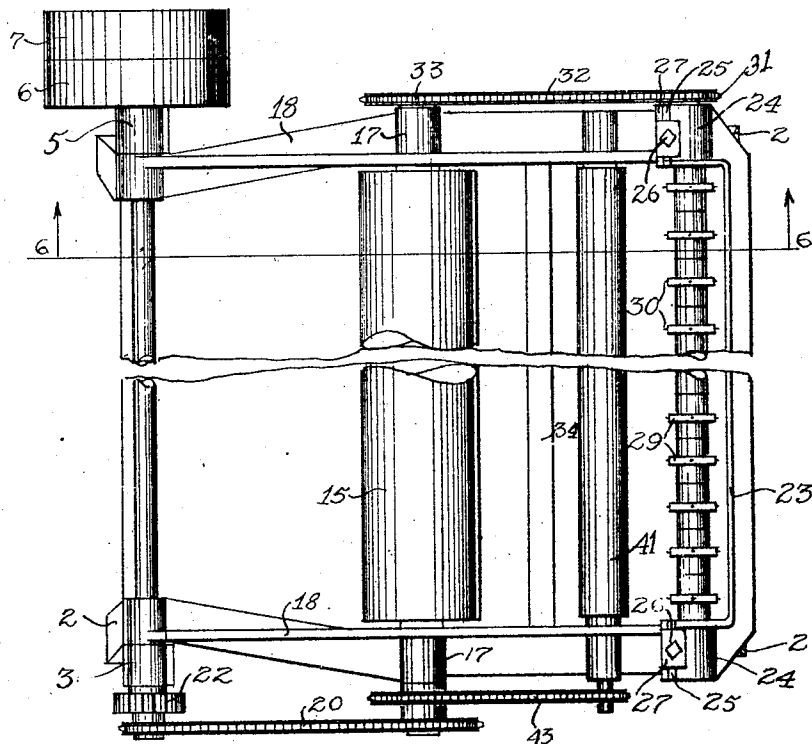
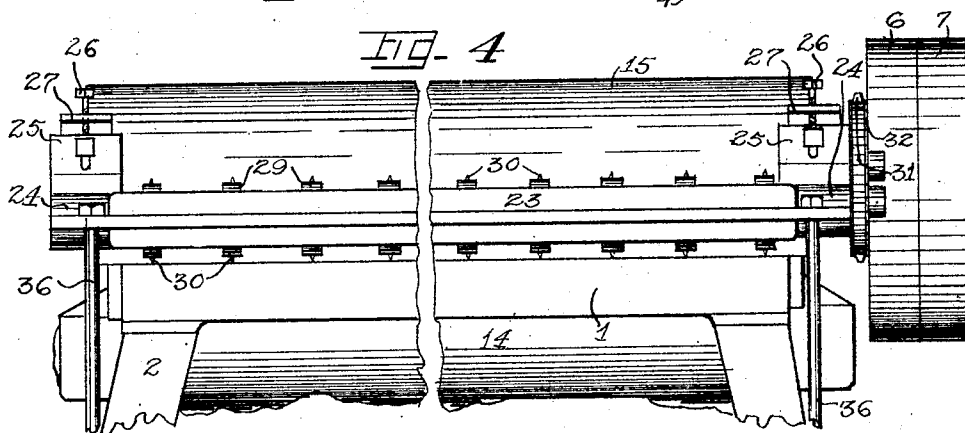


