Judicial Symposium on Intellectual Property (JSIP) 2022

Case for Mock Trial

I. Background

Pony Corporation ("Pony") filed a patent application for the invention titled "Spectacle Lens Edging System" (the "Invention") on September 24, 2007, and was granted a registration of patent right on April 23, 2008 (hereinafter the patent right is referred to as the "Patent Right" and the patent pertaining to the Patent Right is referred to as the "Patent").

Pursuant to a contract with Donkey Limited ("Donkey"), on October 1, 2021, Turtle Inc. ("Turtle") developed and delivered to Donkey a system named **"**Meganetic" for handling orders for processing spectacle lenses from the optician's shops that are Donkey's customers using Internet communications (the "System"), and Donkey began operating the System. Under the contract with Donkey, Turtle operates some of the equipment constituting the System.

On January 31, 2022, Pony filed a patent infringement lawsuit against Donkey (defendant), seeking permanent injunction to enjoin use of the System on the basis of infringement of the Patent Right.

***** *In the Appendix you can find reference materials showing the schematic diagrams of the Invention and the System together with a minimal glossary of technical words.*

II. Scope of Claims

[Claim 1]

(A) A spectacle lens edging system comprising:

a frame measurement unit for measuring a three-dimensional shape of a rim of a spectacle frame; and

a lens edging unit, connected to the frame measurement unit via a network, for beveling a spectacle lens,

(B) wherein the frame measurement unit comprises:

(B1) a frame tracer configured to obtain rim shape data regarding the three-dimensional shape of the rim;

(B2) a measurement terminal configured to calculate the rim circumferential length along a groove of the rim based on the rim shape data and to transmit data of the rim circumferential length to the lens edging unit, and

(C) wherein the lens edging unit comprises:

(C1) an edger configured to bevel a spectacle lens based on prescribed edging conditions;

(C2) a lens shape measurer configured to obtain lens shape data regarding the three-dimensional shape of the beveled spectacle lens; and

(C3) an edger terminal configured to calculate the lens circumferential length along the bevel top of the beveled spectacle lens based on the lens shape data and to determine that the beveled spectacle lens can be fitted to the rim of the spectacle frame if the difference between the lens circumferential length and the rim circumferential length received from the measurement terminal of the frame measurement unit is within a prescribed range.

III. Description

[Detailed description of the invention]

[Technical field]

[0001]

The present invention relates to a spectacle lens edging system.

[Background art]

[0002]

In spectacles 100 as shown in FIG. 3, a spectacle lens 110 is fixed to a rim 120 by fitting a convex protrusion 111 called a bevel that is formed on the edge side (edge surface) of the spectacle lens 110 into a concave groove formed on the inner side of the rim 120 of the spectacle frame (see FIG. 4). As such, a spectacle lens cannot be processed without determining a spectacle frame. Accordingly, in sales of spectacles, when unprocessed spectacle lenses are processed to be accommodated in the rim of a spectacle frame at an optician's shop, an optician's shop will order from a lens manufacturer lenses that are determined based on the prescription of a person who orders the spectacles and the rim shape and the size of the spectacle frame, and then at the optician's shop, by operating a variety of processing equipment, edging and beveling of the lenses will be carried out so that they may fit the rim of the spectacle frame.

[0003]

Here, edging refers to the process of grinding the edge of a spectacle lens. Beveling refers to the process of forming a bevel on the edge of a spectacle lens.

[0004]

Spectacle lens edging and beveling are often performed at a lens processing factory as well as at an optician's shop. In the former case, a frame tracer (frame shape measurer) installed in an optician's shop is used to acquire rim shape data, which is then transmitted via network to a lens processing factory, where edging and beveling of spectacle lenses will be performed using that data, and the processed spectacle lenses will be provided to the optician’s shop.

[Summary of the invention]

[Problem to be solved by the invention]

[0005]

When lenses are processed outside the optician’s shop, the lens processing factory will not have the spectacle frame itself but the shape data about the rim of it, so in the conventional technology at the lens processing factory it is unable to confirm that the processed lenses will be accommodated in the rim. As such, the processed lenses delivered to the optician’s shop from the lens processing factory can have some defects like being too large to fit in the rim, or conversely fitting loosely, leaving gaps between the processed lens and the rim. In such cases, the lens processor has to reprocess the lenses however expensive they are, which causes losses to the lens processor who has to bear that expense.

[0006]

Also, for the optician’s shop it is troublesome to separately inquire of the lens processing factory about the inventory availability and the possibility of delivery at the desired date of the lenses that will fit the rim of the customer’s spectacle frame before transmitting the rim shape data of the spectacle frame.

[0007]

Accordingly, the purpose of the present invention is to provide a spectacle lens edging system that allows spectacle lenses to be fitted to the rim of a spectacle frame with a high degree of certainty and efficiency, even when the spectacle lenses are processed at a location where the spectacle frame is not immediately at hand.

[Means of solving the problem]

[0008]

To solve the above problem, a spectacle lens edging system according to the present invention comprises:

a frame measurement unit for measuring a three-dimensional shape of a rim of a spectacle frame; and

a lens edging unit, connected to the frame measurement unit via a network, for beveling a spectacle lens,

wherein the frame measurement unit comprises:

a frame tracer configured to obtain rim shape data regarding the three-dimensional shape of the rim;

a measurement terminal configured to calculate the rim circumferential length along a groove of the rim based on the rim shape data and to transmit the data of the rim circumferential length to the lens edging unit, and

wherein the lens edging unit comprises:

an edger configured to bevel a spectacle lens based on prescribed edging conditions;

a lens shape measurer configured to obtain lens shape data regarding the three-dimensional shape data of the beveled spectacle lens; and

an edger terminal configured to calculate the lens circumferential length along the bevel top of the beveled spectacle lens based on the lens shape data and to determine that the beveled spectacle lens can be fitted to the rim of the spectacle frame if the difference between the lens circumferential length and the rim circumferential length received from the measurement terminal of the frame measurement unit is within a prescribed range.

