

THE  
A R T

Of Apparelling and Fitting of any

S H I P

WITH

Masts, Yards, and Cordage

Wherein

Is shewed a true Proportion for the Mast- ing, Yard- ing, and Apparelling of any Ship, whose Length, Breadth, and Depth is known: With Rules for the Sizes and Lengths of all sorts of Cordage that be- longs to any S H I P.

All which is performed by a *Scale*, called

**THE MARINERS SCALE,**

Or by the two Sliding Lines of Numbers.

Whereby,

If the Length and Thickness of the Main-Mast be ac- counted upon it, there may be found (only by in- spection) the length and thickness of all the other Masts and Yards, and also the Sizes, the Lengths, and the total number of Fathoms of every size Cor- dage, for the Apparelling of any Ship, without using of Compasses or altering the *Scale*.

The Third Impression,

1704

Carefully Corrected and Amended, by HENRY BOND.

London, Printed for Edw. Bauldwin near Ratcliff-Cross, 1704.

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T O T H E  
R E A D E R .

Courteous Reader,

**T**hou hast here presented to thee in a new way, an exact method and direction, for the Apparelling and Fitting of any SHIP with Masts, Yards, and Cordage. There is nothing expected from any by the Author, but a charitable censure: If there be any that have no occasion to use it, I desire them not to despise it, lest themselves do something more despicable. I hope some young men (Sea-men) will reap some benefit by it, which to the Author shall be more than superabundant satisfaction.

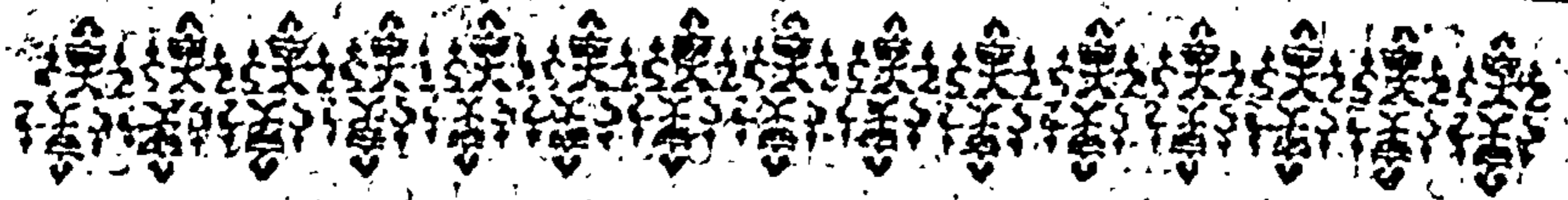
V A L E .

The Particulars contained in this Tract.

1. **A** Table of the Lengths and Thickness of all the Masts and Yards belonging to a ship of six hundred tons.
2. A Table of all the Names, Sizes and Lengths of all the Cordage, belonging to the Apparelling of the same ship, beginning at the least size, and going on to the greatest. The quantity of each size by it self
3. A Table of the Names, Sizes and Lengths of some other Cordage and Ropes that are of necessity in a ship, and are for the fore-propounded ship.
4. A Table of the Lengths and Thickness of all the Masts and Yards belonging to a ship of 448 tons.
5. A Table of all the Sizes and Lengths of the Cordage belonging to the Apparelling of the said ship, the Cordage of each Mast by it self, as the Main-Mast, Main-Top Mast, Main-Top-Gallant-Mast, and the rest in order.
6. The use of the Mariners Scale in finding the Masts, Yards and Cordage of any other ship, from either of these two ships propounded.
7. A Table containing the number of Fathoms and odd Feet that are contained in one hundred weight of any Cordage, from one Inch to ten Inches circumference.

Note ; The Scales are made either in Brass or Wood, by Joseph Hone, in the Bulwark near the Tower.

# Apprelling a Ship.



**A Table of the Lengths and Thickness of**  
the Mafts and Yards of a Ship that is 94 foot and a  
halfe by the Keele, 37 foot at the Beam, and  
16 foot and an halfe in Hold, which  
is of the burthen of about  
600 Tunne.

*All which Mafts and Yards are very neer in continuall  
proportion one to another in their lengths.*

|   | Length<br>in Feet | Thickness<br>in Inches. |
|---|-------------------|-------------------------|
| <b>T</b> he Sprit-sail Top-sail Yard          | 18.50             | 5                       |
| The Fore-top-gallant Yard, and the Sprit-sail | 18                | 5.50                    |
| The Main-top-gallant Yard (Top-maft)          | 23                | 8                       |
| The Fore-top-gallant Maft                     | 24                | 8                       |
| The Mizne Top-sail Yard                       | 26                | 8                       |
| The Main top-gallant Maft                     | 28.50             | 10                      |
| The Mizne Top-maft                            | 34                | 10                      |
| The Fore-top-sail Yard                        | 39                | 12                      |
| The Main-top-sail Yard                        | 46                | 14                      |
| The Crosse-jeck Yard                          | 42                | 9.50                    |
| The Fore-top-maft                             | 47                | 17                      |
| The main-top-maft                             | 55                | 18                      |
| The Sprit-sail yard                           | 73                | 21                      |
| The mizne-maft                                | 66                | 22                      |
| The Mizne yard                                | 65                | 20                      |
| The Fore-yard                                 | 79                | 25.50                   |
| The Bousprite                                 | 85                | 28                      |
| The main-yard                                 | 93                | 30                      |
| The Fore-maft                                 | 95                | 31.50                   |
| The main-maft                                 | 107               | 36                      |

