#### **CMRS Publication 1956**

S.N.	Author(S)	Title	Name of the Journal	Reference
1.	Bagchi, S	Pressure Development in Stowing Ranges	Indian Mining Journal	April, 1958
2.	Bagchi, S	Roof Control during Depillaring with Stowing at Depths	Indian Mining Journal	Special Issue 1958
3.	Bagchi, S	Mining Coal India – Some Problems	Indian Mining Journal	August 1958
4.	Guruswamy, S. & Narasimhachar, V.S	Geometric Mean particle size and Its Application in Sampling of Air borne Dust	Journal Science Industrial Research	Vol. 19B P; 319- 323 (1959)
5.	Bagchi, S	Mine Accidents A Statistical Study	IMMA Review	Vol. VII, No. 384
6.	Kanungo, D.	Experimental Reproduction in Wet Clay of an Echelon zones of Tension and Shear Fractures read in the Session	Indian Science Congress in Journal	1959
7.	Bagchi, S	Difficulties of Working thick Seams	Indian Colliery Review Independence Day	Number, 1959
8.	Bagchi, S	Heat and humidity in Mines	Magazine of Technology Mineral Engineering, Association I.I.T Kharagpur	1 <sup>st</sup> issue 1959
9.	Bagchi, S	Coal Mining in India	Indian Colliery Review Republic Day	Number February, 1959
10.	Bagchi, S	Hydraulic Transportation of Coal	Journal of Mines Metals & Fuel	May, 1959
11.	Kanungo, D.	A New Method of Analysis of Deformed Pebbles Proc.	Indian Science Congress Bombay	Session p; 247
12.	Guruswamy, S. & Narasimhachar, V. S	The Usefulness of Geometric Mean in Particle size studies Proc;47 <sup>th</sup>	Indian Science Congress	Part. III p;20 1960
13.	Dutta, D. P, & Bagchi, S	Light & Seein	Journal of Mines Metals & Fuel	August, 1960
14.	Ghosh, A K.	The Development and Scop of Method Study in Mining	Journal of Mines Metals & Fuels	August, 1960
15.	Badami, G. N	Use of Electricity in Explosive Gas and Vapour and FlammableDust Atmospheres	Explosives Symposium Kirkee 15-17	December , 1960
16.	Kaiser, K. N	Heat and Humidity in Mines  Journal of Mines Metals & Fuels		Vol. 11(2) February 1961
17.	Badmi, G. N	Hazards form Frictional Sparks of Certain Light Alloys	NML Technical Journal Light Metal Industry in India Symposium Number.	February, 1961

18.	Ghose, A K. Vemban, V S	Hydraulic Stowing in Mines Some	Journal of Mines Metals	Vol. 9 No. 1-6
	& Bagchi, S	Theoretical Design	& Fuels	March,1961

### **CMRS Publication 1961**

1.	Chakraborty, M K	Dust Problems in Coal mines	Journal of Mines Metals 7 Fuels	May, 1961	
2.	Whitaker, J W & Ghose, A K.	A Not on the Coal Mining Industry in India during	Iining Industry   Mining Engineer		
3.		An abstract of the whole done so far in connection with the carbon monoxide detector yube appeared in	Research & Industry	August, 1961 Vol. 6, No. 8	
4.	Ghosh, A. K	Health hazards of Dust in Mines with Special Reference to Pneumoconiosis A Review	Journal of Mines Metals & Fuel	Vol. IX, No. 8 August, 1961	
5.	Chakra, M. K	Plan to Reduce mining Health Hazards needed borty	Indian Manufacturer	Vol. 1 No. 4 October, 1961	
6.	Bagchi, S	Souvenir of the Maharashtra	Mineral Industries Conference	December, 1961	
7.	Ghha, A. B & Bagchi, S	Read as Special Lecture on the occasion of Symposium on Mechanization of Mines in India on 9-12December 1961 Mechanization of Mines Special issue 1962	Journal of Mines Metals & Fuels	Special issue 1962	
8.	Kaiser, K, M Narayana, V. S & Dastidar, N. C Bagchi, S	Presented at the Symposium on Mechanization of Mines in India 9- 12 December,1961 Mechanization of Mines	Journal of Mines Metals & Fuel	Special Issue 1962	
9.	Sinha, K. N	International Conference of Director of the Mining Research Station the New Sketch Republic Day Special Number	January,	1962	
10.	Sinha, Dr, K, N	Indian Science Congress The Coalfield times Republic Day Number	January,	1962	
11.	Bagchi, S.	Hydralic Stowing Assessment of Its potentialities in Relation to Indian Coal Mining	The New Sketch Republic Day Special Number	January, 1962	
12.	Bagchi, S.	Hydraulic Stowing A review of Development	EMC, Review	January, 192 First Issue	

# **CMRS Publication 1962**

1.	CMRS	Complex one in Mineral Analysis A Rapid Complex	Research paper No. 3	March 1962
		metric Methods of Analysis of Manganese Ores and	Rseference V2/3	
		Minerals		
2.	CMRS	Hydraulic Stowing of Crushed Stone in an Indian	Research paper No. 4	October, 1962
		Mine A Study and Investigation	Reference CMRS M1/4	
3.	CMRS	Humination Survey in an Indian Coal Mine	Research paper No. 5	(February)1963
		-	Reference V3/5	