[Effect of the invention]

[0009]

According to the present invention, in determining whether spectacle lenses will fit a spectacle frame, by using as a decision criterion the gap between the rim circumferential length of a spectacle frame and the lens circumferential length along the bevel top of a spectacle lens, it is possible to allow spectacle lenses to be fitted to the rim of a spectacle frame with a high degree of certainty and efficiency, even when the spectacle lenses are processed at a location where the spectacle frame is not immediately at hand.

[Brief explanation of the drawings]

[0010]

FIG. 1 is an overall configuration diagram of a spectacle lens edging system as an embodiment.

FIG. 2 is a flowchart illustrating the process of ordering, order receiving and processing of spectacle lenses.

FIG. 3 shows the way that a spectacle lens and the rim of a spectacle frame fit together.

FIG. 4 is a schematic depiction of a cross-section on line IV-IV in FIG. 3 as viewed from the direction shown by the arrows.

[Description of embodiments]

[0011]

The following describes the spectacle lens edging system that is an embodiment pertaining to the present invention with referring to the figures. Note that the following descriptions express one aspect of the present invention and are not intended to limit the present invention to the

embodiment.

[0012]

In processing and measuring, etc. of spectacle lenses, a lens for the left eye and a lens for the right eye are treated individually, but treatments of them share a common substance. Therefore, the following paragraphs will describe things common to both, without distinguishing between uses for the left eye and the right eye.

[0013]

1. Configuration of the spectacle lens edging system

FIG. 1 shows an overall configuration diagram of a spectacle lens edging system 1 as an embodiment. The spectacle lens edging system 1 comprises: a frame measurement unit 10, which is installed in an optician's shop or other places where spectacle lenses are ordered, and a lens edging unit 50, which is installed in a lens processing factory of a lens maker or other places; and the frame measurement unit 10 and an edging management server 57 of a lens edging unit 50 are connected via the Internet 90 or a wide-area network. Also as shown in FIG. 1, the spectacle lens edging system 1 can be configured so that the lens edging unit 50 is connected via the Internet 90 or a wide-area network to a plurality of the frame measurement units 10.

[0014]

2. Configuration of the frame measurement unit

The frame measurement unit 10 is equipment for measuring the three-dimensional shape of a spectacle frame and comprises a frame tracer 11 and a measurement terminal 12. The frame measurement unit 10 is installed in the optician's shop as equipment for ordering spectacle lenses from the lens processing factory.

[0015]

2-1. Configuration of the frame tracer

The frame tracer 11, also called a frame shape measurer, is configured to obtain data regarding the three-dimensional shape of a spectacle frame, including rim shape data. The rim shape data acquired by measuring with the frame tracer 11 is generated so that the rim shape can be determined in three-dimensional coordinate space. The frame tracer 11 has a contacting probe for measuring shape and a support shaft that supports the contacting probe, and the frame tracer 11 measures the shape of the spectacle frame by touching the contacting probe to the groove of the rim of the spectacle frame being measured. A known frame tracer may be used as the frame tracer 11.

[0016]

2-2. Configuration of the measurement terminal

The measurement terminal 12 is a computer equipped with a keyboard and a display (not shown) and is connected to the Internet 90. The measurement terminal 12 has software installed

that is needed to order processing of spectacle lenses, and it is configured to receive input from the frame tracer 11 and calculate the rim circumferential length along the groove of the rim based on the rim shape data, and to transmit the rim circumferential length data to the edging management server 57 of the lens edging unit 50.

[0017]

Specifically, using installed software, the measurement terminal 12 conducts smoothing as necessary of the rim shape data input by the frame tracer 11, and in addition to the rim circumferential length along the groove of the rim, it calculates the frame curve, the frame PD (pupil distance), the frame nose width, the maximum horizontal and vertical widths of the frame, and the angle formed by the left and right frameworks, etc. These calculated data are then shown on the display.

[0018]

The measurement terminal 12 is also configured so that spectacle frame information (indication of material of the frame, indication of whether the frame can flex, etc.), spectacle lens information (material of the lens, lens color, use/nonuse of hard coat film, etc.), layout information (the pupil distance, the pupil height, etc.), and prescription information (the spherical diopter power, the degree of astigmatism, etc.) can be entered using the keyboard.

[0019]

The data calculated and entered with the measurement terminal 12 is configured to be transmittable via the Internet 90 from the measurement terminal 12 to the edging management server 57. Note that among the data transmitted to the edging management server 57, the rim circumferential length data of the spectacle frame is used to determine whether a spectacle lens will fit the spectacle frame. Hereinafter, among the data calculated and entered with the measurement terminal 12, the data except the rim circumferential length data and the rim shape data is referred to as the “order data.”

[0020]

3. Configuration of the lens edging unit

The lens edging unit 50 is composed of a plurality of devices for carrying out edging and beveling of spectacle lenses; it comprises a plurality of edgers 51, a plurality of lens shape measurers 52, a plurality of edger terminals 53, and the edging management server 57. Within this lens edging unit 50, one of the edgers 51, one of the lens shape measurers 52, and one of the edger terminals 53 form one sub-unit, which is installed in a factory that receives orders from an optician’s shop and processes spectacle lenses. The lens edging unit 50 in FIG. 1 shows the case in which a single sub-unit comprising an edger 51, a lens shape measurer 52, and an edger terminal 53 is installed in a single lens processing factory, but a single lens processing factory can have a plurality of sub-units. In either case, the sub-unit is configured to be able to receive the order data,

the rim shape data, and the rim circumferential length data from the edging management server 57 via a network 55. The network 55 can be a wide-area network such as the Internet, or a private network that uses a leased line or VPN.

