

987. *Olea maxima Hispanica.* C. B.
 988. — minor *Lucensis*, fructu odorato. *Ibid.*
 989. *Onagra frutescens argentea angustifolia.* *Ind. Hort. Chelf.*
 990. *Pisum cortice eduli.* *Tourn.*
 991. *Pseudo-dictamnus acetabulis Moluccæ.* C. B.
 992. *Ptarmica flore pleno.*
 993. *Ricinus humilis*, folio subrotundo, flore fructu-
 que conglomerato. *Houft.*
 994. *Rubia procumbens hexaphylla purpurea.* H.
 L. B.
 995. *Serpyllum odoratissimum glabrum*, longiore
 folio. *Amm.* p. 52.
 996. *Stoechas citrina angustifolia.* C. B.
 997. *Tithymalus Juniperi folio.* *Boccon.*
 998. *Verbena angustifolia.* C. B.
 999. *Veronica spicata latifolia major.* *Park.*
 1000. *Veronica spicata angustifolia.* *Ger. Park.*

XIII. *An easy Method of procuring the true
 Impression or Figure of Medals, Coins, &c.
 humbly addressed to the ROYAL SOCIETY:
 By Henry Baker, F. R. S.*

Read April 19. 1744. **I**T must, I believe, be thought an agree-
 able and useful Thing, to be able to
 print off an exact and fair Picture, or Representation,
 upon Paper, of any Medal, Coin, or Seal, one may
 happen to get the Command of for a few Minutes,
 without doing it the least Injury, and with very
 little either of Expence or Trouble.

A. Con.

A Contrivance for this Purpose is what I now humbly take the Liberty to lay before you; assuring myself, that whatever can prove really useful, will not be the less regarded by this Illustrious Society for being plain and easy.

The first Step is, to take a perfect and sharp Impression, in black Sealing-wax, of the Coin or Medal you desire the Picture or Figure of: When this is done, the chief Trouble is over, and the rest of the Operation may be executed at Leisure.

Cut the Wax away round the Edges of the Impression, with the Point of a Penknife, or a Pair of sharp Scissars; and, having ready a Preparation in Gum-water of the Colour you would have the Picture, spread your Paint upon the wax Impression with a small Hair-pencil, observing to work it into all the sinking and hollow Places, those being the rising or projecting Parts of the Medal, and what only are necessary to be laid over with the Colouring; for it must be intirely taken away from every other Part before we can proceed.

The Way of getting off the Paint from the Places where it should not be, is, to moisten your Fore-finger a little, but not too much, with Spittle or Water, and pass it gently, but nimbly, over the Surface of the wax Impression; wiping it each time upon a Cloth or Handkerchief, till you perceive all the rising Parts of it perfectly fair and clean, and the Letters and sinking Parts of it only coloured.

This done, take a Piece of very thin Post-Paper, a little larger than the Medal; wet it in your Mouth, or with Water, till it be moistened quite through, but let not any Water hang upon it: Place it on

the wax Impression, laying on the Back of the Paper Three or Four Pieces of thick woolen Cloth, or Flannel, about the Size thereof.

I should premise, that you must have a Couple of flat smooth iron Plates, about Two Inches square, and One Tenth of an Inch in Thickness. The wax Impression must be placed, with its Face upwards, on the Middle of one of these Plates, before you spread the Paper and Flannels on it, and the other Plate must immediately be laid over them: Then, holding all tight together, put them carefully and evenly into a little Press, made of two iron Planks about Five Inches and half long, One Inch and half wide, and half an Inch in Thickness (shaped like what Bookbinders use of a large Size in Wood), having a Couple of long male Screws that run through them, with a turning female Screw on each to force the Planks together: And these female Screws must have strong Shoulders, whereby to work them. But all this will be comprehended better by the Figure hereto annexed. *See TAB. I. Fig. 4.*

Things being thus adjusted, hold the Press in your Left-hand, and, with a little Hammer, strike first on the Shoulders of one Screw, and then on the Shoulders of the other, to bring the Planks together parallel, and render the Pressure every-where alike; unless you find it requisite to give more Force to one Side than the other, which these two Screws will put in your own Power.

The Press opens again, by a Stroke or two of the Hammer, the contrary Way, on the Shoulders of the Screws: and then you will find a true and fair Picture neatly printed off; which (if any Deficiencies appear

appear therein) you may easily repair, when dry, with a Hair-pencil, or a Pen, and a little of the same Colour.