# **Research papers and Reports in Press**

1.	CMRS	A Survey of Stone dusting materials in Use in	Research paper No. 6 Reference	1963
		Indian Mines	CMRS- V4/6	
2.	CMRS	Ventilation Survey of Mine No. 1	Research paper No. 7 Reference	
			CMRS-V5/7	

# **Review Papers**

1.	Sinha, Dr. K N	Coal & Steel Annual Number	CMRS	September, 1962
2.	Sinha, Dr. K N	Contributions Research to Mine Safety	Contributions Research	December, 1962
		Coal & Steel	to Mine Safety	13-15
3.	Sinha, Dr. K N	Contributions Research to Mine Safety	New Sketch Republic	January, 1963
			Day Number 26	
4.	Chakraborty, M K	Occupational Health Problems in	Republic Day Number	January, 1963
		Mining Industry		
5.	Bagchi, S	Advancement and Creative thinking	The New Sketch	January 1963
			Republic Day Special	
			Number 26	
6.	Sinha K. N	A Coal Mine of Poland	The Mineral Engineer	Vol. III 5-9
			Indian Institute of	1962
			Technology, Kharagpur	
7.	Guruswamy, S	Instrument & Techniques of Sampling	Journal of Scientific &	Vol. 22 49-51
		Mine Dust	Industrial Research	1963

### **CMRS Publication - 1963**

1.	Sinha, K. N	Contribution of Central Mining Research Station in the industrial growth of the country.	Coal & Steel	Vol. III No. 13. 1963
2.	Singh, B	Symposium on mechanization of mines in India	Part. I Special Lectures IMMA Review	Vol. XII, 19 1963
3.	Singh, B	Symposium on mechanization of mines in India part II Winning methods of work and detailed operation	IMMA Review	Vol. XII 25 1963
4.	Singh, B	Symposium on mechanization of mines in India part III Transport	IMMA Review	Vol. XII 33 1963
5.	Singh, B	Application of Sonics to strata control research Part I	Journal of Mines Metals & Fuel	Vol. XI No. 1 1963
6.	Singh, B	Application of Sonics to strata control research Part II	Journal of Mines Metals & Fuel	Vol. XI 9 1963
7.	Baijal, R. N	Electrical methods of exploration as applied to mining	Journal of Mines Metals & Fuel	Vol. XII No. 1, 1964
8.	Chakarborty, M. K & Mukherjee, R N	Certain Aspects of Environmental health condition in Indian Mines A study	Indian Journal of Industrial Medicine	Vol. IX 91, 1963
9.	Chakarborty, M. K & Guha, Roy	Some observation on the physiological responses in mine rescue work	Indian Journal of Industrial Medicine	Vol. IX 1963
10.	Chakarborty, M. K	Occupation health problems in mining Industry	The New Sketch Republic Day Special Number	January, 1963
11.	Chakarborty, M. K	Health hazard in mines	Coal & Steel	Vol. III No. 13, 1963
12.	Chakarborty, M. K & Islam, S	Lung function test Maximum breathing capacity and its relation to forced expiratory rate Proceedings of the Indian Sciences Congress Association 50th Session	Abstract	1963
13.	Bagai, S, K . Das, & Guruswamy, S	Standard Procedure for Particle size determination of sub-sieve mine dust by means of microscope	Indian journal Technology	Vol. 1, 1963
14.	Guruswamy, S. Narasimhachar, & Gopalakrishnan, N	Standard Procedure for the assessment of size and concentration of air-borne dust in mines using dust sampling instrument.	Indian Journal of Technology	Vol. 1. P; 419 1963
15.	Bhaduri, B P, Ghosh, S K. & Mazumdar, S. K	Rapid telemetric determination of phosphorus in Coal and coke	Indian Journal of Technology	Vol. 2, 1964
16.	Ghos, A. k, & Mitra, B	Modified combustion pipette to analysis explosive mixtures of methane with air in hadean Mine air Analysis Apparatus.	Chemistry & Industry, (U K)	Vol. 269 1964
17.	Kaiser, K. M, Narayana, V. S,	Some observations on ventilation of Indian mines	Journal of Mines Metals & Fuels	Vol. XII No. 35, 1964

	Dastidar, N. C, &			
	Bagchi, S.			
18.	Kaiser, K. M	Mine Ventilation	The New Sketch	January, 1962
			Republic Day Special	-
			Number	
19.	Sinha, K. N	Mining Research in India Its	Special Number	Vol. 18, January
		contribution.	-	1964