FIG-4



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3 Sheets-Sheet 3

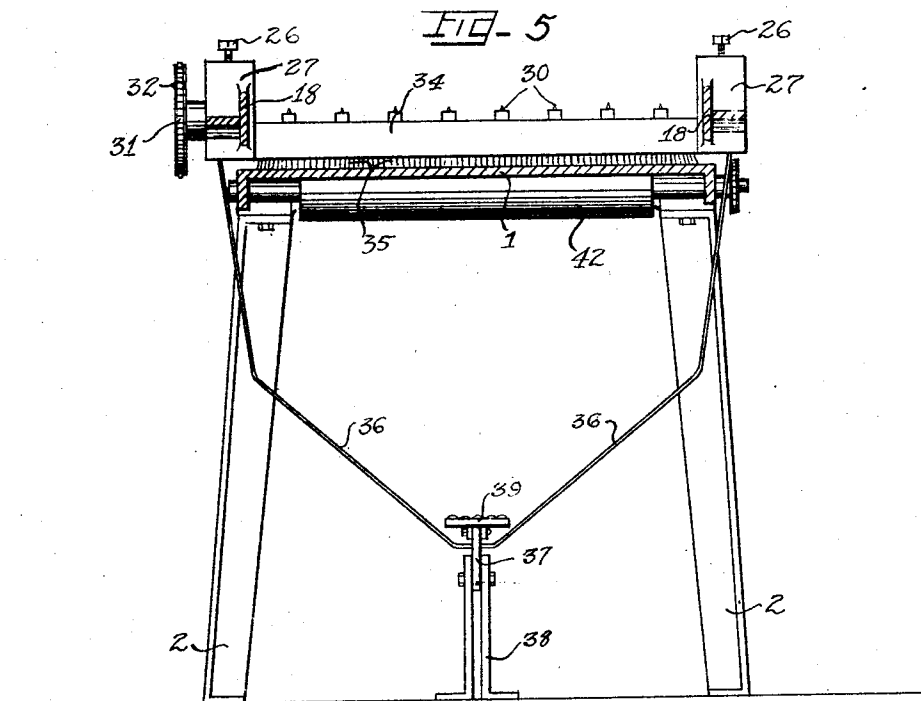
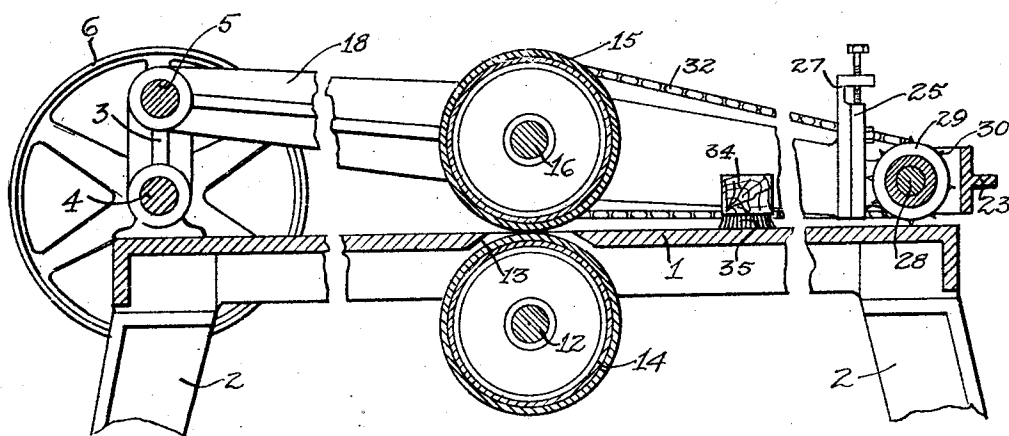


FIG-6



INVENTOR

William F. Horsting

Charles F. Hill
BY ATTY

Patented June 23, 1925.

1,542,885

UNITED STATES PATENT OFFICE.

WILLIAM F. HORSTING, OF CHICAGO, ILLINOIS, ASSIGNOR TO STANDARD LEATHER MACHINERY CO., OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

LEATHER-ROUGHENING MACHINE.

Application filed January 5, 1924. Serial No. 684,494.

To all whom it may concern:

Be it known that I, WILLIAM F. HORSTING, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Leather-Roughening Machine; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to a leather roughening machine constructed to permit strips of leather, sheets of leather or stretched butt bends to be fed through the machine beneath a brush device adapted to act on one surface of each strip of leather to roughen the same so that glue applied thereto will have a gripping surface when strips of leather are glued together to afford several thicknesses of leather from which belts and the like may be cut.

It is an object of this invention to provide a machine adapted to roughen a surface of a strip of leather fed through the machine.

It is an important object of the invention to provide a machine having feeding means adapted to feed a strip of leather through the machine against the action of a wire brush which acts on the strip of leather to roughen one surface thereof so that glue will readily adhere thereto when it is desired to glue several layers of leather together.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawings.

This invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a side elevation of a leather roughening machine embodying the principles of this invention.

