

Sundry Manufactures in England. —

1^o. Manufacture to card wool by means of water. There are 12 Machines continually carding each ⁱⁿ 24 Hours about 1000 lbs. of wool ready for Spinning. —

2^o. To Spin wool by the assistance of several engines each working 30 Spindles and a woman only to each engine. —

3^o. A Cotton Engine with 8 Carding machines that card each about half hundred weight per diem and in the same manufactory there is a Spinning Machine that works 6000 Spindles that spin all the Cotton carded by the 8 machines. all worked or put in motion by water with only a few boys to place and take away the Cotton. When the Machines have finished the carding and spinning, the thread is perfectly even & ready for the Weaver who calls for first or second quality. The Skeins of each do not differ in weight nor length. —

4^o. New invented ovens to cast Iron ore that melt 800. ^{lb.} in 24 Hours. The Calcination of the ore and the foundation of the metal is done by Sea Coal. —

5^o. Other Manufactures of Iron or Foundry's were for want of water to work the Bellows and the Hammers to break the ore, the Steam Engine has been substituted. —

6^o. a Manufacture of Thimbles where there are several Engines in motion by water and managed by 12 Boys that finish 20,000 every day. —

7.^o a Manufacture to calcine the flint that afterwards passes thro' different Engines to grind and reduce it to a very fine dust for China, mixing it with *Varilla*^{*} for other uses.

** an Ingredient brought from Spain & use in the Glass Manufactory as also in making hard soap.*

8.^o Manufacture where there are several Engines & Cylinders for flattening Copper, Silver, Gold, Copper plated & gilt for sundry uses, all done by means of water.

9.^o Manufacture of Buttons (common) of cast copper for the Army & common people. In this fabrick they are cast, turned, polished, engraved, plated & finally brightened. all the work is done by boys and women that makes 24,000 Buttons every day.

10.^o Manufacture where 50 Lapidary Stones are put in motion by water, in each works a Boy or Girl that polish and give lustre to sundry pieces ^{of steel} such as watch Chains, Buckles Snuffers &c. finishing daily a large quantity of Pieces that without these Engines would be the work of months.

11.^o Manufacture with several engines for making Buttons of metal with Steel flowers, enamelled of different fashions and Sizes. Making every day a large quantity by means of the gravity of the Engines that helps the work in such a manner that the Buttons are much reduced in price Boys are employed in this manufacture.

12.^o Manufacture of Crystals where there are several Engines and wheels to carve or engrave different reliefs in the Lustres, Vases, Salt, accouters &c. & the whole in a little time. —

13.^o Manufacture or Fabrick to make (asas) for all sorts of Buttons, in which are employed 12 women who ~~employ~~ ^{use} daily 75 lb of wire for said (asas) Shank's

14.^o A Fabrick of Mr Wilkinson in which the Iron ore is cast & the metal melted ~~thinning it~~ ^{thinning it} by canals or tubes in the moulds. In this Fabrick are made the Pipes for the Steam Engines, the Cylinders for several Engines, anvils, cented wheels,

Barrell's
15.^o Engines to bore Guns, and polish the inside by means of water. Clearing the Iron that remained at the time of Casting. A man finish 25 Barrels in a day, instead of 2 or 10 perfect in the common way. —

16.^o An Engine moved by a Horse, which polishes the Gunlocks, as also the brass work, and likewise such pieces as are used in Machines or applied to other purposes, observing that two men only are employed in working it and they produce more work in one day than one hundred would by the Common Method

17 Manufacture of Iron Buckles, plated
over with a very thin leaf of Silver or Gold
and ~~Stamped~~ ^{Stamped} with various figures, each
Engine finishing 36 pair daily.

18 Manufactory for purifying Iron for the
+ nicest work, this is a new invention

19 Manufactory for Weaving of Tapestry
Carpets very beautiful with proper
Machines, ^{use} making of Common wood
producing daily five yards of the richest
and most adorned and many more of
the Common sort

20 a Very Considerable Manufactory of
Iron belonging to a Quaker, where for
want of water to work the Forges
use is made of a Fire Engine, which
performs three operations, it blows
rises the water and works the
Hammers by which the Iron is wrought

21 A machine which moves twelve very
large grinding Stones by which fullages
and swords are shapen, Bayonets
polished & pointed, Cuts Saws for all sorts
of work, polishes Cast Iron Grates, Iron
Muskets Rammers, and several other
works of the same nature, which when
done with files, require thirty times more
labor, and dont come out so perfect.

