

May 11, 1926.

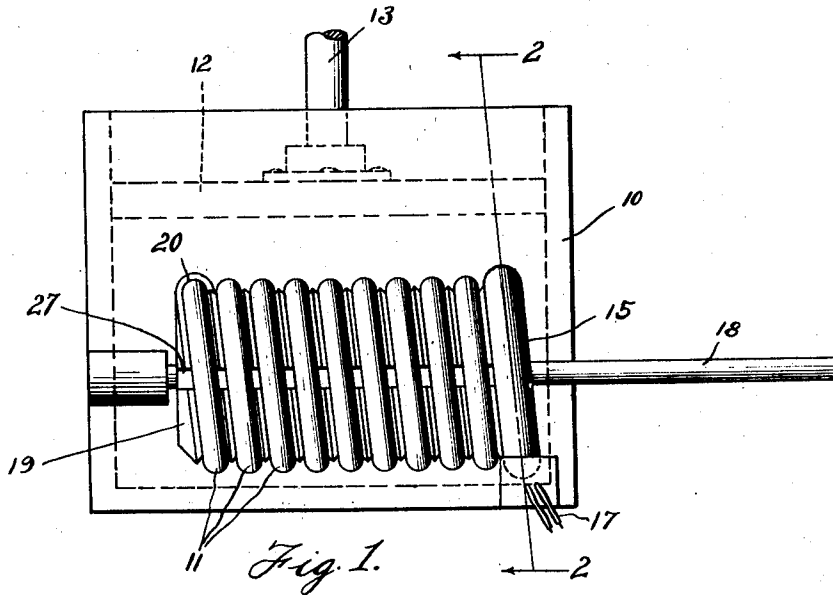
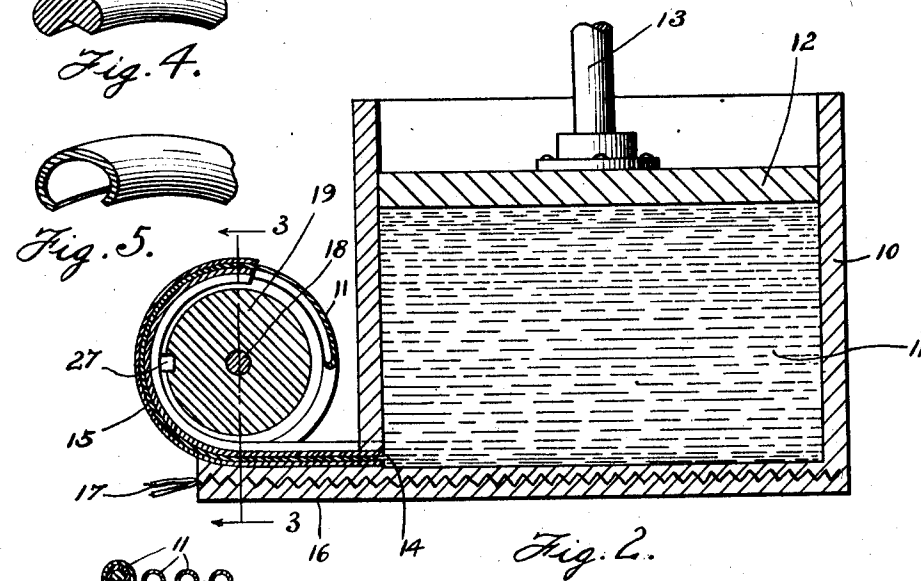
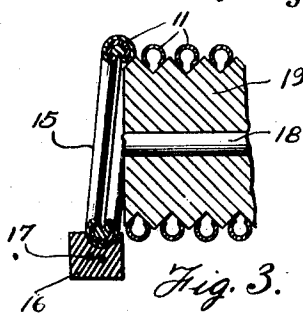
1,584,283

F. FRASER

EYEGGLASS RIM FORMING MACHINE

Filed Sept. 15, 1923

2 Sheets-Sheet 1



INVENTOR
FRANK FRASER.

BY

Harry H. Styll
ATTORNEY

May 11, 1926.