# **CMRS Publication 1964**

1.	Ghosh, A. K, Mazumdar, S & Bagchi, S.	Experiments and investigations on roof bolting at a colliery in India	Journal of Mines Metals & Fuels	Vol. XII No. 4, p; 109
2.	Ghosh, A. K, Barat, D, & Bagchi, S	Some Preliminary studies on the impact strength index of Indian coals.	Journal of Mines Metals & Fuels	Vol. XII No. 5, p; 153 (1964)
3.	Sarkar, S. K, Singh, B & Sinha, K, N	Convergence and its implication on mine working	Journal of Mines Metals & Fuels	Vol. XII No. 7, p; 203 (1964)
4.	Saxena, N, C & Singh, B.	Effects of supports on the movement of roof and floor in longwall faces.	Journal of Mines Metals & Fuels	Vol. XII No. 8, p- 239. 1964
5.	Mukherjee, S, K. & Singh, B	Scientific approach to the Problem of rock burst and bumps	Journal of Mines Metals & Fuels	Vol. XII, No. 9 P-273.(1964)
6.	Bhattacherjee, S, N.& Bagchi, S	Studies on coal petrology of the Dishergah Seam in India.	Journal of Mines Metals & Fuels	Vo. XII, No. 10. P- 299,(1964)
7.	Saxena, N, C & Singh, B.	Investigations into the load on underground supports	Journal of Mines Metals & Fuels	Vol. XII No. 11, P- 335. (1964)
8.	Bhattacherjee, S. N. & Singh, B.	Need for synthetic abrasive industry	Coal & Steel	Vol. 16, August. 1964
9.	Singh, T, N & Singh, B.	Partial extraction to minimize surface Subsidence.	Journal of Mines Metals & Fuels	Vol. XII. No. 12, P-369 (1964)
10.	Singh, B.	Symposium on Mechanisation of mines in India part. V Supports and roof control.	IMMA Review	Vol. XIII No. 2. P- 17 (1964)
11.	Chakraborty, M. K & Bose, A. K	Manganese in normal and excessive intake.	Indian Journal of Industry Med.	Vol. 10 P- 110. (1964)
12.	Chakraborty, M. K Mukherjee, R. N, Bose, A. K & Gopalkrishan, N.	An Industrial hygiene survey in a lead smelting factory	Indian Journal of Industry Med.	Vol. 10 P- 145, 1964
13.	Chakraborty, M. K, Islam, M. S. Dutta, P. K	Pulmonary function tests I Lung volumes and capacities of Indians in Health	Indian Journal Physiology & Allied Science	Vol. 18 P- 35 (1964)
14.	Chakraborty, M. K, Islam, M. S	Pulmonary Function Test II.  Maximum Breathing Capacity and its relation to timed expiratory Capacities.	Indian Journal Physiology & Allied Science	Vol. 18, p- 87 (1964)
15	Chakraborty, M. K	Industrial toxicology and its recent	Indian Journal of	Vol. 10. p- 1

		trend.	Industry Med.	(1964)
16.	Chakraborty, M. K	Special Health problems in Mining	Journal of Mines Metals	Vol. XII No.
		Industry.	& Fuels	4.p- 105 (964)
17.	Chakraborty, M. K	Industry dust and its assessment.	Journal of Mines Metals	Vol. XII No. 9,
			& Fuels	p-267 (964)
18.	Chakraborty, M. K, &	The effect of respiratory frequency	Indian Science Congress	p- 615
	Islam, M. S	in the deracination of maximum	Association	
		breathing capacity part III of the		
		Proc. Of the Combined 51st & 52nd		
		Section of Physiology.		
19.	Chakraborty, M. K, Guha,	Physiology combined of standard	Indian Science Congress	p-620
	Roy, A R, & Chakraverty,	exercise tests Part III of the Proc. Of	Association	
	RK.	the Combined 51 <sup>st</sup> & 52 <sup>nd</sup> Section of		
		Physiology.		
20.	Majumdar, S.	Some features of gas	Coal & Steel	p- 56
		chromatography.		(1964)
21.	Ghosh, A. K	Sedimentation volume of parameter	Indian Journal	Vol. 2 No. 6 p-
		to study wetting characteristics of	Technology	181
		coal dusts.		(1964)
22.	Kaiser, K. M Narayana, V.	Pressure survey Instruments.	Journal of Mines Metals	Vol. XII No. 3
	S & Bagchi, S		& Fuels	p- 73 (1964)
23	Guruswamy, S.	Rapid calculations of size Parameter	Indian Journal	Vol. 2 p- 211
		form microscope size number	Technology	(1964)
2.4		distribution data.		1065
24.	Sinha, K. N	Research as an aid to mining in	The New Sketch	January 1965
		India	Republic Day Special	p-69
25	C: 1 1 N	C + 1M' : P 1 C+ c'	Number	X7 1 III
25.	Sinha, k. N	Central Mining Research Station	Metals & Minerals	Vol. III
			Review	No. 10 p- 19
				1964

### **CMRS Publicatio 1965**

1.	Sinha, K. N	Mining Rese	earch in Inc	lia		Souven	nir 46 <sup>th</sup>	Annual	1966
						Conver	ntion of Ir	nstitution	
						of E	ingineers	(India)	
						Patna			
2.	Sinha, K. N	Reflection	on some	Aspects	of	New	Sketch	Special	January