If your Paper does not soak in the Moisture well, by being over-sized, it is necessary to wet the Flannels, or the Paper will not come off strongly enough colour'd: And, if the *Relievo* of your Medal be very high, it is best to put a little Cotten immediately upon the Back of the Paper, between that and the Flannels, that the Paper may be duly pressed into the deep Hollows of the wax Mould.

This Method is very easy and ready for taking the Picture of a Medal in any Colour: But, if you desire a *Relievo* only, without any Colour, the Way is abundantly shorter; for nothing then is necessary, but to place a Piece of Card, or white PASTEBOARD, well soaked in Water, on the wax Mould, without any Colouring, and letting it remain in your Press a few Minutes, the Business is done at once.

As it is plain, from what has been said, that the whole Success depends on the Goodness of the wax Impression or Mould, I shall lay down some Rules for taking it, which much Experience has taught me.

1. The Wax must be very fine; or it wants a proper Hardness, and the Impression will not prove sharp.
2. It must be spread wider than the Medal, and of a Thickness in proportion to the *Relievo* of it.
3. The Medal must be clapped on when the Wax has a right Degree of Heat: For, if it be too hot, the Medal is apt to stick; and, if too cold,

cold, no good Impression can be taken. I observe the best Time to be, just after the Wax ceases to work up, and have little Bubbles in it.

4. Take not the Impression on a Table, or any hard Body, without a Sheet or two of Paper, or, what is better, a woollen Cloth, underneath; for that gives way to the Pressure and Form of the Medal, which hard Bodies will not do.
5. The Medal should be squeezed down equally hard on every Side, and the Pressure continued till the Wax is near cold: For, if you lift up the Medal while the Wax remains hot, the rising Parts, being still soft, sink down, and become much less sharp.
6. The best Paper for your wax Impressions is white Pasteboard, Card-paper, or some other thick Paper.

The Pictures may be coloured as every one fancies. I have done them in most Colours, but think a Red the best; which was the Reason I advised the Impression to be taken in black Wax; since the Wax and Paint must be of different Colours, or it will be impossible to distinguish when the Colour is laid on properly, or rightly cleared away. Therefore, if the Pictures are chosen in Black and White, to resemble Copper-Plates, the Wax must not be black, but red.

The red Colouring I use is a Mixture of Lake and Vermilion, which works off more kindly than either of them alone.

Gamboge makes a good yellow Print, and appears very lively in the Day-time, but can scarce be seen by Candle-light: Mixed with Carmine, it affords a much better Colour.

Burnt Umber affords a Brown; but is more agreeable, if tintured with a little Lake.

Blue may be composed of Verditer and Indico; but is troublesome to clear off; and, after all, has but an indifferent Effect.

Green is likewise, in my Opinion, not very agreeable; but, if desired, Sap-Green serves the Purpose best.

Indian Ink makes the best Black; and affords Pictures very like those from Copper-Plates.

All these Colours, except Gamboge, Sap-Green, and *Indian* Ink, must be ground extremely fine, with Gum-water of an exact Strength: For, if there be too much Gum, the Colouring will not easily be cleared away from the wax Impression, nor readily come off upon the Paper; and, if too little, every Touch will spoil your Picture, after you have worked it off. Some few Trials will teach the proper Temper it ought to have.

If you would have the Hair, Face, Robes, or any Parts of the Print to be of different Colours, you must spread them so on your wax Impression. I have worked off many in that Manner, which I have here to shew; but, as it is much more troublesome to lay on the Colours thus, and requires a good deal of Finishing with the Pencil afterwards, I think it also less proper for the Picture of a Medal, than one single Colour.

I am not unacquainted with many ingenious Inventions for taking off Medals, in Sulphur, Plaister of *Paris*, Paper, &c. ; but, since a Mould must be formed for each of these, either of Clay, Horn, Plaister of *Paris*, or some other Materials, which requires a great deal of Trouble and Time to form, I believe this Way will be judged abundantly more convenient: And taking Impressions on Paper from the Medals themselves, by passing them through the Rolling-Press, and colouring them afterwards, is not only much more tedious, ineffectual, and less practicable (as a Gentleman cannot manage a Rolling-Press), but does really a great deal of Injury to the Medals, by impairing the Sharpness of their most delicate and expressive Strokes; as I myself have found by repeated Experience.

But Wax is always ready, and hurts not the finest Medal in the least Degree; and, however brittle it may be supposed, the Moulds made thereof resist the Force of downright Pressure, almost as effectually as if they were made of Steel; and might serve to take off a thousand Impressions, were they not apt to crack, and the Marks of those Cracks to render what are taken from them afterwards, not quite so elegant: But each Mould will usually afford three or four good Impressions, either coloured or plain. And, when they are done with, if the Paint is washed off clean, the same Wax may be melted and employed again several times over.

