

Aug. 28, 1962

R. E. KIRBY
GLASS MANUFACTURE
Filed Aug. 11, 1959

3,050,913

FIG. 1

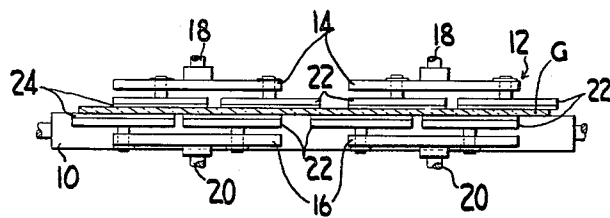
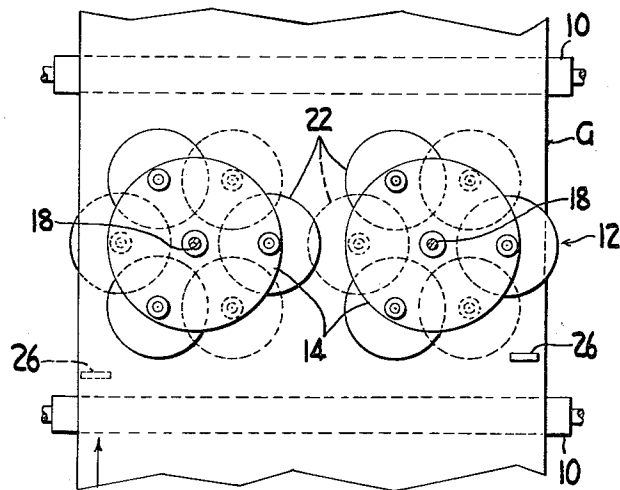


FIG. 2



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GLASS MANUFACTURE

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Filed Aug. 11, 1959, Ser. No. 833,094

4 Claims. (Cl. 51—283)

This invention relates to a method for polishing plate glass, and particularly to those methods in which the glass to be polished is carried between a series of opposed polishing runners by a roller conveyor wherein both major surfaces are simultaneously polished, known as twin polishing, or on cars, tables or other carrier apparatus beneath a series of polishing runners wherein successive major surfaces are polished, one at a time. After a certain period of use, the felts of the runners or blocks become caked with rouge or other polishing media and their polishing efficiency is materially reduced, and it becomes desirable to clean the felts without interfering with the continuous glass polishing operation, as would be the case if the polishing runners are removed from the polishing line for replacement and/or cleaning of the felts.

When glass, in the form of sheets is carried on cars, tables or other carrier apparatus beneath a series of polishing runners, cleaning of the felts without removal from the line presents no problem because it is possible to provide felt scraping means between the tables, cars or the like. Such means are described and claimed in Black, United States Letters Patent No. 1,759,820 issued May 20, 1930, and Hitchcock, United States Letters Patent No. 1,887,554, issued November 15, 1932. The use of such devices is not possible when a continuous ribbon of glass is conveyed between opposed polishing runners and both surfaces are simultaneously polished and, as will be understood, the same problem of caked felts is present. One solution is to remove the polishing runners from the line for scraping, but this would reduce the polishing efficiency of the line.

It has been found that it is possible to scrape the polishing felts without their removal from a polishing line without materially affecting the finish of the glass. And while the method to be described finds particular use in the twin polishing procedure, it is equally adaptable for use on polishing lines wherein a single surface is polished at one time.

Broadly, the method of this invention includes the use of felt scrapers constructed as strips of an adhesive tape, such as a metal tape, adhered to the surfaces of the glass being polished, so that the relative motion between the polishing felts and the glass provides a disturbance of the felts, which has been found to be sufficient scraping to prevent the polishing media from caking on the felts.

In the drawing, forming a part of this specification,

FIG. 1 is an elevational view of a portion of a twin-polishing apparatus showing polishing runners; and

FIG. 2 is a plan view of the apparatus illustrated in FIG. 1 and showing scraping means on the glass.

In FIGS. 1 and 2 we see a ribbon of glass G being conveyed by means of spaced pinch rolls 10 through a twin-polishing apparatus generally identified as 12. The twin-polishing apparatus 12 includes upper and lower, opposed polishing spiders 14, 16, journaled for rotation about shafts 18, 20, the shafts 18, 20 being rotated in

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opposite directions. As illustrated, there are a pair of upper and lower spiders disposed transversely across the ribbon of glass G. A plurality of polishing runners 22 are connected to each spider 14 and 16 for free rotation about predetermined axes. A felt polishing pad 24 is cemented or otherwise secured to each runner 22 for rubbing contact with the surfaces of the glass G.

In order to scrape the felts 24, which become glazed and hardened through the embodiment of foreign material therein and the caking or drying of the rouge or other polishing media, strips of adhesive tape 26, preferably metal tape, such as lead tape, are adhered to the surfaces of the glass conveyed through the polishing apparatus and at spaced intervals along the ribbon length. This tape 26 projects upwardly or downwardly, as the case may be, from the surfaces of the glass, so that as a felt passes thereover in rubbing contact with the glass, a scraping of the felts is accomplished. All that has been found necessary is a disturbance of the felt faces, which is accomplished by tape 26. Of course, the glass under tape 26 is not polished; however, the amount of glass which is unpolished and which must be removed from the sheets into which the ribbon will be ultimately cut is insignificant.

It has been found that metal tape scrapers 26 having a thickness of 0.005 to 0.010 inch may range in dimension from 1 inch by 1/4 inch to 5 inches by 1 inch with an optimum thickness of 0.008 inch and dimension of 1 inch by 2 inches for 32-inch diameter felts. They may be spaced for good results at least 120 inches apart on the ribbon.

As will be understood, the method described herein is equally applicable for use with polishing one surface of glass sheets at a time. Also, the particular twin-polishing apparatus illustrated is merely for descriptive purposes because the method of this invention may be used with other constructions of this form of apparatus.

I claim:

1. In the art of polishing a major surface of a glass sheet by providing relative compound movement between the glass sheet and a polishing felt with contact between the felt and the major surface while feeding polishing media to the interface between the major surface and the felt, said felt being characterized by a tendency to become caked with and hardened by the polishing media, the improvement which comprises adhering strip material on a part only of the major surface of the glass sheet with the strip material extending outwardly of the plane of the major surface of the glass sheet to an extent for a scraping action of the strip material on the felt during the relative movement between the glass sheet and the felt.

2. In the art of polishing glass as recited in claim 1 wherein the adhered strip material constitutes metal tapes spaced from one another on the major surface of the glass sheet only on at least one of the longitudinal margins of the sheet with the major dimension of each tape extending in a transverse direction.

3. In the art of twin polishing the two major surfaces of a continuous glass ribbon by moving the glass ribbon between opposed upper and lower polishing pads having felt pads for contacting the major surface of the glass ribbon with relative compound movement between the ribbon and the pads while feeding polishing media to the interface between each major surface and felt pads, said felt pads being characterized by a tendency to become

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caked with and hardened by the polishing media, the improvement which comprises adhering strip material on a part only of each major surface of the glass ribbon with the strip material extending outwardly and above and below the respective planes of the major surfaces of the glass ribbon to an extent for a scraping action of the strip material on each major surface on the felt pads during the movement of the ribbon between the opposed polishing pads.

4. In the art of twin polishing a glass ribbon as recited in claim 3 wherein the adhered strip material constitutes metal tapes on each major surface of the glass

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sheet in spaced relationship to one another only on at least one of the longitudinal margins of the major surface with the major dimension of each tape extending in a transverse direction.

References Cited in the file of this patent

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