[0021]

3-1 Configuration of the edger

The edger 51 is configured to carry out edging and beveling on spectacle lenses based on prescribed edging conditions. The setting of the prescribed edging conditions is performed by the edger terminal 53, which is connected to the edger 51, using data calculated and entered with the measurement terminal 12 of the frame measurement unit 10.

[0022]

In processing of a spectacle lens, an unprocessed lens is processed to match the shape of the spectacle frame in which the spectacle lens will be inserted. Processing of a spectacle lens by the edger 51 is conducted by going through the two steps of the rough grinding process and the finishing process. In the rough grinding process, the spectacle lens is processed to a shape that is larger than the planned final finished shape. In the finishing process, the spectacle lens after the rough grinding process is processed to match the planned final finished shape. The finishing process is the step that includes the beveling that forms the convex protrusion (bevel) on the edge of the lens.

[0023]

In beveling, a bevel is formed on the edge of the spectacle lens to match the lens design made using software installed in the edger terminal 53. Because there are cases where another shape such as a groove is to be formed on the edge of the lens, in the finishing process the tool used for processing will be changed according to the shape to be formed.

[0024]

Additionally, as to the rough grinding process and the finishing process, the processing method may be changed for each process. For example, the rough grinding process may be replaced by cutting while the finishing process may be done by grinding. The same processing method may be employed for both.

[0025]

3-2 Configuration of the lens shape measurer

The lens shape measurer 52 is configured to obtain lens shape data regarding the three-dimensional shape of the beveled spectacle lens. A known lens shape measurer may be used as the lens shape measurer 52.

[0026]

The lens shape measurer 52 measures the size of the spectacle lens processed by the edger 51 in three dimensions using a contacting probe (stylus). Note that when measuring a convex

bevel, the lens shape measurer 52 measures the size by bringing a stylus into contact with the peak of the bevel formed on the edge side (edge surface) of the lens and rotating the spectacle lens with the stylus kept in contact. The lens shape measurer 52 measures in three-dimensional coordinate space the displacement magnitude and the displacement direction of the contacting probe accompanying the rotation of the spectacle lens, and transmits the lens shape data that is the result of the measurement to the edger terminal 53.

[0027]

3-3 Configuration of the edger terminal

The edger terminal 53 is a computer equipped with a keyboard and a display (not shown), and is connected via the network 55 to the edging management server 57. The edger terminal 53 has software installed to control the edger 51 and the lens shape measurer 52, and it is configured to calculate the lens circumferential length of the spectacle lens based on the lens shape data measured by the lens shape measurer 52, to obtain the rim circumferential length data from the edging management server 57, and to determine that the beveled spectacle lens fits the spectacle frame when the difference between the rim circumferential length and the lens circumferential length is within a prescribed range.

[0028]

The edger terminal 53 also has software installed relating to the design of spectacle lenses that includes bevel shapes.

[0029]

The edger terminal 53 is configured to receive via the Internet 90 and the network 55 data calculated or entered with the measurement terminal 12 of the frame measurement unit 10, and to transmit to the edger 51 such data as is needed from among that stored in the edging management server 57. This configuration allows the edging management server 57 to be able to manage collectively the data received from the frame measurement units 10 installed in a plurality of optician’s shops, and the required data can be transmitted as requested by the edger terminal 53 at the lens processing factory which has accepted the processing order. This enables a reduction in the troublesomeness for the optician’s shop, in requesting processing of spectacle lenses, to separately inquire of the lens processing factory about the inventory availability before transmitting data like the rim shape data of the spectacle frame.

[0030]

3-4 Configuration of the edging management server

The edging management server 57 is configured to store the data received from the measurement terminal 12 and to transmit the data to one of a plurality of the edger terminals 53 of the lens edging unit 50. The data received and transmitted by the edging management server 57 includes at least the rim circumferential length data of the spectacle frame.

[0031]

The edging management server 57 is configured using a computer, and comprises a data management part and a database part (not shown). The data management part uses the database part to record and manage the data received via the Internet 90 from the measurement terminal 12.

[0032]

Additionally, the database part may also store a variety of data relating to spectacle lens orders. For example, design data and processing history data, etc. of spectacle lenses in addition to the accepted order data can be stored, and the results of processing on the edger terminal 53 of the lens edging unit 50 can be recorded and managed in the edging management server 57.

[0033]

4. Processes related to ordering, order receiving and processing of spectacle lenses

The following is a description of the processes relating to ordering, order receiving and processing of spectacle lenses that include spectacle lens processing methods pertaining to the embodiment.

[0034]

The following description assumes that a single frame measurement unit 10 is installed in an optician's shop and a single sub-unit of the lens edging unit 50 is installed in a lens processing factory. As shown in FIG. 1, a spectacle lens edging system, in which a plurality of the frame measurement units 10 and the sub units of the lens edging unit 50 are installed, is configured so that order data from the plurality of the frame measurement units 10 is stored on the edging management server 57, and the edger terminal 53 of the sub unit of the lens edging unit 50 acquires data of the spectacle frame for which acceptance of a lens processing order has been decided.

[0035]

FIG. 2 is a flowchart illustrating the process of ordering, order receiving and processing of spectacle lenses.

[0036]

First, a spectacle frame selected by a customer is placed in the frame tracer 11 of the frame measurement unit 10 installed in the optician's shop, which acquires the rim shape data of the spectacle frame (Step 1).

[0037]

The rim shape data acquired by the frame tracer 11 is read into the measurement terminal 12, and the rim circumferential length of the spectacle frame (the circumferential length along the groove of the rim of the spectacle frame) is calculated by the measurement terminal 12 based on the rim shape data (Step 2).

