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Fotografie 02

**Raccolta fotografica Modelli del  
motore a vapore e altre macchine di J.  
Watt al South Kensington museum  
(oggi Science museum), London**

■ **Watt, James (1736-1819)**

La collezione si articola nelle serie: 1. Fotografie I-IV

Materiale: fotografico

Contiene fotografie di modelli originali di James Watt conservati presso il South Kensington museum di Londra. Le fotografie, inviate da G.F. Duncombe, segretario del South Kensington museum, a Ferdinando Meucci, direttore del Museo degli strumenti antichi di astronomia e di fisica di Firenze, il 7 settembre 1883, furono scattate presumibilmente in quell'anno

**Fotografie Watt I:**

**Motore a vapore e suoi elementi meccanici, [1883?]**

**Motore a vapore : fotografie, [1883?]**

*Regesto:*

1. «Model of inverted cylinder. Steam engine cylinder for a direct-acting pumping engine with tappet valve motion. James Watt. 1736-1819» (fot., b/n, 26x19 cm, [1883?]) lid. 51461
2. «Model of inverted cylinder. Steam engine cylinder for a direct-acting pumping engine with tappet valve motion. (Reverse view). James Watt. 1736-1819» (fot., b/n, 26x19 cm, [1883?]) lid. 51462
3. «Model of beam pumping engine. Single acting and condensing engine, worked by tappet valve motion. James Watt. 1736-1819» (fot., b/n, 22x26 cm, [1883?]) lid. 51488
4. «Model of beam pumping engine. Single acting and condensing engine, worked by tappet valve motion. (Reverse view). James Watt. 1736-1819» (fot., b/n, 20x27 cm, [1883?]) lid. 51506
5. «Experimental model. James Watt. 1736-1819» (fot., b/n, 25x22 cm, [1883?]) lid. 51483

6. «Model. Design for a double-action or reciprocating condensing engine. Front elevation. James Watt. 1736-1819» (fot., b/n, 27x19 cm, [1883?]) lid. 51512|
7. «Experimental model. Sectional model. Probably a design for double action engine. (Whole view). James Watt. 1736-1819» (fot., b/n, 27x18 cm, [1883?]) lid. 51598|
8. «Model. Design for a double-action or reciprocating condensing engine. Vertical left hand view. James Watt. 1736-1819» (fot., b/n, 28x19 cm, [1883?]) lid. 51595|
9. «Model. Design for a double-action or reciprocating condensing engine. Vertical right hand view. James Watt. 1736-1819» (fot., b/n, 27x19 cm, [1883?]) lid. 51596|
10. «Experimental model. Sectional model. Probably a design for double action engine. (Half part view.) James Watt. 1736-1819» (fot., b/n, 18x27 cm, [1883?]) lid. 51460|
11. «Model of double acting beam condensing engine. Conical valves worked by eccentric. (Reverse side view). James Watt. 1736-1819» (fot., b/n, 21x25 cm, [1883?]) lid. 51600|
12. «Model of double acting beam condensing engine. Conical valves worked by eccentric. (Side view). James Watt. 1736-1819» (fot., b/n, 22x25 cm, [1883?]) lid. 51583|

**Elementi meccanici del motore a vapore: condensatori, ingranaggi, valvole : fotografie, [1883?]**

*Regesto:*

1. «Model, in wood, used for experiments on the governor for steam engines. James Watt. 1736-1819» (fot., b/n, 18x28 cm, [1883?]) lid. 51597|
2. «Model of a valve with universal joint. James Watt. 1736-1819» (fot., b/n, 27x17 cm, [1883?]) lid. 51466|
3. «Pump. Barrel and plunger. Surface condenser. James Watt. 1736-1819» (fot., b/n, 14x24 cm, [1883?]) lid. 51585|
4. «Surface condenser. Horizontal view shewing back side, condenser, and steam connection to same. James Watt. 1736-1819» (fot., b/n, 13x22 cm, [1883?]) lid. 51592|
5. «Surface condenser. Vertical view, pump removed; shewing pump footing and valves. James Watt. 1736-1819» (fot., b/n, 25x16 cm, [1883?]) lid. 51591|
6. «Surface condenser. Horizontal view showing condenser, valves, valve cover, and pump footing. Pump removed. James Watt. 1736-1819» (fot., b/n, 16x27 cm, [1883?]) lid. 51593|
7. «Model of surface condenser. For condensing steam with greater rapidity than in the old form of jet condenser. James Watt. 1736-1819. Note. Surface condensers, particularly for marine steam engines, are now generally adopted» (fot., b/n, 26x18 cm, [1883?]) lid. 51584|
8. «Experimental model. The separate condenser for condensing Steam Engines (Full view). James Watt. 1736-1819» (fot., b/n, 18x27 cm, [1883?]) lid. 51586|
9. «Experimental model. The separate condenser for condensing steam engines. (Horizontal view). James Watt. 1736-1819» (fot., b/n, 17x27 cm, [1883?]) lid. 51392|
10. «Original model of a cylinder for a steam engine; with separate condenser. James Watt. 1736-1819» (fot., b/n, 21x27 cm, [1883?]) lid. 51485|
11. «Model. Frame for a marine steam engine. James Watt. 1736-1819» (fot., b/n, 21x26 cm, [1883?]) lid. 51490|
12. «Fragment of a model with sun and planet motion and weighted disc. James Watt. 1736-1819» (fot., b/n, 27x20 cm, [1883?]) lid. 51467|
13. «Imperfect model. Method of converting reciprocating into rotative motion by means of teeth or pins fixed to the connecting rod, which take hold of teeth in a wheel, and cause in to revolve. Some point of the connecting rod is guided by a pin, moving in a groove, so as to keep the teeth or pins always engaged in the teeth of the wheel. James Watt. 1736-1819. Note. This method of converting reciprocating into rotative motion is included in