Figure 2 is a fragmentary rear view of the machine.

Figure 3 is a top plan view of the machine with parts broken away.

Figure 4 is a fragmentary front elevation of the machine.

Figure 5 is a transverse vertical section taken on line 5—5 of Figure 1.

Figure 6 is a fragmentary longitudinal section taken on line 6—6 of Figure 3.

As shown on the drawings:—

The improved leather roughening machine comprises a flat table 1 supported on legs 2. Rigidly supported transversely upon the rear end of the table 1 are double bearings 3 in which a lower driving shaft 4 and an upper shaft 5 are journaled. Mounted on one projecting end of the driving shaft 4 is a fixed pulley 6 and a loose pulley 7 disposed adjacent one another and adapted to receive a drive by means of a belt connected with any suitable source of supply such as a motor or the like.

Fixed on the opposite end of the driving shaft 4 is a gear or pinion 8 having a small sprocket 9 secured on the shaft 4 to the outside of the gear 8. A chain 10 is engaged around the sprocket 9 and around a larger sprocket 11 mounted on one end of a transverse shaft 12. The shaft 12 is journaled transversely beneath the table 1 in suitable bearings. Mounted on the shaft 12 below an opening 13 in the table 1 is a lower rubber covered feed roller 14 which coacts with an upper rubber covered feed roller 15. The upper feed roller 15 is secured on a transverse shaft 16 journaled in bearings 17 formed on a pair of side arms 18 which are pivotally mounted on the upper rear shaft 5. Mounted on one end of the shaft 16 is a sprocket 19 around which a chain 20 is trained. The chain 20 is also engaged around a smaller sprocket 21 secured on one end of the upper rear shaft 5 to the outside of a gear 22. The gear 22 is fixed on the shaft 5 and is in mesh with the gear 8 to receive a drive therefrom.

A cross bar 23 connects the forward ends of the arms 18 and is provided with end bearing members 24 having end plates 25 which slidably fit within guide members 27 formed on the ends of the arms 18. Adjusting screws 26 are supported on the guide members 27 and engage the plates 25 of the cross bar 23 to permit the cross bar to be adjusted. Journaled in the bearings 24 is a shaft 28 having a plurality of spaced disks 29 mounted thereon. Each of the disks 29 has a plurality of feed pins 30 mounted radially on the periphery thereof. Secured on one end of the shaft 28 is a sprocket wheel 31 around which a chain 32 is engaged. The chain 32 is also engaged around

a sprocket wheel 33 mounted on one end of the shaft 16.

Connected to the arms 18, is a brush back 34 provided with metal or wire brush bristles 35. Supported on the arms 18 to the outside of the brush 34 is a rubber covered upper feed roll 41 adapted to co-act with a lower rubber covered feed roll 42 supported on the table 1. The upper feed roll 41 is driven by means of a chain 43 and suitable sprockets from the shaft 16 while the lower feed roll 42 is driven by a chain 44 and suitable sprockets from the lower shaft 12.

Secured to the ends of the cross bar 23 are the upper ends of a pair of bent rods 36 the lower ends of which are fastened to a control lever 37 which is pivoted intermediate its ends on a stand 38 adapted to rest on the floor. The forward end of the lever 37 has a foot plate 39 secured thereon, while the rear end of the lever 37 has a counter-weight 40 mounted thereon.

The operation is as follows:—

When it is desired to roughen one surface of a strip of leather or a stretched butt bend one end of the strip of leather is laid on the front end of the table 1 beneath the pin roller or primary feed roller 29—30 which normally is held in an elevated position due to the action of the counter-weight 40 which acts to hold the outer end of the lever 37 elevated thereby causing the rods 36 to hold the cross bar 23 and the arms 18 in a raised position. The upper feed rollers 15 and 41 are thus also elevated out of contact with the respective lower feed rollers 14 and 42.

With one end of the strip of leather in position beneath the pin roller 29—30 the machine is started by shifting the driving belt from the loose pulley 7 onto the drive pulley 6 thereby causing rotation of the shaft 4 and the lower rollers 14 and 42 through the respective chains 10 and 44. The gear 22 being in mesh with the gear 8 acts to cause rotation of the shaft 5 and the upper feed rollers 15 and 41 through the respective chains 20 and 43. The pin roller 29—30 is operated by the chain 32 from the sprocket-wheel 33 on the shaft 16.