22 Manufactory for giving a perfect blue colour to swords, Musket Barrils, Steel Chains &c and also gives a Red colour to several articles of Steel.

23 Manufactory of Woolen flaths, with an enormous Cylinder, with a multitude of Cards to raise the wool on the loth, it is moved with a Wheel, by means of water, it performs the work more perfect, and does forty times more quantity in a day than with the usual method.

24 a Machine moving several Cylinders for drawing the bars of Iron, that come from the great Iron works, which leaves them thinner than paper, and of the several Sizes required for various uses.

25 Manufactory of brass Nails, for ornamenting Coaches, chairs &c Rings for the Looms, wherein Silks are Woven, Rings for fustians and watch Chains all of brass, this work is done by Women & Boys, and the quantity produced, is ~~also~~ so great that they are delivered out by weight, not to lose time in reckoning.

26 Manufactory of Cotton, the Machines for which, are of quite a different Construction from those used formerly, the Cotton cannot be

be spun nor Carded, with them, as they
are Coarser, and therefore only applied to
to the ordinary sort of work, those of the
new Construction, have each of them 20
or 30 Spindles, so Comodious that they can
be placed in any part of the habitation
where those who work at them dwell.

27 A Foundary for melting Copper Ore with
Ovens or Stoves of New invention, which
with greater facility extracts a larger quan-
tity of metal, and of a purer sort, than in
those of the Common Construction. —
in this manufactory, the Calaminar
brass ore is mixed with the Copper, to make
brass, and in all the operations Seal Coal
is made use of

28 Manufactory of Small articles of Hard
ware in Brass, such as common Watch
Chains, gilded or Lacked, brass beads
of all sizes for earrings, Buckles Rings
of Copper gilded or plated set with false
Stones &c, all these are done with
Machines or Engines, which are managed
by Boys.

29 Manufactory of Copper Buttons, with
flowers or figures of Steel, of various patterns,
which are done with vast quickness,
in so much, that with one Stroke they cut
the

- the Steel flower or figure, with another they form the Button & Stamp it, and then with Engines inlay the steel flowers or figures,
- 30 A Manufactory belonging to a Duaker, which makes the Richest wrought buttons, plated either with silver or gold ~~plated~~ and of all sorts & fancies, in the managem^t of the Machines for performing the same. Twelve persons are employed which produce daily from 2 to 400 (qua buttons on hand & W^{ts})
- 31 Manufactory of Buttons of a new Composition for the use of the army, which the longer they are worn the better they look, fourteen person employ^d. therein produce daily 14,400.
- 32 Manufactory of Steel, where there are Engines for making buckles, of all sorts of patterns, sword hilts of all sorts, Flat Clasps, watch Chains floaths Buttons & several ~~of the~~ ^{other} articles of great perfection.
- 33 Manufactory of Shell'd Buttons done by Engines upon Iron or wooden Moulds of various patterns.
- 34 ~~Engines~~ Manufactory performed wth Engines for making Steel Stones & beads wrought in the same manne^r as the Diamonds, which are used in Ornament^s & all the beautiful Works.

done in steel, in which work 6 persons produce
daily 4200 pieces —

35 Manufactory for gilding & silvering sundry articles of Hardware made of brass, in which two persons only are employd, & they can perform as much work as thirty.

36 Do wherein 1 person only work, and with different Engines they make daily 3600 Steel Rings for watches, and several other pieces of polished ware.

37 Do for ornaments of Saddles bridles & Stirrups all of Iron plates which is a new invention, & which are laid over with Gold or silver

38 Do of Iron screws of all sizes, with wooden handles, in which five persons
(Rosas)^r produce 2000 screw daily.

39 Do of Crystal or Glass Seals of various Colours set in stamped brass, & gilded, in which by means of different Engines they make 48 daily

