Sept. 14, 1926. 1,599,844

E. L. SCHUMACHER

BLANK FOR COMPOSITION LENS RIMS FOR OPHTHALMIC MOUNTINGS

Original Filed Jan. 29, 1925

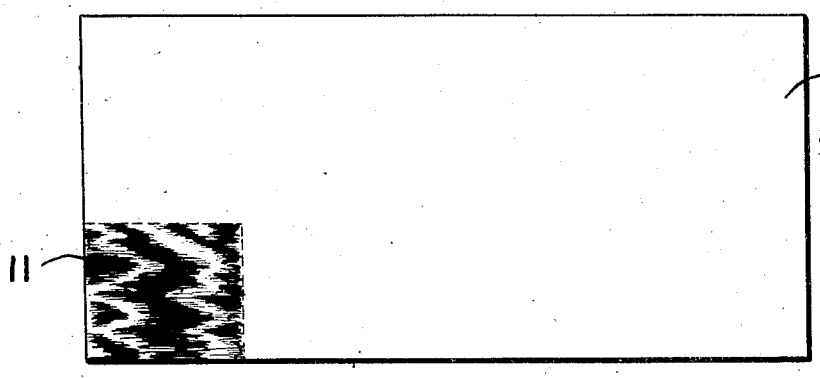


Fig. 1.

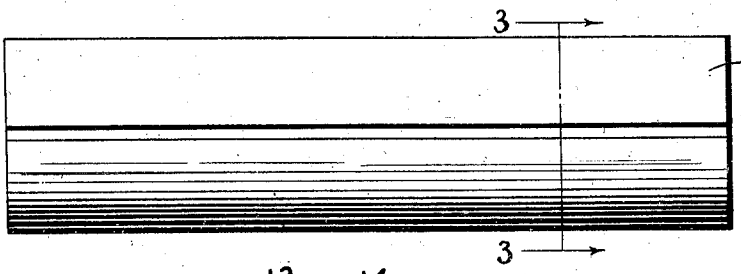


Fig. 2.

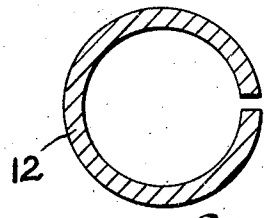


Fig. 3.

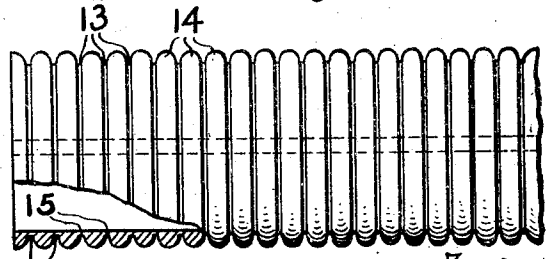


Fig. 4.

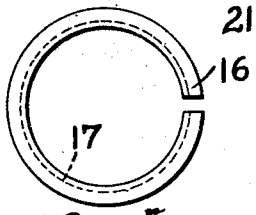


Fig. 5.

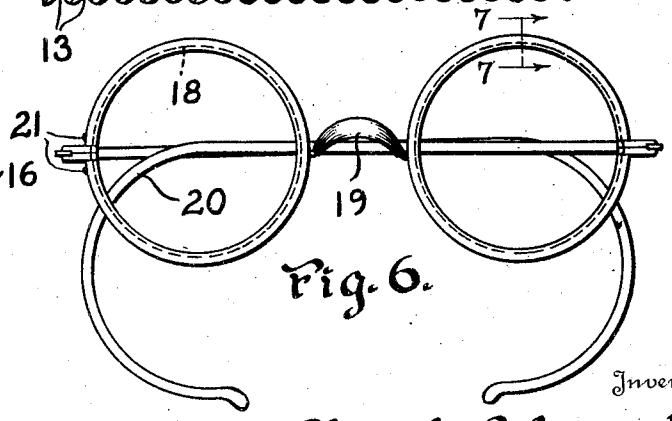


Fig. 6.

