War Office March 31. 1795.

Sir

Captain Truxton, who is appointed to command one of the frigates of the United States, has presented a copy of his book entitled "Remarks, Instructions, and Examples relating to the Latitude and Longitude &c." with an Appendix on the masting of Ships, for each of the other Captains of the Navy of the United States, which he has requested me to transmit to them. — One for you accompanies this letter.

I also inclose to you a copy of a letter from Capt. Truxton, containing some remarks on an English book which I lately received, and put into his hands. He wishes that the subject of masting &c. of Ships might engage the attention of the Gentlemen in particular who are engaged in the Navy, and that they would compare his principles, and proportions, with the dimensions of the Masts, and Yards, prescribed by Mr. Steel, the author of the English book, before mentioned

and

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and that their observations might be communicated with
a hope, that these may lead us to some useful improvemen.

Approving of his object, I have now suggested
the same for your consideration, and request that you will
favour me with such observations, as shall occur to you
on the subject proposed.

I am, Sir,

your most obed[t] Servant

Timothy Pickering

P.S. It may be well to
consult the Constructor and
other Gentlemen acquainted
with the Subject, that your
observations may be the
result of the fullest informa-
tion and examination of
which the case will admit.

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[Extract in Pickering's Letter Book, March 25, 1795] 1929

Hon^ble Col^o Pickering
Secretary of War

Philadelphia 25 March 1795

Sir

I have received the Books, intitled the Element and practice of Rigging and Seamanship &c which you did me the honor to send me a few days ago. I have only had time to run over them in a cursory way - but if you will be kind enough to leave them with me, for the present, I will take them to Baltimore and at my leisure there, examine them with attention, and if I find any thing new, or worth communicating will commit the same to paper, and make the most early report to you. From what I have seen however in these Books, there appears nothing more than a collection from different Authors, on various subjects, relating to Marine affairs, but on a more particular examination of them, it is possible, many matters may be found well worth our investigating with attention, as I conceive nothing to be of more consequence in the equipment of a Ship of War, than her being well masted and spard. I have examined what M^r Steel, the author of the Collection in question, says on that subject, and have made out two setts of the principal Spars, agreeable to the principles he has laid down - the one for our Sixty Four Gun Frigates, and the other for those of Thirty six Guns - They are here enclosed, and marked A. I am of opinion, that candid, and competent Judges, when they compare

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compare Mr Steels dimensions, with those laid down by me, in the book I have lately published, will consider mine better adapted for our Ships of War, than his, and I think the Author of this Collection also, produces arguments to prove it, in his second Vol. Chap. VII, page 273. — "The correct height for the masts of Ships, is still a problem which remains to be solved, for the Builders; The most skilful of them, have not paid attention enough, to the solutions, and determinations, which are contained in the works of the late Mr Bouger, on that subject, it seems on the contrary, as if they had endeavoured to deviate as much as, possible from the true principles, in that respect, by raising the Masts a great deal more than they were formerly, although they were already much too high, as the learned Author I have just mentioned, has asserted, and experience confirmed by repeated observations, has convinced me of this truth. Viz.t That as soon as a Ship inclines, her velocity diminishes, in proportion as her inclination increases; this principle has been verified on different Vessels, and at different times, by several Officers and in various obliqui Courses." I do myself the pleasure to send you four of my books — one for the War Office — and one for each of the Ships to be built at New-York, Boston, and Portsmouth, Newhampshire — The Ship here, and those to the Southward, I shall furnish each with one. I think, Sir, it would be well to take the opinions of Capt.s Nicholson, Talbot, &c in



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in writing, and require their observations on Rule, and my dimensions, as also the opinion of their respective Builders, Capt. Barry and Mr Humphreys being on the spot, can be consulted at any time. As I have quotted a part of Mr Steel's remarks on masting, which is against his own System, I submit to you, whether a copy of the same or this letter had not better be sent to the above Gentlemen.

I purpose calling on you, in a day or two, respecting some alterations, necessary to be made, for the better regulating of the Navy Yard.

I have the honor to be &c.

(signed) Thomas Truxtun.

No 1.

The whole length of the Masts and Spars, of our 44 Gun Frigates, according to Mr Steels method.

| | | | |
|---|---|---|---|
| Main Mast | 109/6 Feet | Bowsprit | 65½ Feet |
| Fore do. | 97 " | Jib boom | 46¾ " |
| Mizzen do. | 93½ " | Spanker Boom | 69/6 " |
| Main top Mast | 65½ " | Gaff | 43⅓ " |
| Fore do. | 58½ " | Main Yard | 97 " |
| Mizzen do. | 49 " | Fore do | 84¾ " |
| Main Top Gt. Mast | 32¾ " | Cross Jack Yard | 60½ " |
| Fore do. | 29 " | Main Topsail do. | 69/6 " |
| Mizzen do. | 24½ " | Fore do. do. | 60½ " |

Mizzen —

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| | | | |
|---|---|---|---|
| Mizzen topsail Yard | 46 6/12 Feet | Fore top G[t] Yard. | 36 3/4 Feet |
| Main top G[t] Yard. | 41 1/2 " | Mizzen do. | 27 3/4 " |

The whole length of ditto, for our 36 Gun Frigates, by the same.

| | | | |
|---|---|---|---|
| Main Mast. | 101 3/4 Feet | Spanker boom. | 61 1/2 Feet |
| Fore do. | 96 1/4 " | Gaff. | 40 1/3 " |
| Mizzen do. | 87 1/4 " | Main yard. | 90 1/2 " |
| Main Top Mast. | 61 " | Fore do. | 79 " |
| Fore do. | 54 3/4 " | Cross Jack Yard. | 58 1/2 " |
| Mizzen do. | 45 3/4 " | Main Topsail do. | 64 1/2 " |
| Main top G[t] Mast. | 30 1/2 " | Fore do. | 56 1/2 " |
| Fore do. | 27 6/12 " | Mizzen do. | 43 " |
| Mizzen do. | 22 3/4 " | Main top G[t] yard. | 38 1/2 " |
| Bowsprit. | 61 " | Fore do. | 34 " |
| Jib Boom. | 43 1/3 " | Mizzen do. | 25 3/4 " |

NB. The Mizzen Top Mast, and the Top Gallant Mast, are here calculated, with common heads only, and not for poles.

Copy.

W[m] Jn[o] Stagg Junr.

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