

Wolff

COAL AGE

With Which is Consolidated "The Colliery Engineer" and "Mines and Minerals"

DEVOTED TO THE OPERATING, TECHNICAL
AND BUSINESS PROBLEMS OF THE
COAL-MINING INDUSTRY

~~10.557/III~~
CW

ISSUED MONTHLY



VOLUME XXXII

July 1 to December 31, 1927



N 5h

McGRAW-HILL PUBLISHING COMPANY, INC.
10th AVE. AT 36th ST.
NEW YORK

2364



P.375/27/II



COAL AGE

With Which is Consolidated
The "Colliery Engineer" and "Mines and Minerals"



INDEX TO VOLUME XXXII

July 1 to December 31, 1927

NOTE—The articles and references in this index have been classified under leading subjects or topics, as far as practicable, and should be sought under such heads, which together with all unclassified matter are arranged alphabetically. Illustrated articles or cuts standing by themselves are indicated by an asterisk (*). All editorials appear under that subject, each having its exact title. Elsewhere the subject matter of an editorial will be found classified and marked (e). Many titles of articles are abbreviated, the aim being to give prominence to important words. Book reviews are indicated by (†).

Following is a list of the pages included in each issue of the volume, together with date and number of the issue, for convenience or reference:

No.	Pp.
July 1	1-62
Aug. 2	63-118
Sept. 3	119-178
Oct. 4	179-238
Nov. 5	239-308
Dec. 6	309-368

A

	Page
Acidproof pump parts	305
Accidents. See also Fatalities	
—Can they be prevented? Cameron	142
—Decrease in W. Va.	317
—Great Britain	329
Agoma Coal & Coke Co.	
—Dry cleaning	351
Ambulance, Mine car converted into	*110
American Rolling Mill Co.	
—Motor barn	*359
Animals in soft coal mines in 1924	*85
Anthracite	
—Awake, Anthracite. Warriner	76
—Charts a new course. Buchanan	9
—Crushing roll tendencies. Duck	*146
—Effects of strike	297
—Is anthracite fully awake (e)	215
—Mt. Carmel convention—Program, 301; Meeting	354
—Production. See "Production"	283
—Research (e)	225
—Shipments	225
—Turns to automatic control. Jennings	*129
Armature binding wire, Tension on	*171
Armature trouble due to carelessness	171
Associated Companies, The	
—Why they left coal field. Arnold	143
Associations and Institutes	
—Amer. Inst. Min. & Metall. Engrs.—G. O. Smith nominated	296
—American Mining Congress—Defers plans for 1928, 161; Program annual meeting	301, 350
—British Empire Mining and Metallurgical Congress	162
—Engineers' Society Northeastern Pa., meeting, 223, 294; Papers	315
—Engineers' Society Western Pa.—Meeting, 297; Papers	*325
—Harlan County Coal Operators—Annual meeting	350
—Illinois Mining Inst.—Summer meeting, 23; Annual meeting	351
—Insurance Commissioners, Natl. convention	220
—Kanawha Coal Operators' Assn., annual meeting	301
—Mt. Carmel meeting—Program, 301; Meeting	354
—Natl. Assn. Purchasing Agents—Coal stocks	107
—National Coal Assn.—Looking forward. Mahan	6
—National Fuels Conference	221, 299
—National Safety Council Meeting and papers	205
—Operators' Assn. of Williamson Field, annual meeting	300
—Rocky Mountain Coal Mining Inst. Meeting	158

	Page
Associations and Institutes—Cont'd	
—Second Empire Mining and Metallurgical Congress	208
—Southern Appalachian Coal Operators—Meeting	355
Augers, Welding coal	*114

B

Badges for experts in first-aid work	*229
Bags of special fabric, powder	235
Ballast for roadbeds, Use of "rash" (e)	96
Banker looks at coal mining. Sisson	7
Barn track layout for individual stalls, Motor	*359
Barn, underground locomotive	*114
Baths, Electrical heating applied to	358
Bearing lubrication	*306, *368
Bearings carry heavy loads, Largest roller	*237
Bearings improve conveyor rolls, Antifriction	*174
Bell & Zoller Coal & Mining Co.	
—Payroll analysis. Weir	37
—Remote hoist control speeds caging	*170
—Docking table costs little	*172
—Tapered column pliers always neat	*172
—Dispatching at Zeigler No. 1. Kneeland	*196
—Counter keeps hoist tally	*229
Belt drive, Texrope	178
Belt, right pulley for rubber	*56
Belting, worn, stored for future use	276
Berwind-White Coal Mg. Co.	
—Haulage. Enzian	*91
Bethlehem Mines Corp.	
—Rescue plans and precautions	*198
Bituminous	
—Can industry avoid federal regulation? Jones	189
—Production. See "Production."	
—Stabilizing industry. Jones	24
—Stocks	161, 353
Blacksmith forge	*306
Blasting. See also "Explosives"	
—Controlled blasting insures coal quality. Wagner	315
—Pittsburgh Coal Co. mines	*256
—Premature shotfiring averted by new control system	*230
Boilers, Picking table refuse used under	313
Bonding of d.c. distribution system, Lack of	*360
Book Review—History of explosive industry in America	173
Borehole suspension 220-volt line	*52
Boreholes cased by unique method, Deep	*361
Bosses Talk It Over	
—Too many bosses 44, 99, 100, 101, 158, 218	
—Developing ahead 98, 99, 100, 101, 157, 217	
—Safety	156, 219, 293
—Loading dirty coal	216, 291, 292
—Standardized mine layout	290, 349
—Repair costs	348
Brake control, Mine hoist	*365
Brasses, Casting locomotive journal	*358
Briquetting—Saskatchewan lignite. Galloway	*153
Buckeye Coal Co.	
—Dispatching at Nemaquin. Gates and Brosky	*65
—Warped mine car put in shape	*108
—Mine rail carrier	*110
—Welding coal augers	*114
—Hook hitching for coupling	*228
—Steel canopy protects spooling device	*231
—Rivet heater and pneumatic hammer	*231
Budget costs. Crockett	95
Bulletin board	*51
Bureau of Mines	
—Exit the mule. Rogers	*84
—Fatalities	47, 105