specification of patent granted to James Watt, dated October 25th, 1781» (fot., b/n, 27x19 cm, [1883?]) lid. 51601|

## **Fotografie Watt II: Macchine, [1883?]**

### **Laminatoi, cesoie, macchine per macinare ecc. : fotografie, [1883?]**

*Regesto:*

1. «Model of grinding mill. Six pairs of stones, in two sets of three pairs each. Each set driven from one spur wheel by bevelled gearing. James Watt. Note. The two fly wheels are connected, and driven by one connecting rod, fitted with two sets of stepped sun and planet wheels. The fly wheels are boxed in, or housed» (fot., b/n, 22x26 cm, [1883?]) lid. 51582|
2. «Model of grinding mill. Six pairs of stones in two sets of three pairs each, each set driven by a spur wheel with bevil gearing. The two fly wheels are connected and driven by pin and connecting rod. James Watt. 1736-1819» (fot., b/n, 22x26 cm, [1883?]) lid. 51599|
3. «Model of a horse mill. With roller and trough, apparently designed for crushing material. James Watt. 1736-1819» (fot., b/n, 19x27 cm, [1883?]) lid. 51581|
4. «Model of a horse mill. With roller and trough, apparently designed for crushing material. (Side view top). James Watt. 1736-1819» (fot., b/n, 17x28 cm, [1883?]) lid. 51580|
5. «Model of rolling mill. Driven by a connecting rod, fitted with stepped sun and planet motion, and with two fly wheels. (Front end view). James Watt. 1736-1819» (fot., b/n, 24x21 cm, [1883?]) lid. 51481|
6. «Model of rolling mill. Driven by a connecting rod, fitted with stepped sun and planet motion, and with two fly wheels. (Front end view). James Watt. 1736-1819» (fot., b/n, 26x19 cm, [1883?]) lid. 51579|
7. «Model of rolling and slitting mill. Driven by two connecting rods, on one beam, and fitted with sun and planet stepped gearing. James Watt. 1736-1819. Note. This improvement, consisting of new methods of applying the power of steam engines to move mills for rolling and slitting iron and other metals, is included in specification of patent, granted to James Watt of Birmingham, and dated April 28th, 1784» (fot., b/n, 22x25 cm, [1883?]) lid. 51508|
8. «Model of rolling and slitting mill. Driven by two connecting rods, on one beam, and fitted with sun and planet stepped gearing. (Front end view). James Watt. 1736-1819. Note. This improvement, consisting of new methods of applying the power of steam engines to move mills for rolling and slitting iron and other metals, is included in specification of patent, granted to James Watt of Birmingham, and dated April 28th, 1784» (fot., b/n, 26x17 cm, [1883?]) lid. 51468|

### **Magli : fotografie, [1883?]**

*Regesto:*

1. «Model of two tilt hammers. At right angles to each other, one hammer actuated at the tail by cams, the other by lifting cams, driven by one connecting rod fitted with stepped sun and planet motion. (Side view). James Watt. 1736-1819. Note. Part of the above model is missing, and the helve of one tilt hammer is broken» (fot., b/n, 26x20 cm, [1883?]) lid. 51457|
2. «Model of two tilt hammers. At right angles to each other, one hammer actuated at the tail by cams, the other by lifting cams, driven by one connecting rod fitted with stepped sun and planet motion. (Front end view). James Watt. 1736-1819. Note. Part of the above model is missing, and the helve of one tilt hammer is broken» (fot., b/n, 26x18 cm, [1883?]) lid. 51393|