[0038]

Also, an operator at the optician's shop (shop employee) enters order data using the measurement terminal 12 (Step 3). Order data includes spectacle frame information, spectacle lens information, layout information, prescription information, etc. The spectacle frame information includes the frame manufacturer and the model name, material of the frame, indication of whether the frame can flex, frame size, frame pattern, frame color, etc. The spectacle lens information includes material of the lens, use/nonuse of functional film (dimming, polarization), lens color, use/nonuse of hard coat film, product codes, etc. The layout information includes the pupil distance, the pupil height, etc. The prescription information includes the spherical diopter power, the degree of astigmatism, the astigmatic axis, etc.

[0039]

Next, the rim shape data, the rim circumferential length data, and the order data are transmitted from the measurement terminal 12 via the Internet 90 to the edging management server 57 (Step 4).

[0040]

In the lens edging unit 50, the edging management server 57 obtains and stores the aforementioned data transmitted from the measurement terminal 12 of the frame measurement unit 10 (Step 5). The edging management server 57 compares the order data with previously stored data regarding spectacle lens inventory to determine whether processing is acceptable (Step 6), and, if processing is not possible, the edging management server 57 transmits order-rejection data to the measurement terminal 12 (Step 61), and terminates processing.

[0041]

The edging management server 57 transmits the data corresponding to the lens processing, for which acceptance of order was decided, from among the aforementioned stored data to the edger terminal 53 at a lens processing factory capable of processing, and the edger terminal 53 designs the spectacle lens including the bevel shape based on the rim shape data, the rim circumferential length data and the order data corresponding to that lens processing, and sets edging conditions to be used for lens processing by the edger 51 (Step 7).

[0042]

The prescribed edging conditions set by the edger terminal 53 and the spectacle lens information included in the order data are transmitted to the edger 51, and based on the data the edger 51 carries out lens processing of an unprocessed spectacle lens including beveling (Step 8).

[0043]

Next, the lens shape measurer 52 is used to obtain the lens shape data regarding the three-dimensional shape of the spectacle lens on which beveling, etc. were conducted (the processed spectacle lens), and the lens shape data is transmitted to the edger terminal 53 that is connected

to the lens shape measurer 52 (Step 9).

[0044]

Based on the transmitted lens shape data, the edger terminal 53 calculates the lens circumferential length along the bevel top of the processed spectacle lens (Step 10).

[0045]

The edger terminal 53 uses the aforementioned lens circumferential length and the rim circumferential length data obtained from the edging management server 57 to determine whether the difference between the rim circumferential length and the lens circumferential length is within a prescribed range. If it is within the prescribed range, the processed spectacle lens that was beveled is determined to fit the spectacle frame selected by the customer (Step 11).

[0046]

The processed spectacle lenses that were determined to fit are shipped to the ordering optician's shop (Step 12), and are received by the optician's shop (Step 13).

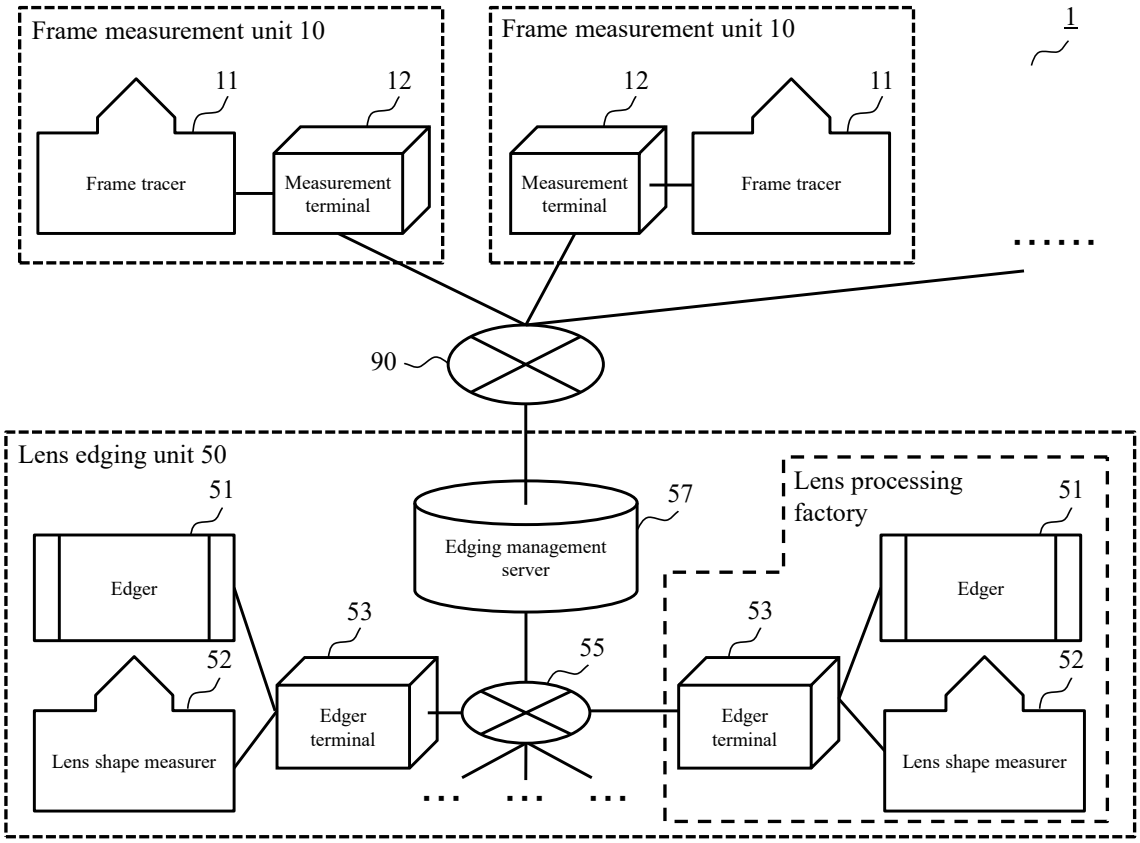
[0047]

In addition, in processing of spectacle lenses, besides the data acquisition and calculation described herein, a variety of other equipment and information may be used, but a description thereof has been omitted.