	Page
Bureau of Mines—Cont'd	
—Pittsburgh experiment station's new superintendent	103
—Stocks, coal	161, 353
Burner, Equitable distribution stamps coal	*117

C

Cable fed to reel by spooling device	*113
Cable, single and double conductor	*271
Cable suspension	*50
Canada	
—Lignites of Saskatchewan. Galloway	*152
—Undersea coal production	208
Carbide container, Safety	234
Cars	
—Automatic cut-off uncouples mine cars	*58
—Cost of neglect—a fable. Long	*140
—Coupling, Hook hitching for	*228
—Dump, Rolling car	*234
—Mine car converted into ambulance	*110
—Mine-car dump for refuse disposal	*308
—Warped mine car pulled back into shape	*108
Chain drive improved	*238
Chain, Rivetless	*61
Check hook	*57
Chicago, Wilmington & Franklin Coal Co.	
—Main bottom at New Orient lighted without glare	*56
China—Linsit mines	209
Christmas seals	352
Clevis, Safety rope	*359
Coal Age—New monthly (e)	1
Coal Age News	160
Coal	
—Control oil to protect coal. Hammond	14
—Loading dirty coal—letters 216, 291, 292	
—Prices. See "Prices."	
—Processing. McBride	*193, *322
—Processing. Porter	*39
—Production. See "Production."	
—Pulverized burned under marine boilers	104
—Selling right coal to right buyer. Tate	139
—Source of energy, premier. Smith	18
—Stocks. See "Stocks."	
Coal Industry	
—Analysis coal situation. Polakov	*30
—Federal regulation be avoided? Jones	189
—Proposal for stabilizing bituminous. Jones	24
Coke and Coking	
—Markets for coke	323
—Prices	357
—Where coke-oven products go	323
Colonial Colliery Co.	
—Trolley wire mishaps prevented	*172
Colorado Fuel & Iron Co.	
—Safety by foresight. McAllister	*330
Colorado	
—Governor urges strike settlement	350
—Strike, 296, 350; Editorials	288, 346
—Wage advance blocks I. W. W.	220
Compensation. See also Insurance	
—Insurance (e)	154
—Insurance. Hall	*184
—National Convention Insurance Commissioners	220
Compressor moved without mishap	*232
Consolidation Coal Co.	
—Automatic cut-off for rope haulage	*58
—Longwall at mine No. 153. Abram	*68
—Trolley-wire mishaps prevented	*172
Consumers Mining Co.	
—Safety sentry forbids matches	*54
—Underground motor barn	*114
—Hoisting at Hamar mine	*227

Consumption Page

- Anthracite 35
- Average annual, coal, U. S. 30
- Bituminous by central electric power plants, charted ..48, 106, 164, 224, 302, 356
- Bituminous, by industries *195, 353
- Industrial and retail coal yards 161
- Public utilities, U. S. 65
- Steam railroads, charted ..48, 106, 164, 224, 302, 356

Conveyors. See also "Mining Methods"

- Belt conveyors at Palmer mine of Frick Coke Co. *325
- Longwall with conveyors, Abram... *68
- Oiler aids conveyor lubrication *113
- Shaking conveyors, Hall 333
- Shed, galvanized steel sheets *118
- Speed development at Pittsburgh Coal Co. mines, Gray *258

Co-operation produces results, Lambie 321
 Coronado Coal Co.—Court decision... 294

Costs

- Explosion costs 78
- Only by knowing exact costs can managers succeed (e) 347
- Timber 320

Coupling, Misalignment corrected by... *62
 Coupling safety, Hook hitching promotes *228
 Coupling, Tension sleeve *236
 Couplings, Insulating mine-car *171

Courts

- Coronado case settled 294
- Decision on valuation of P. & R. C. & I. Co. coal lands 47
- West Virginia injunction against Union upheld 294

Crane, 10-ton trolley-type *108
 Crushing rolls. See "Preparation."

Cutters, Coal—Automatic water supply allays cutter dust *308

D

Davis Coal & Coke Co.

- Emergency boxes for rescue teams *58
- Depletion—how to figure it, Kennedy 149
- Depreciation, Kennedy 211
- Dexter Portland Cement Co.
- Roller bearings for heavy loads ... *237
- Dispatching gets results at Nemaquin. Gates and Brosky *65
- Dispatching in Illinois, Kneeland ... *196
- Docking table costs little *172
- Drawings, Preservation and filing of shop *362

Drills and Drilling

- Pittsburgh Coal Co. 255
- Sticking prevented by rear-end rotation *368
- Universal electric drill *178

Duckbills at Pittsburgh Coal Co. mines 259
 Duckbills, Edwards *131
 Dump, Mine-car *308
 Dump, Saxon *286
 Dumper, Rolling car *234
 Dumpings, Lake 357

Dust. See also "Rock Dust"

- Dust, Automatic water supply allays cutter *308

Duvin Coal Co.