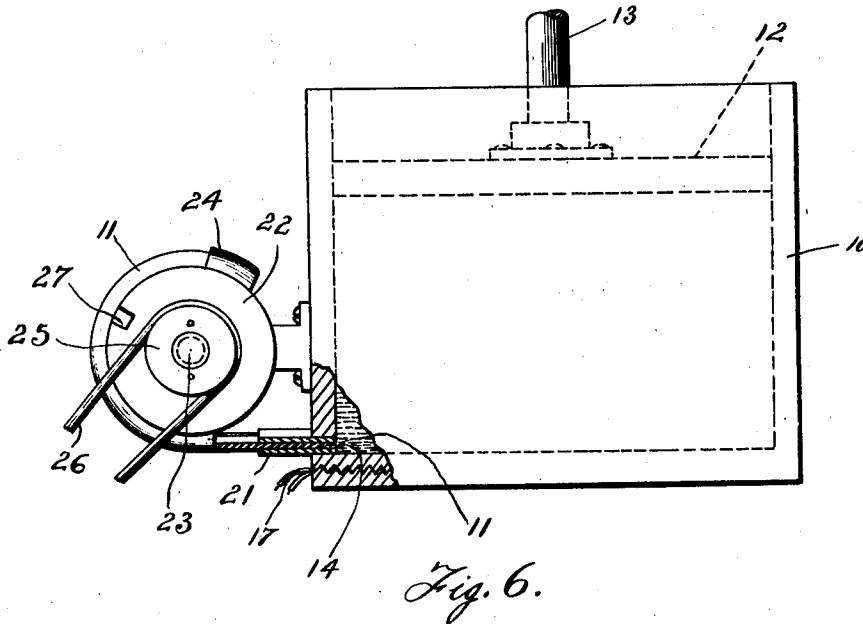
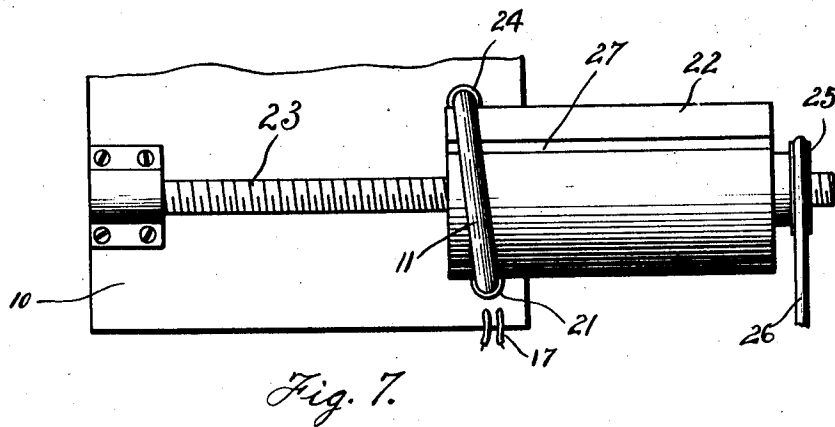
1,584,283

F. FRASER

EYEGGLASS RIM FORMING MACHINE

Filed Sept. 15, 1923

2 Sheets-Sheet 2



INVENTOR

FRANK FRASER

BY

Harry H. Still
ATTORNEY

Patented May 11, 1926.

1,584,283

UNITED STATES PATENT OFFICE.

FRANK FRASER, OF SOUTHBRIDGE, MASSACHUSETTS, ASSIGNOR TO AMERICAN OPTICAL COMPANY, OF SOUTHBRIDGE, MASSACHUSETTS, A VOLUNTARY ASSOCIATION OF MASSACHUSETTS.

EYEGGLASS-RIM-FORMING MACHINE.

Application filed September 15, 1923. Serial No. 662,903.

My invention relates to a machine and method for forming cellulose or other similar material eyeglass rims.

An important object of the invention is to provide a machine of this character whereby the cellulose material may be formed into the required shape in one operation, whereby it will be ready for use upon an eyeglass as a rim.

Another very important object of the invention is to provide a machine of this character wherein the numerous steps heretofore employed in forming eyeglass rims of this character will be entirely obviated due to the fact that the present rim is formed in its initial working to the proper shape.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawings, wherein like numerals are employed to designate like parts throughout the same:

Figure 1 is a front elevation of the machine.

Figure 2 is a section taken on line 2—2 of Figure 1.

Figure 3 is a section taken on line 3—3 of Figure 2.

Figure 4 is a fragmentary perspective view of one form of rim constructed in accordance with the present invention.

Figure 5 is another form thereof.

Figure 6 is a side elevation of a slightly modified form of machine, and

Figure 7 is a fragmentary front elevation thereof.