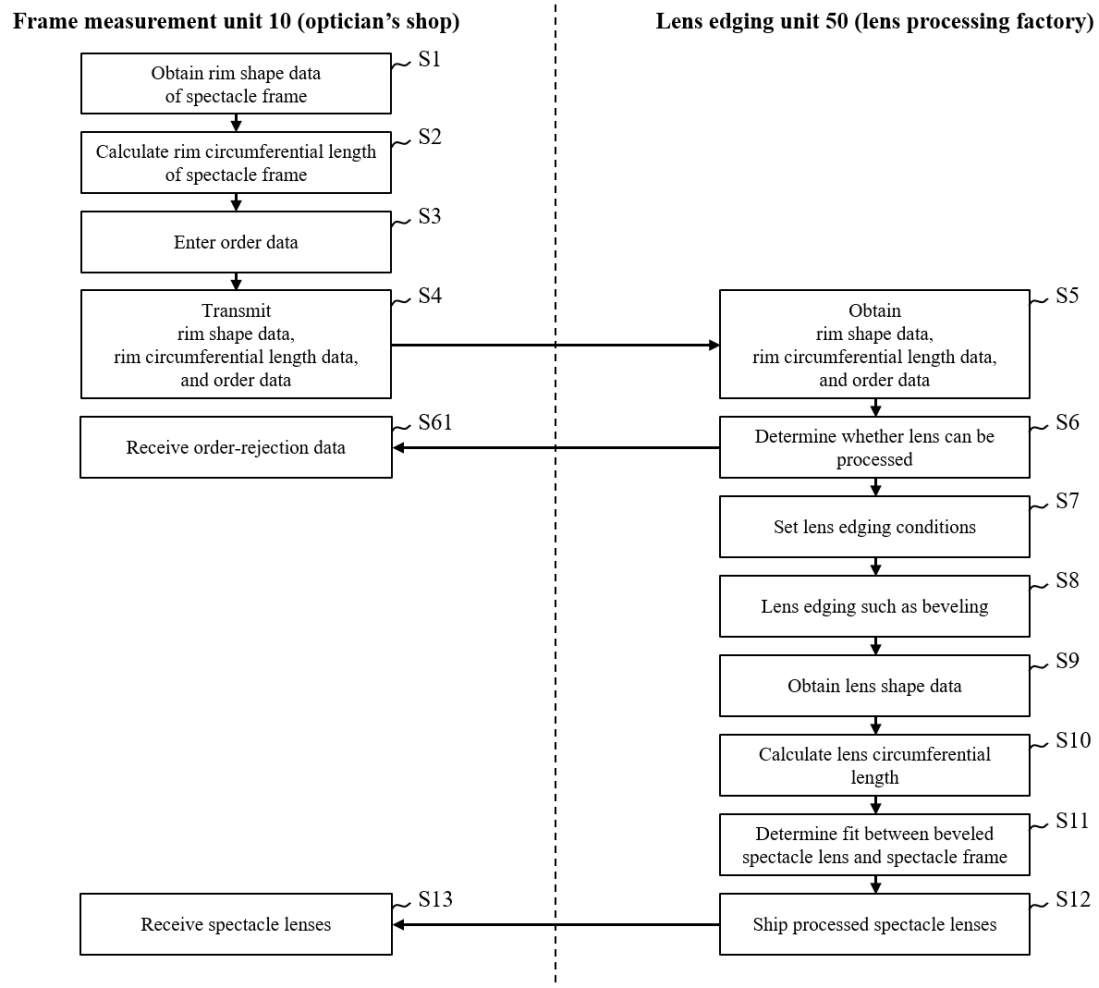
[Reference numerals]

1 Spectacle lens edging system
10 Frame measurement unit
11 Frame tracer
12 Measurement terminal
50 Lens edging unit
51 Edger
52 Lens shape measurer
53 Edger terminal
55 Network (Internet, VPN, etc.)
57 Edging management server
90 Internet (wide-area network)

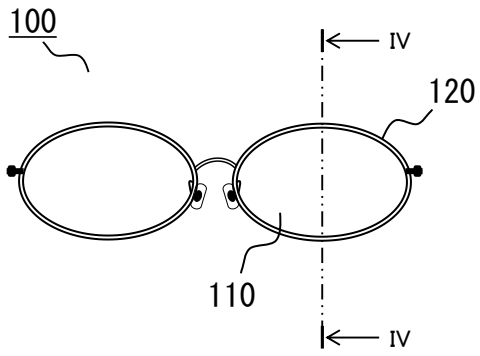
【FIG. 1】


Frame measurement unit 10
11
12
Frame tracer
Measurement terminal
Frame measurement unit 10
12
11
Measurement terminal
Frame tracer
1
90
Lens edging unit 50
51
Edger
52
Lens shape measurer
53
Edger terminal
57
Edging management server
55
Lens processing factory
53
Edger terminal
51
Edger
52
Lens shape measurer

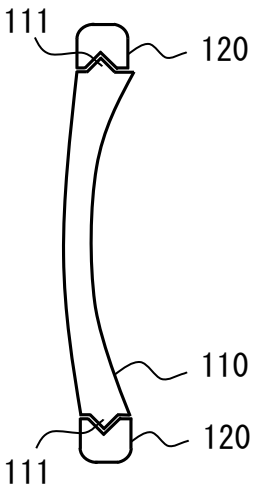
【FIG. 2】



【FIG. 3】



【FIG. 4】



IV. Entities Involved in the System

1. Relationship between Donkey and Turtle

Donkey is a lens manufacturer engaged in the sales and processing of spectacle lenses, and has a number of domestic lens processing factories. Turtle is a company engaged in the manufacturing and sales of machine tools including spectacle lens edgers, and in the development of computer systems. In January 2021, Donkey engaged Turtle to develop software customized for the System (the "Software"), and Turtle completed the development in July 2021. Since the launch of the System, Turtle has been assigned by Donkey to operate the data management device that is part of the System, and receiving the service fees for operation of the data management device from Donkey.

