Oct. 6, 1925. 1,556,087

E. C. DITTMAR

MACHINE FOR FINISHING FLOORING

Original Filed July 31, 1919 3 Sheets-Sheet 1

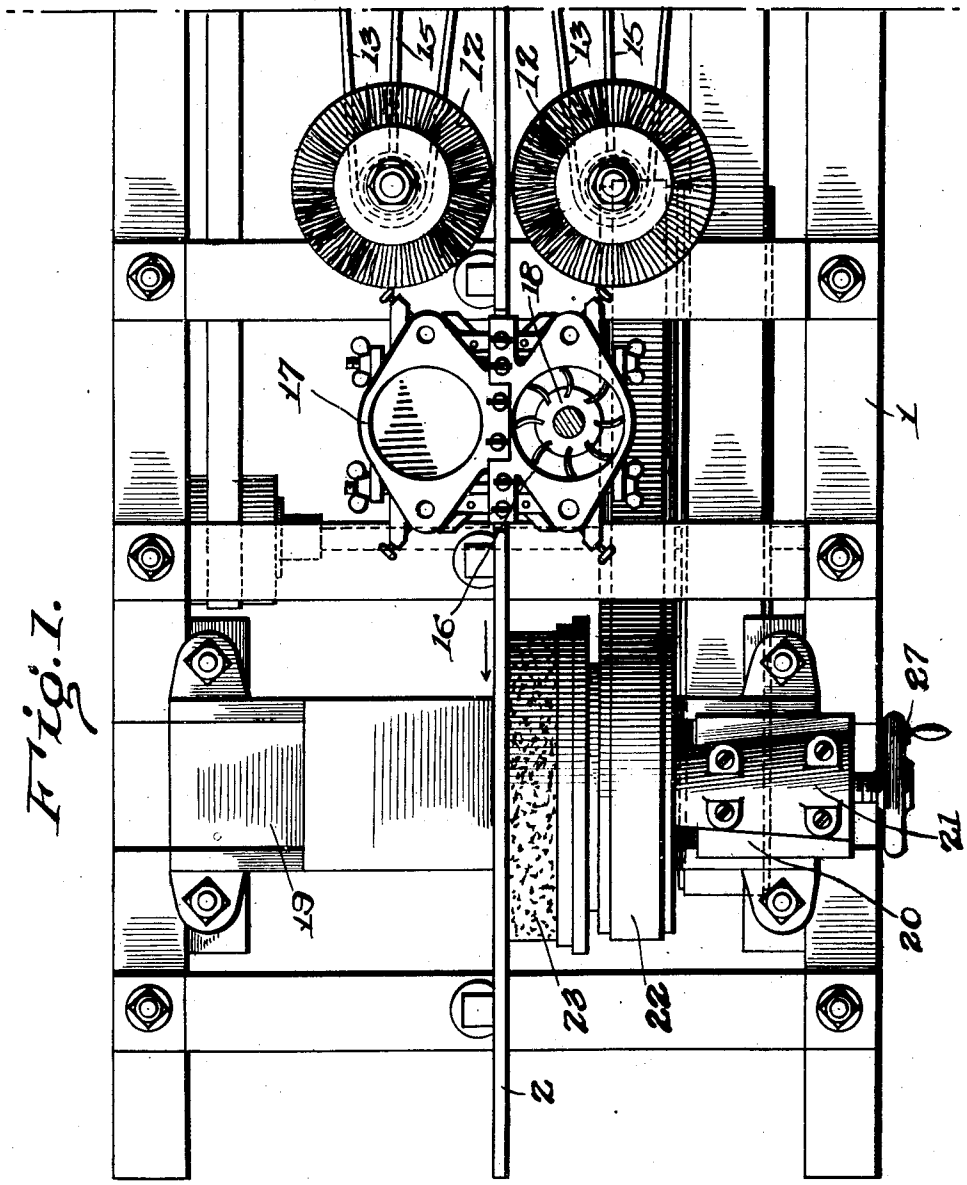


Fig. 1.