- Saves 6c. per ton on power costs, Edwards *312

Dynamometer car *20

E

Ebensburg exposition 59

Editorials

- Anthracite fully awake or partly so? 215
- Censure, Says we are tardy in 155
- Commerce commission in a dilemma 96
- Continuity of operation 215
- Cost of idleness in terms of rent ... 346
- District heating 96
- Drillers lose water 97
- Era, A new 1
- Forecasts help 42
- Good roads a factor 97
- Ideas, Original 42
- Lumber, Country uses less 155
- Market, Time to guard against runaway 154
- Mechanization 42
- Mechanization requires persistent supervision 214
- Modern methods by company stores? 347
- Next year's safety program 346
- Not risk but rate makes companies withdraw 154
- Only by knowing exact costs can managers succeed 347
- Peace in Colorado 346
- Pittsburgh Coal Co.'s reorganization plans 288

Editorials—Cont'd

- Playgrounds, Use of 43
- Prize—No more panaceas 289
- Research, not rhetoric, hope of anthracite 288
- Rockefeller plan failed in Colorado? 288
- Safety—a major consideration 119
- Safety day only a start 214
- Statistics can aid stabilization 154
- Use of "rash" as ballast 96
- What's on the mind of the man who quits? 214
- Who won the war? 347

Education and Training

- First aid training, Bannister *133
- Foremen's training conferences, Mosier 205

Efficiency through payroll analysis, Weir 37

Electricity. See also "Equipment Electrical," "Power"

- At working face, Kneeland *125
- Pittsburgh Coal Co. mines, Kneeland *269
- Remote control, Automatic *111
- Resistance formula, aid in determining 55
- Voltage used in mechanization No. 8 Union Pacific mine *228

Elevator in warehouse, Portable *308

Equipment, Air

- Compressor, Movable air *308
- Compressors moved without mishap. *232
- Shovel operates on compressed air. *364

Equipment, Electrical

- Across-line starters fit any motor .. *174
- Arrester, Low-voltage 365
- Bath water heated by electricity ... 358
- Battery changing device *117
- Blower, Portable electric *367
- Bonding d.c. system, Lack of *360
- Connector, cord-grip locking 175
- Connectors, Spring-c *226
- Current-measuring *238
- Drill, Universal electric *173
- Electrode holder, metal *178
- Float switch to control line conductors *178
- Handsaw, electric *116
- Indicator, Phase-sequence *62
- Lid lifter for battery box *174
- Meters, two types of watthour *177
- Motors, drying water-soaked *114
- Motors, fan-drive, Pittsburgh Coal Co. *277
- Motors, induction *177
- Portable a.c. instrument *366
- Push-button control for small motors *367
- Push-button starter *235
- Relay, step-back *60
- Sand drier, Electric *361
- "Self-standing" control unit *228
- Solenoids for a.c. and d.c. *236
- Starter reset prevented by lockout. *359
- Speed reducer for multi-service work *364
- Storage battery, Spun glass mat features *365
- Switch, small and cheap magnetic. *177
- Synchronous motor, low speed *238
- Transformers, A. C. operation of signals by home-made *167
- Voltage tester *176

Europe wrong or are we? Pierce ... *203

Explosives. See also "Blasting"

- History in America *173
- Permissible powder used exclusively at C. F. & I. Co. 331
- Results of testing explosives 316

Exports. See "Trade and Commerce."

F

Fans and Blowers.

- Emergency fan drive takes load automatically, Gealy *181
- Fan-drive motors at Pittsburgh Coal Co. *277
- Number automatically controlled electric mine fans 129
- Portable electric blower *367
- Pressure gage indicated main air-course cave *169
- Sunlit fan-house at Chandler mine. *232
- Whistle, automatic fan *332

Fatalities

- Causes and states 105
- European countries 206
- United States 47, 206

Financial

- Banker looks at coal mining, Sisson 7
- Depletion—how to figure it, Kennedy 149
- Depreciation, Kennedy 211

First Aid and Mine Rescue Page

- Emergency boxes for rescue teams.. *58
- Phelps-Dodge Corp., first aid work. *229
- Rescue plans of Bethlehem Mines Corp. *198
- Training, First-aid, Bannister *133
- West Va. safety day meet *222

Florida Portland Cement Co.

- Rolling car dump *234

Flotation and hindered settlement clean coal, Docquier, Batalle and Bettleson 209

Foot-guard rectifier *168
 Fordson Coal Co.

- Automatic remote control *111
- Forecasts help (e) 42
- Foreman's training conferences, Mosier 205

Freight Rates

- Illinois-Kentucky rates revised 160
- Lake cargo, 102, 160; Editorials ... 96

Frick Coke Co., H. C.

- Palmer dock conveyor, Auld *325
- Fritz, John, gold medal awarded 294
- Frog-filler, iron *231
- Fuse has only three loose parts, Renewable 236

G

Gallup American Coal Co.

- Safety methods 159

Gas—Coal gas and water gas plants compared 322

Gates reduce slope accidents, Hinged.. *231
 Gears, split *110

Germany

- Comes back, Jungst *340
- Hagenbeck colliery *204
- KSG plant *40
- Mathias Stinnes Colliery *203

Glen Alden Coal Co.

- Shaking conveyors at Storrs colliery 334

Government—Can bituminous industry avoid federal regulation? Jones.. 189

Great Britain

- Cairo, emp' s and death rates at mines *324
- Trades union act 46

Grand Tunnel Coal Co.

- Shaking conveyors *333

Guards, machine *307
 Gunn-Quealey Coal Co.