2. Relationship between optician's shops and Donkey.

Optician's shops are domestic business operators that are engaged in the sales of spectacle frames and processed spectacle lenses in response to orders from general customers, and none of them have personal or capital relationship with Turtle or Donkey. In order for an optician's shop to place orders for processing spectacle lenses to Donkey through the System, the optician's shop needs to have entered into a transaction agreement with Donkey in advance. Upon the execution of such transaction agreement with Donkey, the optician's shop is granted a license to use the client software which is a part of the Software.

After the client software of the Software is installed in its personal computer (the "Shop PC"), the optician's shop places orders to and conducts other transactions with Donkey using Internet communications.

3. Relationship between optician's shops and Turtle

When an optician's shop starts the client software of the Software installed in the Shop PC, it is connected to the data management device in the data center operated by Turtle (the "Data Management Device"), and displays a page on which Donkey is indicated as an entity having prepared the page, where necessary information is to be entered. Since the name Turtle cannot be found anywhere on this page, an optician's shop has no idea that Turtle is involved in the System.

V. Structure of the System

[a] In an optician's shop that places orders for spectacle lenses the Shop PC having Internet access is installed, and the Shop PC is equipped with a keyboard and a display and is connected to a frame tracer;

The Data Management Device in the data center has Internet access;

A personal computer with Internet access is installed in a lens processing factory (the

"Factory PC"), and the Factory PC is connected to an edger and a lens shape measurer; Spectacle lenses processed at the lens processing factory are delivered from the lens processing factory to the optician's shop that has ordered the spectacle lenses.

[b] The optician's shop is equipped with the frame tracer and the Shop PC.

[b1] the frame tracer measures a movement amount r in the radial direction, a movement amount Z in the height direction, and a rotation angle θ of a contacting probe along a spectacle frame, obtains 1000-point data (coordinate data at 0.36° intervals) that represents three-dimensional value regarding the rim shape of the spectacle frame out of the measurement data, and transmits the 1000-point data to the Shop PC.

[b2] When the client software of the Software installed in the Shop PC is started, the Shop PC is automatically connected to the Data Management Device and the frame tracer, and also displays an entry screen. On this entry screen, an operator at the optician's shop (shop employee) is able to enter data such as the orderer, spectacle lens information, frame fitting information, bevel type information, and frame type information. When these pieces of information are transmitted to the Data Management Device, the 1000-point data is automatically transmitted to the Data Management Device.

[c′] Upon the receipt of the orderer, spectacle lens information, frame fitting information, bevel type information, frame type information, and the 1000-point data from the Shop PC at the optician's shop, the Data Management Device calculates the rim circumferential length based on the 1000-point data transmitted from the Shop PC. Using the data registered in advance such as customers, products, colors, delivery dates, producible range of lens powers, and inventory, the Data Management Device can also check the inventory availability of spectacle lenses of the type ordered, whether lens processing is acceptable, and which lens processing factory can process the lenses. To the Factory PC at the lens processing factory so identified as being capable of processing the lenses, the Data Management Device transmits at least the spectacle lens information, the 1000-point data, and the rim circumferential length data.

[c1] Based on the 1000-point data and the rim circumferential length data, the Factory PC calculates the shape of the lens and transmits the result to the edger, and then, based on the result of calculation, the edger processes uncut lenses corresponding to the spectacle lens information.

[c2] The lens shape measurer measures a movement amount r in the radial direction, a movement amount Z in the height direction, and a rotation angle θ of a contacting probe along the bevel top of the beveled spectacle lens, obtains out of the measurement data the lens shape data that represents three-dimensional value regarding the shape of the bevel top, and transmits the lens shape data to the Factory PC.

[c3] The Factory PC calculates the lens circumferential length based on the lens shape data transmitted from the lens shape measurer, compares the lens circumferential length so calculated with the rim circumferential length data transmitted from the Data Management Device, and determines “fit” if the difference between them is within a prescribed range.

[d] The System is a system for processing spectacle lenses as described above.

VI. Whether the System satisfies Elements of the Invention

Although whether the System satisfies Elements B2 and C3 (only the part “the rim circumferential length received from the measurement terminal of the frame measurement unit”) is contested, the parties acknowledge that the System satisfies all other elements.

VII. Summary of the arguments of Pony (Plaintiff)

1. Satisfaction of Element B2

In terms of the calculation of a rim circumferential length, the Data Management Device of the System falls under the “measurement terminal” constituting a “frame measurement unit” in the Invention.

In the System, it is true that a rim circumferential length is calculated by the Data Management Device that is connected to a frame tracer via the Shop PC and the network. However, the function of the client software of the Software installed in the Shop PC at an optician’s shop is limited to the communication function and the function to display an entry screen in a dedicated format, and 1000-point data obtained through the measurement by the frame tracer is merely automatically transmitted to the Data Management Device through the Shop PC. It can be seen that the Shop PC and the Data Management Device work together to calculate the rim circumferential length based on the1000-point data obtained through the measurement by the frame tracer. Thus, the Data Management Device should be regarded as a device constituting a “frame measurement unit.”