		Mining Industry	Number	1966
3.	Sinha, K. N	Mining Research as an Aid to Self-reliance	Indian Colliery Review	February 1966
4.	Sinha, K. N & Singh, B	Economic of Coalfield Development in India.	Proceeding of the Forth International Mining Congress (London)	July 1965
5.	Singh, B	Safety Organization in U.K.	Mine Safety News	November 1965
6.	Kumar, Ramesh & Singh, b	Mine Subsidence Observations in India A Programme.	Journal of Mines Metals & Fuels	February 1966
7.	Pandey, P & Singh, B	Recent Trends in the methods of Underground Fire-damp Detection.	Journal of Mines Metals & Fuels	September 1965
8.	Dube, A. k & Singh, B.	Method of Determining the Tensile Strength of Rocks	Metals & Minerals Review	April 1965
9.	Singh, B	Research on Mine Working.	The Indian Mining and Engineering Journal	Nov. Dec. 1965
10.	Datey, U.W	Some Techniques of Operational research and Their Application to Mining Industry in India and Abroad.	IMMA Review.	Vol. XIV No. 3, P- 3
11.	Sheorey, P. R & Singh, B	Influence of Rock and Size of Specimens on the Compressive Strength of Rocks	Metal & Minerals Review	February 1965
12.	Jethwa, j. L & Singh, B	Strength of Rocks and Methods to Find Out Shear Strength of Rocks.	Metals & Minerals Review	March 1965
13.	Nandi, D. K, Banerjee, S. C & Chakarvorty, R, N	Effect of Incombustible Material on Critical Oxidation Temperature of Coal.	Indian Journal of Technology	May, 1965
14.	Banerjee, S, CNandi, D. K & Chakravorty, R. N	Studies in the mode of Disappearance of Carbon Monoxide Over Coal in Sealed off Areas in Mines.	Indian Journal of Technology	June 1965
15.	Sampath Kumar, T & Dutta, D. P	Interference Methanometers.	Journal of Mines Metals & Fuels	February 1965
16.	Narayana, V, S & Chakravorty, R, N	Booster Fans in Mines	Journal of Mines Metals & Fuels	July 1965
17.	Chakravorty, R. N & Narayana, V, S	Correspondence on the Poper by Prof. F. B Hinsley entitled An Enquiry into the Principles and Mutual Interaction of Natural & Fan Ventilation	The Mining Engineer	July 1965
18.	Chakraborty, M. K	Work Physiology Its Application in Industry for Increased Efficiency.	Indian journal Industrial Med.	December, 1965
19.	Chakraborty, M. K	Health Hazards in Mining Industry.	Metals & Minerals Review	June, 1965

### CMR Publicatio – 1966 Patents

1.	Singh, B	Modified expansion type Bolt	104389	March, 1966
2.	Singh, B	Remote Indicating Hydraulic load cell	104524	March, 1966
3.	Singh, B	Lever roller extensometer	104525	March, 1966
4.	Singh, B	Remote Indicating Convergence Indicator	104526	March, 1966
5.	Singh, B	Remote Indicating hydraulic load cell using electrical resistance	104527	March, 1966
		strain gauges		
6.	Singh, B	Vernier type convergence indicator.	104864	April, 1966
7.	Singh, B	Clamp type friction prop with two hinges.	106322	July, 1966
8.		Clamp type friction prop with two hinges.	106323	July, 1966
9.	Singh, B	Improved wedge and split type roof bolt.	107830	November 1966

# **ABROAD**

1.	Sinha, K. N	First International Congress on Rock	Lab oratorio National de	October, 1966
		Mechanics	Enginharia Civil Avenida	
			do Brazil Lisbon	
			Portugal 25 September	
2.	Sinha, K, N & Singh, B	Instrumentation for the		
		Measurement of Load on		
		underground Supports		
3.	Sinha, K, N	International Conference on Mine	Study on Mine Fires in	October, 1966
		fire Scientific coal Research Institute	India	
		in Ostrava Radvanice Chief Mine		
		Rescue Station in Ostrava Radvanice		
		Czechoslovakia		

### CMRS Pblicatio – 1967

### **Patents**

1.	Singh, B & Saxena, N, C	Friction Prop	100489	May, 1967
2.	Sheorey, P R & Singh, B	Lever Roller Extensometer.	1004525	September, 1967
3.	Singh, B	A Direct Indicating Load Cell.	101629	October, 1967
4.	Singh, B	An electrical load on roof bolts.	101715	October, 1967

5.	Singh, B	A load cell for measuring loads.	101716	October, 1967
6.	Singh, B	A load cell for measuring loads.	101717	October, 1967
7.	Singh, B, & Saxena, N, C	A friction prop.	102480	October, 1967
8.	Singh, B.	Load cell for roof bolts.	102603	October, 1967

**ABROAD - 1967** 

1.		Colliery Guardian	London	
2.	Sinha, K, N & Singh, B	Coal Mining in India		
3.		Chemistry and Industry	London	
4.	Gosh, A, K, Rajwar, D, P	A Micro-Methods for Rapid testing		
	& Bhattacharya, D	of Catalysts for the Oxidation of		
		Combustible gases		

# CMRS,Publication – 1968 PATENTS

1.	Gupta, R, N & Singh, B	Remote Indicating hydraulic Load Cell.	104524	March, 1968
2.	Gupta, R, N & Singh, B	Remote Indicating Convergence Indicator Convergence Indicator.	104526	March, 1968
3.	Gupta, R, N & Singh, B	Remote Indicating hydraulic Load Cell.	102527	March, 1968
4.	Pandey, P, & Singh, B	Convergence Indicator.	104864	April, 1968
5.	Singh, B, & Saxena, N, C	Clamp-type Friction Prop with One Hinge.	106322	May, 1968
6.	Singh, B, & Saxena, N, C	Clamp-type Friction Prop with Two Hinges.	106323	May, 1968
7.	Sarkar, P, G, Tarafdar, G, L, Narayanan, B, Ghara, & Pillai, V, R.	Electrical Relay Tester.	113744	March, 1968
8.	Sarkar, P, G, Tarafdar, G, L, Narayanan, B, Ghara, & Pillai, V, R.	Cable Fault Locator	113745	Marc, 1968
9.	Kaiser, K, M, Gupta, M, L, & Samaddar, N, M.	Mine Ventilation Slide Rule.	114541	June, 1968
10.	Chakravorty, T, K, Sengupta, & Sinha, J, K.	Steel Wire for Rope Manufacture Applying the Material.	115536	June, 1968