## The Particulars contained in this Tract.

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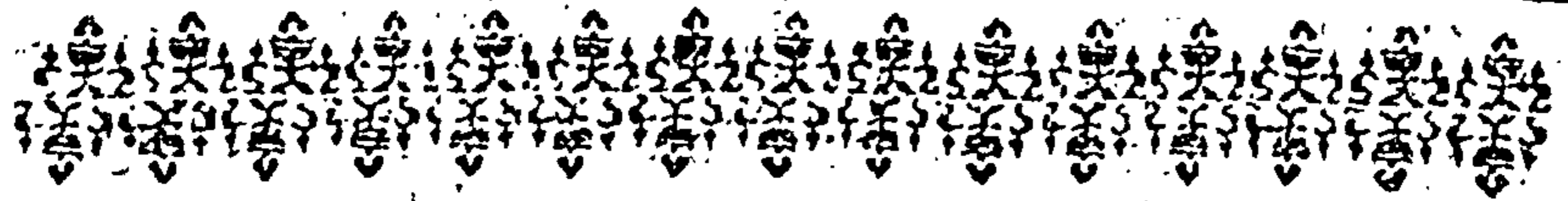
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6. The use of the Mariners Scale in finding the Masts, Yards and Cordage of any other ship, from either of these two ships propounded.

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*All which Masts and Yards are very neer in continuall  
 proportion one to another in their lengths.*

|   | Length<br>in Feet | Thickness<br>in Inches. |
|---|-------------------|-------------------------|
| <b>T</b> he Sprit-sail Top-sail Yard  | 18.50             | 5                       |
| The Fore-top-gallant Yard, and the Sprit-sail<br>The Main-top-gallant Yard (Top-mast) | 18                | 5.50                    |
| The Fore-top-gallant Mast   | 23                | 8                       |
| The Mizne Top-sail Yard   | 24                | 8                       |
| The Main top-gallant Mast   | 26                | 8                       |
| The Mizne Top-mast  | 28.50             | 10                      |
| The Fore-top-sail Yard  | 34                | 10                      |
| The Main-top-sail Yard  | 39                | 12                      |
| The Crosse-jeck Yard  | 46                | 14                      |
| The Fore-top-mast   | 42                | 9.50                    |
| The main-top-mast   | 47                | 17                      |
| The Sprit-sail yard   | 55                | 18                      |
| The mizne-mast  | 73                | 21                      |
| The Mizne yard  | 66                | 22                      |
| The Fore-yard   | 65                | 20                      |
| The Bousprite   | 79                | 25.50                   |
| The main-yard   | 85                | 28                      |
| The Fore-mast   | 93                | 30                      |
| The main-mast   | 95                | 31.50                   |
|   | 107               | 36                      |

# The Art of

A Table of the sizes, the names, the number, and the lengths, of each Cordage for Apparelling, belonging to the fore-propounded Ship.

## 1. Cordage of 1 inch $\frac{40}{100}$ parts.

|   | Fathã | Fathã |
|---|-------|-------|
| 2 Fore Top-gallant Braces                     | 32    | 64    |
| 4 Fore Top-gallant Boling Bridles             | 1.50  | 6     |
| 2 Fore Top-gallant Lifts.                     | 28    | 56    |
| 8 Main Top-gallant Lanniards                  | 2.50  | 20    |
| 4 Main Top-gallant boling bridles             | 1.50  | 6     |
| 1 Main Flag-staffe stay                       | 17    | 17    |
| 8 Mizne Top-mast Lanniards                    | 2.50  | 20    |
| 1 Fale of the Sprit-sail Top-sail Crain-lines | 48    | 48    |
| 2 Mizne Top-sail Bolings                      | 16    | 32    |
| 2 Mizne Top-sail Braces                       | 22    | 44    |
|   | —     | —     |
| 34  |       | 313   |

## 2. Cordage of 1 inch $\frac{60}{100}$ parts.

|   |       |       |
|---|-------|-------|
| 8 Lanniards of the Sprit-sail Top-mast Shroud | 2.50  | 20    |
| 2 Fales of the Sprit-sail Top-mast tackles    | 5.50  | 15    |
| 1 Fales of the Sprit-sail Crain-lines         | 21.50 | 21.50 |
| 1 Sprit-sail top-sail Halliards               | 7.50  | 15    |
| 2 Sprit-sail Top-yardes Lifts                 | 6     | 12    |
| 2 Pennants of the Sprit-sail Top-sail Braces  | 1.50  | 3     |
| 2 Sprit-sail Top-sail Braces                  | 12    | 24    |
| 2 Sprit-sail Top-sail Clue-lines              | 12    | 24    |
| 2 Fore-top-mast tackle Fales                  | 16    | 32    |
| 2 Fales of the Fore-top gallant Back-staies   | 21.50 | 43    |
| 1 Fore-top-gallant Halliards                  | 38    | 38    |
| 2 Pennants of the Fore-top-gallant Braces     | 2.50  | 5     |
| 2 Fore-top-gallant Bolines                    | 30    | 60    |
|   |       | Fore. |

