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Wang et al.

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(54) **IMAGE PICK-UP LENS SYSTEM**

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(51) **Int. Cl.**
G02B 9/04   (2006.01)
G02B 13/18   (2006.01)

(52) **U.S. Cl.** **359/793**; 359/717; 359/738

(58) **Field of Classification Search** 359/793–795, 359/738–740
See application file for complete search history.

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(57) **ABSTRACT**

An image pick-up lens system includes an aperture stop (**10**), a biconvex first lens (**20**), and a meniscus-shaped second lens (**30**) having a concave surface on a side of an object. The aperture stop, the first lens and the second lens are aligned in that order from the object side to an image side. Each of the lenses has at least one aspheric surface, and the following conditions are satisfied: (1) 0.5<f1/f<0.9, and (2) 1<T/f<1.62, wherein f1 is a focal length of the first lens, f is a focal length of the system, and T is a length from the aperture stop to an image pick-up surface of the image side.
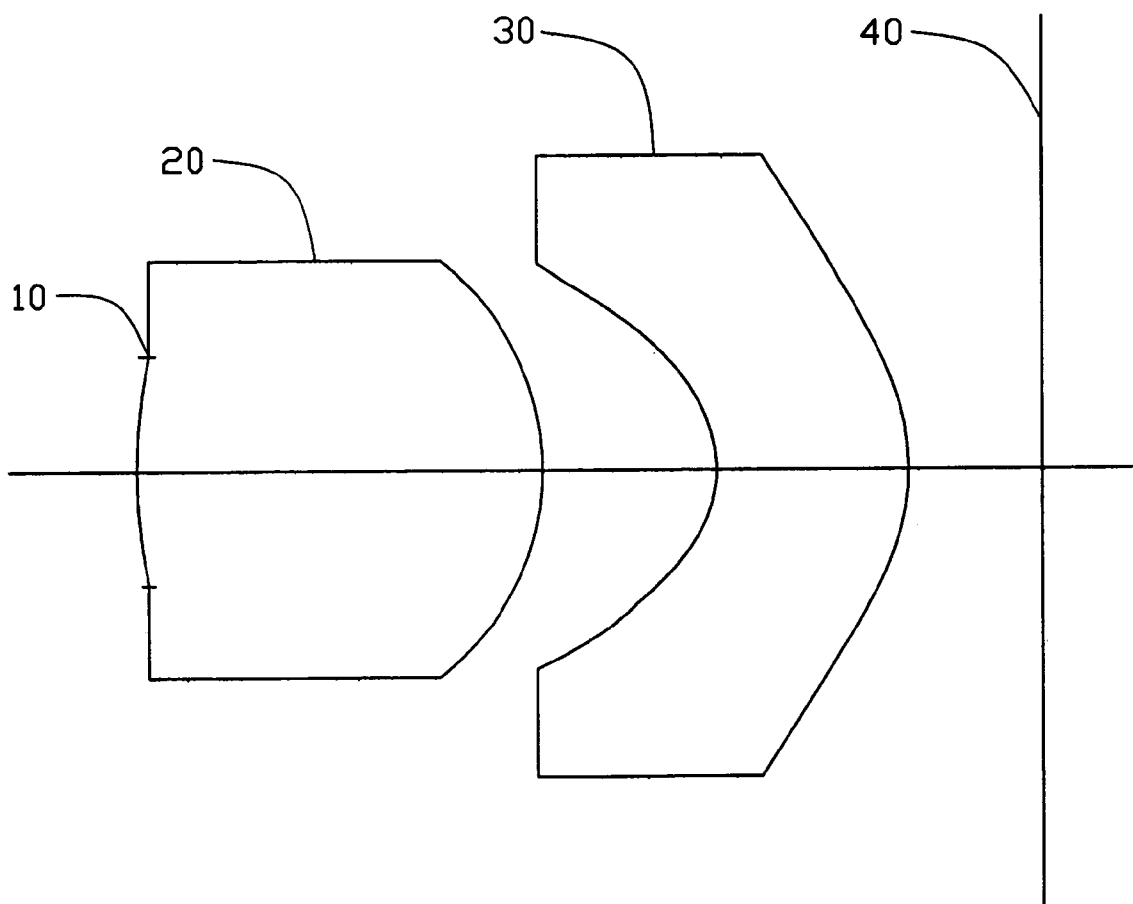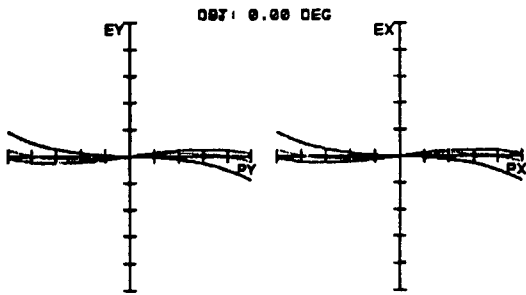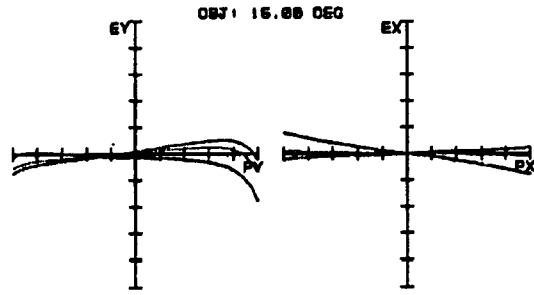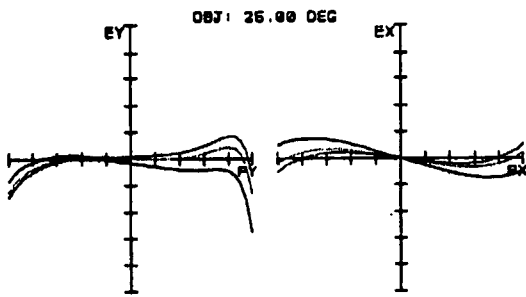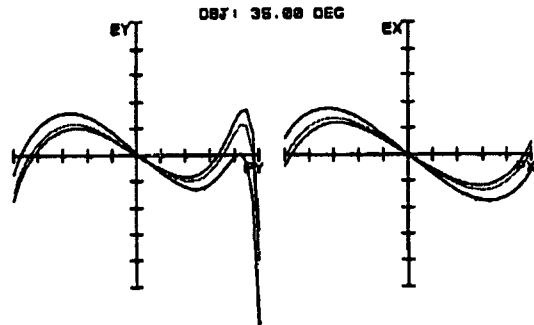
6 Claims, 16 Drawing Sheets
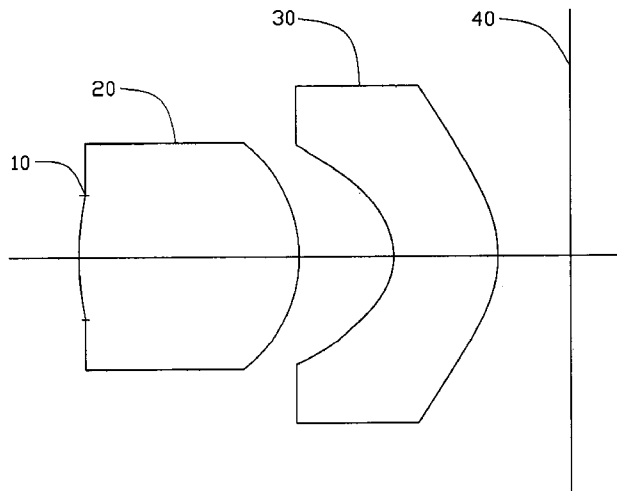
FIG. 1