**ABROAD 1968** 

1.	Sinha, K, N	Some Aspects of the Problems. of	Mining & Safety Japan	Vol. 14. No, 1
		Mine Fire in India		
2.	Ghosh, A, K, & Banerjee,	Use of the Carbon Hydrogen Ratio	Mining & Safety Japan	Vol. 14. No, 1
	B, D.	as an Index in the Investigation of	-	

		Explosion and Underground Fires.		
•	1		1	
	(India)			
1.	Chatterjee, B, N.	Wear in Stowing Ranges A Survey.	Metals and minerals Review, Calcutta	February, 1968, Vol. VII, No. 3
2.	Pandey, P, & Singh, B.	A review of Research Work on the Stress in and the Strength of Mine pillars in relation to pillar Design in Level Strata Part, 1	Metals and minerals Review	
3.	Chakravorty, R, P & Sengupta, T, K.	The Influence of Decarburization on the Properties of Winding Rope Wires.	Metals and Minerals Review	April,1968 Vol. VII No. 5
4.	Pandey, P, & Singh, B.	A Review of Research Work on the Stress in and the Strength of mine Pillars in relation to pillar Design in Level Strata – Part, II	Metals and Minerals Review	April, 1968 Vol. VII No, 5
5.	Sinha, J, K.	Detection of Spontaneous Heating of Combustion Products.	Metals and Minerals Review	April, 1968 Vol. VII No. 5
6.	Dutta, S, K & Singh, B.	Stress Measurement in Mines Part I	Metals and Minerals Review	May, 1968, Vol. VII No. 6
7.	Ghosh, J, C & Sengupta, , K	Metallographic Interpretation of Defects and Failures in Mining Components.	Metals and Minerals Review	May, 1968 Vol. VII No. 6
8.	Dutta, S, K & Singh, B	Stress Measurement in Mines Part II	Metals and minerals Review	June, 1968 Vol. VII No. 7
9.	Singh, J, K	Methods of Tensile Strength Determination of Brittle Materials.	Metals and minerals Review	July, 1968 Vol. VII No. 8
10.	Ghosh, Dastidar, A, B	Design and Calculation of Hydraulic Stowing Installation.	Metals and minerals Review	July, 1968 Vol. VII No. 8
11.	Jain, C K & Sinha, J K	Fatigue in Wire Ropes	Metals and Minerals Review	Vol. VII, No. 8, July, 1968
12.	Kumar, R & Singh, B	Shaft Plumbing in Subsidence Investigations	Metals and minerals Review	Vol. VII, No. 9, August, 1968
13.	Verma B P Raju, N M, & singh, B	Recent Developments in the rock Bolting Techniques	Metals and minerals Review	Vol. VII, No. 9, August, 1968
14.	Dhar, A	Mining in Japan	Metals and minerals Review	Vol. VII, No. 9, August, 1968
15.	Barat, D Mozumder, & Singh, B	Strength in Situ	Metals and minerals Review	Vol. VII, No. 10, September, 1968
16.	Datey, U W Prasad, A S,	Study of production Organization in	Metals and minerals	Vol. VII, No.

	Singh, S R & Tetarbai, B B P.	a Colliery	Review	10, September, 1968
17.	Dasgupta, A Tarfdar, , M N & Roy, P R	Study of Rock Drilling in Jharia Coalfield	Metals and minerals Review	Vol. VII, No. 11, October, 1968
18.	Singh, R Singh, H C, & Chakravorty, R N	Studies in the Self-heating in Coal Stacks	Metals and minerals Review	Vol. VII, No. 12, November, 1968
19.	Manda, A k & Sinha, J K	Design of Intrinsically Safe Apparatus	Metals and minerals Review	Vol. VIII, No. 1, December, 1968
20.	Sarkar, B D	A Study of the Density of Coal form Some Seams of Jharia Coalfield	Metals and minerals Review	Vol. VIII, No. 1, December, 1968
21.	Sao, N L Roy, P R & Sinha, J K	Ultrasonic Non destructive Testing of Winding Gear in Collieries	Metals and Minerals Review	Vol. VIII, No. 3, February, 1969
22.	Roy, P R & Sinha, J K	Standardization in Mining Industry	Metals and Minerals Review	Vol. VIII, No. 4, March, 1969

#### **PATENTS, 1969**

1.	Singh, B.	A Device for the Measurement of	98143
		Displacement Between Two Points.	
2.	Singh, B, & Verma, B, P	Modified Expansion Shell- type Roof Bolt.	104389
3.	Verma, B, P	Improved Wedge and Roof Split type Roof	107830
		bolt.	
4.	Ghosh, A, K & Banerjee, N, N	Sulphide Detector Tube	110409
5.	Sarkar P, G Tarafdar, R N,	Electrical relay Tester.	113744
	Ghara, B, Laxminarayana, &		
	Pillai, V, R		
6.	Tarafdar, R N, Sarkar P, G,	Cable Fault Locator.	113745
	Ghara, B, Pillai, V, R		
	Laxminarayana, &		