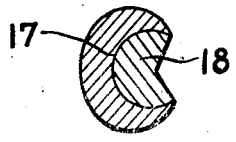


Fig. 7.

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UNITED STATES PATENT OFFICE.

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BLANK FOR COMPOSITION LENS RIMS FOR OPHTHALMIC MOUNTINGS.

Original application filed January 29, 1925, Serial No. 5,644. Divided and this application filed June 4, 1925. Serial No. 34,818.

This invention relates to demi-amber rims for ophthalmic lenses, and has as an object to provide an economical, efficient, and generally improved process for the production of the same. This is a division of my copending application filed January 29, 1925, bearing Serial Number 5,644.

An important object of this invention is to provide a process for the production of rims of the character mentioned, which shall practically eliminate the waste of material usually incident to the production of these rims.

Another important object of this invention is the provision of a process for the production of demi-amber rims, which will permit of the use of the raw material in that form in which it is most easily obtained.

Still another important object of this invention is the provision of a process for the production of demi-amber rims, whereby a plurality of these rims may be produced at a time, thus increasing production and decreasing the labor charge on each individual rim.

These and many other objects and advantages of this invention, together with the details of my process, will readily become apparent during the course of the following description taken in connection with the accompanying drawing, in which I have employed like numerals to designate corresponding parts throughout all views of the same, and in which:

Figure 1 is a top plan view of a sheet of the raw material used in my process, a section of the same being mottled, to more clearly illustrate its particular nature;

Figure 2 is a top plan view of a split tube formed from the sheet illustrated in Figure 1,

Figure 3 is a transverse sectional view, taken on line 3—3 of Figure 2,

Figure 4 is a side elevation partly broken away, of a group of semi-finished rims formed on a tube of the material,

Figure 5 is a side elevation of a completed rim,

Figure 6 is a front elevation of an ophthalmic frame to which a pair of these rims have been applied, and

Figure 7 is a transverse sectional view, taken on line 7—7 of Figure 6.

This invention relates particularly to split demi-amber rims, and has as an object to provide a process which shall overcome to a great extent the difficulties usually incident to the production of rims of this character. The term "demi-amber" is used to refer to mottled Zyl, the use of which in ophthalmic frames is particularly desirable, owing to its similarity to the popular but expensive tortoise-shell.

The manufacture of demi-amber rims, however, presents a number of difficulties, owing to the fact that due to its mottled appearance, this material can not be made into a plastic state and then extruded into the shape in which it might most easily be used. For this reason, it is possible, in so far as I am aware, to obtain this demi-amber in only two different forms, namely, sheet stock or strip stock.

Prior to my invention, therefore, all processes for the production of demi-amber rims have resorted to the use of either sheet or strip stock. They have presented various difficulties, which have not only increased the cost of the finished product, but also discourage to a great extent the use of this material. Perhaps the most used process at the present time is that process which employs the sheet stock, and which provides for the production of rims from this stock by stamping.

Although this process of stamping demi-amber rims from sheets of the material is comparatively simple, and requires but a small amount of equipment, it is obvious that the same is rather expensive, in that there is not only the waste of the remainder of the sheets mutilated by cutting therefrom a plurality of rims, but also in that the process is substantially an individual one, and permits of the production of but a single rim at a time.

The other process occasionally used employs the strip stock, and forms the same into rims by spirally winding it about a heated mandrel, and subsequently longitudinally cutting the spiral thus formed. In this process, it is not only difficult to handle the strip stock, but also the stock itself, because of the fact that it must originally be formed from the sheet material, is expensive and comparatively hard to obtain.

My invention contemplates therefore the provision of a process which shall employ the raw material in that form in which it may most easily be obtained, which shall permit of the production of a plurality of rims at a time, and which finally will be economical, efficient, and capable of inexpensive installation into any plant now engaged in work of this character.