40 Do where there are Drum Hammers moved by water, for the manufacturing large quantities of Steel and Iron

- 41 Manufactory for engraving or carving the several pieces of Hardware, which is performed to the utmost perfection, and in great quantities
- 42 Do for Tining several articles of Hardware by Ebullition or boiling, at which a single person tins in a day Six hundred Weight of differ. pieces
- 43 Do of English Steel made out of Spanish Iron, as English Iron will not answer the purpose, four people work at this operation and they make Three hundred Weight of week
- 44 Do of Steel files of all sorts, the operations are performed with great Secresy in order to oblige those of other Countries to buy from them ^{moves}
- 45 An Engine for Throasting of Silk which 25,000 Spindles for different operations on the silk, which is worked by 200 Boys first it winds the Raw silk from the Spains into Bobbins, Secondly it twists two or three threads together, then the Bobbins are placed on another Engine which twists it and prepares it for ~~the~~ fit to go to the Dyers.
- 46 An Engine for making Cards for Carding Woolle which first forms the boards, then a Boy bends the Iron Wire, another pores the holes & at last rivets the teeth, 30 pair of these Cards are made daily on one Engine

47 An Engine for making the Steel Combs, ^{or Reeds} used
in Weaving broad Cloth and other Stuffs
which not only last much longer than
those made of Reed, but the work is also
done with greater perfection, as it keeps
the points more even. Two men work
this Engine, and they perform four
times more work than by the common method.

48 Various sorts of English ^{Presses} for the purpose
of pressing all sorts of Goods that require
a gloss, in the same manufactory there
is an Oven or Stove for the purpose of
heating the Cast Iron plates, used in
communicating a certain degree of heat
to the Goods.

49 Another Manufactory for making
Pate boards used in the above presses
in which a fine Gloss is given ~~with~~
in great perfection and incredible quick-
ness, by means of an excellent Engine,
this operation is endeavoured to be kept
a profound Secret in England

a Collection of the Manufactories
in the south parts of England
50 a manufactory for Weaving of Woolen
Cloth, in which there are Looms, so
contrived, that one man performs the
Work

Work of two, without breaking the Yarn,
and the work is done, with more ease
and to greater perfection, than by the Common
method.

51 Fulling Mills, for the purpose of Fulling
various sorts of goods, some of which
are worked by Water others by Horses.

52 Ovens of English invention for melting
of Chrystal Glass, in which Sea Coal
is used, which communicates more heat,
and purifies the Metal more than any
other fuel.

53 A Manufactory for ^{an} (under) Weaving all sorts
of Woven goods in which the threads
are less fretted (see cartigan), than by
the Common method, and ~~one~~ ^{one} Woman
is sufficient to manage it.

54 A Machine moved by Water which
serves to turn & join the large Tubes
used for the Steam or Fire Engines.

55 A Manufactory of Weaving ^{Flower}
Silks, in which there is an invention of
Looms, so constructed, that one man alone
performs the Operation of Weaving and
Drawing, by which means the work is
(done)

done quicker, than when two are employed
for in that case, one cannot begin untill
the other has done,

56 a very usefull mill, for Metal Mines,
it is moved by water, Grinds the Ore
washes it, and separates the dross from
the metallic part.

57 an Engine for pulverizing the several
sorts of Wood used as Dye stuffs, as also
the Bark used for tanning Soal Leather,

58 Another Mill worked by Water, for
extracting Oil from Linseed Turnip
seed Walnuts &c.

59 Reverberating ovens or stoves for
melting various kinds of metal, and
which are heated with sea coal,

60 Calenders moved by water, and some
by Horses, for giving a gloss to sundry
sorts of goods.

61 An Engine of Cylinders moved by one
man, which serves to make the flowers
on shagg, and is performed with so much
quickness, that in the space of half an
hour two pieces are begun and finished.

62 an Engine for Knapping Woollen Goods
some worked by Water, & some by Horses,

63 Do. for printing and making ^{Painted} Flowers on
Sundry sorts of Coarse Goods, Such as Sarges
&c. by means of Cylinders, this I understand
is what is termed Embossing.

64 Machines or Looms for weaving Cotton
Velvet.

65 a Set of Mills Erected where there is
not any Current of Water, and to supply
that defect, there has been substituted three
Steam or Fire Engines, which work thirty
Grinders, which grind ~~a~~ great a quantity
of Corn, as those Mills that move by
water.

66 A Manufactory of Copper, where there are
different Engines which serve to prepare
and render thin the Copper & Brass plates
used for several articles of manufactory
as also for sheathing Ships &c.

N.B. there are in Spain Designs & Models
of all the aforementioned Machines and
Engines, but they are ignorant of the use
of them.

The Linnen branch is one of very great
importance to them, but they have no
knowledge

Knowledge of the Operations and
Machines made use of in that business
in Scotland, Ireland &c. and the same
happens, in regard to many other useful
Branches of Manufactures.