AD-A110 936 FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH F/G 20/6
OPTICAL MIRROR,(U)
JAN 82 S I DENISOV, V V NEKRASOV
UNCLASSIFIED FTD-ID(RS)T-1531-81 NL

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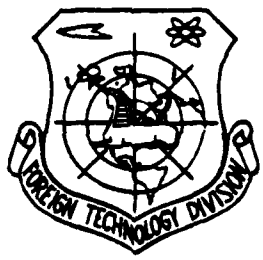
FOREIGN TECHNOLOGY DIVISION

OPTICAL MIRROR

by

S.I. Denisov and V.V. Nekrasov



EDITED TRANSLATION

FTD-ID(RS)T-1531-81 29 January 1982

MICROFICHE NR: FTD-82-C-000109

OPTICAL MIRROR

By: S.I. Denisov and V.V. Nekrasov

English pages: 2

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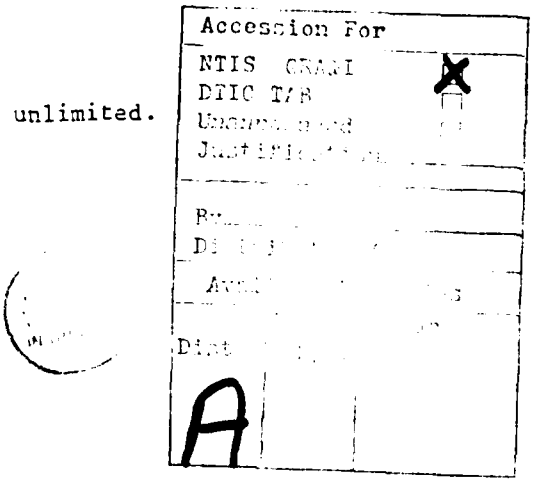

PREPARED BY:

TRANSLATION DIVISION
FOREIGN TECHNOLOGY DIVISION
WP-AFB, OHIO.

U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

Block	Italic	Transliteration	Block	Italic	Transliteration
А а	*А а*	A, a	Р р	*Р р*	R, r
Б б	*Б б*	B, b	С с	*С с*	S, s
В в	*В в*	V, v	Т т	*Т т*	T, t
Г г	*Г г*	G, g	У у	*У у*	U, u
Д д	*Д д*	D, d	Ф ф	*Ф ф*	F, f
Е е	*Е е*	Ye, ye; E, e*	Х х	*Х х*	Kh, kh
Ж ж	*Ж ж*	Zh, zh	Ц ц	*Ц ц*	Ts, ts
З з	*З з*	Z, z	Ч ч	*Ч ч*	Ch, ch
И и	*И и*	I, i	Ш ш	*Ш ш*	Sh, sh
Й й	*Й й*	Y, y	Щ щ	*Щ щ*	Shch, shch
К к	*К к*	K, k	Ъ ъ	*Ъ ъ*	"
Л л	*Л л*	L, l	Ы ы	*Ы ы*	Y, y
М м	*М м*	M, m	Ь ь	*Ь ь*	'
Н н	*Н н*	N, n	Э э	*Э э*	E, e
О о	*О о*	O, o	Ю ю	*Ю ю*	Yu, yu
П п	*П п*	P, p	Я я	*Я я*	Ya, ya

*ye initially, after vowels, and after ъ, ь, й elsewhere.
When written as ё in Russian, transliterate as yё or ё.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	sinh^{-1}
cos	cos	ch	cosh	arc ch	cosh^{-1}
tg	tan	th	tanh	arc th	tanh^{-1}
ctg	cot	cth	coth	arc cth	coth^{-1}
sec	sec	sch	sech	arc sch	sech^{-1}
cosec	csc	csch	csch	arc csch	csch^{-1}

Russian	English
rot	curl
lg	log

OPTICAL MIRROR

S. I. Denisov and V. V. Nekrasov, inventors

This invention is a mirror for the mechanical optics industry.

There is an optical mirror which has a foam-glass backing and a mirror coating. But the manufacture of this mirror is highly labor-intensive, because the mirror surface must be worked on a faceplate, the mirror blank first being glued to it with resin. The mirror as removed from the faceplate is usually deformed. The finished mirror is then attached to a special mounting and then incorporated in the article of manufacture. Regardless of the quality of this attachment, by creating tension in the mirror it degrades the quality of the image, particularly with fluctuations in temperature.

The objective of this invention is to reduce the weight of the mirror and eliminate deformation during manufacture. This is accomplished by mounting a reinforcement in the backing and adding a polishable glue-filler layer between the backing and the mirror coating.

The diagram shows a cross-section of the mirror. It consists of a porous plate 1 of, for example, devitrified glass [sitall], glass and a thin layer of polishable compound 2, the surface of which is ground and polished and a mirror coating then applied.

Depending upon the dimensions of the mirror and the size of the pores in the backing material, the thickness of the polishable layer 3 is 0.5-3 mm. The polishable layer has a base of glue, SK-50 for example, and a filler, which is a mixture of metal and glass powders (a mixture of Invar, titanium and sitall, for example).

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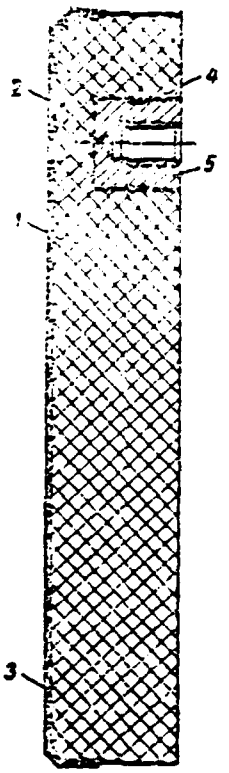
Sockets 5 with openings for adjustment and support components are set in the porous plate with a resin-like sealing compound 4.

The shape and number of reinforcements depend upon the use to which the mirror will be put. A mirror rotating in bearings, for example, will have a bearing race or pivot.

The mirror described here may be plane, spherical or of any shape.

Patent claim: an optical mirror incorporating a foam glass backing and having a mirror coating **distinguished by the fact that** for the purpose of reducing the weight of the mirror and eliminating deformation during manufacture, a reinforcement is mounted in the backing and a glue-filler-based polishable layer added between the backing and the mirror coating.

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