

XXXVIII. *Notice of a Scheme, with the Warrant of King James VII., and the Lords of Privy Council, for a Patent to be granted to certain Merchants in London, for Weighing up and Recovering Ships in the Scottish Seas. 26th May 1686.*

Communicated by DAVID LAING, Esq., Treasurer, S.A.Sc.

[Read to the Society 28th February 1848.]

Cowper, in his noble Ode on the loss of the Royal George, exclaims,

“ Weigh the vessel up,  
Once dreaded by our foes;”

and he urges this consideration for the attempt,

“ Her timbers yet are sound,  
And she may float again,  
Full charged with England's thunder,  
And plough the distant main.”

But what mechanical science could not accomplish under the most favourable circumstances in 1782, it was not likely would be effected by speculators a century or two earlier. It must however be always an interesting object of enquiry to trace the origin and perfection of any useful invention, whether originating in an abstract love of science, or the more worldly motive of gain. Such schemes as that which I propose to bring under the notice of the present meeting, were obviously intended not for the weighing-up of vessels for future service, but for the recovery of treasure and other articles of value remaining in vessels which had been wrecked on our coasts; yet the ingenious devices resorted to for accomplishing this purpose were not altogether fruitless in regard to the advancement of science.

Beckmann, in his *History of Inventions*, has carefully detailed nearly all the information to be obtained respecting the origin of the Diving Bell; and the subject has also been treated very minutely in the different Encyclopædias. I shall therefore only trespass on the attention of the Society, by collecting some notices regarding those attempts which were made in this country during the 17th century.

It is well known, that “the Invincible Armada,” which in 1588 threatened

the invasion of England, and the overthrow of the Protestant Religion, was defeated by no human agency. Some of the vessels were driven northwards and wrecked on different parts of the coast of Scotland, even as far to the north-west as Fair Isle, lying midway between Orkney and Zetland. It is usually stated, that the gallion wrecked on Fair Isle was that of the Duke of Medina Sidonia, commander-in-chief of the Armada. James Melville, Minister of Anstruther in Fife, in his interesting Diary, has described the Duke's personal appearance; and, in recording the names of other captains, he styles him simply "Jan Gomes de Medina, commander of twenty hulks," equivalent, no doubt, to the Admiral of a squadron of so many vessels. He escaped with 200 of his men, with little other prospect, either for themselves or the inhabitants of the island, than a lingering death from famine. After six or seven weeks of continued suffering from want and cold, they reached Orkney; and having obtained a vessel, they, with some more of their countrymen, to the number of six captains, and thirteen score of men, landed at Anstruther, where they were hospitably entertained for a day or two; the men, according to Melville's account, being fed on kail, pottage, and fish; and they at last found means to return to Spain.

The reports that some of these vessels contained great treasure, more especially one wrecked near the Isle of Mull, suggested the probability of recovering part of their stores; and from a work published at Rotterdam in 1669, we know, that some attempts of the kind were partially successful.

The work referred to is entitled, "*Ars Nova et Magna Gravitatis et Levitatis.*" It consists of six books, in the form of philosophical dialogues on the weight and pressure of air, and other subjects, by George Sinclair, who had for some time been Professor of Philosophy in the University of Glasgow. In the 5th Dialogue of Book 2d., he describes a machine newly invented; from its shape resembling a bell, and the term *Urinator*, a diver or swimmer under water, it was called *Campana Urinatoria*. He mentions, that, in the year 1665, the inventor, whose name is not specified,<sup>1</sup> had by its

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<sup>1</sup> In the Index, however, we find the reference to p. 221, thus entered:—"D. Mael a Melgim, omnium totius Europæ artis Urinandi peritissimus, tria tormenta bellica ex demerso sustollit navigio;" which explains the reference in letters of a subsequent date, to Melgim's method. This seems to refer to a Maule of Melgim. At this period the Laird of Melgum in Forfarshire was Alexander Murray, son and heir of Sir Robert Murray of Priestfield.

means brought up three pieces of ordnance—one of brass, another of copper, and the third of iron—from one of the Spanish vessels sunk near the Island of Mull. Two of these cannon are said to have been eleven feet in length, and eight fingers breadth in diameter; and what chiefly excited admiration was to find, that instead of iron, stone bullets had been used. Other things, Sinclair states, would have been recovered, after the vessel had remained a period of 77 years under water, covered with sand and sea-weeds; but the tempestuous weather at the close of Autumn, obliged them at that time to relinquish their attempts, to be resumed at a more propitious season.