Inventor

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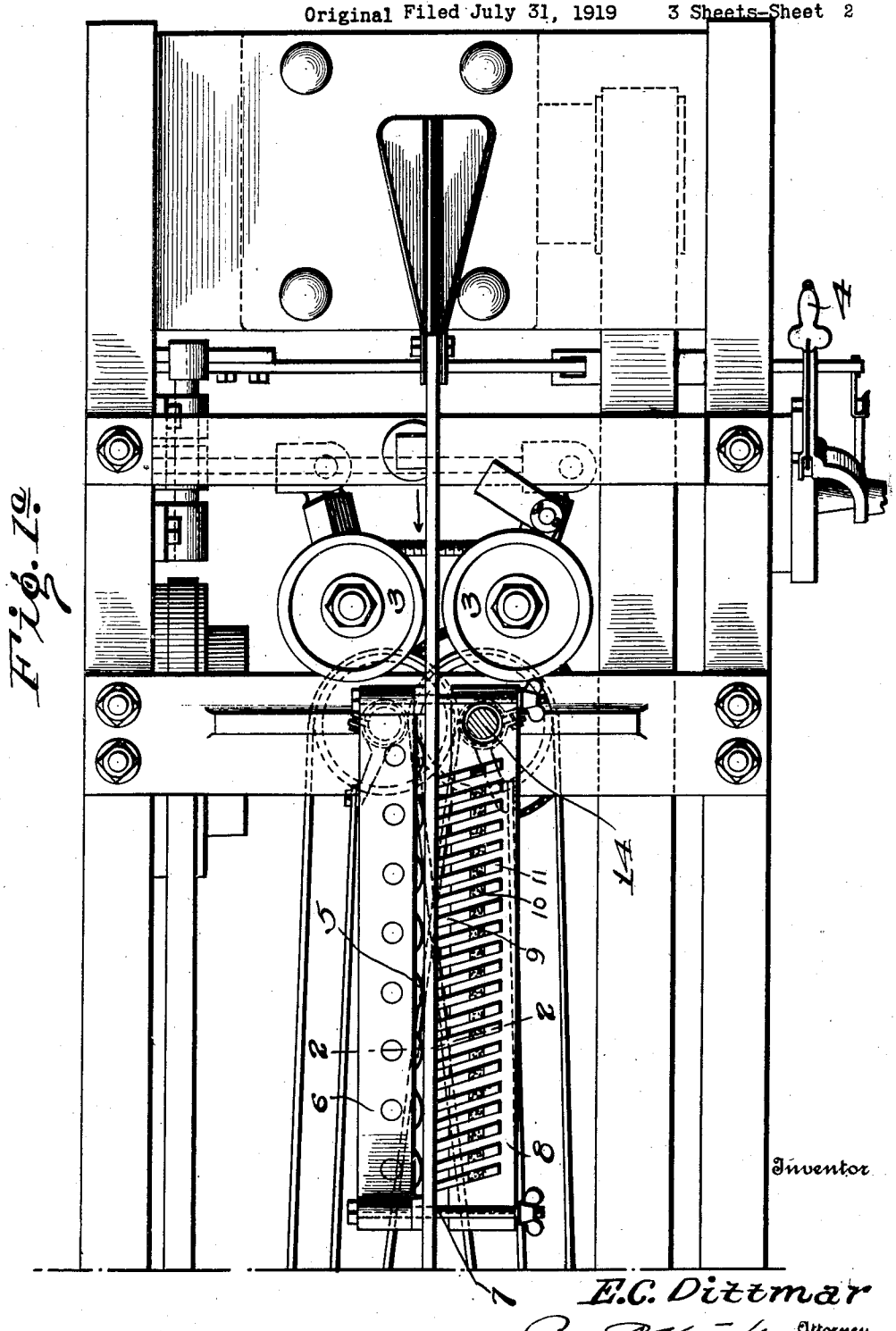
By Albright Attorney

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Fig. 3.