# Apparelling a Ship.

|   | Fathā | Fathā |
|---|-------|-------|
| 2 Fore-top-gallant Clue-lines               | 26    | 52    |
| 6 Fore-top-gallant Lanniards                | 2     | 12    |
| 2 Fales of the Main-top-gallant Tackle      | 8 50  | 17    |
| 2 Fales of the Main-top-gallant Back staies | 24    | 48    |
| 2 Main-top-gallant Lifts                    | 28    | 56    |
| 2 Main-top-gallant Braces                   | 33    | 66    |
| 2 Main-top-gallant Belines                  | 28    | 56    |
| 8 Mizne Brailes                             | 9.50  | 76    |
| 2 Mizne top-mast Tackle Fales               | 11    | 22    |
| 1 Fale of the Mizne Top-saile Crain-lines   | 42    | 42    |
| 6 Mizne Top-sail Boline Bridles             | 1.25  | 7.50  |
| 2 Pennants of the Mizne Top-sail Braces     | 1.50  | 3     |
| 2 Crosse Jeck Braces                        | 24    | 48    |
| 2 Fore-top-sail Leech-lines                 | 12    | 24    |
| 69  | —     | 842   |

## 3. Cordage of 2 inches $\frac{30}{100}$ parts.

|  |      |      |
|--|------|------|
| 2 Lanniards of the Sprit-sail standing Lifts | 4    | 8    |
| 4 Fore Martlines Leggs                       | 7    | 28   |
| 2 Lanniards for the Foreyard Hosses          | 7.50 | 15   |
| 8 Lanniards for the fore-top-mast Shroudes   | 2.50 | 20   |
| 2 Fore-top-sail Braces                       | 28   | 56   |
| 4 Fore-top-sail Boline Bridles               | 3    | 12   |
| 2 Fore-top-gallant Parrel Ropes              | 1.50 | 3    |
| 10 Lanniards of the Main-top-mast Shrouds    | 3.50 | 35   |
| 2 Main-top-sail Braces                       | 28   | 56   |
| 2 Main-top-sail Leech-lines                  | 14   | 28   |
| 2 Main-top-gallant Clue-lines                | 30   | 60   |
| 2 Pennants of the Main-top-gallant Braces    | 1.50 | 3    |
| 10 Lanniards of the Mizne Shrouds            | 3.50 | 35   |
| 2 Pennants of the Crosse Jeck Braces         | 2.50 | 5    |
| 2 Slings for the Crosse Jeck Yard            | 2.50 | 5    |
| B 2  |      | Pen. |

# The Art of

|    |  | Fathā | Fathā |
|----|--|-------|-------|
| 2  | Pennants of the mizne top-sail Crain-lines | 2     | 4     |
| 1  | Mizne top-sail Halliards in three parts    | 36    | 36    |
| 2  | Mizne top-sail Clue-lines                  | 17    | 34    |
| 61 |  |       | 443   |

## 4. Cordage of 2 inches $\frac{2}{100}$ parts.

|    |  |       |    |
|----|--|-------|----|
| 2  | Sprit-sail Braces                              | 18 50 | 37 |
| 2  | Sprit-sail Clue-lines                          | 13    | 26 |
|    | Sprit-sail Bunt-lines in two parts             | 25    | 25 |
| 8  | Sprit-sail Top-mast Shrouds                    | 4     | 32 |
| 2  | Pennants of the Sprit-sail Top-mast Tackle     | 1.50  | 3  |
| 3  | Pennants of the Sprit-sail top-sail Crain-line | 3     | 9  |
| 10 | Puttox of the Sprit-sail top-mast shrouds      | 1.50  | 15 |
| 2  | Sprit-sail top-mast Parrel Ropes               | 1.50  | 3  |
| 2  | Fore-sails mart-lines Fales                    | 35    | 70 |
| 5  | Fore sail bunt lines                           | 19    | 95 |
| 2  | Fore braces                                    | 18    | 36 |
| 2  | Fore top sail Lifts                            | 20    | 40 |
| 2  | Falls of the foretop mast back staies          | 5.50  | 11 |
| 2  | Pennants of the Fore top sail Braces           | 2.50  | 5  |
| 1  | Lanniard of the fore top mast stay             | 6     | 6  |
| 2  | Fore top sail bauk lines                       | 32    | 64 |
| 2  | Fore top sail bunt lines                       | 12    | 24 |
| 2  | Pennants of the fore top gallant back staies   | 3     | 6  |
| 1  | Fore top gallant tie                           | 5     | 5  |
| 6  | Fore top gallant puttox                        | 1.50  | 9  |
| 1  | Fore top gallant stay                          | 21    | 21 |
| 1  | Fore top gallant top rope                      | 32    | 32 |
| 6  | Fore top gallant Shrouds                       | 4.50  | 27 |
| 4  | Main sail mart lines legs                      | 9.50  | 38 |
| 2  | Falls of the main top mast tackles             | 18    | 36 |
| 2  | Lanniards of the main top mast back staies     | 6     | 12 |

Main.