- Regenerative braking 109

H

Handsaw, Power-driven *367
 Harps, Contact-spring *112

Haulage. See also "Tracking"

- Air-lock haulage door *53
- Automatic cut-off for rope haulage.. *58
- Automatic signals on underground haulage, Griffin *265
- Berwind-White Coal Mg. Co. Enzian *91
- Diagram of haulage Zeigler No. 1.. *196
- Dispatching gets results, Gates and Brosky *65
- Dispatching in Illinois, Kneeland.. *196
- Self-derailing car stops runaway trips *54
- Spiral rollers *57
- Underground soft coal mines, 1924.. *84
- Wire rope in oil lubricated pipe operates derails *55

Health and safety in coal mining 162
 Heating, District (e) 96
 Hillman Coal & Coke Co.

- Timber preservation 317

Hoisting

- Brake control for power-operated hoists *365
- Braking, Regenerative on slope hoists *109
- Counter keeps hoist tally in supt. office *229
- Remote hoist control speeds caging. *170
- Sheave rigging expedites hoisting at Hamar mine *227
- Steam hoist operated by one man 30 years *229
- Studies, hoisting 15

Hook hitching promotes coupling safety *228
 Hook, Improved steel tape *366
 Housing and safety, Pittsburgh Coal Co. McDowell *279
 Human equation in coal mining *180
 Hydraulagraph *305

I

Illinois—Strike ends; agreement 295
 Imports. See "Trade and Commerce."
 Index system of Pittsburgh Coal Co. equipment *273

Inland Collieries Co.	Page
—Vertical strainers save wear on pumps	*359
Insurance, compensation (e)	154
Insurance Commissioners, National convention	220
Insurance, Compensation, Hall	*184
Insurance—Why The Associated Cos. left coal field. Arnold	143
International Chamber of Commerce— Interstate Commerce Commission— Freight rate decisions	160
Island Creek Coal Co.	
—Abrasive brake shoes for tires	*52
—Split gears	*110
—Contact-spring harps for wheels	*112
—Oiler aids conveyor or lubrication	*113
—Operator protected by spooling device	*113
—Slate line keeps rooms on center	*168
—Foot-guard rectifier	*168
—Drum and brake device for banding	*168
—Re-trucking facilitated	*171

L

Labor	
—Colorado wage advance blocks	220
—Employees at Gt. Britain mines	329
—Reaching the miner's heart. Williams	*28
—Strike, bituminous, 46, 104, 163, 223, 294, 350; Ends in Ill., Iowa, Kans., Mo., Ark. and Okla., 295; Wootton	352
—Strike, Colorado, 297; Editorials, 288, 346	346
Laboratory at Library	*243
Lamps and Lighting	
—Connectors, Spring-clip	*226
—Main bottom illuminated without glare	*56
—Leader of men wanted. McAulliffe	*82
—Lee Coal Co., George F.—Shaking conveyors at Chauncey	335
—Lehigh & Wilkes-Barre Coal Co.	
—Electric mine fan with gasoline engine emergency	*181
Lignite—Saskatchewan. Colloway	

Loaders, shovelers	
—Box-car loader	*224
—Duckbill loaders at Union Pacific Coal Co.	*131
—Electric stripping shovel, large	*236
—Loader and carrier in single unit	*338
—Machine loading in Pittsburgh seam. Clark	*261
—Sinden centrifugal box car loader	*237
—Underground shovel loader	*364
—Loading, mechanical	351
—Locotripper at Champion mine	*285

Locomotives, Mine	
—Abrasive brake shoes for gathering locomotive	*52
—Displacing mule at Pittsburgh Coal Co. Kiser	*270
—Journal brasses	*358
—Mine locomotive for thin seams	*176
—Number in soft coal mines in 1924	*85
—Production deep-mined coal 1924 by electric locomotives	*88
—Steel canopy protects spooling device on cable-reel locomotive	*231
—Underground locomotive barn	*114
—Low-temperature distillation. Porter	*39

Lubrication	
—Bearing lubrication	*306
—Oiler aids conveyor lubrication	*113
—Spring oiler lubricating system	*368
—Wire rope in oil-lubricated pipe operates derails	*55
Lumber, Country uses less (e)	155

M

McEwen-Runge low-temperature unit.	*40
McGraw-Shaw Co.	294
Machine Repairs and Shop Equipment	
—Blacksmith forge	*306
—Drum-and-brake device for banding	*168
—Emery wheels, spectacles on	*53
—Filing of shop drawings	*362
—Foot-guard rectifier	*168
—Guards, machine	*307
—Hand saw, electric	*116
—Recording pressure gage on wheel press	*305
—Repair shops at Library of Pittsburgh Coal Co. Kiser	*272
—Saw at Library shops, power	*271
—Madison Coal Corp.	
—Mine car converted into ambulance	*110
—First-aid training. Bannister	*133
Management	
—Editorial	214
—Efficiency through payroll analysis. Weir	37
—Engineers plan operations at Pittsburgh Coal Co. White	253

Management—Cont'd	
—Fit the job to the man	112
—Function in industry	181
—Production time studies aid management. White	*15
—Railroad fuel and its relation to coal mine management. Macfarlane	*19
—Stabilizing bituminous industry, proposal for. Jones	24
—Vigorous management. Morrow	239
Maps—Pittsburgh Coal Co. Pa. mines	240
Market, Time to guard against runaway (e)	154
Markets, coal, monthly review, 49, 107, 165, 225, 303,	357
Mechanical loading	351
Mechanization, Mine. Bain	34
Mechanization raises new electrical problems	*228
Mechanization requires increased technical training (e)	42
Mechanize first. Dickinson	*3
Merchandising. Wellman	35
Merchandising, Pittsburgh Coal Co. Hale	*241