It is evident, that Impressions taken thus, must be exactly what the Medals are from whence we take them, and that any-body who can borrow Medals from his Friends, may, in this manner, at the

Expence of a little Pains, procure a noble Collection of genuine Prints or Medals, which may be placed in Books, in orderly Series, and moved from one Leaf to another at Pleasure, if they are only pasted down by little Slips of Paper left round the Edges for that Purpose. I flatter myself therefore, that the Usefulness of this Contrivance will not be slighted, on account of its being so plain and obvious, that every Gentleman will wonder himself did not hit on it; since Discoveries that are most easy, and, consequently, may be practised by every body, however simple and void of Invention they may appear, are really in themselves most valuable. As a Proof whereof, I shall only instance one Art (from which this, in some sort, is borrowed); I mean the Art of Printing; the most happy Discovery, that, perhaps, was ever made by Man! yet, seemingly, so easy, and what the Antients in their Seals approached so near to, that it is extremely surprizing it was not found out many Ages before it was.

Twenty-five Years ago and better, I first, accidentally, thought on and practised the Method here described: And though, since that time, I have taken off many Hundreds of Coins and Medals, for myself and Friends, I have hitherto been so far from disclosing it to any body, that, on the contrary, I have endeavoured to conceal it, by pressing the Pictures flat, that the rising Parts might give no Hint of so easy a Contrivance. But, at length, considering, that it may promote the Knowiege of Medals, whereby many Facts in History may be explain'd, that any Gentleman may divert himself by doing it, and that, possibly, it may prove acceptable to the Curious, I
do

do myself the Honour to present it to this Society. And, in order to make it better understood, I sub-join a Drawing of the Press I use in its full Size; see TAB. I. *Fig. 4.* and have brought the whole *Apparatus* (the Expence whereof is not above four Shillings) to shew the Manner of employing it: I shall be also ready to give farther Information or Assistance to any Gentleman of this Society, who may desire or stand in need thereof.

I have likewise added to this Account, as Specimens, both the Picture and the *Relievo* of that Medal of Gold, which this Society bestows yearly, in consequence of Sir *Godfrey Copley's* Benefaction, as the *Præmium* of some new Experiment, or useful Observation lately laid before them. By the way of Fancy, I have also placed with them the reverse Side of an Half-crown, and of a Silver Medal that came to Hand, taken off in Leather; and am ready to shew great Numbers of other Specimens.

And now, Gentlemen, to conclude, If I have intruded on your Time too long, or said too much in behalf of what has often afforded me much Pleasure, and, I think, capable of doing the same to others, I hope to obtain your Pardon; and am,

Your most obedient humble Servant,

London, April 19. 1744.

H. Baker.

N. B. Instead of the Water-Colours herein mentioned, I have lately made use of the Mixture (both Red and Black) which is usually employed by the Rolling-Press Printers in working off Copper-Plates, with very good Effect: but when this is used, after it has been wiped off with a linen Cloth, it is necessary to clear it perfectly from the Ground of the wax Impression, by rubbing one of your Fingers on a Piece of Whiting, and passing it two or three times over your Impression, in the same manner as Copper-Plates are cleared.

The Eye-Sucker as seen by the ...