# Apparelling a Ship.

|  | Fathz | Fathz |
|--|-------|-------|
| 2 Main-top-sail lifts                          | 30    | 60    |
| 2 Main-top-sail bunt-lines falls.              | 21    | 42    |
| 2 Main-top-sail bunt-lines legs                | 12    | 24    |
| 2 Pennants of the main-top-gallant tackles     | 3     | 3     |
| 2 Pennants of the main-top-gallant back-stayes | 2.50  | 5     |
| 1 Main-top-gallant halliards                   | 43    | 43    |
| 10 Main-top-gallant puttox                     | 2     | 20    |
| 2 Main-top-gallant parrel ropes                | 1.50  | 3     |
| 2 Falls of the mizne tackles                   | 19    | 38    |
| 1 Mizne trusse                                 | 14    | 14    |
| 1 Mizne bowling                                | 6     | 6     |
| 2 Pennants of the mizne top-mast tackles       | 2.50  | 5     |
| 8 Mizne top-mast shrouds                       | 5     | 40    |
| 1 Mizne top-mast tie                           | 5     | 5     |
| 10 Puttox of the mizne top-mast shrouds        | 18    | 18    |
| 2 Mizne-top-mast parrel ropes                  | 1.50  | 3     |
|  | <hr/> | <hr/> |
| 127  |       | 1006  |

## 5. Cordage of 3 inches $\frac{30}{100}$ parts.

|  |      |       |
|--|------|-------|
| 1 Sprit-sail top-mast tie                        | 4    | 4     |
| 2 Main-sail mart-lines falls                     | 37   | 74    |
| 2 Main-braces                                    | 30   | 60    |
| 8 Main-top-gallant shrouds                       | 4.50 | 36    |
| 2 Sprit-sail garnets                             | 21   | 42    |
| 2 Sprit-sail lifts                               | 21   | 42    |
| 2 Pennants of the sprit-sail braces              | 2.50 | 5     |
| 2 Sprit-sail sheats                              | 20   | 40    |
| 1 Housse for the stay                            | 8    | 8     |
| 2 Fore-top-sail clue-lines                       | 18   | 36    |
| 2 Fore-sail boline bridles                       | 2.50 | 5     |
| 2 Pennants for the fore-braces                   | 2.50 | 5     |
| 2 Falls of the fore-top-mast running back-stayes | 20   | 40    |
|  |      | Fore- |

# The Art of

|   | Fathā | Fathā |
|---|-------|-------|
| 2 Fore-top-mast parrel ropes                    | 2     | 4     |
| 1 Fore-top-mast brest rope                      | 3     | 3     |
| 6 Main-sail bunt-lines                          | 10    | 60    |
| 1 Main-luffe tackle                             | 10    | 10    |
| 1 Fall of the main-sail bunt-lines              | 64    | 64    |
| 1 Main boufing tackle                           | 10    | 10    |
| 2 Lanniards of the main-yard hofses             | 4     | 8     |
| 2 Falls of the main-top-mast running backstaies | 23    | 46    |
| 2 Main-top-mast parrel ropes                    | 2.50  | 5     |
| 1 Main-top-gallant-mast-stay                    | 22    | 22    |
| 1 Main-top-gallant top rope                     | 35    | 35    |
| 1 Mizne tack                                    | 8     | 3     |
| 2 Crosse jeck lifts                             | 18    | 36    |
| 1 Mizne top-mast top-rope                       | 16    | 16    |
| 16 Lanniards of the fore shrouds                | 4.50  | 72    |
| 2 Fore-top-sail clue lines                      | 36    | 72    |
| 44  | —     | 846   |

## 6. Cordage of 3 inches $\frac{20}{100}$ parts.

|  |      |       |
|--|------|-------|
| 1 Sprit sail halliards                         | 20   | 20    |
| 2 Hofses for the sprit-sail sheet              | 2.50 | 5     |
| 2 Falls of the boats tackle for the fore-mast  | 38   | 76    |
| 2 Other falls                                  | 27   | 54    |
| 2 Fore-lifts                                   | 25   | 50    |
| 2 Fore-bolines                                 | 18   | 36    |
| 2 Pennants of the fore-top-mast tackles        | 2.50 | 5     |
| 2 Pennants for the fore-top-mast running back- | 3.50 | 7     |
| 8 Fore-top-mast shrouds (staves)               | 7.50 | 60    |
| 10 Fore-top-mast puttox                        | 3    | 30    |
| 1 Fore-top-sail halliards                      | 43   | 43    |
| 2 Falls of the boats tackle for the main-mast  | 43   | 86    |
|  |      | Other |

# Apparelling a Ship.

|    |                                     | Fathā | Fathā |
|----|-------------------------------------|-------|-------|
| 2  | Other falls                         | 28    | 56    |
| 2  | Main lifts                          | 29    | 58    |
| 2  | Pennants of the main braces         | 5     | 10    |
| 1  | Lanniards of the main-top-mast stay | 6     | 6     |
| 1  | Main-top-sail halliards             | 55    | 55    |
| 2  | Main-top-sail bowlings              | 53    | 66    |
| 6  | Main-top-sail bowling bridles       | 3     | 18    |
| 2  | Main-top-sail clue-lines            | 43    | 86    |
| 1  | Main-top-gallant tie                | 5     | 5     |
| 2  | Runners of the mizne tackles        | 10    | 20    |
| 1  | Mizne halliards                     | 24    | 24    |
| 1  | Mizne sheet                         | 16    | 16    |
|    |                                     | <hr/> | <hr/> |
| 59 |                                     |       | 892   |

