



XLIX. Description of a machine for securing persons attempting depredations without affecting their life or limbs

Mr. Robert Salmon

To cite this article: Mr. Robert Salmon (1810) XLIX. Description of a machine for securing persons attempting depredations without affecting their life or limbs , Philosophical Magazine Series 1, 36:150, 256-259, DOI: [10.1080/14786441008563186](https://doi.org/10.1080/14786441008563186)

To link to this article: <http://dx.doi.org/10.1080/14786441008563186>



Published online: 18 May 2009.



Submit your article to this journal [↗](#)



Article views: 2



View related articles [↗](#)

All Nature is held together by an universal bond; the vegetable kingdom is joined to the animal by the sensitive plant; birds and fishes by the bat and beaver; the monkey joins beast to men; and the sun by his vast influence binds the worlds together that form our system. Let us extend our views a little further, and we shall have the blazing comet uniting the systems of other suns to ours, forming the links of that chain by which the universe is supported.

XLIX. *Description of a Machine for securing Persons attempting Depredations without affecting their Life or Limbs.* By Mr. ROBERT SALMON, of Woburn*.

SIR, I beg leave to submit to the Society of Arts, &c. a mantrap, which I hope will meet with their approbation. To those who live in the country it is needless to explain the frequency of petty depredations committed on gardens, orchards, &c. and which are sometimes very vexatious. Few persons would like to endanger the life or limb of the depredator by setting the common steel man-trap, yet it is presumed there are but few who would not wish to detect the offender. The instrument which I have the honour to submit to the Society is for the purpose of catching and holding the person without injury. At the Agricultural Meeting at Woburn last summer, an ingenious invention for a similar purpose was produced by Sir Theophilus Biddulph; it consisted of a wood box, containing two springs in iron barrels, and two chains passing over and round them: when this was set, the chains were withdrawn from round the barrels, and extended to a certain distance. A trigger then kept the trap from closing. The whole was then covered over with thin iron plates; so that if a person set his foot on those plates his leg dropped into the box, and the chains closed round it and held the leg; but as the box was about three feet square and a foot deep, it was requisite that it should at setting be let into the ground, which would be a work of considerable labour, and when done it would be difficult to dispose of the stuff from the hole, or to conceal the trap; and as the whole apparatus was cumbersome and expensive, it appeared to me not to be well applicable in practice.

* From *Transactions of the Society for the Encouragement of Arts, Manufactures, and Commerce*. vol. xxvii.—The silver medal of the Society was voted to Mr. Salmon for this communication, and one of the machines is reserved in the Society's repository for the inspection of the public.

I think

I think it right to give this explanation in justice to Sir Theophilus Biddulph, from whom my idea of the utility of something of the kind arose, as also to show the difference between his invention and the trap I have made, which is so very simple as hardly to require explanation. When set, it only requires that the two keys be withdrawn, and that the trap be covered with a few loose leaves or mould. To the trap I have attached a piece of chain and a screw to be screwed into the ground, so as to prevent its being carried away; but against any person that may be caught such a precaution is perhaps unnecessary, for any person who is caught will find the jaws of the trap close so fast on the leg that he cannot drag the trap far without great pain, and will consequently be glad to stand still and to call out for relief. For the convenience of explanation I have applied mufflers to the jaws of the trap, so that any person may put in his leg without the least inconvenience. I have even tried it without, yet, though void of danger, the sensation is not pleasant. The muffle will of course be omitted when set for use, as it is not then necessary to guard against a little inconvenience, otherwise the springs might be made weaker. I remain, sir,

Your most obedient humble servant,

ROBERT SALMON.

Woburn, Feb. 12, 1809.