Mining Methods

—Block system at Banning No. 2	*263
—Longwall at Valley Smokeless Coal Co. Hall	*121
—Longwall or room? Hall	*71
—Longwall pay? Rutledge	*79
—Longwall, Right place for. Abram	*187
—Longwall, scraper method. James	*337
—Longwall with conveyors. Abram	*68
—Room-and-pillar at Pittsburgh Coal Co. Brosky	*250
—Scraper and duckbill	*73
—Single or multiple shifts? Pierce	203
Motor barn	359
Motor frames made from welded steel	*366
Motor housing rings welded	*361
Motors, Push-button control for small	*367
Mount Carmel Chamber of Commerce meeting	354
Mule, Exit the. Rogers	*84
Mules and horses at Pittsburgh Coal Co. mines. A	*283

N

Neglect, The cost of. Long	*140
Nemacolin, Dispatching gets results. Gates and Brosky	*65
New England, coal receipts	225
Northern Illinois Coal Corp.	
—Electric stripping shovel, large	*236

O

Obituary	
—Crawford, C. W.	220
—Melendy, R. L.	230
—White, I. C.	*355
—Wright, Frank C.	220
Oiler aids conveyor lubrication	*113

P

Paint, red protective	237
Payroll analysis, Efficiency through. Weir	37
Peabody Coal Co.	
—Lack of bonding in d.c. system	*360
—Temporary wiring firmly erected	*360
Pennsylvania Coal & Coke Corp.	
—Report	46
—Better tracks at Ehrenfeld No. 3. Blakeslee	70
—Mining methods. Hall	*71
—Retailer for slide track use	*227
—Iron frog-filler	*231

Pennsylvania

—Secretary of Mines and deputies appointed	46
—Chamber of Commerce meeting at Scranton	296

Personal Mention

—Abram, J. C.	*68
—Alles, C. G.	*284
—Auld, E. C.	*325
—Bayliss, Newton	*351
—Bell, F. R.	352
—Bergius, Dr. F.	*160
—Bridges, W. E.	*352
—Brisco, Dr. N. A.	*245
—Buchanan, R. H.	*9
—Cameron, W.	*142
—Clark, J. T.	*262
—Cosgrove, J. C.	*295
—Dawson, Thomas	*102
—Edwards, J. H.	223
—Enzian, Charles	*91
—Fear, T. G.	163
—Fisher, Gov. J. S.	*254
—Forbes, W. H.	*311
—Gary, Judge	119, 124
—Gillisple, R. W.	*297
—Glasgow, W. H.	46
—Goldmann, C. R.	352

Personal Mention—Cont'd	
—Grady, W. H.	163
—Gray, T. W.	*259
—Griffin, H. J.	*266
—Haas, Frank	163
—Hadesty, G. B.	163
—Harrington, G. B.	352
—Holbrook, E. A.	46
—Hood, Dr. O. P.	*299
—Howald, A. M.	*317
—Howes, H. C.	*112
—Inglis, W. W.	163
—Jones, Mark M.	*190
—Kelso, M. M.	*273
—Kiser, A. B.	*270
—Kneeland, F. H.	*301
—Lamble, R. M.	*321
—LeBon, C. B.	*306
—Leshner, C. E.	*287
—Lubelsky, B. C.	*257
—McAulliffe, Eugene	*82, *206
—McDowell, C. A.	*280
—Macfarlane, Malcolm	*19
—Mahan, E. C.	*26
—Maloney, A. J.	*296
—Morrow, J. B.	*244
—Morrow, J. D. A.	*102
—Moses, Thomas	*318
—Munger, H. P.	163
—Parsloe, F. L.	163
—Pauley, J. B.	*103
—Perrotti, G. St. John	*221, 352
—Pierce, J. H.	*41
—Polakov, Dr. W. N.	301
—Porter, Dr. H. C.	223
—Randall, D. V.	279
—Ritson, Col. J. A. S.	59
—Rutledge, J. J.	301
—Schwab, Charles M.	207
—Scott, Col. S. A.	104
—Shaw, J. S.	162
—Stuart, James & Cooke	*76
—Turner, Scott	*37
—Warriner, S. D.	*253
—Weir, Paul	112
—White, Jerome C.	*29
—Wrightman, W.	*298
—Williams, W.	
—Young, L. A.	

Phelps-Dodge Corp.

—Foremen's training conferences at Morend	205
Philadelphia & Reading Coal & Iron Co.	
—Court decision on land tax	47
—A. J. Maloney president	*296
Pick, with removable bit	*60
Piers always neat, Tapered column	*172
Pinlon-and-bearing puller	*235
Pipe threader motor-driven, Portable.	*177
Pittsburgh Coal Co.	
—Map Pa. properties facing	240
—Merchandising. Hale	*241
—Research. Morrow	*244
—Laboratory at Library	*243
—Preparation. Duck	*245
—Room-and-pillar system. Brosky	*250
—Engineers plan operations. White	*253
—Clean coal. Lubelsky	*255
—Conveyors. Gray	*258
—Machine loading. Clark	*261
—Automatic signals. Griffin	*265
—Electrification. Kneeland	*268
—Mechanization. Kiser	*270
—Recording equipment. Kelso	*273
—Knowing cost of power. Edwards	*275
—Pumps	*278
—Safety and housing. McDowell	*279
—Midland No. 1 modernized	*281
—Mules well fed. Alles	*283
—Drawslate disposal	*285
—Facts about company. Leshner	*287
—Reorganization plans (e)	*288
—Vacuum cleaners at Library	*304
—Trolley shoes for heavy service	*304
—Acid proof pump parts	*305
—Recording pressure gage	*305
—Blacksmith forge	*306
—Elevated fire siren	*306
—Bearing lubrication	*306
—Machine guards	*307
—Automatic water supply	*308
—Movable air compressor	*308
—Portable elevator	*308
—Mine-car dump	*308
—Central preparation plant	*353
—Casting locomotive journal brasses	*358
—Motor housing rings welded	*361
Pittsburgh Terminal Coal Corp.	
—Switching point has overhead lamp	*228
Playgrounds. Uses of (e)	43
Portsmouth By-product Coke Co.	
—Spiral rollers	*57
—Posting drawslate in cut	*255
—Powder bags of special fabric	235
Power. See also "Electricity"	
—Anthracite turns to automatic control. Jennings	*129
—At working face. Kneeland	*125
—Kentucky mine saves 6c. per ton on power costs. Edwards	*312
—Pittsburgh Coal Co. Edwards	*275
—Substation, Portable mine	*362
—Substations, above and underground	*126
—Post puller	*174

