

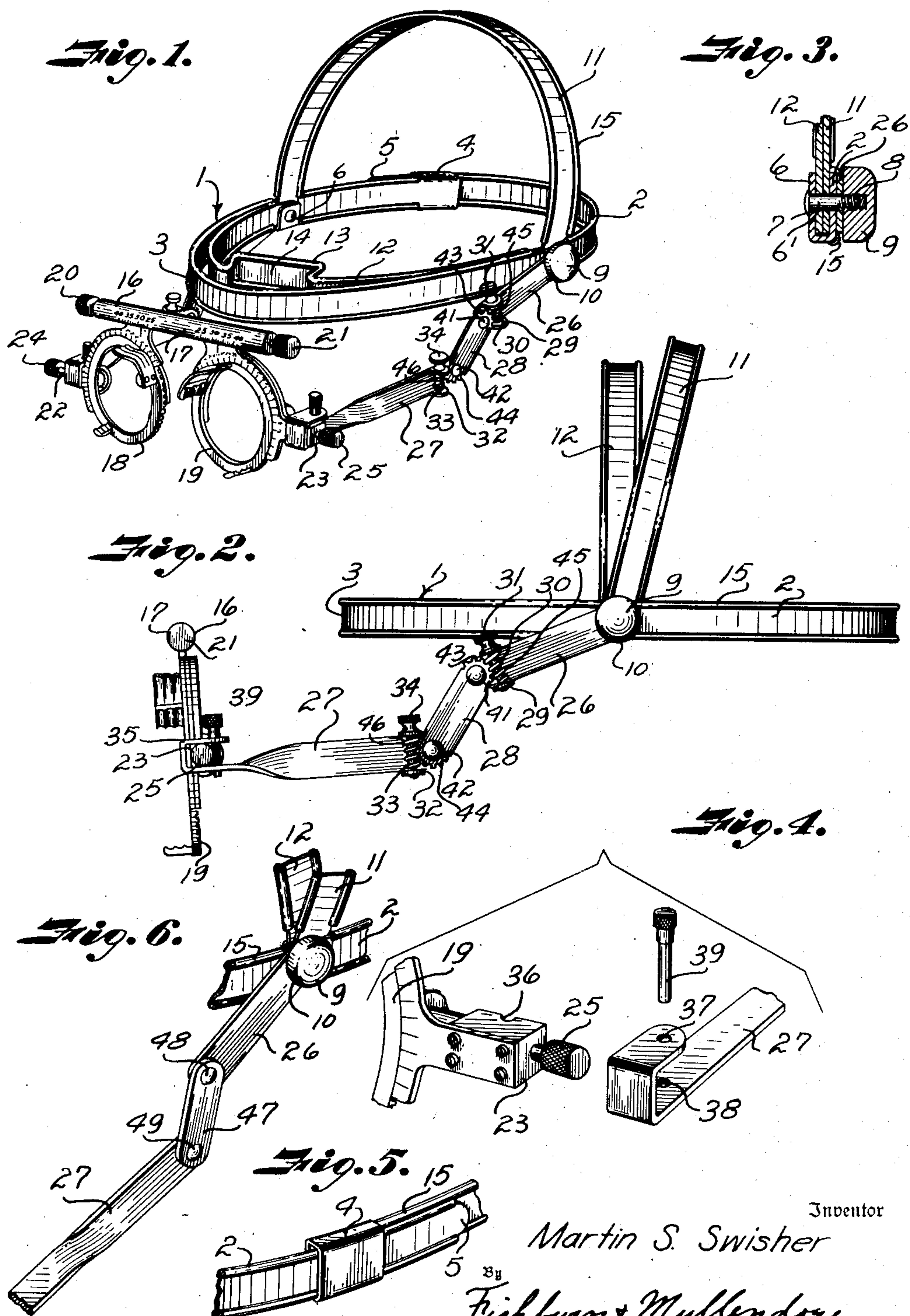
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ADJUSTABLE TRIAL FRAME HOLDER

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ADJUSTABLE TRIAL FRAME HOLDER

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1 Claim. (Cl. 88—20)

1

This invention relates to a frame holder, and more particularly to a trial frame holder used by professional men practicing as optometrists, oculists and ophthalmologists in the fitting of lenses to the human eye.