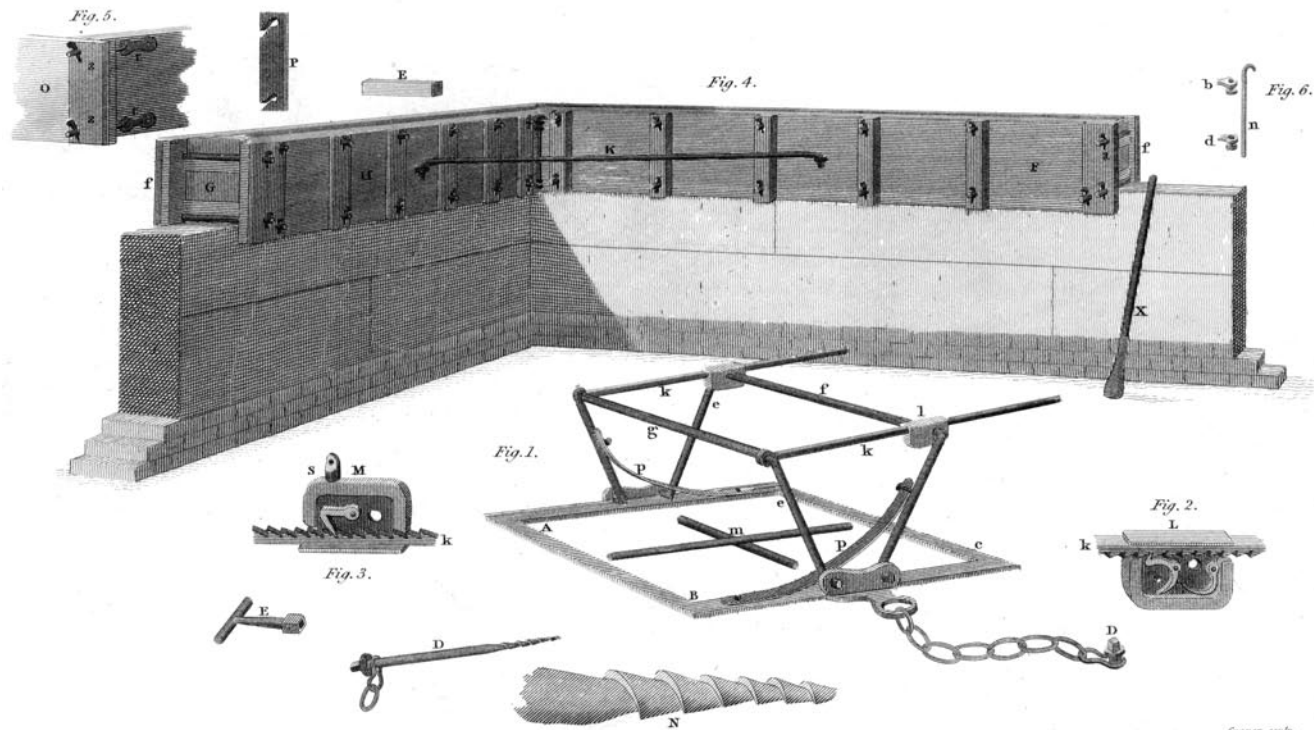
To C. TAYLOR, M.D. Sec.

P. S.—Permit me strongly to recommend to the notice of the Society the earth screw attached to the trap, as excellent for the purpose of fixing any thing steadily in the earth. This screw is far superior to the common way of driving an iron point or stake therein.

I have employed it for several years in fixing cross-staffs and other surveying instruments with great advantage. The very act of driving a spiked instrument into the earth leaves it loose with some play or movement, which prevents it from being easily secured; but with a screw of this kind at the bottom of the instrument it is firmly fixed in the ground, and a turn of the screw will again fix it, if it should by any means be moved or loosened. It may also be screwed into the ground with any instrument upon it, which would be spoiled by the act of driving it in.

Description of Mr. Salmon's Man-Trap, which detains the Offender, without injuring or maiming him. See Plate VI. Fig. 1.