	Page		Page		Page
Preparation		Safety—Cont'd		Tracking—Cont'd	
—Crushing rolls. Duck	*146, *201	—Bosses talk it over—letters	156, 219, 293	—Construction, Mine track. Hohn ..	*89
—Dry cleaning at Montour	*249	—Careless timbering. Forbes	*309	—Frog-filler, iron	*231
—Face preparation Pittsburgh Coal Co.		—Coal-mine safety. Andrews	77	—Metal mine-track ties from scrap	
Lubelsky	*255	—Colorado Fuel & Iron Co. mines.		rails	*170
—Flotation at Linsi mines, China.		McAllister	*330	—Re-railer for side tracks	*227
Docquier, Bataille and Bettelstone	209	—Editorials	119, 214, 346	—Switching point has overhead lamps.	*228
—Menzies hydro-separator	351	—Hinged gates reduce slope accidents.	*231		
—Pittsburgh Coal Co. Modernizing.		—Human life worth saving	124		
Duck	*247	—Illinois Mg. Inst. discusses	23		
—10,000 tests charted to guide prepa-		—Machine guards	*307		
ration. Duck	*327	—Manager's job in small plant. Shaw.	207		
		—Mechanical sentry forbids matches.	*54		
Prices		—Meet at Morgantown, W. Va.	*222		
—Coal Age Index ... 49, 106, 164, 224,	302, 356	—Methods of Gallup American Coal			
		Co.	159		
Production		—Operator protected by spooling de-			
—Bituminous and anthracite charted,		vice	*113		
48, 106, 164, 224, 302, 356		—Powder bags of special fabric	235		
—Deep-mined coal in 1924 by mines		—Rescue plans of Bethlehem Mines			
using electric locomotives	*88	Corp.	198		
—Germany	342	—Rope clevis	*359		
—Gt. Britain	329	—Self-derailing car	*54		
—Sea yields 14,000,000 tons coal		—Signal panel	*117		
yearly. Gray	208	—Spectacles on emery wheels	*53		
—Yearly, Amer. coal mines	30	—Switching point has overhead lamp.	*228		
Production time studies aid manage-		—United States lagging in safety.			
ment. White	*15	McAuliffe	206		
Pulley for rubber belt, Finding right	*56	Sampling coal at Pittsburgh Coal Co.	243		
Pumps and Pumping		Sand drier, Electric	*361		
—Acidproof pump parts	*305	Saw, Electric hand	*116		
—Centrifugal, reciprocating and rotary		Saw, Portable power-driven	*367		
at Pittsburgh Coal Co.	*278	Scale, electric dial	*238		
—Plunger pump, Horizontal, for mines		Schaeffer prone pressure method			
Reservoir tapped under pressure,		filmed	300		
Underground. Howle	*136	Scrapers at Pa. Coal & Coke Corp.	*72		
—Self-oiling power pump impervious		Scraper loading, longwall mining with	*81		
to grit	*176	Scraper working in laboratory	*3		
—Vertical strainers save wear on		Sea yields 14,000,000 tons coal yearly.			
pumps	*359	Gray	208		
		Selling right coal to right buyer. Tate	139		
		Shed, galvanized steel sheets conveyor.	*118		
		Shipments.			
		—Cargo coal	357		
		—Lake	165, 225		
		Shorty and Mac discussions	45, 99,		
		157, 217, 291, 349			
		Shotfiring. See "Blasting."			
		Signal panel	*117		
		Signals on underground haulage.			
		Griffin	*265		
		Siren, Elevated fire	*306		
		Slate disposal, Remote control assists			
		in	112		
		Slate—Drawslate disposal at Pitts-			
		burgh Coal Co. mines	*285		
		Slate line painted at face limits piling			
		of refuse	*168		
		Slate loading by gravity	*54		
		Slot cleaning machine	*116		
		Speed reducer, Worm gear	*367		
		Squeezes in pillar workings, prevents.	360		
		Stability, An approach to	63		
		Stabilizing bituminous industry. Jones	24		
		Stables, Pittsburgh Coal Co.	*283		
		Standard Oil Co. buys Bergius rights.	160		
		Standardized, equipment Pittsburgh			
		Coal Co.	*271		
		Statistics can aid stabilization (e) ..	154		
		Statistics—How to prepare them.			
		Hensel	205		
		Steel canopy protects spooling device.	*231		
		Steel, Motor frames made from welded.	366		
		Stocks, coal	107, 161, 351		
		Stoker, chain grate	*61		
		Stoker, mechanical	*21		
		Stores, Can modern methods be used			
		by company (e)	347		
		Stores meet new competition? Can			
		company. Brisco	344		