In the drawings, wherein for the purpose of illustration is shown the preferred embodiment of my invention, the numeral 10 designates a furnace or receptacle which is of sufficient size to accommodate a sufficient quantity of a cellulose or other composition 11, to allow of enough production to make the machine commercially practical. In the present instance by way of illustration a plunger 12 carried by the rod 13 is shown, but it is to be understood that steam, air, or other form of pressure can easily be used with equal satisfaction. Formed in one wall of the receptacle or furnace 10 is a preferably C-shaped opening 14 which communicates with a C-shaped sleeve 15. As is shown in Figure 2, the sleeve 15 is extended longitudinally from the furnace for a slight distance,

whereupon it is gradually curved upward to simulate the curvature of the ordinary eyeglass rim.

I have deemed it advisable in the case of such a long sleeve to extend the base of the furnace as at 16. It will be seen that the base is provided with suitable electrical connections 17 to provide the necessary heat to cause the cellulose composition to become either plastic or molten, as is desired. Mounted transversely of the C-shaped sleeve 15 is a shaft 18 upon which is mounted a mandrel 19. The mandrel 19 is provided with ball bearings so as to allow of easy movement on the shaft 18, which should at least be twice the length of the mandrel, for reasons that will be readily understood.

In Figure 1 the mandrel is shown as having helical grooves formed therein, although if desired the mandrel may be entirely smooth.

It will be seen in this form of the invention that cellulose composition is placed within the receptacle or furnace 10 and heat is applied thereto so as to cause the same to become molten or plastic, as may be desired. When the cellulose composition has reached the desired consistency, pressure is applied so as to extrude or force the material through the C-shaped opening 14 and on through the sleeve 15. In order to prevent too rapid cooling of the material the base 16 is provided so that the material will be forced through the upwardly curved sleeve 15 and out upon the mandrel 19. A suitable cup 20 is formed on the first groove so as to receive the end of the material extruded and will cause the mandrel to slowly rotate upon the shaft 18. Of course, the speed of the rotation of the mandrel will depend upon the speed at which the pressure is applied to the receptacle 10. The composition will gradually wrap itself on the mandrel, as is shown in Figure 1 of the drawings. The rim thus formed will be of the desired shape, and due to the fact that it was formed in this shape initially it will always have a tendency to remain in this shape and no matter how it is bent it will naturally resume its original condition, thus making it highly desirable to be able to form an eyeglass rim of a cellulose composition as described.

In Figures 6 and 7 is shown a slight modification, wherein a straight sleeve 21, which is C-shaped in cross section, is provided. A

mandrel 22 having a centrally located internally threaded bore is mounted upon the screw threaded shaft 23. A cup 24 is formed at one end of the mandrel so as to receive the
5 end of the composition as it is extruded from the furnace 10 and upon rotation of the shaft 23 by means of the pulley 25 and belt 26, the rim thus formed will be wrapped upon the mandrel. Of course, the speed of
10 the shaft 23 will have to be governed by the speed at which the material is extruded. After the rims thus formed have sufficiently cooled, individual rims may be formed by cutting the same along the groove 27 formed
15 in the mandrel. Of course, it will be seen that oval rims could be made as well as round ones and that rims made in accordance with this invention will save considerable time and expense due to the fact that the nec-
20 essary tubing can be formed and shaped to its proper configuration in its initial preparation and will do away with the expensive methods of cutting, shaping and cooling, as has heretofore been done.
25 It is to be understood that the form of my invention herewith shown and described is to be taken as the preferred embodiment of the same, and that various changes in the size, shape and arrangement of the parts may be

resorted to without departing from the spirit 30 of the invention or the scope of the subjoined claims.

Having thus described my invention, what I claim is:

1. A machine of the class described, comprising a receptacle, an outlet therefor having a cross section of desired configuration, a sleeve associated with said outlet, extending outwardly and then circularly, a mandrel mounted centrally of the circular portion of 40 the sleeve and extending outwardly away therefrom, means to revolve the mandrel, and pressure means within the receptacle to force the contents of the receptacle through the outlet along the sleeve and to wind the 45 same on the mandrel as it is rotated.

2. A machine of the class described, comprising a receptacle, an outlet therefor having the desired configuration, a sleeve extending outwardly and circularly therefrom, 50 a mandrel mounted centrally of the circular portion of the sleeve, and electric heating means adapted to heat the contents of the receptacle, and pressure means within the receptacle adapted to force the contents 55 thereof through the orifice along the sleeve and onto the mandrel.

FRANK FRASER.