In a subsequent work, by George Sinclair, called “Hydrostatical Experiments,” published at Edinburgh in 1672, he describes at great length an invention, apparently of his own, being “A Wooden Ark, constructed with a leaden foot-stool, on which the diver’s feet might stand, and cause it go under the water.” “This invention, then, (he says) is for *diving*, a most excellent art, for lifting guns, ships, or any other things that are drowned below the water. And it is in imitation of the *diving bell*, already found out and made use of with success.” (P. 153.) In fitting up this ark, he proposed to insert a window or two, fitted with glass, to enable the diver to look around him. “A little shelf (he adds) might hold a compass, with a magnetical needle; and, in one of the corners may hing a little bottle with some excellent spirits, for refreshing the stomach under water.” (P. 155.) Near the close of about 30 pages which Sinclair has devoted to this invention, he says, “As the *Ark* is a most useful device for profit, so ’tis excellent for pleasure and recreation, if a man were disposed to see the ground and channels of deep waters, or were inclined to find out hydrostatical conclusions, a knowledge very profitable, and what few have attained to. Though it seems somewhat difficult to enter the *Ark*, and go down below the water, yet a little use will expel all fear.” (P. 172.) But the learned Professor nowhere states, that he himself had been disposed either to take such “pleasant recreation” under water, or to perfect his own attainments in Hydrostatics.

In this volume the author has introduced a variety of “Miscellany Observations,” containing, among other matters, a “Relation of the Evil Spirit which troubled a man’s family in Glenluce; and a large discourse of the coal-sinks, dippings, risings, &c., in the coal-fields at Tranent.” Sinclair, who was an ingenious but credulous man, has obtained much more notoriety

from his *Satan's Invisible World discovered*, first published in 1685, than from all his philosophical lucubrations.

Sinclair was born about the year 1630. He was educated at the University of Edinburgh, where he took his Master's degree in July 1649. In 1654 he was appointed one of the Regents or Professors of Philosophy at Glasgow; but, from conscientious motives, he resigned his chair towards the close of 1666, when the Presbyterians in the west were subjected to those oppressions which disgrace the history of our country at that period.

But soon after the publication of his *Hydrostatical Experiments*, a little volume under an assumed name appeared, attempting to throw ridicule on his various schemes, and more especially on his *Diving Ark*. The author of this work was James Gregory, the celebrated mathematician. By way of parody on the title of Sinclair's large work, it is called, "The Great and New Art of Weighing Vanity: or a Discovery of the Ignorance and Arrogance of the great and new Artist in his Pseudo-Philosophical Writings. By M. Patrick Mathers, Arch-Bedal to the University of St Andrews. To which are annexed some *Tentamina de Motu Penduli et Projectorum*. Glasgow, by Robert Sanders, Printer to the City and University, 1672," 18mo.

Sir John Leslie, in an article in the *Encyclopædia Britannica*, in referring to Sinclair's publications, says, "It is painful to remark that James Gregory, the inventor of the reflecting telescope, who, although endowed with talents of the highest order, appears to have had a keen temper, and to have imbibed a hereditary attachment to Royalty and Episcopacy, should have stooped to attack an unoffending and less fortunate rival. He wrote a little tract against Sinclair's *Hydrostaticks*, with the title of the 'Art of Weighing Vanity,' and under the thin disguise of Patrick Mather, archbeadle of the University of St Andrews. It is a piece of low scurrility, and memorable only for a very short Latin paper appended to it, containing the series first given to represent the motion of a pendulum in a circular arc. In the British Museum there is a letter of Gregory to Collins,<sup>1</sup> the Secretary of the Royal Society, treating of his project, and soliciting information to overwhelm the

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<sup>1</sup> Letter in the British Museum, quoted in the *General Dictionary*, vol. v. p. 554, and *Biographia Britannica*, vol. iv. p. 365.

poor author." Sinclair "answered Gregory's attack in the same coarse style, charging him with total want of skill in the use of astronomical instruments, though, by help of subscriptions, he had erected a sort of Observatory at St Andrews. The manuscript of this reply is preserved in the College Library of Glasgow."<sup>1</sup> That Sinclair's reply was not published, may perhaps have been owing to Gregory's early death in October 1675, at the age of 37. It bears the quaint title of "Cacus dragged from his Den."