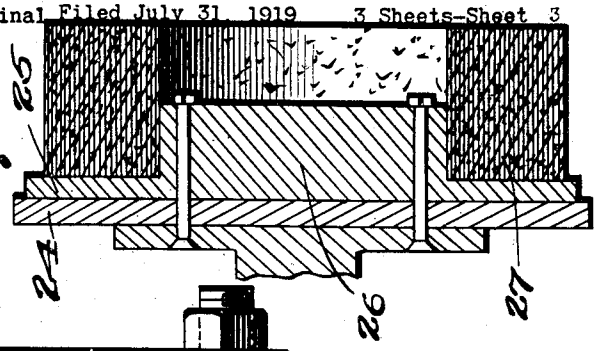
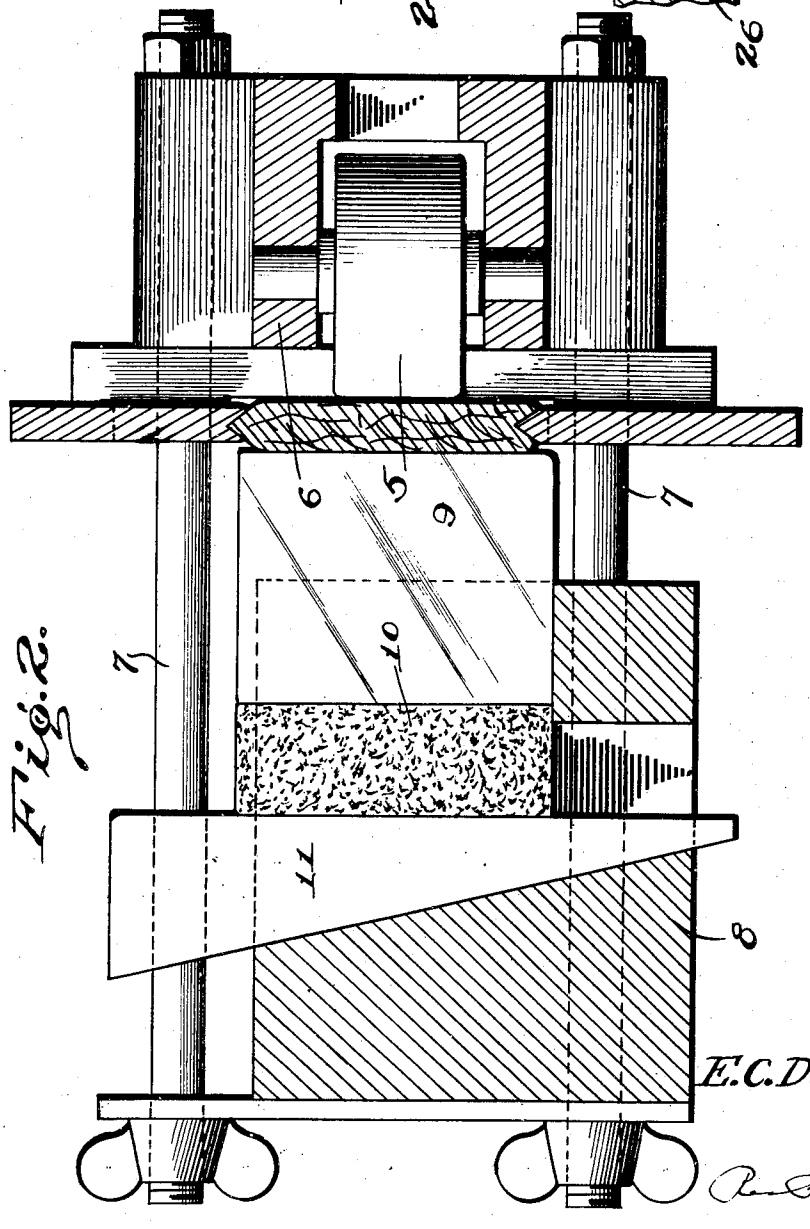


Fig. 2.



