PHILOSOPHICAL Transactions:

GIVING SOME

ACCOMPT

OF THE

Present Undertakings, Studies and Labours

OF THE

INGENIOUS

IN MANY

Considerable Parts

OF THE

WORLD.

VOL. XI.

For the Year MDCLXXVI.

LONDON,

Printed by *T. R.* for *John Martyn*, Printer to the *Royal Society*; at the *Bell* in St. *Pauls Church-yard.*

PHILOSOPHICAL TRANSACTIONS.

For the Months of *September*, *October*, and *November*, 1678.

The Contents.

Monsieur Cassini's *Observation of the Lunar Eclips on the* 29 *Octob.* 1678. *Monsieur* Gallet's *Observation of the Solar Eclips on the* 11 *June*, 1676. *Extract of a Letter from Monsieur* Butterfield *about the making of Microscopes, &c. Extract of a Letter from Mr.* Conyers *about his Improvement of Sir* Samuel Moreland's *speaking Trumpet. An Account of two Books*: I. *A Discourse of the State of Health in* Jamaica, *&c. by Dr.* Thomas Trapham. II. Catalogus Stellarum Australium: *by Mr.* Edmund Halley.

Clarissimo Viro
Domino Nehemiæ Greuio Regiæ Societatis à Secretis
Jo. Dominicus Cassinius S. P. D.

CUM nupera Lunæ Eclipsis à nobis hîc in observatorio regio diligentissime fuerit observata, ejus exemplar ad te, Vir Clarissime, mittendum duxi regiæ Societatis Astronomis, imprimisque D. Flamstedio, *communicandum. Inserviet illa Meridianorum differentiæ* Parisios *inter &* Londinum *exactè definiendæ, si vobis par cæli serenitas ejusdem observandæ opportunitatem obtulerit, &c.*

At preſent I am finiſhing another. Inſtead of four points it playeth on one Steel point, ſtanding on a Diamond: the making of which I do intend to publiſh. I hope it will be of great uſe for its exactneſs and ſpeedineſs of working.

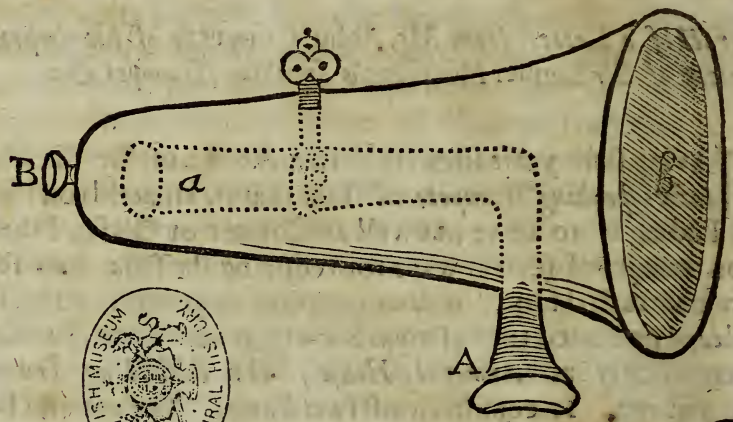
I am at preſent making a ſilver Planiſphere of two foot diameter for the King; the Invention of that famous Aſtronomer, and my very good friend, Mr. *Caſſini*. It ſheweth a very eaſie way to know and find out moſt of the fixed Stars, and the hour of the night very ſpeedily.

Extract of a Letter from Mr. John Conyers, *of his Improvement of Sir* Samuel Moreland's *ſpeaking Trumpet, &c.*

HAving ſome years ſince try'd to make one of Sir *S. Moreland's ſpeaking Trumpets* of Tin, that is, tinned Iron Plate; and finding it to ſerve, as well as Copper or Glaſs; I thereupon thought of ſeveral ways for reducing the ſame into ſome more contracted form, without abating its power: and by Dr. *Goddard* preſented to the Royal Society, at one of their Meetings (then uſually at *Arundel Houſe*) the *Reflecting Trumpet* here figured. It conſiſteth of two Parts. The utmoſt (B b) is a large *Concave Pyramid*, about a yard long, (or may be of any managable length) open at the *baſe* (b), and cloſed, not with a *flat*, but a *concave head*, at the *Cone* (B). Within this is faſtned a bended *Tube* (A a) as in the *Figure*. In the preſence of the *Royal Society* it was then alſo experimented, That this *Trumpet* did diſtinctly deliver certain words from the ſaid Houſe croſs the Garden, and the River *Thames*, and that againſt the *Wind* which was then ſtrong: and the words were written down by one that was ſent over for that purpoſe. Whereby it appeared, That a *Reflecting Trumpet* after this or ſome other like manner, of Wood, Tin, Pewter, Stone or Earth, or which may be beſt, of Bell mettle, will carry the voice as far, if not farther, than the *long* one invented by Sir *Samuel Moreland*. Beſides that it ſeems to take off from the aſtoniſhing noyſe near at hand, which happens in the uſe of the ſaid long Trumpet; ſo that it may be uſed within doors, with advantage, upon ſeveral occaſions.