## 7. Cordage of 4 inches $\frac{10}{100}$ parts.

|    |   |       |       |
|----|---|-------|-------|
| 2  | Sprit-sail standing lifts                 | 4.50  | 9     |
| 1  | Fore-top-mast stay                        | 15    | 15    |
| 2  | Fore-top-mast standing back staves        | 18    | 36    |
| 1  | Runner of the fore-top-sail halliards     | 16    | 16    |
| 20 | Lanniards of the main-shrouds             | 5     | 100   |
| 2  | Main belines                              | 20    | 40    |
| 4  | Main-boline bridles                       | 3.50  | 14    |
| 1  | Main garnet fall                          | 36    | 36    |
| 2  | Pennants of the main-top-mast tackles     | 3     | 6     |
| 10 | Main-top-mast shrouds                     | 8.50  | 85    |
| 2  | Pennants of the main-top-mast back-staves | 9     | 18    |
| 2  | Main-top-mast standing back-staves        | 22    | 44    |
| 2  | Pennants of the main-top-sail braces      | 2.50  | 5     |
| 1  | Main-top-mast brest rope                  | 3     | 3     |
| 2  | Pennants of the mizne tackles             | 4.50  | 9     |
| 1  | Mizne jeere                               | 15    | 15    |
| 1  | Mizne parrel rope                         | 4     | 4     |
|    |   | <hr/> | <hr/> |
| 56 |   |       | 455   |

8. Cordage of 4 inches  $\frac{50}{100}$  parts.

|                            | Fathā | Fathz |
|----------------------------|-------|-------|
| 1 Lanniard of the forestay | 5     | 5     |
| 10 Mizne shrouds           | 9.50  | 9.95  |
| <hr/>                      | <hr/> | <hr/> |
| 11                         |       | 100   |

9. Cordage of 5 inches  $\frac{50}{100}$  parts.

|  |       |       |
|--|-------|-------|
| 1 Fore halliards                         | 37    | 37    |
| 3 Fore parrel ropes                      | 3     | 9     |
| 1 Luff-hook rope                         | 9     | 9     |
| 2 Hesses for the fore-yard               | 4     | 8     |
| 1 Fall of the fore-top-mast top-rope     | 22    | 22    |
| 1 Main garnet guy                        | 10    | 10    |
| 1 Fall of the main-top-mast-top-rope     | 26    | 26    |
| 3 Main parrel ropes                      | 4     | 12    |
| 2 Hesses for the main-yard               | 5     | 10    |
| 1 Runner for the main-top-sail halliards | 18    | 18    |
| 1 Fall of the main-top-rope              | 28    | 28    |
| 10 Main-top-mast puttox                  | 3.50  | 35    |
| 1 Mizne stay                             | 19    | 10    |
| <hr/>                                    | <hr/> | <hr/> |
| 28                                       |       | 234   |

10. Cordage of 6 inches  $\frac{00}{100}$  parts.

|  |      |       |
|--|------|-------|
| 2 Pennants of the sprit-sail sheats      | 4.50 | 9     |
| 2 Fore-mast runners of the boats tackles | 17   | 34    |
| 2 Other runners                          | 15   | 30    |
| 2 Fore sheats                            | 30   | 60    |
| 1 Fore-top-mast tie                      | 9    | 9     |
|  |      | Main- |

# Apparelting a Ship.

|    |  | Fath <sup>r</sup> | Fath <sup>n</sup> |
|----|--|-------------------|-------------------|
| 2  | Main mast runners of the boats tackles | 18                | 36                |
| 2  | Other runners                          | 16                | 32                |
| 1  | Main top mast stay                     | 16                | 16                |
| —  |  | —                 | —                 |
| 14 |  |                   | 226               |

## 11. Cordage of 6 inches $\frac{30}{100}$ parts.

|    |                            |    |     |
|----|----------------------------|----|-----|
| 2  | Fore top sail sheats       | 26 | 52  |
| 1  | Lanniard of the main stay  | 10 | 10  |
| 1  | Main halliards             | 50 | 50  |
| 2  | Main jeers                 | 30 | 60  |
| 2  | Main sheats                | 36 | 72  |
| 1  | Pennant of the main garnet | 6  | 6   |
| 1  | Main top mast tie          | 10 | 10  |
| 1  | Mizne tie                  | 10 | 10  |
| —  |                            | —  | —   |
| 11 |                            |    | 270 |

## 12. Cordage of 7 inches $\frac{00}{100}$ parts.

|    |  |      |     |
|----|--|------|-----|
| 1  | Sling of the sprit sail yard               | 3    | 3   |
| 4  | Pennants of the fore tackles               | 4.50 | 18  |
| 6  | Fore shrouds                               | 12   | 192 |
| 1  | Fore brest rope                            | 3    | 3   |
| 1  | Coller of the fore stay about the bosprite | 4    | 4   |
| 1  | Main brest rope                            | 4    | 4   |
| 2  | Main top sail sheats                       | 30   | 60  |
| 1  | Pennant of the fore top mast top rope      | 7    | 7   |
| —  |  | —    | —   |
| 27 |  |      | 291 |

# The Art of

## 13. Cordage of 7 inches $\frac{70}{100}$ parts.

|       |  | Fath <sup>rs</sup> | Fath <sup>rs</sup> |
|-------|--|--------------------|--------------------|
| 8     | Woldings for the bousprice             | 6                  | 48                 |
| 1     | Fore tie                               | 16                 | 16                 |
| 2     | Fore tacks                             | 15                 | 30                 |
| 4     | Pennants of the main-tackles           | 5                  | 20                 |
| 20    | Main shrouds                           | 13                 | 260                |
| 1     | Pennant for the many top mast top rope | 6                  | 8                  |
| <hr/> |  |                    | <hr/>              |
| 36    |  |                    | 382                |