The next and most fortunate experimenter was William Phipps, who was born in New England, and brought up as a carpenter in Boston. He sailed to the Bahamas, in quest of a Spanish wreck respecting which he had received some intelligence, but with no other result than hearing of another wreck which had been four-and-forty years under water, "wherein was a mighty treasure then undiscovered." He came to England, and having submitted his project to Charles II. in 1683, he obtained the command of a frigate of 18 guns and 95 men. This expedition was unsuccessful, and subjected him to ridicule; but still feeling confident that "he must be the discoverer" of such treasure, he again embarked, supported by the Duke of Albemarle and other joint speculators. This renewed attempt far surpassed his most sanguine expectations; and he returned from what was called his "new fishery," having raised, from 7 or 8 fathoms water, 82 tons of silver, besides jewels, pearls, and gold, amounting in value to between 200,000 and 300,000 pounds. His prize was divided with such scrupulous precision among his employers and his seamen, that his own share was only about £16,000. The King was so much pleased with his conduct, that he conferred on him the honour of knighthood, and a patent as High Sheriff of New York. He afterwards became Governor of Massachusetts, and died at London in February 1695, bequeathing his property to his nephew, Constantine Phipps, who was appointed Lord Chancellor of Ireland in the reign of Queen Anne; and thus he may be said to have laid the foundation of the noble family of Mulgrave, now represented by the Marquis of Normanby.

It may have been the great expectations raised by Phipps's scheme, that suggested to other speculators to undertake similar attempts on our own

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<sup>1</sup> Art. Barometrical Measurements, in *Encyclopædia Britannica*, 8th edition.

coasts; Beckmann states that several companies were formed, and obtained exclusive privileges of fishing up goods, on certain coasts, by means of Divers. The Warrant which I now beg to exhibit to the present meeting in some measure confirms this statement. It is signed by King James the Second, by the Lord Chancellor and Lords of Privy Council in Scotland. The Minutes of Privy Council for 1686 are not preserved; and I have found no evidence to prove that this Warrant had been employed to obtain the proposed patent, or that any success had attended such an enterprise. There is however a passage in Martin's Description of the Western Islands, first printed in the year 1703, which may be quoted, in connexion with this or some other similar attempt.

“ Between the Isle of Calve and the Isle of Mull, there is a capacious and excellent bay, called Toubir Mory, *i.e.*, The Virgin Marie's Well, because the water of a well of that name, which is said to be medicinal, runs into the Bay. One of the ships of the Spanish Armada, called the Florida, perished in this Bay, having been blown up by one Smollet of Dumbarton, in 1588. There was a great sum of gold and money on board the ship which disposed the Earl of Argyle and some Englishmen to attempt the recovery of it; but how far the latter succeeded in this enterprise is not generally well known; only that some pieces of gold, and money, and a golden chain was taken out of her. I have seen some brass cannon, some pieces of eight, teeth, beads, and pins, that had been taken out of that ship. Several of the inhabitants of Mull told me that they had conversed with their relations that were living at the harbour when the ship was blown up, and they gave an account of an admirable providence that appeared, in the preservation of one Doctor Beaton (the famous physician of Mull), who was on board the ship when she blew up, and was then sitting on the upper deck, which was blown up entire, and thrown a good way off, yet the Doctor was saved, and lived several years after.” (P. 253.)

The statement is not very explicit; but there is an evident allusion to this scheme by Sinclair in one of his latest works, when referring to his former experiments. It may be noticed that he resided for several years in Edinburgh and Leith, as a private teacher of mathematics. In 1683, he reissued the unsold copy of his Hydrostatics, with a new title, “ Natural Philosophy Improved by New Experiments;” prefixing some leaves dedicated to the Pro-