The principal figure in the fore-ground of Plate VI. is a
Vol. 36. No. 150. Oct. 1810. R perspective

M^r Salmon's method of Building Pisé or Earthen Walls— & his Man Trap.

perspective view of this machine. Fig. 1. ABC is a frame of wrought iron, about 18 inches square; it has an eye projecting from it to receive a short chain, the other end of which is fastened to an iron screw, shown separately at D, screwed into the earth by the key or handle E: this screw is about 14 inches long, and, when screwed into hard ground, will hold so firmly, that there is no danger of its being drawn out, even by two or three men; and having a small square end, it cannot be turned without the key or handle E; so that an offender would find it extremely difficult to remove the trap: *ee fg* are two iron frames moving on centres in the frame ABC; these frames have a constant tendency to close together, by means of two springs *pp*, fixed in the frame AB, and acting against pins projecting from the upright sides of the moveable frame *ee*; *kk* are two small iron rods jointed to the upper rod of the moveable frame *g*, and passing through small locks *ll*, fixed to the other frame *f*. These locks contain clicks which are pressed by springs into the teeth, as may be seen upon the rods *kk*, so as to prevent the two bars *fg* from being drawn asunder when they have been closed by means of the springs *pp*. The internal mechanism of the locks is explained by figures 2, 3, on a larger scale at LM, in the same plate; one side of the lock is supposed to be removed to exhibit its interior parts, where *k* represents the rack, or that part of the rod which is cut into teeth, *r* is the click, which engages the teeth of the rack, and prevents its being drawn through the lock: the click is pressed against the teeth of the rack by a spring, which is plainly seen in the figures; the locks are attached to the ends of the bar *f* of the moveable frame, by the bar passing through the locks, and when the lids are riveted on it is confined in such a manner that it cannot be got out. But as it is necessary to open the bars *fg*, and draw the clicks back from the teeth of the racks, Mr. Salmon has contrived two different methods of accomplishing this object. Figure 3. M is that which is used in the model left at the Society's Repository; a small key or screw *S* is put down through a hole in the lid of the lock, and is received into a hole lapped with a screw in the click: by turning the screw it lifts the click out of the teeth of the rack; so that the moving frames *fg* can be opened apart from each other, till they lie flat upon the frame AB. The iron cross *m* is then put between the two rods *fg*, the screws *S* of the two locks are to be withdrawn from the locks, and the trap is set for use. If an offender should place his foot within the square of the frame, he would tread down the cross

On the charging Capacity of coated Electrical Jars. 259

cross *m*; and having thus removed the obstruction, the two frames *e e f g* are closed together by the springs *p p*, so that the bars *f g* inclose his leg, and the clicks in the locks prevent the bars being opened without the screws *S*. In some of the machines which Mr. Salmon has made since the model was deposited with the Society, the locks are made like figure 2, *L*, where a common key is to be introduced, and, when turned round, catches the tail of the click; it may have wards to prevent the using of a false key, though no wards are shown in the plate. Part of the screw *D* for securing the trap from being carried away by depredators, is shown on a larger scale at *N*, in order that the peculiar form of its threads may be better seen, which fix it firmly in the earth. Such screws would be very serviceable in fastening horses at grass, &c.

L. An Account of a New Method of increasing the charging Capacity of coated Electrical Jars, discovered by JOHN WINGFIELD, Esq. of Shrewsbury. Communicated by Mr. JOHN CUTHBERTSON, Philosophical Instrument-Maker, Poland Street, Soho; with some Experiments by himself on that Subject.*

IN my treatise entitled *Practical Electricity and Galvanism*, page 103, I have said that breathing into coated electrical jars increased their charging capacity to such an astonishing degree, that their discharge would fuse four times the length of wire more than they could in ordinary circumstances; which I proved by experiments 147 and 156. Since that publication, large electrical batteries are become more general, and the number of jars increased; so that batteries containing thirty, sixty, and even a hundred jars are frequently met with; and, when so numerous, breathing into each jar is very disagreeable; and not only that, but in very dry states of the atmosphere, when most wanted, is even ineffectual, as those jars first breathed into lose that property which was produced in them by breathing, before the last can have obtained it: so that various other means have been tried; such as wetting the inside of the jars, and putting wet sponges into them, or by greasing and oiling the uncoated part in the inside; all of which gave very uncertain results, till John Wingfield, esq. communicated to me,

* A gentleman who has lately very much distinguished himself, not only in the electrical science, but in all other branches of experimental philosophy.