This device is particularly helpful for use in physiognomy, malformation and astigmatism cases. There is an increasing number of physiognomic conditions confronting medical men today. There are many heads of different shape, such as low foreheads, sloping foreheads, oblong or round heads, and in such cases, particularly where there is astigmatism present, a frame must be adjusted squarely and snugly to the patient's head to obtain the best results so that the patient may see correctly.

With the trial frame holders heretofore in use, the devices included a nose piece which rested upon the bridge of the nose of the patient whose eyes were being tested and included temples with one end secured to the outer ends of the frame and their opposite ends engaging over the ears of the patient, thus causing heavy pressures on the nose and ears of the patient. These frames were also difficult to adjust to the right position on the head of the patient.

The principal object of the present invention is to provide a frame holder for the fitting of lenses to the human eye by having a helmet adjustable to fit the head of the patient and adjustable arms to position the frame holder close over patient's eyes.

Other objects of the present invention are to provide a trial frame holder having no part coming in contact with the bridge of the nose of the patient and no temples engaging the ears; to provide a frame having a head portion in the form of a helmet for adjustably fitting over the top of the head of the patient and horizontally around the head above the ears; to provide for adjusting the circumference of the head piece of the helmet; to provide an auxiliary head piece for engaging the forehead of a patient having a small head and particularly for adjustment to the heads of children; to provide means for pivotally mounting the arms on the helmet; to provide for detachably mounting the frame holder on the outer ends of arms; to provide means on the arms for adjusting the length thereof and to position the frame holder with respect to the eyes either vertically or longitudinally; and to provide a device of this character simple, economical to manufacture and efficient in operation.

In accomplishing these and other objects of the invention, I have provided improved details of structure, the preferred forms of which are

2

illustrated in the accompanying drawings wherein:

Fig. 1 is a perspective view of my frame holder.

Fig. 2 is a side view thereof, particularly illustrating the adjustable arms.

Fig. 3 is an elevational fragmentary cross sectional view of the pivotal attachment of the head member and the arms.

Fig. 4 is an elevational fragmentary view of the attaching ends of the arms and the end of the frame holder shown in disassembled relation.

Fig. 5 is an elevational fragmentary view of the friction band for adjusting the circumference of the horizontal head band.

Fig. 6 is a fragmentary view of a modified form of the adjustable arms.

Referring more in detail to the drawings:

1 designates a frame holder for test lenses embodying the features of my invention comprising a helmet for adjustable headgear consisting of a band or head member 2 substantially of the shape of the head of a patient and adapted to fit around the head of a person whose eyes are being fitted for lenses. The front portion 3 of the band is adapted to engage the forehead of the patient. The band 2 has free ends, one of which has its side edges turned laterally and inwardly to form a friction head 4 adapted to receive the opposite end 5 of the band to provide for adjustment of the band to fit the head of the patient. On each side of the band substantially over the ears of the patient and formed integrally therewith are ears 6, said ears being turned laterally and upwardly in spaced relation to the band. The band and ears are provided with aligned openings 6' adapted to receive a pin or the like 7 having a threaded shank 8 for receiving a threaded nut 9 having a roughened edge 10, as illustrated in Fig. 1. Pivotally mounted on the pins 7 is a band 11 adapted to engage over large heads of patients and hold the headgear thereon and for easy handling.

A second band 12 is also pivotally mounted on the pin 7 of slightly less length than the band 11, and at substantially its center the band is bent inwardly which provides a bar 13 and a recess 14 at the top thereof, also as illustrated in Fig. 1. The band 12 may be used to go over the top of the head of the patient as illustrated in Fig. 2, or it may be adjusted for a patient having a small head to act as the forehead band instead of the band 2. The bands 2, 11 and 12 may be made of light metal, plastic or other suitable material and engaging over each of their side edges are relatively soft channel-shaped or banded members 15 of rubber, plastic or the like forming cushions at said edges, although flat material

may be used. By adjusting the thumb nut 9 the bands may be held in position one relative to the other as desired.

16 designates a trial frame for holding lenses when fitting glasses to the eyes of a patient and consists of conventional frames now in use and no claim is made to the frame, it being understood that the nose piece and temples are removed. The frame consists of a bar 17 carrying the lens holders 18 and 19. Thumb screws 20 and 21 are provided on the respective ends of the bar for adjusting the lens holders 18 and 19 one with respect to the other. The lens holders 18 and 19 are provided with outwardly extending arms 22 and 23 having means including thumb screws 24 and 25 for turning the lenses within the holders 18 and 19, also as is the usual or arms practice.