# Papers Published 1969

# **ABROD**

1.	Raju, N, M Singh, B &	Roof Bolting – An Effective System of	Canadian Institute of	March, 1969
	Sinha, K, N	Support in an Indian Coal Mine.	Mining and Metallurgical	
			Bulletin	

<u>Indian</u>

	<u>indian</u>	T =	T = - ·	
1.	Barman, B, K & Singh, B.	Some Aspects of Roof Bolting Practice.	Metals and Minerals Review	April, 1969
_	D : N M			A 1000
2.	Raju, N, M	Measurement of Longitudinal Wave	Metals and Minerals	August, 1969
		Velocity by Pulse Technique	Review	
3.	Sinha, J, K	A review of Methods for	Metals and Minerals	August, 1969
		Determination of Dust in Lungs.	Review	
4.	Shorey, P, R & Singh, B	The Influence of Eng Constraint on	Metals and Minerals	September,
		Rocks Under Uniaxial Compression.	Review	1969
5.	Sao, N L Roy, P, R &	Radiographic Practice in Mining	Metals and Minerals	November, 1969
	Sinha, J, K	Industry.	Review	
6.	Ali, S, V & Raju, N, M	Investigation into the Use of	Metals and Minerals	November, 1969
	,,,,,	Recoverable Wedge type roof Bolts	Review	
		Mechanised Coal Mine.		
7.	Ali, S, V & Singh, B	Evolution of Coal Ploughs.	Metals and Minerals	December, 1969
' ·	Till, S, V & Siligh, B	Evolution of Court loughs.	Review	December, 1909
8.	Golay,M S & Dutta, K, K	Water to do When Dhygieign not	Metals and Minerals	December, 1969
0.	Golay, W S & Dulla, K, K	Water to do When Physician not		December, 1969
	D . II W	Available.	Review	) f 1 10 60
9.	Datey, U, W.	Pumping in Indian Coal Mines	Journal of Mines Metals	March, 1969
			& Fuels, (Calcutta)	
10.	Sarkar, B, P & Mukherjee,	Trend of Dust Spraying in Indian	Journal of Mines Metals	April, 1969
	K, P.	Coal Mines.	& Fuels, (Calcutta)	
11.	Sarkar, B, P Gupta, A, &	Corrosion Study in Indian Coal	Journal of Mines Metals	August, 1969
	Mukherjee, K, P.	Mines.	& Fuels, (Calcutta)	
12.	Dube, A, K, & Singh, B.	Determination of tensile Strength of	Journal of Mines Metals	September,
	, , , , , , , , , , , , , , , , , , , ,	Rocks by Disc test Method.	& Fuels, (Calcutta)	1969
13.	Ghosh, S, K, &	Comparison of Some Soda lime	Journal of Mines Metals	November, 1969
13.	Chakraborty, M, K.	Preparation for Suitability of Use in	& Fuels, (Calcutta)	1,0,0,0,0,0,0
	Chakiaborty, Wi, IX.	Breathing Apparatus	careatta)	
14.	Ali, Hussain	Mine Air Analysis A Study	The New Sketch,	2, June, 1969
14.	All, Hussalli	Wille All Allarysis A Study	· · · · · · · · · · · · · · · · · · ·	2, June, 1969
1.5	D: MM 0 C: 1 D		Dhanbad	10 T
15.	Raju, N M & Singh, B	A New Method of Grouting Roof		19, January,
		Bolts for Roof Support	Dhanbad	1970
16.	Sinha, K N	A Study of Problems of Mine Fires	The New Sketch,	16, January,
			Dhanbad	1970
17.	Singh, B	Human Aspect in Mine Safety	The New Sketch,	26, January,
<u></u>			Dhanbad	1970
18.	Sarkar, S K	Small Scale Industries in the Jharia	The New Sketch,	16, February,
		Reneging Coal Belt A Study of	Dhanbad	1970
		Techno-economic Feasi bility		
19.	Barat, D Mazumdar, S &	Simple laboratory Methods for the	Journal of Institution of	November, 1969
17.	Singh, B	Assessment of Coal Strenght	Engineers, Calcutta	
20.	Raju, N M & Singh, B	i	Journal of Institution of	November, 1969
40.	Kaju, N W & Siligii, D	Roof bolting and Crushing Strength		November, 1969
		Investigations at S Group of	Engineers, Calcutta	
	D: MACOC: 15	Collieries	T 1 0 T 1 0 T	NT 1 10.00
21.	Raju, N M & Singh, B	Roof Bolting Investigation in	Journal of Institution of	November, 1969

		Mechanized Mines of S Collieries	Engineers, Calcutta	
22.	Sinha, K N &	A Comparative Study of Drift and	Journal of Institution of	November, 1969
	Ramaswamy, T	Borehole Stowing at S Collieries	Engineers, Calcutta	
23.	Golay, M S	The Medical Technologist	Your Health, Calcutta	May, 1969
24.	Golay, M S	Drinking and Health	Your Health, Calcutta	August, 1969
25.	Golay, M S	Some Important Relations of Man and Machine	Indian Industries, Madras	July, August, 1969
26.	Goswami, S C	Dust Problems Under Diverse	Indian Journal of	April, 1969
	gopalkrishnan, N	Occupational Situation	Industrial Medicine,	
	Mukherjee, R N &		Calcutta	
	Chakraborty, M K			
27.	Golay, M S	Evolution of Red Cell Count	Indian Medical Journal,	August, 1969
			Calcutta	
28.	Dhar, A	Mining of Iron Ore in Sweden	The Indian Mining &	January, Feb,
			Engineering Journal,	1969
			Bombay	
29.	Singh, B	Mining Research as an Aid to	Invention and	June, 1969
		Subsidence	Intelligence,	
			New Delhi	
30.	Sinha, K N	Research for industrial Development	Hindustan Standard,	18, March, 1970
			Calcutta	

