

2

FTD-ID(RS)T-1269-89

DTIC FILE COPY

AD-A220 581

FOREIGN TECHNOLOGY DIVISION

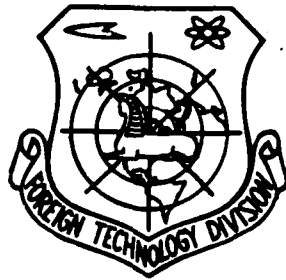


DTIC  
ELECTE  
APR 18 1990  
S D  
CD

A METHOD OF MANUFACTURING PLASTIC ARTICLES

by

A.G. Turkov, M.I. Gofman, A.P. Ovchinnikov



Approved for public release;  
Distribution unlimited.



04 13 030

## PARTIALLY EDITED MACHINE TRANSLATION

FTD-ID(RS)T-1269-89

29 December 1989

MICROFICHE NR: FTD-90-C-000032

A METHOD OF MANUFACTURING PLASTIC ARTICLES

By: A.G. Turkov, M.I. Gofman, A.P. Ovchinnikov

English pages: 2

Source: USSR Patent Nr. 302249, 28 April 1971,  
pp. 1

Country of origin: USSR

This document is a machine translation.

Input by: Charles W. Guerrant

Merged by: Charles W. Guerrant

Requester: FTD/TTTAV/Jeffery D. Locker

Approved for public release; Distribution unlimited.

THIS TRANSLATION IS A RENDITION OF THE ORIGINAL FOREIGN TEXT WITHOUT ANY ANALYTICAL OR EDITORIAL COMMENT. STATEMENTS OR THEORIES ADVOCATED OR IMPLIED ARE THOSE OF THE SOURCE AND DO NOT NECESSARILY REFLECT THE POSITION OR OPINION OF THE FOREIGN TECHNOLOGY DIVISION.

PREPARED BY:

TRANSLATION DIVISION  
FOREIGN TECHNOLOGY DIVISION  
WPAFB, OHIO.

U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

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

\*ye initially, after vowels, and after ъ, ь; e elsewhere.  
When written as ѐ in Russian, transliterate as yě or ẽ.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	sinh <sup>-1</sup>
cos	cos	ch	cosh	arc ch	cosh <sup>-1</sup>
tg	tan	th	tanh	arc th	tanh <sup>-1</sup>
ctg	cot	cth	coth	arc cth	coth <sup>-1</sup>
sec	sec	sch	sech	arc sch	sech <sup>-1</sup>
cosec	csc	csch	csch	arc csch	csch <sup>-1</sup>



Russian English

rot curl  
lg log

GRAPHICS DISCLAIMER

All figures, graphics, tables, equations, etc. merged into this translation were extracted from the best quality copy available.

Accession For	
NTIS CRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	
A-1	

A METHOD OF MANUFACTURING PLASTIC ARTICLES.

A. G. Turkov, M. I. Gofman and A. P. Ovchinnikov.

Kuybyshev Polytechnic Institute im. V. V. Kuybyshev.

A commonly known method of manufacturing plastic articles, for example dies made of composites based on epoxy resins with a metallic filler and hardener is to mold the composite by casting in a mold subsequently hardening the obtained casting, and extracting from the mold. Frequently used as a filler is iron powder or other powders of ferromagnetic substances. However, the density and wear resistance of the working surfaces of castings completely depend on the quantity of metallic filler introduced into the composite.

*RUSSIAN*  
The purpose of the invention is to obtain castings with predetermined density and wear resistance of the working surface by introducing in the composite a much smaller quantity of metallic filler through controlled distribution of filler in the volume of the article. *RUSSIAN TITLE: ...*

This is achieved by the effect, on a composite poured into a mold, of a magnetic field created, for example, by a mold possessing magnetic properties or by a magnet introduced into the mold. During the stage of molding under the action of the magnetic field the particles of iron powder are attracted to the mold, which leads to creation of high density and wear resistance in the working surface of the casting. Experiments on an increase in density and wear resistance of the working surface of a casting showed that by changing the force of the magnetic field it is possible to obtain a predetermined density of the working surface of the casting.

By the proposed method it is possible to obtain epoxy resin-based dies, and also castings for other machine-building purposes of increased quality.

Object of invention.

A method of manufacturing plastic articles, for example dies, by casting in a mold polymeric composites with a metallic ferromagnetic powder-like filler, which is characterized by the fact that, for the purpose of ensuring a controllable distribution of the filler in the volume of the article in order to obtain denser and more wear-resistant working surfaces of the article, the composite poured into a mold is acted on by a magnetic field.

DISTRIBUTION LIST

DISTRIBUTION DIRECT TO RECIPIENT

<u>ORGANIZATION</u>	<u>MICROFICHE</u>
C509 BALLISTIC RES LAB	1
C510 R&T LABS/AVEADCOM	1
C513 ARRADCOM	1
C535 AVRADCOM/TSARCOM	1
C539 TRASANA	1
C591 FSTC	4
C619 MIA REDSTONE	1
D008 MISC	1
E053 HQ USAF/INET	1
E404 AEDC/DOF	1
E408 AFWL	1
E410 AD/IND	1
F429 SD/IND	1
P005 DOE/ISA/DDI	1
P050 CIA/OCR/ADD/SD	2
AFTT/LDE	1
NOIC/OIC-9	1
CCV	1
MIA/PHS	1
LLYL/CODE L-309	1
NASA/NST-44	1
NSA/T513/TDL	2
ASD/FTD/TQIA	1
FSL	1