With the advance end of a strip of leather positioned on the table beneath the pin roller the operator steps on the foot plate 39 thereby lowering the outer end of the lever 37 and raising the inner counter-weighted end thereof. As the outer end of the lever 37 is lowered the rods 36 act to pull the pivoted frame 18—23 downwardly about the shaft 5. The pin roller 29—30, the brush 35 and the upper feed rollers 15 and 41 are all lowered into operating positions. When this occurs the pins 30 on the pin roller engage the strip of leather and act to feed the strip of leather inwardly over the table

1 between the first set of feed rolls 41 and 42 and beneath the wire brush. The wire bristles 35 of the lowered brush scrape the upper surface of the strip of leather and roughen said surface. With the continued advance of the strip of leather the forward edge of said strip passes between the second set of feed rollers 14 and 16 and is fed rearwardly through the machine over the table 1. The roughening of the surface of the leather may be regulated by the amount of pressure applied to the foot plate 39.

After a strip of leather has been roughened the lever 37 is released thereby allowing the counter-weight 40 to drop by gravity to swing the outer end of the lever upwardly. The rods 36 thus cause the pivoted frame 18—23 to swing upwardly away from the table 1 into normal position to permit the next strip of leather to be inserted into the machine.

I am aware that many changes may be made, and numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon, otherwise than necessitated by the prior art.

I claim as my invention:—

1. A leather roughening machine comprising a table, a frame pivoted on said table, means on said pivoted frame for feeding a sheet of leather over the table, and a roughening mechanism on said pivoted frame adapted to act on the surface of the sheet of leather to roughen the same.

2. A leather roughening machine comprising a table, a frame pivoted thereon, feeding means on said frame, a leather roughening device on said frame, and means for moving the frame into a position wherein the feeding means will act to advance a sheet of leather over the table to be roughened by said roughening device.

3. A leather roughening machine comprising a table, a frame pivoted thereon, lower feed rollers on said table, upper feed rollers on said frame to co-act with said lower feed rollers, means for driving said rollers, a roughening brush mounted on said frame, means connected with the frame adapted to lower the frame, and a primary feed roller carried by the frame adapted to feed a strip of leather over the table beneath the roughening brush to have one surface roughened thereby as the upper and lower rollers act to continue to advance the strip of leather through the machine.

4. A leather roughening machine comprising a table, a frame pivoted thereon, feeding mechanisms on said table and on said frame, means for driving the feeding mechanism, a roughening device carried by said frame, a counterweighted pivoted lever, and means connecting the lever with said frame to per-

mit the frame to be lowered so that the feeding mechanisms will act to feed a strip of leather over the table to have one surface of the leather roughened by the roughening device.

5 5. In a leather roughening machine the combination with a table, of a frame pivoted thereon, a roughening device on said frame, and a leather feed mechanism adjustably
10 mounted on said frame adapted when the frame is lowered to engage and advance a strip of leather over the table to be acted on by said roughening device.

15 6. In a leather roughening machine a table, a frame movably mounted thereon, means for advancing a strip of leather over the table, and a non-rotatable leather roughening mechanism on the frame for roughening one surface of the strip of leather as it
20 is advanced over the table.

7. A leather roughening machine comprising a table, means for feeding a strip of leather over the table, and a wire brush pivotally mounted above the table adapted to
25 roughen one surface of the strip of leather as it passes beneath the brush.

8. A leather roughening machine compris-

ing a table, a leather roughening device pivotally supported thereon, and a foot operated lever connected therewith adapted to
30 move the same into engagement with a strip of leather on the table to roughen the leather.

9. A leather roughening machine comprising a table, a plurality of feed mechanisms
35 for advancing a strip of leather over the table, and pivotally supported means for roughening the surface of the strip of leather as it is advanced over the table.

10. A leather roughening machine comprising a table, means for advancing a strip of leather over the table, a leather roughening device above the table, and pivoted
40 means for varying the pressure of said leather roughening device on the advancing strip of leather.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

WILLIAM F. HORSTING.

Witnesses:

F. E. PAESLER,
O. HARTMANN.