# CMRS, Publication – 1970

# **PATENTS**

1.	Gupta, R, N. Singh, B, &	A Hydraulic Prop Incorporating	124951	21/01/1970
	Sinha, K, N.	Load Indicating Device		
2.	Singh, B & Verma, B, P.	Modified Expansion Shell-type roof	104389	21/02/1969
	_	Bolt		
3.	Sarkar, & Tarafder, B	Electrical Relay tester.	113744	02/8/1969
	Ghara, G			

	Lakshiminarayanan &			
	Pillai, V, R.			
4.	Tarafder, R, N Sarkar, P,	Cable Fault Locator.	113745	22/09/1969
	G, Ghara, V, R Pillai, &			
	Lakshminarayanan, G			
5.	Singh, B, & Saxena, N, C.	Friction Prop.	102480	12/11/1970
6.	Singh, B	Electrical Roof bolt Load Cell ( M-	102603	22/111970
		section)		

# <u>Papers Publication – 1970</u>

(ABROAD)

1.	Sheorey, P, R.	Effect of Specimen Size on	International Journal of	February, 1970
		Compressive Strength of Coal	Rock Mechanics and	
			Mining Sciences	
2.	Ramanathan, S.	Flameproof and Intrinsically Safe	Mining Technology	May, 1970
		Electrical Equipment.	(U K)	
3.	Sinha, K, N & Singh, B.	Trend of Investigations of Mining in	International Mining	June, 1970
	-	India.	Congress	
4.	Banerjee, S, C Banerjee, B,	Rate Studies of Aerial Oxidation of	Fuel, (U K)	July, 1970
	D & Chakravorty, R, N	coal at Low Temperature.		-

# <u>INDIAN</u>

1.	Ramaswamy, T, Sarkar, S,	Can Our Existing Lab our Set- up	Mining Magazine	Vol. 2
	K & Singh, B	Cope with Intensive Mechanist ion in Mining	(Varanasi)	1970
2.	Datey, U, W	Do Indian Collieries Need Mechanizations	Mining Magazine	Vol. 2, 1970
3.	Sarkar, S, K & Singh, B	Index of Concentration on Faces a Measure of the Success of Long wall Mechanization in India	Mining Magazine	Vol. 2, 1970
4.	Ali, S, V & Singh, B.	Evolution of Coal Ploughs	Mining Magazine	Vol. 2, 1970
5.	Baliga, B, D	High Speed Driving of Roadway in Russian Mines and Its Economics	Mining Magazine	Vol. 2 1970
6.	Saxena, N, C & Singh, B	Anderton shearer in Curved and Stowed Long wall Faces in India	Mining Magazine	Vol. 2 1970
7.	Raju, N, M. & Singh, B	A Comparative Study of the Mechanised and Conventional Methods of Working in a Group of Collieries.	Mining Magazine	Vol. 2 1970
8.	Raju, N, M & Singh, B	Roof Control in Mechanised Mines in India	Mining Magazine	Vol. 2, 1970
9.	Singh, T, N & Singh, B.	Strata Control with High rate of Face Advance	Mining Magazine	Vol. 2, 1970

10.	Ramaswamy, & Singh, B	The Importance of Prodetermination of Subsidence Effects with Mechanised Caving Methods of Working	Mining Magazine	Vol. 2, 1970
11.	Ali, S, V & Raju, N, M	Investigation on the Use of Recoverable Wedge – type Roof Bolts During Splitting Operations in a Mechanised Coal Mine	Mining Magazine	Vol. 2, 1970
12.	Thakur, D, N & Singh, V	Secondary Breaking of Rocks in Mechanised opencast mine	Mining Magazine	Vol. 2, 1970
13.	Sheorey, P, R. & Singh, B	Some recent pillar Design Formulae and their Applicability to Indian Coal Mines	Journal of Mines Metals & Fuels, (Calcutta)	February, 1970
14.	Thakur, D, N	Design of Benches in Mechanised Opencast Mines	Journal of Mines Metals & Fuels	May, 1970
15.	Datey, U, W	Organisation and Productivity	Journal of Mines Metals & Fuels	June, 1970
16.	Datey, U, W	Coal Loading at Faces in Indian Coal Mines	Journal of Mines Metals & Fuels	June, 1970
17.	Ajai,	Operational Research	Journal of Mines Metals & Fuels	June, 1970
18.	Gupta, R, N & Singh, B	Design and Performance of Spiral Chute Installations in India and Abroad	Journal of Mines Metals & Fuels	July, 1970
19.	Bandyopadaya, M & Chakraborty, M, K	A Mathematical Model for Measuring Mass/Number Index of reparable Airborne Coal Dust	Journal of Mines Metals & Fuels	July, 1970
20.	Rajwar, D, P Ghosh, S, K & Ghosh, A, k	Use of CO Detector Tubes Developed at Central Mining Research Station Dhanbad for the Estimation of Very Low Concentration of the Gas.	Journal of Mines Metals & Fuels	September, 1970
21.	Sinha, B, Raju, N, M & Singh, B.	Use of Seismitron Amplifier to Determine Stability of Mine Workings in India	Journal of Mines Metals & Fuels	September, 1970
22.	Roy, P, R Tarafdar, M, N	Corrosion in Mine Wire Ropes	Journal of Mines Metals & Fuels	November, 1970
23.	Singh, T, N & Singh, B.	Load and Convergence Measurement in Worked Out Areas in Mines A Critical Review	Journal of Mines Metals & Fuels	January, 1971