Further, the 1000-point data constitutes the “rim shape data” regarding the three-dimensional shape of the rim, and the Data Management Device transmits the rim circumferential length data calculated from the rim shape data through the network to the Factory PC that constitutes a “lens edging unit.” The Data Management Device therefore falls under the “measurement terminal” in the Invention.

As a supplemental note, in the embodiment in the Description disclose the structure wherein both a “frame tracer” and a “measurement terminal” of a “frame measurement unit” are installed in an optician’s shop; however, that is a mere working example. According to the Scope of Claims, a “measurement terminal” is not necessarily a device that is installed in a shop, and can be any

device insofar as it is structured to transmit the rim circumferential length data to a device on the lens edging unit's side that has function to "determine". The technical idea of the Invention lies in the feature to compare the rim circumferential length and the lens circumferential length so as to achieve the purpose to solve the problem of providing "a spectacle lens edging system that allows spectacle lenses to be fitted to the rim of a spectacle frame with a high degree of certainty and efficiency" ([0007]), and which device makes the calculation from a physical perspective is not necessarily important. Further, the feature to effectively edge lenses by mediating a plurality of remotely located optician's shops and an edging factory capable of processing desired spectacle lenses only comes from well-known art. The feature that whether processing is possible is determined by the Data Management Device should not be particularly focused on when defining the scope of the "lens edging unit."

The System therefore satisfies Element B2.

2. Satisfaction of the part "the rim circumferential length received from the measurement terminal of the frame measurement unit" of Element C3

As stated earlier in 1, the Data Management Device of the System falls under the "measurement terminal" constituting a "frame measurement unit" in the Invention, calculates the rim circumferential length, and transmits the result to the Factory PC. Thus, "the rim circumferential length" is "received" by the Factory PC of the System, which corresponds to the "edger terminal," "from the measurement terminal of the frame measurement unit."

The System therefore satisfies Element C3.

3. Multiple Actors

If a plurality of entities is found to jointly fulfill all the elements prescribed in the Scope of Claims of a patent, it constitutes a patent infringement, as joint patent infringement, where each of such actors should be regarded as having committed the whole acts. The System was developed by Turtle pursuant to a contract with Donkey, and they both know much about the System. Under the contract with Donkey, Turtle has been engaged in, and has also gained revenues from, the operation of the Data Management Device of the System. Optician's shops actively use the System by having entered into transaction agreements with Donkey, having been provided with the client software of the Software and making the Shop PCs into devices of the System, etc. and have gained revenues from sales of spectacle lenses. Turtle and optician's shops are therefore regarded as using the System jointly with Donkey.

Thus, Donkey is found to infringe the Patent jointly with Turtle and optician's shops, and is regarded as having committed the whole acts even if Turtle and optician's shops might have committed part thereof.

Even if it cannot be said as described above, Turtle just lets the Data Management Device respond automatically, by using the Software, to orders from the Shop PCs connected via the network; optician's shops just connect the Shop PC to the Data Management Device via the network and order spectacle lenses with data transmitted from the frame tracer, by the use of the client software of the Software to the extent that the shops can operate it. Accordingly, acts of Turtle and optician's shops, with which they are regarded as acting as a pawn or tool for Donkey in terms of the use of the System, are deemed to be the acts of Donkey itself.

VIII. Summary of the arguments of Donkey (Defendant)

1. Nonsatisfaction of Element B2

The Data Management Device in the System is a device constituting a "lens edging unit."

To be specific, the purpose of the Invention is to make it possible to effectively process lenses by mediating a plurality of remotely located optician's shops and an edging factory capable of processing desired spectacle lenses ([0009], [0029]). To achieve the purpose, the Invention adopts the following structure: the "edging management server" in the lens edging unit is an independent device to which a measurement terminal is connected ([0013], [0019]); the "edging management server" determines whether processing of spectacle lenses is possible ([0029], [0040]); then the "edging management server" transmits the rim shape data, the rim circumferential length data, and the order data to the edger terminal in the edging factory capable of processing ([0041]). In the Invention, each frame measurement unit is individually connected to the lens edging unit through the network, and it is obvious that the system is designed on the assumption that a measurement terminal calculating the rim circumferential length data is also equipped in each frame measuring unit (the Scope of Claims, FIG. 1).

On the other hand, the Data Management Device of the System is connected to the Shop PCs of a plurality of optician's shops, determines whether processing of spectacle lenses is possible, and transmits the 1000-point data which corresponds to the rim shape data, the rim circumferential length data, and the order data to an edging factory capable of processing. This means, the Data Management Device of the System falls under the "edging management server" of the Invention, and obviously constitutes the lens edging unit. Therefore, what is corresponding to the "measurement terminal" of the Invention is the Shop PC connected to the Data Management Device; and the Shop PC of the System fails to calculate the rim circumferential length data. In the System, no frame measurement unit calculates the rim circumferential length after all.

Thus, the System is characteristic in its structure where only the frame shape is measured at shops and all the following steps are undertaken by the lens edging unit; which is different fundamental technical idea from that of the Invention.

The System therefore does not satisfy Element B2.

2. Nonsatisfaction of the part "the rim circumferential length received from the measurement terminal of the frame measurement unit" of Element C3

As stated earlier in 1, the rim circumferential length is calculated in the System not by a "frame measuring unit" but by the Data Management Device constituting the lens edging unit. Thus, "the rim circumferential length" is not "received" by an edger terminal "from […] the frame measurement unit."

The System therefore does not satisfy Element C3.