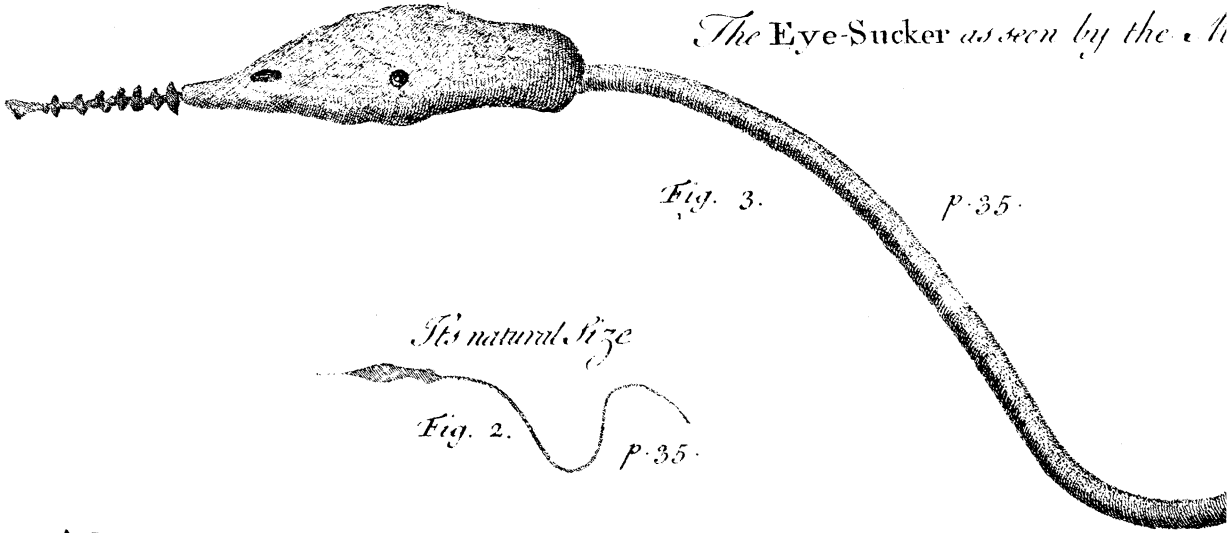


Fig. 3.

p. 35.

Its natural size

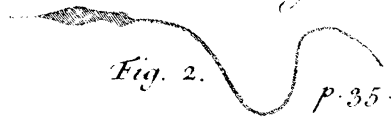


Fig. 2.

p. 35.

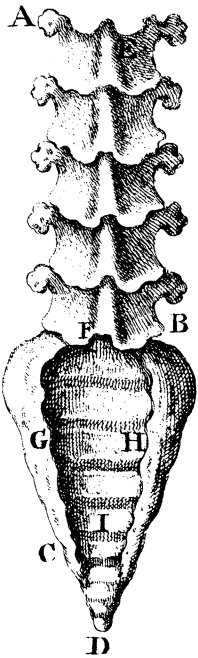


Fig. 1.
p. 11.

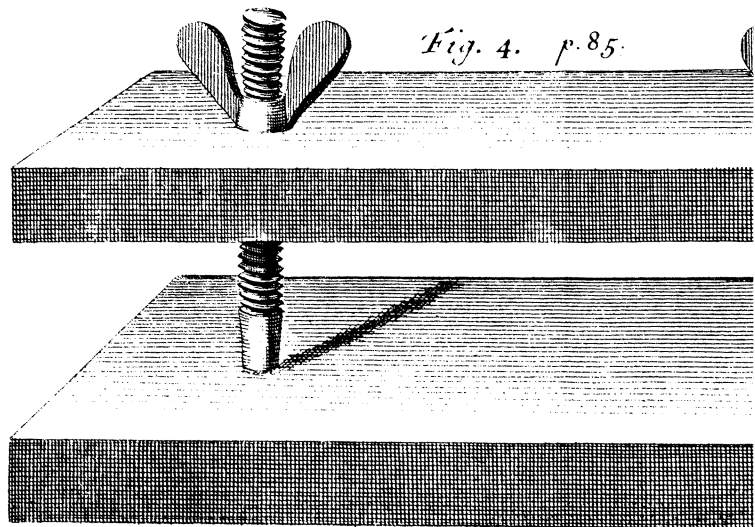
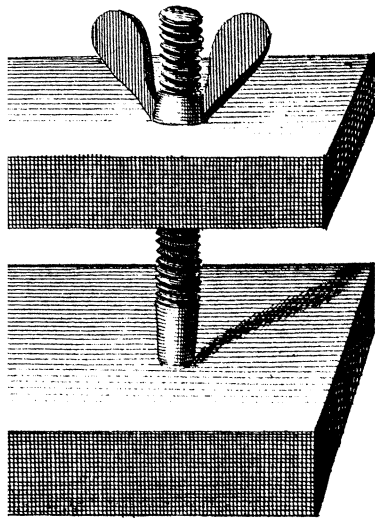
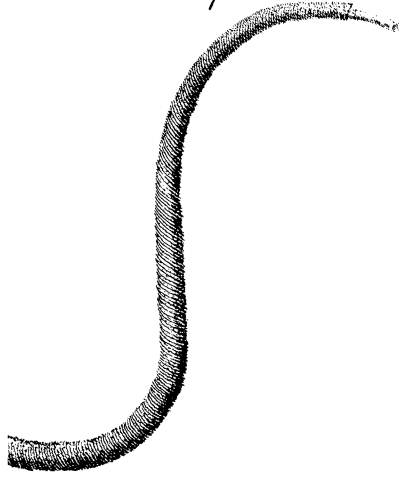


Fig. 4. *p. 85.*

the Microscope



J. Wandt sc.

The Eye-Sucker as seen by the Microscope