3. «Model of a pair of tilt hammers, arranged alongside each other. Two beams and connecting rods, with cranked pins at an angle to each other; one of the wheels provided with a balance weight. James Watt. 1736-1819. Note. Part of the model is missing» (fot., b/n, 24x21 cm, [1883?]) lid. 51484|

#### **Torni a pedale : fotografie, [1883?]**

*Regesto:*

1. «Lathe. Foot lathe by James Watt himself. Property of the late Bennet Woodcroft, F.R.S. Right hand view. James Watt. 1736-1819» (fot., b/n, 25x21 cm, [1883?]) lid. 51594|
2. «Lathe. Foot lathe by James Watt himself. Property of the late Bennet Woodcroft, F.R.S. Left hand view. James Watt. 1736-1819» (fot., b/n, 25x21 cm, [1883?]) lid. 51576|

#### **Poligrafi o macchine copia-lettere : fotografie, [1883?]**

*Regesto:*

1. «Roller letter copying press. Front view. Property of the late Bennet Woodcroft, F.R.S. James Watt. 1736-1819» (fot., b/n, 22x26 cm, [1883?]) lid. 51511|
2. «Roller letter copying press. Side view, shewing driving lever and pad. Property of the late Bennet Woodcroft, F.R.S. James Watt. 1736-1819» (fot., b/n, 27x24 cm, [1883?]) lid. 51510|
3. «Wooden writing desk; fitted with roller letter copying press. Front view, shewing roller press, driving lever, and pad. Property of the late Bennet Woodcroft, F.R.S. James Watt. 1736-1819» (fot., b/n, 20x26 cm, [1883?]) lid. 51507|
4. «Wooden writing desk; fitted with roller letter copying press. Reverse view of front. Property of the late Bennet Woodcroft, F.R.S. James Watt. 1736-1819» (fot., b/n, 20x25 cm, [1883?]) lid. 51391|

#### **Fotografie Watt III:**

##### **Elementi meccanici: ruote, ingranaggi, cuscinetti a sfera, [1883?], Regesto:**

1. «Model. Consisting of wood rods with oval holes geared internally, and apparently belonging to one of the models selected from the Soho works by the late Sir Francis Pettit Smith, as an illustration of one of the methods of converting reciprocating into circular motion. James Watt. 1736-1819» (fot., b/n, 27x20 cm, [1883?]) lid. 51465|
2. «Model of a train of wheels. (Front view). James Watt. 1736-1819» (fot., b/n, 19x27 cm, [1883?]) lid. 51577|
3. «Model of a train of wheels (Front view top). James Watt. 1736-1819» (fot., b/n, 27x19 cm, [1883?]) lid. 51590|
4. «Model of Garnet's patent friction rollers. James Watt. 1736-1819» (fot., b/n, 21x26 cm, [1883?]) lid. 51489|
5. «Model of a water wheel. Wood construction. Shewing toothed gear of iron bolted to one side, for main or first driving motion. James Watt. 1736-1819» (fot., b/n, 25x21 cm, [1883?]) lid. 51459|
6. «Model of wheel. (Probably for grinding). With sliding axle. To be driven by horse-power. James Watt. 1736-1819» (fot., b/n, 25x20 cm, [1883?]) lid. 51458|

#### **Fotografie Watt IV:**

##### **Strumenti di misura (manometro e micrometro) e dispositivi per test di resistenza, [1883?], Regesto:**

1. «A measuring apparatus, with micrometer screw. For taking end measures. (Side view). James Watt. 1736-1819» (fot., b/n, 18x24 cm, [1883?]) lid. 51463|
2. «A measuring apparatus, with micrometer screw. For taking end measures. (Diagonal view). James Watt. 1736-1819» (fot., b/n, 18x23 cm, [1883?]) lid. 51578|

3. «Model used for testing pressure due to vacuum. James Watt. 1736-1819» (fot., b/n, 26x18 cm, [1883?]) lid. 51482l
4. «Model. Trussed beam. Probably used experimentally for testing the strength of different methods of trussing the beams of pumping engines, and for other purposes. James Watt. 1736-1819» (fot., b/n, 18x27 cm, [1883?]) lid. 51589l
5. «Model. Trussed beam. Probably used experimentally for testing the strength of different methods of trussing the beams of pumping engines, and for other purposes. James Watt. 1736-1819» (fot., b/n, 17x27 cm, [1883?]) lid. 51464l
6. «Model. Trussed beam. Probably used experimentally for testing the strength of different methods of trussing the beams of pumping engines, and for other purposes. James Watt. 1736-1819» (fot., b/n, 19x27 cm, [1883?]) lid. 51587l
7. «Model. Trussed beam. Probably used experimentally for testing the strength of different methods of trussing the beams of pumping engines, and for other purposes. James Watt. 1736-1819» (fot., b/n, 19x26 cm, [1883?]) lid. 51588l