Some

Some other trials were made to effect the above mentioned Contraction, which were found not to answer. Yet because they may serve, in some part, to shew the motion of sound, I have added two Examples hereof. The first is Sir *Samuel Moreland*'s Trumpet Angularly Arched in the middle; the second, with three large Angular Arches reaching almost from one end to the other, as in the *figures*: by the former of which the delivery of sound, to any distant or remote place is much shortened; but by the latter almost wholly obstructed.



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Fig. I.

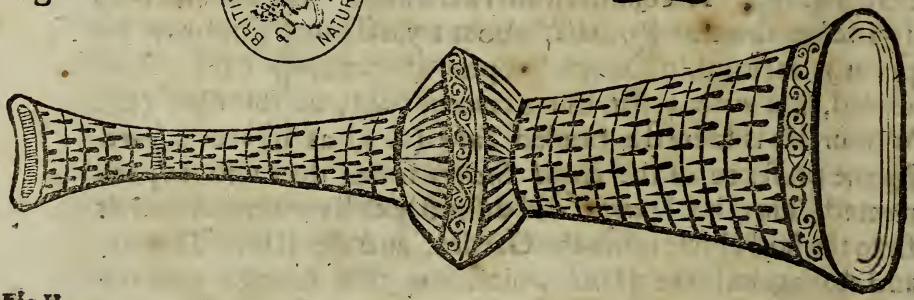
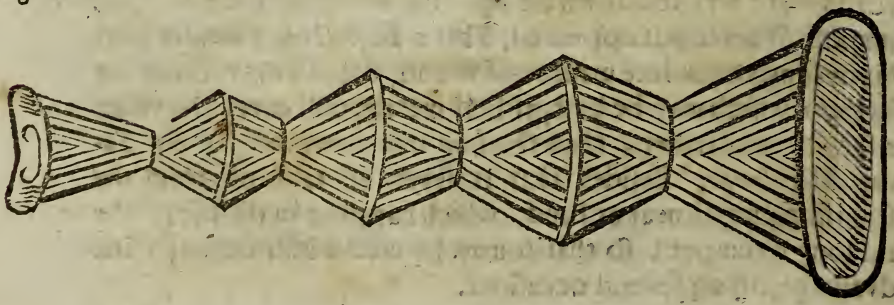
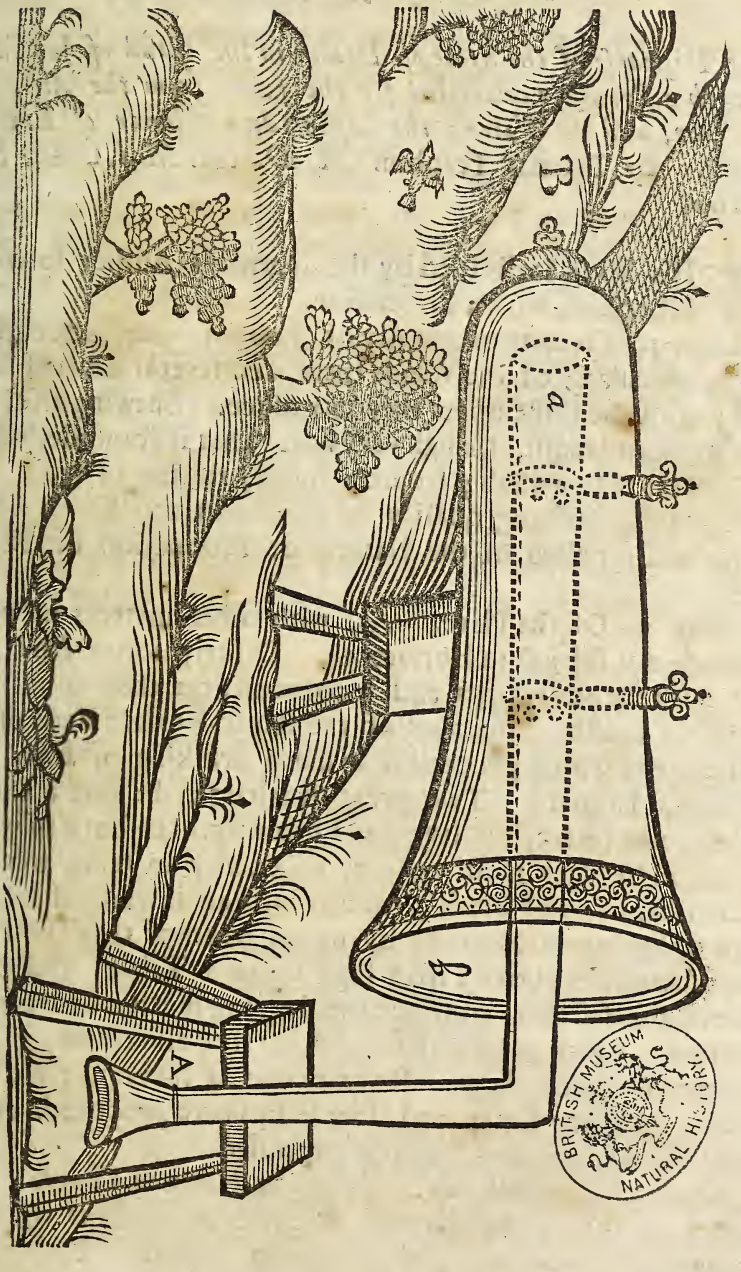


Fig. II.





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