

MODIFIED EYEGLASSES FOR IMPROVING VISUAL ACUITY ASSESSMENTS

Mgboji, Glory, Wilson, John

Hardin, Clyde "Frank"

T-021034

Published Date: 7/7/2026

Value Proposition: *Eye occluder glasses that provide a steady, hands-free opportunity to efficiently measure visual acuity.*

Technology Description

Researchers at Washington University in St. Louis have developed a pair of eye occluder glasses with a pinhole that can be used to optimize the accuracy and precision of a patient's visual acuity assessment. The fields of ophthalmology and optometry often focus on optimizing a patient's visual acuity. Obtaining an accurate visual acuity measurement for patients is an essential part of the physical exam that guides diagnosis, determination of prognosis, and treatment of ophthalmic disease. Near visual acuity requires the use of tools (eye occlusion, pinhole exam, a mobile light source, and a near-card) used simultaneously. Due to the use of numerous tools when obtaining a visual acuity, patients are often required to hold the traditional eye occluder themselves. Patients often are physically unable to effectively hold the traditional occluder to their face due to altered mental status, neuromuscular weakness, or tremors among many other reasons.

This invention provides a steady, reliable method of occluding one eye while providing a corrective lens (if needed) and a pinhole exam over the un-occluded eye to accurately obtain a visual acuity measurement in each individual eye. In addition, these glasses can very efficiently alternate occlusion to the other eye and provide the same stable, optimized pinhole exam for the second eye without having to remove the occluder from the face or flip the device as the traditional eye occluding device requires.

Stage of Research

Prototype developed and being used with multiple patients.

Applications

- Visual acuity testing

Key Advantages

- May be worn instead of held by the patient, allowing for more stabilization
- Occluder and pinhole may be rotated from one eye to the other
- Able to modify the glasses to include corrective lenses

- Efficiently measures visual acuity

Patents

- Pending

Related Web Links – [John Wilson Profile](#)