vost and Magistrates of Edinburgh, expressing his deep obligations for their patronage, and taking some credit to himself as having been instrumental in supplying the city with water, in the construction of the Reservoir on the Castle-hill. He again recurs to this in 1688, when, with much truth, addressing the Magistrates, he says of this "great and noble design," (which remains to the present day), "that the generations to come shall call you happy, whom you have enriched with refreshing streams of cooling waters, more advantageous and useful to the City than the fruit of the vine."<sup>1</sup> In these copies he suppressed the concluding 15 pages of "Postscript," which contain some severe remarks on his St Andrews antagonists of 1672. Upon the change of public affairs at the Revolution, after an interval of twenty-five years, Sinclair was restored to his place in the University of Glasgow, having been inducted in 1691 as "Professor of Experimental Philosophy." Three years previously, he published a small volume, "The Principles of Astronomy and Navigation." To this he subjoined "A new Proposal for buoying up a Ship of any burden from the bottom of the Sea;" in which he mentions that "this proposal was made some few years ago, to try the invention and wit of some notional men; but though they have ploughed with my heifer, yet were they not able to find out my riddle."

He mentions that the Marquis of Argyle, by patent, had obtained a special grant of one of the Spanish vessels sunk at the Isle of Mull; and that the Earl of Argyle had employed "a most ingenious gentleman, the Laird of Melgim," who, by means of the diving bell, as already noticed, buoyed up three guns. He also makes mention of one Captain Smith, whose sanguine expectations, he says, "turned to nought."

There is in our Museum an interesting relique connected with one or other of these "new fisheries," being an ancient Gun-Barrel, 4 feet 9½ inches long, incrustated with shells, &c., found in 1824, upon shifting of the West Sands of St Andrews, and conjectured to have belonged to one of the wrecked vessels of the Spanish Armada.

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<sup>1</sup> The original of the following Warrant came accidentally into my possession, from a person who represented himself as the descendant of one of the parties who are named. He stated the cause of his wishing to part with it was, to raise a small sum to carry him to some distance. The number of dirty wrappers in which it was inclosed, and the pieces of paper pasted on the back, for preservation, showed that some care had been taken of it as a curiosity:

*Warrant for a Patent to William Harrington, Richard Pendarves, Cornelius Degelder, and Samuel Souton, to practise the Art of Weighing up and recovering Shippes, &c., in the Scotts Seas and Harbours for fourteen years.*  
May 1686.

JAMES R.

OUR SOVERAIGNE LORD, Taking into his Royal consideration the Proposal and Overtures made by William Harrington, Richard Pendarves, Cornelius Degelder, and Samuel Souton of the City of London Merchants, Undertakers for weighing up, recovering and obtaining from under water, Shippes, Gunns, Treasure, and other goods Shipwrack't or lost in Harbour, Roads or at Sea, by several Ingines and Instruments, WITH the advice and consent of his Ma<sup>ty</sup> Right trusty and Right wellbeloved Cousin and Counsellour James Earle of Perth, &c. Lord high Chancellor of his ancient Kingdom of Scotland His Ma<sup>ty</sup> Right trusty and intierly beloved Cousin and Counsellour William Duke of Queensberry &c. Lord President of his Ma<sup>ty</sup> Privy Councill thereof. His Ma<sup>ty</sup> Right trusty and Right well beloved Cousin and Counsellour John Marquiss of Atholl &c. Lord Privy Seale, His Ma<sup>ty</sup> Right trusty and well beloved Cousin and Counsellour William Duke of Hamilton &c. His Ma<sup>ty</sup> Right trusty and wellbeloved Cousin and Counsellour George Viscount of Tarbet Lord Register, &c. His Ma<sup>ty</sup> trusty and well beloved Counsellour William Drummond of Cromlix Lieutenant General of His Ma<sup>ty</sup> Forces in the said Kingdom, His Ma<sup>ties</sup> Commissioners for his Highness Treasury Comptrollry and Treasury of new Augmentations therein, And also with advice and consent of the Lords and others of Exchequer of the samin Kingdom of Scotland, His Ma<sup>ties</sup> Commissioners—ORDAINS a Letter or Patent to be made and past under the Privy Seale of the said Kingdom in due and competent forme, GIVEING and Granting As His Ma<sup>ty</sup> with advice and consent foresaid Hereby Gives and Grante to the said William Harrington, Richard Pendarves, Cornelius Degelder, and Samuel Souton their heirs Executors and Administrators, full and sole Power, Licence, Privilege, and Authority, that they and their workmen and servants Deputys and Assignyes, and no other Persons shall and may dureing the full term and time of Fourteen years, Use, practise, and putt in execution the said Art within the Seas and Roads of or belonging to His Ma<sup>ties</sup> said