## 14. Cordage of 8 inches $\frac{20}{100}$ parts.

|       |            |    |       |
|-------|------------|----|-------|
| 1     | Maintie    | 16 | 19    |
| 2     | Main tack. | 18 | 36    |
| <hr/> |            |    | <hr/> |
| 3     |            |    | 52    |

## 15. Cordage of 13 inches $\frac{30}{200}$ parts.

|       |                                    |       |       |
|-------|------------------------------------|-------|-------|
| 1     | Fore flay                          | 15    | 15    |
| 1     | Coller about the stem              | 7     | 7     |
| 1     | Pennant of the main winding tackle | 7     | 7     |
| <hr/> |                                    | <hr/> | <hr/> |
| 3     |                                    |       | 29    |

## 16. Cordage of 17 inches $\frac{70}{100}$ parts.

|   |           |    |    |
|---|-----------|----|----|
| 1 | Main flay | 20 | 20 |
|---|-----------|----|----|

Here followeth another Table of some other Cordage and Ropes that are of necessity in a ship, and are here put down for their sizes and lengths according to the former Table of Cordage for the fore-propounded ship.

Stoppers.

# Apparelling a Ship.

|   | Fath <sup>rs</sup> | Fath <sup>rs</sup> |
|---|--------------------|--------------------|
| 2   Stoppers at the bits of 6. 30 inches            | 5                  | 10                 |
| 2   Lanniards of 2. 50 inches                       | 6                  | 12                 |
| 3   Stoppers at the bough of 4. 50 inches           | 8                  | 16                 |
| 4   Shanck panter of 4. 50 inches                   | 4                  | 16                 |
| 1   Shank panter for the stream anchor 4. 50 inches | 4                  | 4                  |
| 1   Stopper for it 3. 80 inches                     | 4                  | 4                  |
| 2   Can buy ropes 3. 80 inches                      | 60                 | 120                |
| 2   For Robins and Enrins of 2 inches 1 coile       |                    |                    |
| 5   Lead lines                                      |                    |                    |
| 2   Catt ropes of 3. 80 inches                      | 4                  | 8                  |
| 1   Pennant of the fish tackle 5. 50 inches         | 5                  | 5                  |
| 1   Fall of the fish tackle 3. 50 inches            | 16                 | 16                 |
| 1   Long boats Davids seizing 4. 50 inches          | 3                  | 3                  |
| 1   Long boats panter 5 inches                      | 4                  | 4                  |
| 1   Pinnasses Davids seizing 3. 50 inches           | 3                  | 3                  |
| 1   Pinnasses panter 4 inches                       | 4                  | 4                  |
| 1   Pinnasses panter 3 inches                       | 3                  | 3                  |
| 1   Hosses for the head 4 inches                    | 5                  | 5                  |
| 1   Ladder for the bosprite 3. 50 inches            | 10                 | 10                 |
| 1   Lanniards of one inch 90 parts                  | 5                  | 5                  |
| 1   Buy rope for the stream anchor 4 inches         | 12                 | 12                 |
| 1   Buy rope for the Kedge anchor 3. inches         | 12                 | 12                 |
| 2   Pair of but slings 4 inches                     | 3                  | 3                  |
| 2   Pair of hogshed slinges 3 inches                | 3                  | 3                  |
| 1   Ladder for the poop 2 inches                    | 12                 | 12                 |
| 6   Winding tackle blocks                           |                    |                    |
| 3   Buy ropes of 5 inches                           | 12                 | 36                 |
| 1   For new bolt rope a 5 inch cablet               |                    |                    |
| 1   A guesse rope 4 inch cablet                     |                    |                    |
| 1   Cackling of 3 or 4 inches                       |                    |                    |

# The Art of

Another Table of the Lengths and Thicknesse  
of the Masts and Yards of a Ship that is 86 Foot by the  
Keele, 33 Foot at the Middship Beam, and 15  
Foot in Hold ; which is of the bur-  
then of about 448 Tun.

*Each Grand mast, and its smaller Masts and Yards  
put together.*

|                              | Length<br>in Feet | Thickn.<br>in Inch. |
|------------------------------|-------------------|---------------------|
| 1. The main mast             | 96                | 32                  |
| The main yard                | 83                | 27.50               |
| The main top mast            | 49                | 16                  |
| The main top mast yard       | 41                | 12.50               |
| The main top gallant mast    | 25.50             | 9                   |
| The main top gallant yard    | 20.50             | 7                   |
| 2. The fore mast             | 85                | 28.50               |
| The fore yard                | 71                | 23                  |
| The fore top mast            | 42.50             | 15                  |
| The fore top mast yard       | 35                | 10.50               |
| The fore top gallant mast    | 21.50             | 7                   |
| The fore top gallant yard    | 18                | 5.50                |
| 3. The bosprite              | 76                | 25                  |
| The sprit sail yard          | 66                | 18                  |
| The sprit sail top mast      | 18                | 5.50                |
| The sprit sail top sail yard | 16.50             | 4.50                |
| 4. The mizne mast            | 59                | 19.50               |
| The mizne yard               | 58                | 18                  |
| The crosse jeck yard         | 38                | 8.50                |
| The minze top mast           | 31                | 9                   |
| The mizne top mast yard      | 23                | 7                   |

# Apparelling a Ship.

A Table of the names, the number, the bignesse, and the lengths, of each Cordage for Aparrelling, belonging to each Mast of the fore-propounded Ship of 448 Tun.

