

- boring, planing, 251; hammering, shaping, 240; modern metal working plant, 250.
- Metal**, personal ware, buckles, clasps, hooks, buttons, etc., 250.
- Meters**, gas and water, 178.
- Mexico**, 281, 292.
- Microphone**, 148.
- Microscope**, 409.
- Middlings purifier**, 49, 50.
- Milk**, milkers, 54, 55.
- Millet**, 30.
- Mills**, 45 to 51.
- Milling**, high, low, 49.
- Miller**, wood working, 342.
- Miller and Taylor**, 81.
- Millwright**, The Young, 47.
- Milton**, 105, 218.
- Mineral wool**, minerals and mining, 373-383.
- Minneapolis mills**, 50.
- Mitrailleses**, 269.
- Modern machinery**, its commencement, 364.
- Mohl**, von, Hugo, 67.
- Moigno**, Abbé, 411.
- Mold**, aging. (See Chemistry.)
- Moulding**. (See Wood-working and Glass making.)
- Monks**, 387.
- "Monitor," The**, 268, 441.
- Montgolfier**, 169.
- Moody**, Paul, 236.
- Moors**, 253.
- Morin**, Genl., 209, 238.
- Morland**, Sir Sam'l, 77.
- Morrison**, Chas., 115.
- Morse**, S. B. F., 126, 127, 128, 129.
- Mortars**, 253.
- Mortise making**, 345.
- Morton**, Dr W. T. G., 71.
- Motor vehicles**, 435.
- Mont Cenis Tunnel**, 107.
- Mowers**, 32, 33, 35, 36, 37, 38, 39.
- Moxon**, Jos., 242.
- Mozart**, 402.
- Murdock**, Wm., 185, 452.
- Music**, 400-406.
- Musical instruments**, 6, 400.
- Musical electrical apparatus**, 406.
- Muschenbroeck Prof.**, 1745, 114, 115.
- Mushet**, iron and steel, 234.
- Muskets**. (See Ordnance.)
- Muzzle loaders**, 263, 264.
- N.**
- National Assembly**, France, 9.
- Napoleon**. (See Bonaparte.)
- Naphtha**, 454.
- Nasmyth**, 243, 245.
- Needle**, 310, 313.
- Needle gun**, 266.
- Niedringhaus**, 468.
- Netting**. (See Spinning.)
- Newcomen**, 5, 77, 78, 79, 167, 187.
- Newbold**, Chas., 19.
- Newbury**, Wm., 348.
- Newton**, Sir Isaac, 9, 11, 61, 114, 167, 183, 414.
- Niagara bridges**, 97, 98, 104.
- Niagara power**, 171, 172.
- Nicholson and Carlisle**, 118.
- Nicholson**, Wm., of England, 282.
- Nickel**. (See Metallurgy.)
- Niepee**, Jas. N., 415.
- Nitro-glycerine**, 270.
- Noah's Ark**, 438.
- Nobel**, A., 192.
- Nollet**, Prof., 132.
- Noria**, The, 165.
- Norway**, 266, 430, 439.
- Nozzles**, flexible, 174; water, 179.
- O.**
- Oersted**, 121, 130.
- Ogle**, 1822, 36.
- Ohm**, G. S., 125.
- Oils and fats**, 69.
- Oil cloth**, 306.
- Oil lamps**, 359.
- Oil stoves and furnaces**, 190, 212.
- Oiling waves**, 446.
- Oil wells**, 190, 382.
- Omnibus**. (See Stages and Carriers.)
- Opening and blowing machines**, cotton, 299.
- Ophthalmoscope**, 411.
- Optical instruments**, 409-412.
- Ordnance**, arms, explosives, 252 to 272.
- Ores**, treatment of, 229 250, 251, 373, to 380.
- Ore separators**, 379. (See Metallurgy.)
- Organs**, 404.
- Ornamental iron work**. (See Metal Working.)
- Ornamental wood work**. (See Wood Working.)
- Oscillating engines**. (See Steam.)
- Osmund furnaces**. (See Metallurgy.)
- Otis elevators**, 155.
- Otto**, Nicolaus A., Otto engine, 190, 191.
- Oxygen**, 58, 453. (See Priestley.)
- P**
- Paddle wheels and vessels**, 443.
- Paints**, 466.
- Painting**, 418, 419, 459.
- Painting machines**, 193, 418, 467.
- Paixhans**, Genl., 261, 264.
- Page**, Prof. C. G., 132, 141.
- Page**, Ralph, 224.
- Palissy**, Bernard, 458.
- Palmer**, stage-coaches, 429.
- Palladius**, 32.