FIG. 2A

FIG. 2B
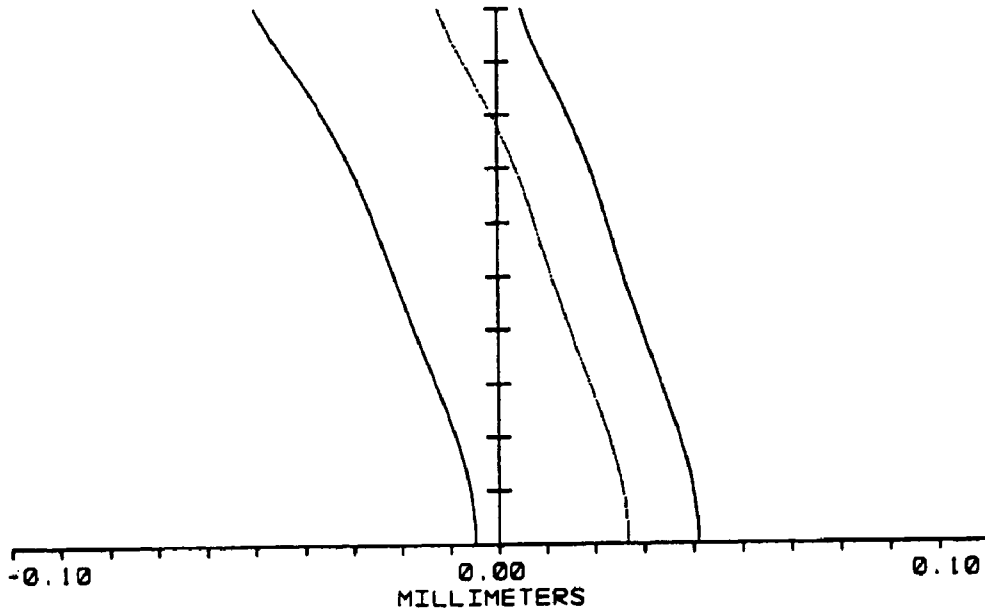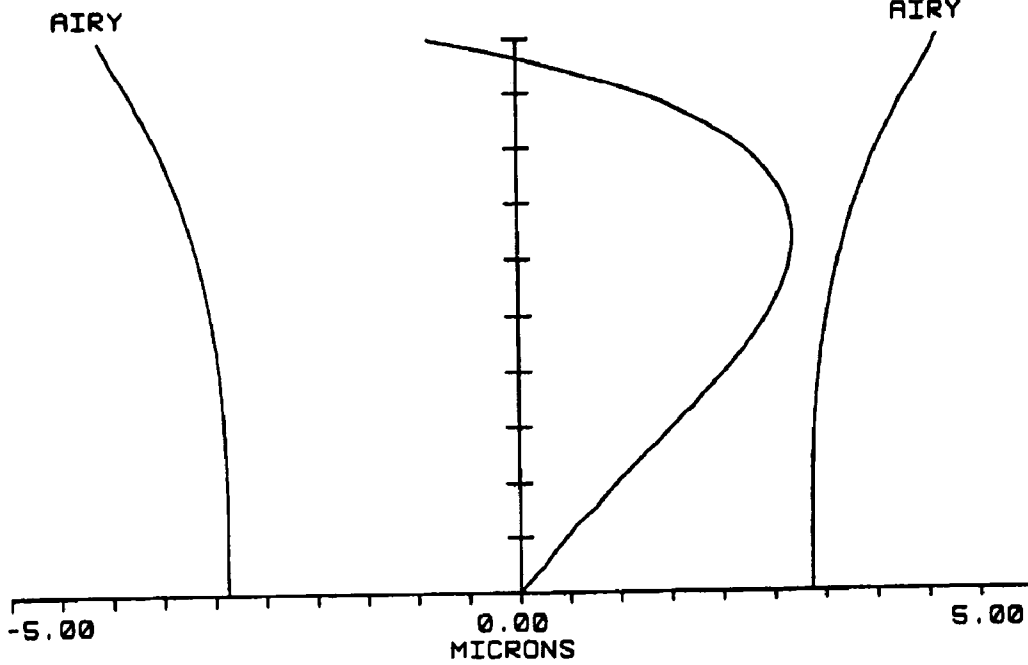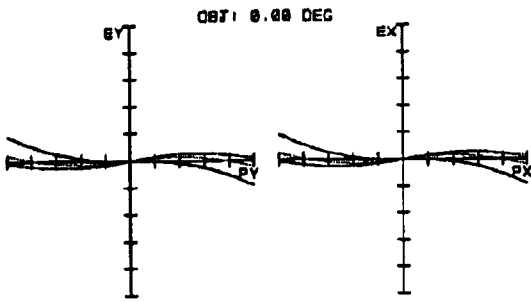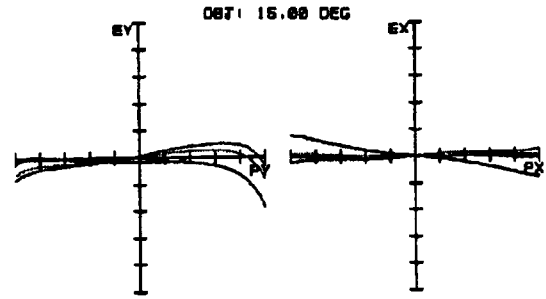
FIG. 2C