## 1. Cordage belonging to the Main mast.

|                                       | Inches | Fath <sup>rs</sup> | Fath <sup>rs</sup> |
|---------------------------------------|--------|--------------------|--------------------|
| 1 Main stay                           | 16     | 19                 | 19                 |
| 2 Coller about the Stem               | 12     | 6                  | 6                  |
| 2 Main tacks                          | 7.50   | 17                 | 34                 |
| 1 Main tie                            | 7.50   | 15                 | 15                 |
| 20 Main shrouds                       | 7      | 12.50              | 250                |
| 1 Main best rope                      | 6.50   | 3.50               | 3.50               |
| 4 Pennants of the main tackles        | 7      | 4.50               | 18                 |
| 1 Pennant of the main winding tackle  | 12     | 7                  | 7                  |
| 1 Pennant of the main Garnet          | 6      | 6                  | 6                  |
| 2 Main sheats                         | 6      | 34                 | 68                 |
| 2 Main Jeers                          | 6      | 28.50              | 57                 |
| 1 Main Halliards                      | 6      | 46                 | 46                 |
| 1 Lanniard of the main stay           | 6      | 9                  | 9                  |
| 2 Main mast runners of the boatstake. | 5.50   | 16                 | 32                 |
| 2 Other Runners                       | 5.50   | 15                 | 30                 |
| 1 Fall of the main top rope           | 5      | 24                 | 24                 |
| 2 Hosses for the main yard            | 5      | 4.50               | 9                  |
| 3 Main parrel ropes                   | 5      | 3.50               | 10                 |
| 1 Main Garnet Guy                     | 5      | 9                  | 9                  |
| 1 Main Garnet fall                    | 4      | 33                 | 33                 |
| 4 Main boline bridles                 | 4      | 3.50               | 14                 |
| 2 Main bolines                        | 4      | 19.50              | 39                 |
| 20 Lanniards of the main shrouds      | 4      | 4.50               | 90                 |
| 2 Pennants of the main braces         | 3.50   | 4.50               | 9                  |

Main

# The Art of

|   |   | Inche | Fathā | Fathā |
|---|---|-------|-------|-------|
| 3 | Main lifts (mast                        | 3.50  | 27.50 | 55    |
| 2 | Falls of the boats tackles for the main | 3.50  | 40    | 80    |
| 2 | Other falls                             | 3.50  | 26.50 | 53    |
| 2 | Lanniards of the main yard hesses       | 3     | 3.50  | 7     |
| 1 | Main bousing tackle                     | 3     | 9     | 9     |
| 1 | Fall of the main sail bunt lines        | 3     | 61    | 61    |
| 1 | Main luffe tackle                       | 3     | 9     | 9     |
| 6 | Main sail bunt lines                    | 3     | 10    | 60    |
| 2 | Main braces                             | 3     | 27.50 | 55    |
| 2 | Main sail martlines fals                | 3     | 36.50 | 73    |
| 4 | Main sail mart line legs                | 2.50  | 9     | 36    |

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## 2. Cordage belonging to the main top mast.

|    |   |      |       |      |
|----|---|------|-------|------|
| 1  | Pennant of the main top mast top rope   | 6.50 | 7     | 7    |
| 2  | Main top sail sheats                    | 6.50 | 27.50 | 55   |
| 1  | Main top mast tie                       | 6    | 9     | 9    |
| 1  | Main top mast stay                      | 5.50 | 14    | 14   |
| 2  | Main top mast clue lines                | 3.50 | 40    | 80   |
| 10 | Main top mast puttox                    | 5    | 3.50  | 35   |
| 1  | Runner for the main top sail halliards  | 5    | 16    | 16   |
| 1  | Main top mast brest rope                | 4    | 3.50  | 3.50 |
| 2  | Pennants of the main top sail braces    | 4    | 2.50  | 5    |
| 2  | Main top mast standing back stais       | 4    | 20.50 | 41   |
| 2  | Pennants of the main topmast back stais | 4    | 8     | 16   |
| 10 | Main topmast shrouds                    | 4    | 8     | 80   |
| 2  | Pennants of the main top mast tackles   | 4    | 2.50  | 5    |
| 2  | Main top sail clue lines                | 3.50 | 40    | 80   |
| 6  | Main top sail boline bridles            | 3.50 | 2.50  | 15   |
| 2  | Main top sail bolines                   | 3.50 | 31    | 62   |
| 1  | Main top sail halliards                 | 3.50 | 50    | 50   |
| 1  | Lanniards of the main top mast stay     | 3.50 | 6     | 6    |