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UNITED STATES PATENT OFFICE.

ELMER C. DITTMAR, OF WILLIAMSPORT, PENNSYLVANIA, ASSIGNOR TO THE CROOKS-DITTMAR COMPANY, OF WILLIAMSPORT, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

MACHINE FOR FINISHING FLOORING.

Application filed July 31, 1919, Serial No. 314,467. Renewed November 11, 1922. Serial No. 600,479.

To all whom it may concern:

Be it known that I, ELMER C. DITTMAR, citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Finishing Flooring, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in machines for finishing flooring, and is a companion application of my applications Serial Numbers 314,464; 314,465 and 314,466 filed even date herewith, the object being to provide a machine with means for finishing and coating previously varnished strips of flooring with a coating of wax on the varnished surface and a coating of oil on the opposite face, whereby the entire surface of the strip will be given a coating.

A still further object of the invention is to provide a construction of machine which is substantially the same as shown in my companion applications with the exception that the parts are re-arranged and additional elements are added to obtain the desired result.

A still further object of the invention is to provide a machine having a pair of receptacles provided with discharge openings between which a strip of flooring is adapted to pass so as to receive a coating of wax on one surface and a coating of oil on the opposite surface.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings:

Figure 1 is a top plan view of the delivery end of an apparatus constructed in accordance with my invention.

Figure 1ª is a top plan view of the feed end of the apparatus.

Figure 2 is an enlarged section taken on the line 2—2 of Fig. 1ª.

Figure 3 is an enlarged section through the polisher.

In carrying out my invention I employ a frame 1 having a driving mechanism constructed identically as shown in my companion applications, and provided with a guideway 2 for supporting and guiding the strip of flooring on edge in its passage through the machine. The strip is moved through the guideway by feed rollers 3 constructed and operated in identically the same manner as shown in my companion application, Serial No. 314,464, whereby the feed rollers are under the control of the operator through the medium of a hand lever 4 whereby they can be thrown into and out of contact with the opposite faces of the strip so as to start and stop the movement of the strip. The feed rollers are held in frictional contact with the opposite faces of the strip through the medium of the weighted arms, crank and lever, the construction of these features being shown in my companion applications filed even date herewith.

Arranged in advance of the feed rollers are a series of rollers 5 adapted to engage the finished face of the flooring strip as it passes through the guideway. These rollers are carried by a suitable support 6, constructed as shown in Serial No. 314,466, which support is secured to the guideway by bolts 7 on the opposite ends of which is arranged a support 8 in which are mounted glass burnishers 9 held in frictional contact with the varnished face of the strips by rubber blocks 10 and wedges 11, the details of construction of which are clearly shown in Fig. 2, and as the strip passes the burnishers 9, which are arranged obliquely in respect to the path of travel of the strip of flooring, the varnished face of the strip will be polished so that an exceptionally smooth surface will be obtained. By providing the rubber blocks and wedging members the desired pressure of the burnishers against the face of the strip will be obtained, and as the rollers 5 are arranged opposite the burnishers, the strip is prevented from yielding under the pressure of the burnishers.

The strip then passes between a pair of revolving brushes 12 rotated by belt 13 driven by pulleys carried by shaft 14, which in turn are driven through the medium of gearing and belting constructed as

shown in my companion applications, these brushes being carried by arms 15 which are adjustably mounted so that they can be held in contact with the opposite faces of the strip of flooring under the desired tension, whereby all dust and dirt caused by the burnishers will be removed from the surface of the strip of flooring before it reaches the waxing and oiling device, as will be later described.

The strip then passes between the discharge openings of a pair of oppositely disposed receptacles 16 and 17 constructed identically as shown in my companion application, Serial No. 314,464, with the exception that the supporting means is slightly changed so that these receptacles can be arranged in transverse alignment with one another. The receptacle 16 is adapted to contain a fluid wax which is applied to the highly polished surface of the strip as it passes over the discharge opening thereof, and the receptacle 17 is adapted to contain an oil which coats the opposite surface of the strip so as to preserve the wood and prevent the same from warping.