# **CMRS Publication – 1971**

### **PATENTS**

1.	Nigam, U, S & Kumar, T,	An apparatus for Testing the	133209	12/10/1971
	S	Mechanical Strength of glass shells		

		of finished Miniature electric bulbs		
		of miners cap lamps.		
2.	Acharya, K, K	A Design of Gas detector feeder.	133309	22/10/1971
3.	Bagchi, A.	A Process for the Preparation of	133329	23/10/1971
		Hydrocarbon vapour detector tube		
		(petroleum hydrocarbon)		
4.	Verma, B, P Raju, n, M &	A New Method of Grouting Roof	133631	16/11/1971
	Singh, B	Bolts.		
5.	Dutt, A, K Tarafder, M, N	Automatic lubricator for winding	122718	23/4/1971
	& Roy, P, R	wire ropes in service.		
6.	Gupta, R, N Singh, B, &	A Hydraulic Prop Incorporating a	124951	21/10/1971
	Sinha, k, N	load Indicating device.		

# <u>Papers Publication – 1971</u>

(ABROAD)

1.	Bhaduri, B, P &	Complex metric Determination of	Metallurgy & Metal	October, 1971
	Jayprakash, k, C	Copper and Nickel in Cu-Ni Alloys	Forming, (Lodon)	

# (INDIA)

1.	Dhar, A	Mass Communication for Development of Mining Community.	Hindustan Standard (Calcutta)	November, 1971
2.	Banerjee, P, K 7 Kumar, T, S	Photography and Communication	Hindustan Standard	December, 1971
3.	Chaudhuri, A, K	Mineral Industry in Bihar.	The New Sketch, Dhanbad	19 April, 1971
4.	Bandyopadhyay, K, L	Bauxite	The New Sketch	24 May, 1971
5.	Chaudhuri, A, K	Progress of Coal Mining in India	The New Sketch	21, June, 1971
6.	Sinha, I,	Economic Aspect of Blasting Technique with Special Reference to Opencast mines	The New Sketch	24,January, 1972
7.	Dhar, A.	Mass Communication in the Mining Industry.	The New Sketch	14,February, 1972
8.	Ghosh, S, K, Rajwar, D, P	Use of gas Chromatography in Mining Industry.	Metals & Minerals Review, (Calcutta)	April, 1971
9.	Banerjee, S, C & Chakraborty, R, N	Studies on the Peroxy Complex in Coal	Metals & Minerals Review,	May, 1971
10.	Sarkar, S, k & Mandal, K, N.	Pneumatic Sinking Hazards and Safety Measures	Metals & Minerals Review	May, 1971
11.	Chetty, B, A.	Switching Circuits in Mining Electrical Equipment.	Metals & Minerals Review	August, 1971
12.	Dey, N, G	Explosion hazard During Testing for Continuity of Detonators.	Metals & Minerals Review	August, 1971

13.	Chetty, b, A.	Transducers in mining Industry.	Metals & Minerals	September,
			Review	1971
14.	Dube, A, K & Singh, B.	Bending of a Rock Beam.	Metals & Minerals	September,
			Review	1971
15.	Mukherjee, K, P Samanta,	Strata Control Observations at a	Journal of Mines Metals	April, 1971
	S, & Singh, B.	Longwall Face in Jharia Coalfield.	& Fuels	
16.	Bandyopadhyay, M	Dimensions of a Gravimetric Coal	Journal of Mines Metals	May, 1971
	Chakraborty, M, K.	Dust Collecting Sampler.	& Fuels	
17.	Dutta, P, K	A review of Research work on the	Journal of Mines Metals	June, 1971
		Principles of Percussive Drilling.	& Fuels	
18.	Mukherjee, K, P Sarkar, B.	Studies in Some Physico-Chemical	Journal of Mines Metals	July, 1971
		Properties of Indian Magnet ties.	& Fuels	
19.	Ali, S, V.	An investigation into the Pillar	Journal of Mines Metals	October, 1971
		Splitting as Final Operation.	& Fuels	
20.	Dube, A, K & Singh, B.	Effect of Humidity on Tensile	Journal of Mines Metals	January, 1972
		Strength of Sandstone.	& Fuels	
21.	Nady, D, K Banerjee, D, D	Application of Crossing Point	Journal of Mines Metals	February, 1972
	& Chakravorty, R, N	Temperature for Determining the	& Fuels	
		Spontaneous Heating Characteristics		
		of Coals.		
22.	Ali, S, V; Raju, N, M &	Some Aspects of Armstrong Air	Indian Mining &	June, 1972
	Singh, B.	Breaker.	Engineering Journal	