Kingdom of Scotland, And that they the said William Harrington, Richard Pendarves, Cornelius Degelder, and Samuel Souton, their workmen servants deputys and assignyes, and no other person or persons, shall and may dureing the term and time aforesaid, Weigh up, recover and obtain from under water within the Roads and Seas aforesaid or any of them All or any Shippes, or Shipp, gunns, treasure and other goods which have been shipwrack't, lost, and sunk, and doe now lye underwater in any of the Roads or Seas aforesaid, And particularly One Shipp of the Spanish Armado which came to invade the Kingdom of England in the year of Our Lord One thousand Five hundred and eightie eight, Sunk in the Western Seas of his Ma<sup>ty</sup> said Kingdom of Scotland, And the Gunns and Treasures of or belonging to and sunk with the said Shipp as well as other Shippes and Shippes, Gunns, Treasure, and Goods in the said or any other the Seas aforesaid, Or within the Roads abovewritten and any of them, And for the ends and purposes aforesaid, to send, use and imploy Shippes, Vessels, Men, and other things necessary. AND His Ma<sup>ty</sup> doth hereby will and coñmand all his Subjects to give free liberty to them to work at all times, places, and occasions, Strictly prohibiting any other of his Subjects to trouble, molest or impead the said Undertakers in the aforesaid affair, as they will be answerable at their highest perrills. They being alwaies oblidge (as by the acceptance heerof they become bound) to perform and fulfill to His Ma<sup>ty</sup> and his Royal Successors, the Articles and Agreement following viz. That they shall Answer and Pay to his Ma<sup>ty</sup> and his Royal Successors in manner following, One full moiety of the clear value of the said things so to be recovered and obtained, After the full Charges in, for, and about the recovery and obtaining thereof, (wherein fraught and Ship hire aswell as other charges are to be included) Shall thereout be first deducted and allowed to the said Undertakers and their Assignyes, Which Charges His said Ma<sup>ty</sup> doth will and order Shall be deducted and allowed accordingly. And for preventing of any frauds or debates about the same, His Ma<sup>ty</sup> doth further will and ordain that, after the said undertakers, their Servants or Assignyes, Shall have weighed up, recovered and obtained any such Shipp or Shippes, Gunns, treasure, or Goods, they or some of them shall from time to time in every such case, forthwith give notice thereof unto His Ma<sup>ty</sup> Chief Officer of and for the Customs in the next Port or place within the said Kingdom of Scotland, who from thence dureing

the space of five or six dayes, with such others as he shall think fitt, Shall have full and free liberty in the presence of the said undertakers their Deputys or Assignyes, to view and apprise the things so recovered and obtained, And then and there the said undertakers their Deputys or Assignyes, Shall likewise state and deliver to the said officer, a true accompt of such whole Charges thereof as aforesaid, which accompt shall for the present be admitted, but subject to such further examination and correction as herein is mentioned. And his Ma<sup>ty</sup> doeth further order that the said Undertakers their Deputys or Assignyes shall thereupon have liberty and elect to demand of the said officer the said whole Charges, together with a full moiety of the value of the said things remaining after the Charges are deducted, at the rate they shall be so apprised. And if the said Officer within six days next after such apprisement and demand made, shall pay the same in moneys to the said Undertakers their deputies or Assignes, They shall deliver the said things recovered to the said Officer for the use of his Ma<sup>ty</sup>. But in default of payment thereof as aforesaid, the said Apprisement shall not bind the said undertakers or their Assignyes. And His Ma<sup>ty</sup> in such case or in default of any such apprisement—Doth will and ordain that they the Undertakers may sell and dispose thereof in any part of the Kingdoms of England or Scotland and not elswher, for the best price they can *bona fide* get. And within ten days after the sale thereof and their receipt of the moneys for the same, they shall answer and pay to His Ma<sup>ty</sup>, or for his Ma<sup>ty</sup> behoove, to his Right trusty and wellbeloved Cousin and Counsellor John Viscount of Melfort Lord Secretary of State for the said Kingdom of Scotland or any others who shall be impowered by His Ma<sup>ty</sup>, or the said Lords Commissioners of Exchequer for that effect, At Guildhall in London, One full moiety of the reall proceed thereof, All incident Charges being first to them allowed and deducted, But if after such Apprisement, they shall not demand the said moneys of the said Officer, But shall elect otherwaies to dispose of the said things so recovered and apprised, then also they may proceed to sell and dispose of the said goods in any part of England or Scotland and not elswher, But in such caice, shall be so bound by the said Apprisement, that they shall within six months after, Answear and pay to his Ma<sup>ty</sup> or for his Ma<sup>ty</sup> use to the said Viscount of Melfort or others aforesaid, At Guildhall in London, One full moiety of the value of the said things re-