In use the receptacle 16 is provided with an agitator 18 driven in the same manner as shown in my companion application, Serial No. 314,464, so as to keep the liquid wax agitated, and as the receptacles are provided with removable bottoms having heat chambers, the fluid within the receptacle will be maintained in a liquid state so that it can be readily applied to the strip as it passes the discharge opening thereof.

Arranged on the machine at the delivery end in a suitable guideway 19 is a movable carriage 20 provided with a support 21 on which is mounted a shaft driven by a belt 22, said shaft being provided with a circular polisher 23, comprising a disk 24 having a circular member 25 secured thereto and provided with a central circular projection 26 around which is wound a strip of cloth of webbing 27 which engages the waxed face of the strip so as to polish the waxed surface in order to obtain a high polished surface on the strip before it leaves the machine.

The construction of carriage is clearly shown and described in my companion application and is operated by a hand wheel 28 so that the edge of the strip of fabric can be forced into contact with the face of the strip of flooring with the desired pressure so that as the circular polisher is rotated the waxed surface will be polished.

From the foregoing description it will be seen that I have provided a machine for coating and finishing a strip of flooring, which has been previously varnished, in such a manner that the strip is highly polished before it leaves the machine and at the same time is given a coating of oil so as to preserve the strip. It is of course understood that while I have described a machine for coating the strip with wax and oil, other materials can be used, as a preservative compound can be used in place of the oil.

The operation is as follows: A strip of flooring is forced into the guideway until it is engaged by the feed roller which causes the strip to move continuously through the machine, and as it passes the series of burnishers the face of the strip which has been previously varnished in the machine constructed as described in my companion applications, the varnished surface is polished. The strip then passes between the revolving brushes which remove all of the dust and foreign matter from the strip so that the strip will be thoroughly cleaned as it passes between the discharge openings of the wax and oil containing receptacles. The varnished face is given a coating of wax, and the opposite face of the strip is given a coating of oil, and as the strip is moving continuously it is brought into contact with the revolving polisher so that the wax which has been applied by the receptacle is polished so that a complete strip of flooring is produced which can be laid without further dressing of any kind.

In this machine, as well as in all of the machines shown in the companion applications, the feed rollers are so disposed that after the strip leaves the feed roller the movement is stopped so as to prevent the strip from being moved out of position in respect to the receptacle for applying a coating, which prevents the coating from escaping from the receptacles.

In the operation one strip is fed into the machine after another so that when one strip leaves the feed rollers another strip is in contact with the feed rollers, and in engagement with the previously fed strip which causes the strips to move continuously.

In the drawings I have shown the receptacle for applying the wax and oil to the opposite faces of the strip in its passage through the machine arranged in transverse alignment, but I have found in practice that this is not essential, and in fact better results when operating on certain kinds of lumber can be obtained by placing the oil receptacle at the end of the machine, so that all danger of the oil and wax becoming mixed in the passage of the strip between the receptacles is eliminated, and I desire to reserve the right to place the oil receptacle at the end of the machine or at any position desired.

I have described an apparatus for finishing flooring, but I do not wish to limit myself to the finishing of any particular kind of strip of lumber, as strips of molding and wainscoting can be readily finished on an apparatus constructed in accordance with

my invention, as I have described in the specification a guide-way having guide edges conforming in shape to the edge of the strip of lumber to be finished.

As this application is a companion application of applications Serial Numbers 314,464, 314,465 and 314,466, filed even date herewith, I wish it to be understood that the parts could be duplicated, or in other words, I am aware that it might be an advantage to first apply a coating of wax and then a coating of oil on the faces of the strip.