		Strainers save wear on pumps, verti-			
		cal	*359		
		Strike. See "Labor."			
		Studies aid management, Production			
		time. White	*15		
		Studies, Production time. White ..	*93		
		Submarine mining	208		
		Sycamore Coal Co.			
		—Check hook	*57		
		T			
		Tank, power	*127		
		Tape hook, steel	*366		
		Ties from scrap rails, Metal mine-			
		track	*170		
		Timber and Timbering			
		—Careless timbering. Forbes	*309		
		—Open-tank plants, sizes and costs of			
		equipment for	318		
		—Preservation, Research aids timber.			
		Howald and Munger	*317		
		Time studies aid management, Produc-			
		tion. White	*15		
		Tipples			
		—Montour No.	*285		
		—Duvin Coal Co.	*312		
		—River tippie at Palmer	*326		
		—Rail and river	246		
		Tracking			
		—Better tracks stimulate production.			
		Blakeslee	70		
		Tracking—Cont'd			
		—Construction, Mine track. Hohn ..	*89		
		—Frog-filler, iron	*231		
		—Metal mine-track ties from scrap			
		rails	*170		
		—Re-railer for side tracks	*227		
		—Switching point has overhead lamps.	*228		
		Trade and Commerce			
		—Exports, bituminous, charted	48,		
		106, 164, 224, 302, 356			
		—Exports, U. S.	107, 165		
		—German imports and exports	343		
		Tramway at Montour No. 9, tippie and			
		aerial refuse	*285		
		Transportation, far cry from modern.	*120		
		Trolley firmly erected, Temporary ..	*360		
		Trolley hoist needs little headroom.	*116		
		Trolley shoes for heavy service	*304		
		Trolley wire mishaps prevented	*172		
		Truck, High-lift electric	*366		
		Trucking—Retrucking facilitated by			
		pit-bottom track	*171		
		U			
		Undercutting, tragedy of	*188		
		Union Colliery Co.			
		—Portable mine substation	*362		
		Union Pacific Coal Co.			
		—Duckbills. Edwards	*131		
		—Pressure gage showed cave	*169		
		—Spring-clip connectors	*226		
		—Mechanization raises electrical prob-			
		lems	*228		
		—Hinged gates at slope	*231		
		—Safety rope clevis	*359		
		United State Fuel Co.			
		—Electric sand drier	*361		
		United States Steel Corp.	119, 124		
		United States			
		—Exports. See "Trade and Com-			
		merce."			
		—Fatalities	47, 206		
		—Production. See "Production."			
		United States Fuel Co.			
		—Regenerative braking	*109		
		—Premature shotfiring averted	*230		
		United States Steel Corp.			
		—Stability	63		
		—President coal subsidiaries	102		
		V			
		Vacuum cleaners at Library, Pa.,			
		warehouse	*304		
		Valler Coal Co.			
		—Electrical heating for baths	358		
		Valley Smokeless Coal Co.			
		—Longwall mining. Hall	71, *121		
		Valve on regulator, magnet operated			
		pilots	*120		
		Ventilation			
		—Air should be split in longwall			
		mines	*169		
		—Colo. Fuel & Iron Co.	330		
		—Fan drive takes load automatically,			
		Emergency. Gealy	*181		
		—Feeder-opening device at Chandler			
		mine	*232		
		Victor American Fuel Co.			
		—Steam hoist operated 30 yrs. by one			
		man	*229		
		—Feeder opener and sunlit fan-house.	*232		
		—Boreholes cased by unique method.	*361		
		W			
		Warehouse, Portable elevator	*308		
		Water			
		—Automatic supply allays cutter dust.	*308		
		—Supply at Pittsburgh Coal Co.	279		
		Welding			
		—Atomic hydrogen welding	*368		
		—Augers, welding coal	*114		
		—Gas welding steel pipe line	*53		
		—Motor frame made from welded			
		steel	*366		
		—Motor housing rings welded	*361		
		—Portable outfit engine-driven	*174		
		—Shuntweld arc control	*237		
		—Worn rails arc welded	*170		
		West Virginia			
		—Accidents on decrease	321		
		—Safety Day meet at Morgantown ..	*222		
		West Virginia Coal & Coke Co.			
		—Bulletin board at Omar	*51		
		—Women's Club of Omar	*339		
		Wheels—Contact-spring harps	*112		
		Wheels curtailed by split gears,			
		Loose	*110		
		Women in the coal industry	*339		
		Worm gear, speed reducer	*367		
		Y			
		Yard at Koenigsberg, Germany, coal.	*340		