covered at the rate they were appraised; The said whole Charges in and about the Recovery thereof being first to them allowed and deducted. And shall retain and enjoy the residue of the whole proceed of the said Goods to their own use. AND His Ma<sup>ty</sup> Shall and may at his pleasure cause the matter of any such Charge or Account of Charges to be examined stated and finally determined and adjudged in his Exchequer of Scotland or by the said Viscount of Melfort or any other who shall be empowered by his Ma<sup>ty</sup> or the said Lords Commissioners of Treasury for that effect, And whose Discharges to them shall be as valide and sufficient, as if they were granted by the said Lords Commissioners themselves. And what shall be so determined and Adjudged, Shall in all things be performed by the said undertakers and their Assignyes. PROVIDED such Process and finall Judgment be had and given within the space of a year next after the said things, shall be so recovered, Or otherways the Account to be given in by the said undertakers their Deputys or Assignes, shall stand unimpeached. PROVIDING always the undertakers foresaid Work upon the said Armado Ship once every two years at least (warrs and commotions being excepted) Of which if they shall faile, this Gift of it self shall become void, without any further Declaration or Revocation whatsoever, The Undertakers being still lyable as aforesaid for any thing formerly recovered by them, and not accounted for as above. And His Ma<sup>ty</sup> Ordeins the said Letter or Patent to be extended in most ample form with all Clauses needfull. Given at the Court at Whitehall the 8th day of Maij 1686, and of his Ma<sup>ty</sup> Rigne the 2d year.

PERTH <i>Cancell.</i>	SOUTHESQUE.
QUEENSBERIE.	TWEEDDALE.
ATHOLL.	BELCARRES.
HAMILTON.	KINTORE.
W. DRUMMOND.	JA. FOULIS.
LINLITHGOW.	J. LOCKHART.

*Comp<sup>o</sup> gratis.*

MAY IT PLEASE YOUR MA<sup>TY</sup>,

These contain your Ma<sup>ty</sup> Warrant for a Letter or Patent to be past under your Ma<sup>ty</sup> Seale of your ancient Kingdome of Scotland, Giving and Granting to William Harrington, Richard Pendavers, Cornelius Degelder, and Samuell

Souton of London, Merchants, their Heirs, Executors and Administrators, full and sole Power, Licence, Priviledge and Authority, That they, their Workmen, Servants, Deputies and Assignes and no other person, shall and may during the full term of fourteen years, Use, practice and put in execution the art of weighing up, recovering and obtaining from under Water, Shippes, Gunns, Treasure and other Goods Shipwrackt or lost and sunk, and are lying now under Water, in Roads or at Sea, by several Engines and Instruments, within the Seas and Roads of or belonging to the said Kingdom of Scotland, And particularly one Shipp of the Spanish Armado, which came to invade England in anno 1588. Sunk in the Western Seas of Scotland, and Gunns and Treasure thereof. And for that purpose to send, use and employ Shippes, Vessels, Men, and other things necessary. And your Ma<sup>ty</sup> Will Commands all your Subjects to give them free Liberty to work at all times, places and occasions and nowayes to trouble or molest them. They being alwayes obliged to pay to your Ma<sup>ty</sup> and Royall Successors the full halfe of all things whatsoever which they shall recover, their necessary Charges being first deducted out of the whole, in manner abovementioned, and to perform and fulfill the other Articles and agreements respectively above insert.

MELFORT.

*Indorsed—*

Presented to the Lords Commissioners of the Thesaurie,

W. VEITCHE.

Ed<sup>r</sup> 22 May 1686.—Registat for Sir Andrew Forrester, by

THO. MONCREIFFE.

The Lords in regaird the Donators are strangers and are not in the Kingdome dispenses with their taking of the Declaration.

THO. MONCREIFFE.