What I claim is:

1. An apparatus for coating flooring, having a guideway for supporting and guiding a strip of flooring on edge, means for moving the strip in said guideway, a series of burnishers arranged to engage one face of said strip, rotary brushes arranged to engage each side face of said strip, a pair of receptacles arranged to apply a liquid coating to the opposite faces of said strip, and a revolving polisher arranged to engage one face of said strip in the movement of said strip through said machine.

2. An apparatus for applying wax and oil to the opposite faces of a previously varnished strip, comprising a guideway for supporting and guiding a strip on edge in its passage through the machine, means for burnishing one face of the strip, means for cleaning the strip, a receptacle arranged to apply a coating of wax to the varnished face of the strip a receptacle arranged to apply a coating of oil to the opposite face of the strip, and a revolving polisher for polishing the waxed face of said strip.

3. An apparatus for finishing flooring, comprising means for guiding and moving the strip continuously, means for initially cleaning the strip, receptacles arranged in the path of travel of said strip for applying a coating to the opposite faces of the strip in its passage through the machine, and means for polishing one face of said strip.

4. A machine for applying a coating of wax to a previously varnished strip of lumber, comprising means for supporting and guiding the strip on edge, means for moving the strip, means for first burnishing the strip, means for cleaning the strip after it has been burnished, a receptacle having a discharge opening over which said strip is adapted to pass to receive a coating of wax, and a polisher for polishing the coating of wax applied.

5. An apparatus for finishing previously varnished floors, having means for supporting and continuously moving a strip on edge, a series of glass burnishers arranged to engage the varnished face of said strip, a pair of brushes for cleaning said strip, a pair of receptacles having discharge openings over which said strip is adapted to pass, said receptacles being adapted to apply a coating of wax to one surface and a coating of oil to the other surface of said strip, and revolving means for polishing the coating of wax applied to said strip.

6. An apparatus for applying a coating of wax and a coating of oil to a previously varnished strip of flooring, comprising a guideway for supporting and guiding a strip of flooring on edge in its passage through the machine, a pair of feed rollers for moving the strip of flooring in said guideway, a series of glass burnishers arranged to burnish the varnished face of said strip, means for adjusting said burnishers in respect to the face of said strip, a pair of revolving brushes between which said strip passes, a pair of receptacles having discharge openings arranged to each side of said guideway, one of said receptacles being adapted to apply a coating of wax to the varnished face of said strip and the other receptacle a coating of oil to the finished face of said strip, and a revolving polisher arranged in the path of travel of said strip for polishing the wax applied to said strip.

7. An apparatus for finishing strips of lumber comprising means for guiding and moving a strip of lumber on edge through said machines, means arranged to each side of said guiding means for applying a coating to the opposite faces of said strip and a rotary polisher for polishing one face of said strip in its passage through said guiding means.

8. An apparatus for finishing strips of lumber comprising means for guiding and moving strips on edge in a guide way, means for applying a coating to the opposite faces of said strip while moving through said guide way and revolving polishing means for polishing one face of said strip.

9. An apparatus for finishing strips of lumber comprising means for guiding and moving a strip of lumber in its passage therethrough, means for burnishing the strip, means for cleaning the strip after it has been burnished, means for applying a coating to the opposite faces of said strip in its passage through said machine and means for polishing one face of said strip.

10. An apparatus for finishing strips of lumber comprising means for guiding and moving a strip of lumber on edge in its passage therethrough, means for applying a coating to the opposite faces of said strip in its passage through said machine and means for polishing one face of said strip in its passage through said machine.

11. An apparatus for finishing strips of lumber comprising means for guiding and moving a strip of lumber on edge in its passage therethrough, means for burnishing the strip, means for applying a coating to the opposite face of the strip in its passage

through said machine and means for polishing one face of said strip in its passage through said machine.

12. An apparatus for finishing flooring comprising means for guiding and moving a strip continuously on edge, means for burnishing the strip, means for cleaning the strip after being burnished, means for applying a coating to the opposite faces of said strip in its passage through said machine and means for polishing one face of said strip.

In testimony whereof I hereunto affix my signature.

ELMER C. DITTMAR.