3. Multiple Actors

A patent infringement by an entity is established only if the entity fulfills all the elements prescribed in the Scope of Claims of a patent alone by itself, with the exception of indirect infringement only. In the present case, none of Turtle holding the Data Management Device, optician's shops and Donkey independently own any device whose function satisfies all the elements. Optician's shops, Turtle, and Donkey are involved in just part of the System as totally individual and independent actors. Neither Turtle nor optician's shops cannot be regarded as acting as a pawn or tool for Donkey. Also because optician's shops could never be aware of the details of the System or even the existence of Turtle, it is impossible that optician's shops infringe the Patent jointly with Donkey or Turtle.

IX. Matters to be noted in the examination of this case

It is requested for each participating country in the JSIP to examine whether direct and literal infringement can be found in its respective jurisdiction. Whether infringement under the doctrine of equivalents or indirect infringement can be found may also be considered if it is useful for judgment.

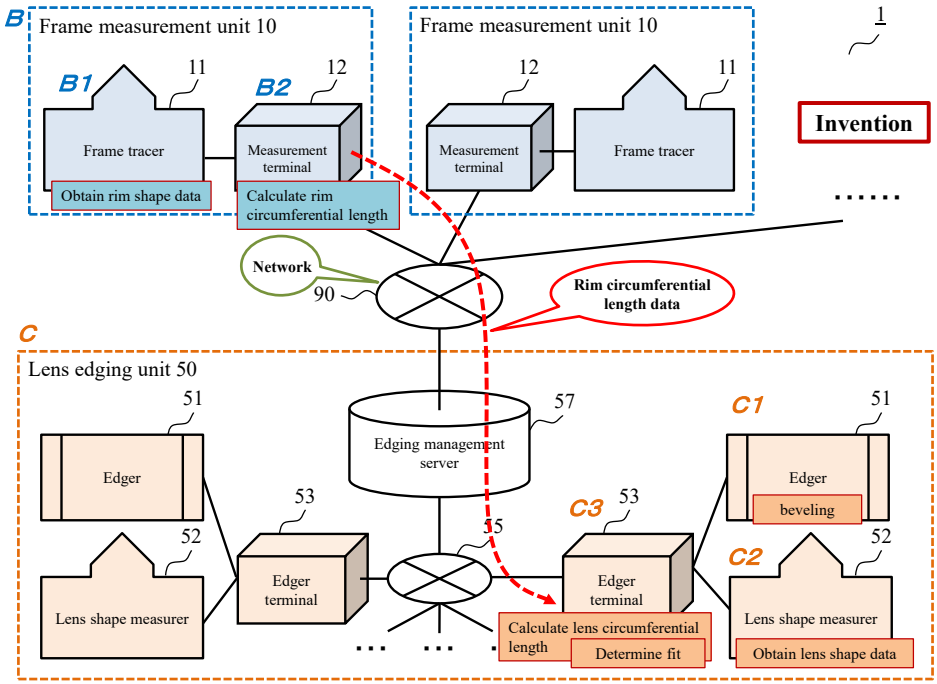
(End)

October 12, 2022

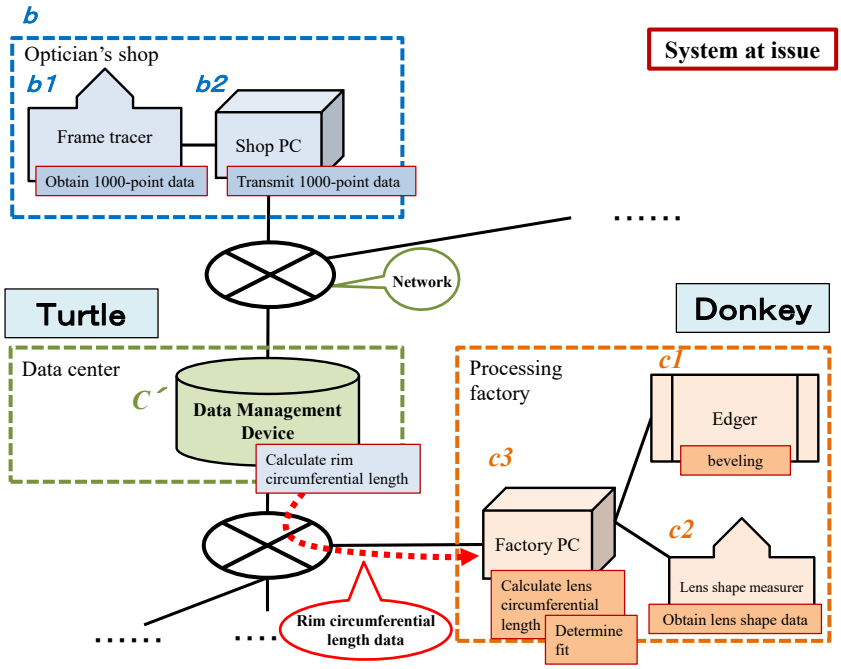
(Appendix)

Reference Material

I. Schematic Diagram of the Invention



II. Schematic Diagram of the System at issue



III. Glossary

edge surface of the lens: the side surface of the edge of a spectacle lens

bevel: to process the edge surface (the side surface of the edge) of a spectacle lens to form a convex protrusion

lens shape data: data regarding the three-dimensional shape of the edge of a spectacle lens

lens circumferential length: the circumferential length along the bevel top of a beveled spectacle lens

rim: the part of a spectacle frame which surrounds a spectacle lens

rim shape data: data regarding the three-dimensional shape of the groove of the rim of a spectacle lens

rim circumferential length: the circumferential length along the groove of the rim of a spectacle lens

order data (in the Invention): data calculated and entered with a measurement terminal except the rim circumferential length data and the rim shape data

contacting probe: the tip of a part of a measurement device which contacts an object to be measured

1000-point data (in the System): data regarding the three-dimensional shape of a groove of a rim of the spectacle lens which are measured at 0.36° intervals