Adjustable members for holding the trial frames are provided on each side of the headgear for holding the trial frames with respect to the headgear, and as the members are identical except for right and left side of the device only one will be described. The members consist of arms 26 and 27 and a link 28 movably connected one with respect to the other. One end of the arm 26 is pivotally mounted on the pin 7. The arms are preferably made of flat material with elbows and the other end of the arm 26 is provided with a bracket 29 adapted to receive a worm pin 30 having a thumb nut 31.

The arm 27 has one end provided with a bracket 32 adapted to receive a worm pin 33 also provided with a thumb nut 34. The other end of the arm 27 is turned laterally and inwardly upon itself forming a loop or hook 35 adapted to engage the arms 22 and 23 of the frame holder. The arms 22 and 23 are provided with a vertical recess 36 in the side facing the headgear. The loop 35 is provided with an opening 37 and the shank of the arm 27 is provided with an opening 38 adapted to receive a pin 39 which engages in the recess 36 to retain the arms on the laterally extending arms to the frame.

The links 28 connecting the arms 26 and 27 are pivotally secured to the arms by pins or the like 41 and 42 and the respective ends of the links are provided with teeth as indicated at 43 and 44 engaging the threads 45 and 46 of the pins 30 and 33, turning of the pins running the teeth on the pins to move the links with respect to the arms.

In use of a device constructed as described, the band 2 is adjusted horizontally around the head of the patient whose eyes are being fitted and either the band 11 or band 12 placed over the top of the head. If the head is small the band 12 may be turned downwardly to engage the forehead of the patient. When the headgear or helmet is fitted to the patient, the lens holders 18 and 19 are adjusted to the proper place with respect to the eyes of the patient by adjustment of the thumb screws 20 and 21 on the arm. The trial frame may be adjusted vertically or longitudinally with respect to the headgear first by pivoting by hand the arms 26 and 27 on the pins 7 on the headgear. Further adjustment vertically and longitudinally is accomplished by turning of the worm pins 30 and 33 which positions the lens holders with respect to the eyes, including slanting thereof through positioning of arms 27 having their ends secured to the frames.

In Fig. 6 is shown a modified form of my invention wherein the arms 26 and 27 are connected by links 47 and pivotally connected with

the arms 26 and 27 by rivets 48 and 49. In operation of this structure the rivets are tight enough so that there will be friction between the link and arm to hold frame in proper position as desired.

It will be obvious from the foregoing that I have provided an improved form of trial frame holders including a headgear and arms wherein the arms are adjustable vertically and longitudinally with respect to the headgear and a headgear wherein no pressure is placed on the bridge of the nose of the patient and no temples to engage the ears thereof.

What I claim and desire to secure by Letters Patent is:

A holder for trial frames for trial lenses having side arms comprising, a head member, said member including a cylindrical portion for engaging around the head of a patient above the ears and having free ends, one of the free ends having its side edges turned laterally and inwardly forming a friction head and the other end engaging in said head to provide adjustment for the cylindrical portion to fit the head of a patient in horizontal position, ears on each side of said head member substantially over the ears of the patient, said ears being formed integrally with said head member and turned laterally and upwardly in spaced relation with said member the sides of said head member and ears having openings therein, pins having heads and threaded shanks engaging in said openings, a band having openings in its ends pivotally engaging said pins and extending over the head of the patient, a second band of shorter length for engagement inside the head member and said first named band, the ends of said second named band having openings engaging said pins for pivotally mounting said second named band on said pins, nuts for engaging the threaded shanks of said pins, whereby said bands are frictionally held on said pins in adjusted positions, adjustable supporting members, a first and second arm member, a link, means pivotally connecting one end of each of said first arms to one of said pins respectively, the other end of each of said first arms being pivotally connected to one end of each of said links respectively, the other end of each of said links being pivotally connected to one end of each of said second arms respectively, said second arm being secured at their free ends to the trial frame means on said arms cooperating with means on each end of said links for moving said arms one with respect to the other to position the trial frame with respect to the eyes of the patient, and means for holding said arms in adjusted position.

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