AUTHORS' INDEX

	Page		Page		Page
A BRAM, J. C. Longwall with conveyors	*68	J AMES, W. E. Better coal from longwall	*337	BOSSSES TALK IT OVER—LETTERS	
—Right place for longwall	*187	Jennings, J. T. Anthracite turns to automatic control	*129	A NDREWS, F. J. Too many bosses. 293	
Ailes, C. G. Mules well fed—ready for work	*283	Jones, Mark. Stabilizing bituminous industry	24	B ENNETT, A. Old army game cause of trouble	100
Andrews, John B. Coal-mine safety. 77		—Can bituminous industry avoid federal regulation?	189	—Leaders are needed	218
Arnold, J. A. Why the Associated Cos. left coal field	143	Jungst, Dr. E. Germany comes back	*340	Bennett, John. Does Safety pay?	293
Auld, E. C. Riding coal on rubber	*325	K ENNEDY, T. F. Depletion	149	Bohn, John. Foreman sometimes must work alone	217
B AIN, H. F. Mine mechanization... 34		—Depreciation	211	—Clean coal	291
Bannister, H. T. First-aid training	*133	Kiser, A. B. Servicing mine for mechanization	*270	—Standardization	349
Bataille, L. Flotation and hindered settlement clean coal	209	Kneeland, Frank H. Recreation	*11	Bottomley, Edward. Too many bosses. 101	
Blakeslee, S. W. Better tracks	70	—Power at working face	*125	C ONLEY, J. H. Safety talk helps.. 219	
Brisco, Dr. N. A. Company stores	345	—Dispatching in Illinois	*196	D AVIS, J. W. Too many bosses... 99	
Brosky, A. F. Dispatching gets results	*65	—Electrification earns 45%	*268	Duracine, B. Too many bosses..... 101	
—Room-and-pillar at Pittsburgh Coal Co.	*250	L AMBIE, R. M. Co-operation produces results	321	E LY, I. L. Why did motor stall?... 100	
Buchanan, R. H. Anthracite charts new course	9	Leshner, C. E. Facts about Pittsburgh Coal Co.	287	G REEN, F. F. Development can be balanced	157
C AMERON, W. Accidents	142	Long, D. D. Cost of neglect	*140	—Loading dirty coal	292
Clark, J. T. Machine loading	*261	Lubelsky, E. L. Clean coal	*255	Grimm, C. T. Lack of co-operation.. 100	
Crockett, H. G. Costs important, budget them	95	M CALLISTER, ROBERT. Safety at mines of C. F. & I. Co.	*330	—Push the west mains	217
D ICKINSON, A. W. Mechanize first	*3	McAuliffe, Eugene. Wanted—leader of men	*82	—Clean coal guaranteed	292
Docquier, Alex. Flotation and hindered settlement clean coal	209	—Lagging in safety	206	—Modification in engineering survey 349	
Duck, F. J. G. Anthracite preparation	*146	McBride, R. S. Chemical engineer looks on coal	*193	H OYE, J. F. Accidents	293
—Crushing rolls	*201	—Coal and gas man be partners?	*322	J AMES, THOMAS. Bosses should know their stuff	99
—Modernizing preparation	*245	McDowell, C. A. Safety and housing	*279	—Safety always pays	219
—10,000 tests charted to guide preparation	*327	Morrow, J. B. Research displaces rule-of-thumb	*244	—Loading dirty coal	292
E DWARDS, J. H. Duckbills	*131	Morrow, J. D. A. Vigorous management	239	L AW, SAMUEL. Let super have last word	158
—Power, Pittsburgh Coal Co.	*275	Mosier, McHenry. Foremen's training conferences	205	Lewis, Mathew. Why did motor stall? 101	
—Kentucky mine saves 6c. per ton. *312		Munger, H. P. Research aids timber preservation	*317	Lightburn, R. W. Co-ordination best policy	349
Enzian, Charles. Haulage adjustment. *91		P IERCE, J. H. Is Europe wrong or are we?	*203	Littleman, I. M. A. Too many bosses. 101	
F ORBES, W. H. Careless timbering	*309	Polakov, Dr. W. N. Coal situation ... 30		Lively, C. E. System is lacking..... 158	
G ALLOWAY, JOHN. Lignite of Saskatchewan	*153	Porter, Dr. H. C. Coal processing... *39		—Face preparation inspector	292
Gates, W. H. Dispatching gets results	*65	R OGERS, H. O. Exit the mule *84		Luxton, W. H. Good light necessary in loading coal	217
Gealy, E. J. Emergency fan drive takes load automatically	*181	Rutledge, J. J. Does longwall pay?... *79		M ARLAND, JOHN. Lack of co-operation	100
Gray, F. W. Sea yields 14,000,000 tons of coal yearly	208	S HAW, J. S. Safety in a small plant	207	P LODDER, A. Too many bosses.... 101	
Gray, T. W. Conveyors speed development	*258	Stison, Francis. Banker looks at coal mining	7	S EELSE, MAT. Employ competent electrician	101
Griffin, H. J. Automatic signals on underground haulage	*265	Smith, Geo. Otis. Coal, the premier source of energy	18	—Why are not conditions made safe? 219	
H ALE, SYDNEY A. Taking guess out of merchandising	*241	T ATE, G. M. S. Selling right coal to right buyer	139	Snyder, Hugh. Too many bosses... 100	
Hall, R. Dawson. Longwall or room?	*71	W AGNER, C. W. Controlled blasting	315	Stith, Van B. Clean coal	291
—Longwall save lives and dollars?	*121	Warriner, S. D. Anthracite awake... 76		V EASEY, V. S. Wise spending saves	293
—Compensation insurance	*184	Weir, Paul. Efficiency through payroll analysis	37	W ALKER, W. J. Up to the big boss 157	
—Shaking conveyors	*333	Wellman, Harry. Merchandising	35	Walton, H. T. Development ahead is necessary	157
Hammond, John Hays. Control oil to protect coal	14	White, Jerome C. Production time studies	*15, *93	—Safety pays	219
Hensel, H. G. Statistics—How to prepare them	205	Williams, Whiting. Reaching the miner's heart	*28	—Extra compensation for hard workings	291
Hohn, F. C. Mine track construction methods	*89	Wooton, Paul. Efficient use of coal	221	—Standardization	349
Howald, A. M. Research aids timber preservation	*317	—Effects of anthracite strike	297	Weihle, C. R. Co-operation is needed. 218	
Howie, Howard. Underground reservoir	*136	—Bituminous strike	352		