FIG. 2D
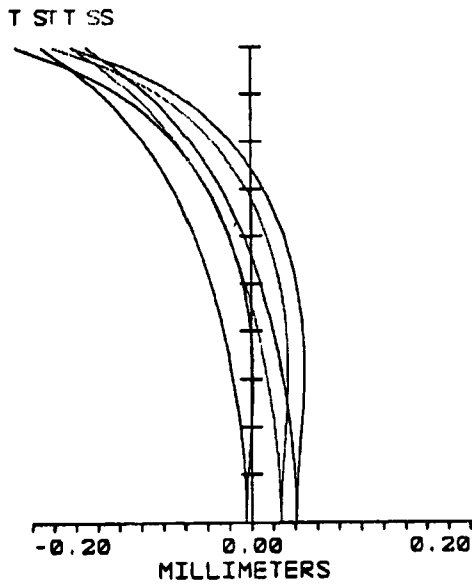
FIG. 3A
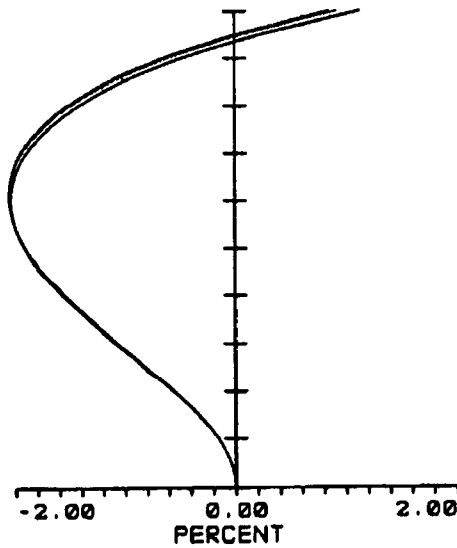
FIG. 3B

PUPIL RADIUS: 0.5640 MILLIMETERS

-0.10   0.00   0.10
MILLIMETERS

FIG. 4

MAXIMUM FIELD: 35.0000 DEG

AIRY   AIRY

-5.00   0.00   5.00
MICRONS

FIG. 5

OBJ: 0.00 DEG

FIG. 6A

OBJ: 15.00 DEG

FIG. 6B

OBJ: 25.00 DEG

FIG. 6C

OBJ: 35.00 DEG

FIG. 6D

T ST SS

-0.20 0.00 0.20
MILLIMETERS

FIG. 7A

-2.00 0.00 2.00
PERCENT
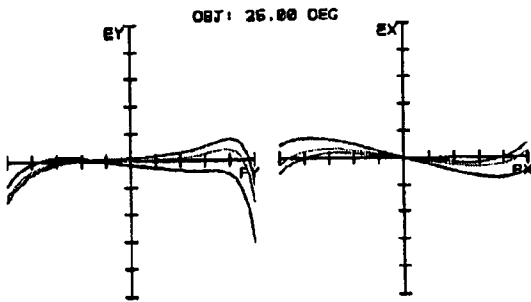
FIG. 7B

DOCKET ALARM
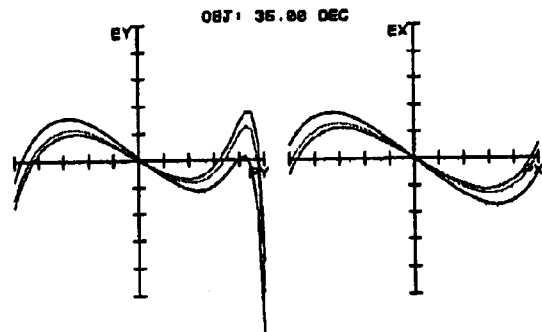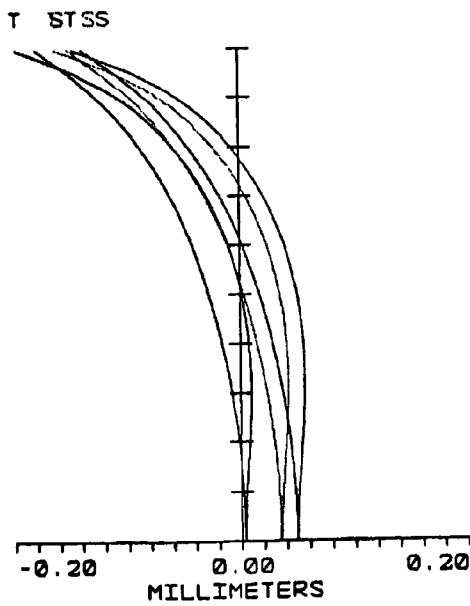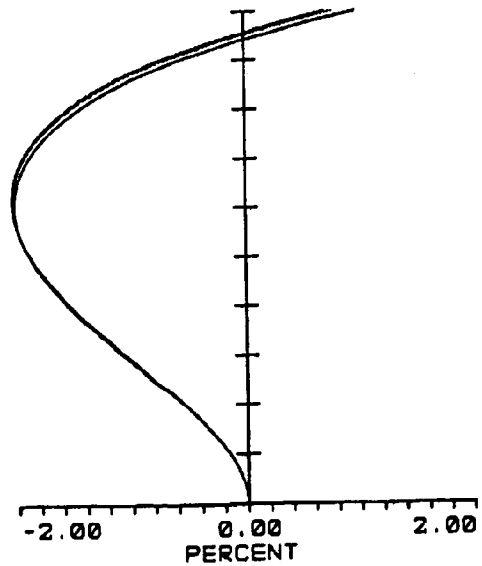
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