Referring now particularly to the drawing, wherein I have shown the preferred embodiment of my process, the numeral 10 designates a sheet of the raw material in that form in which it is most easily obtained. The sheet is substantially thin in cross section, being of a thickness such that it is possible to stamp from the same, demi-amber frames, and have the frames thus stamped approximately the ultimate thickness desired. This sheet is further mottled in appearance, as clearly shown by the portion 11 in the drawing.

In the practical application of my process, I proceed to shape such a sheet of this material, by rolling or any suitable means, into a split tube 12, such as clearly shown in Figure 2 of the drawing. While the tube 12 may best be formed by rolling the sheet about a heated mandrel, it is to be understood that the same may be formed in any one of a number of different ways, provided the resultant tube is substantially the size and shape of an ophthalmic rim, as clearly illustrated by the sectional view of the tube, shown in Figure 3 of the drawing.

Having obtained this tube 12, I proceed to form the same into a group of semi-finished rims by subjecting the same, while rotated on a suitable lathe, to the cutting action of a gang cutter. This operation transversely grooves the tube 12, as at the points 13, to form a plurality of semi-finished rims 14, joined to each other by the very thin portions 15 of the tube 12, formed at the base of the grooves 13.

It may be clearly seen that while all of the steps up to this point, would have been necessary in the production of a single rim, I have formed at this stage in my process a plurality of semi-finished rims, thus saving a considerable amount of work, time and expense. To finish these rims, I proceed to individually sever them from the tube 12, by cutting thru the wall of the reduced portions 15. The severed rims are then internally grooved to form an eyewire receiving groove 17, and then subsequently polished by any suitable means.

In practical application, I find the greatest use for rims of this character as a covering for that type of frame known to the trade as Windsor frames. These frames comprise the metallic eyewires 18, joined by means of a metallic bridge 19, and being further provided with the metallic or Zyl temples 20. Used in conjunction with this type of frame, the demi-amber rims form coverings for the metallic members of the frame, and may be clamped thereabout by pressing the edges over the edges of the metal rim or by means of suitable bolts or rivets 21. The adaptation of these rims as a covering for the metallic frame, may be clearly seen and appreciated in Figures 6 and 7 of the drawing.

Although I have described my rim as applied to this particular type of frame, I do so merely because it is on this type of frame that rims of this character find particular applicability. I reserve the right, however, to apply the rims constructed in accordance with my invention to any purpose to which rims of this character are applied, such as solid demi-amber rims without metal lining,—it being understood that the invention resides more particularly in the process of producing the rims and in a rim produced from a specific form of raw material, than it does in the particular nature of the completed rim.

From the foregoing description therefore, it will be seen that I have provided a new and improved process, whereby demi-amber rims may be produced with a negligible amount of waste of the raw material.

In addition to this, it will also be seen that I have produced a process by which a plurality of these rims may be produced in a length of time practically equal to the length of time ordinarily required to produce a single rim.

Although I have shown and described but one form of my process, which I prefer to consider as the logical embodiment of the frame, it is to be understood that in the practical application of this process, various changes both in order and in general form are expected to suggest themselves, so that I reserve the right to depart from the specific details disclosed herein, in so far as I remain within the spirit of my invention and the scope of the appended claim. It is also expected that various advantages and objects of this invention will become apparent as its use grows, so that I prefer that it be understood that the few advantages and objects stated in this description do not in any way cover the complete aim and purpose of this invention. Still further, it is to be understood that while this process is

particularly applicable for use in manufacturing rims from demi-amber, it is entirely within the spirit and the scope of this invention to apply the process to composition material of any type or character.

Having thus described my invention, what I claim is;

A blank for a plurality of lens rims for an ophthalmic mounting comprising a tube of composition material having a longitudinal severance on one side and a plurality of parallel ribbed portions extending around the tube in a plane normal to the axis thereof and shaped to the outer contour of the finished lens rim and separated by grooves extending into but not through the material of the tube, substantially as and for the purpose described.

ELMER L. SCHUMACHER.