Main

# Apparelling a Ship.

|   | Inches | Fathā | Fathā |
|---|--------|-------|-------|
| 2 Main top mast parrel ropes                | 3      | 2.50  | 5     |
| 2 Falls of the main topmast running back    | 3      | 22    | 44    |
| 2 Main top sail bunt lines fals (stais      | 2.50   | 20    | 40    |
| 2 Main top sail buntline legs               | 2.50   | 11    | 22    |
| 2 Main top sail lifts                       | 2.50   | 28    | 56    |
| 2 Lanniards of the main top mast back       | 2.50   | 6     | 12    |
| 2 Falls of the main top mast tackles (stais | 2.50   | 17.50 | 35    |
| 2 Main top sail leech lines                 | 2      | 13.50 | 27    |
| 2 Main top-sail braces                      | 2      | 27.50 | 55    |
| 10 Lanniards of the main top mast shrouds   | 2      | 3     | 30    |
| 1 Fall of the main top mast top rope        | 5      | 24    | 24    |

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## 3. Cordage belonging to the main top gallant mast.

|  |      |       |      |
|--|------|-------|------|
| 1 Main top gallant tie                     | 3.50 | 4.50  | 4.50 |
| 1 Main top gallant top rope                | 3    | 34    | 34   |
| 1 Main top gallant mast stay               | 3    | 16    | 16   |
| 8 Main top gallant mast shrouds            | 3    | 4.50  | 36   |
| 2 Main top gallant parrel ropes            | 2.50 | 1.50  | 3    |
| 8 Main top gallant puttox                  | 2.50 | 2     | 16   |
| 1 Main top gallant halliards (stais        | 2.50 | 42.0  | 42   |
| 2 Pennants of the main top gallant back    | 2.50 | 2.5   | 5    |
| 2 Pennants of the main top gallant tackles | 2.50 | 3     | 6    |
| 2 Pennants of the main top gallant bra-    | 2    | 1.50  | 3    |
| 2 Main top gallant clue lines (ces         | 2    | 28.50 | 57   |
| 2 Main top gallant bolines                 | 1.50 | 27.50 | 55   |
| 2 Main top gallant braces                  | 1.50 | 32    | 64   |
| 2 Main top gallant lifts                   | 1.50 | 27.50 | 55   |
| 2 Falls of the main top gallant back stais | 1.50 | 23    | 46   |
| 2 Falls of the main top gallant tackles    | 1.50 | 8     | 16   |
| 8 Main top gallant lanniards               | 1.50 | 2     | 16   |
| 4 Main top gallant boline bridles          | 1.50 | 1.25  | 5    |
| 1 Main flagstaffe stay                     | 1.50 | 13    | 13   |

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4. Cordage

# The Art of

## 4. Cordage belonging to the Fore Mast.

|   | <i>laches</i> | <i>Fnthā</i> | <i>Fakhā</i> |
|---|---------------|--------------|--------------|
| 1 Fore stay                             | 12            | 14           | 14           |
| 2 Fore tacks                            | 7             | 14.50        | 29           |
| 1 Fore tie                              | 7             | 16           | 16           |
| 1 Coller of the stay about the bosprite | 6.50          | 4            | 4            |
| 1 Fore brest rope                       | 6.50          | 2.50         | 2.50         |
| 1 2 Fore shrouds                        | 6.50          | 11.50        | 138          |
| 4 Pennants of the fore tackles          | 6.50          | 4            | 16           |
| 2 Fore mast runners of the boats        | 5.50          | 15           | 30           |
| 2 Other runners (tackles)               | 5.50          | 14           | 28           |
| 2 Fore sheats                           | 5.50          | 7.50         | 15           |
| 2 Hosses for the fore yard              | 5             | 3.50         | 7            |
| 1 Luffe hook rope                       | 5             | 8            | 8            |
| 3 Fore parrel ropes                     | 5             | 3            | 9            |
| 1 Fore halliards                        | 5             | 34           | 34           |
| 1 Lanniard of the fore stay             | 4.50          | 6            | 6            |
| 2 Fore bolines                          | 3.50          | 17           | 34           |
| 2 Fore Lifts                            | 3.50          | 23           | 46           |
| 2 Fore mast falls for the Boats tackles | 3.50          | 36.50        | 73           |
| 2 Other Falls                           | 3.50          | 25           | 50           |
| 1 2 Lanniards of the fore shrouds       | 3             | 5            | 60           |
| 2 Pennants of the fore braces           | 3             | 2.50         | 5            |
| 2 Fore sail Boline Bridles              | 3             | 2.50         | 5            |
| 2 Fore braces                           | 2.50          | 17           | 34           |
| 5 Fore sail bunt lines                  | 2.50          | 18           | 90           |
| 2 Fore sail martline Falls              | 2.50          | 33           | 66           |
| 2 Lanniards of the hosses for the fore- | 2             | 7            | 14           |
| 4 Fore sail Martlines legs (yard)       | 2             | 6.50         | 26           |

5. Cordage

# Apparelling a Ship.

## 5. Cordage belonging to the fore top mast.

|    |                                       | Inches | Fath <sup>rs</sup> | Fath <sup>rs</sup> |
|----|---------------------------------------|--------|--------------------|--------------------|
| 1  | Pennant of the fore top mast top rope | 6.50   | 6                  | 6                  |
| 2  | Fore top sail sheats                  | 6      | 24                 | 48                 |
| 1  | Fore top mast tie                     | 5.50   | 7.50               | 7.50               |
| 1  | Fall of the fore top mast top rope    | 5      | 20.50              | 41                 |
| 1  | Runner of the fore top sail halliards | 4      | 13.50              | 13.50              |
| 2  | Fore top mast standing backstais      | 4      | 17                 | 34                 |
| 1  | Fore top mast stay                    | 4      | 14.50              | 14.50              |
| 8  | Fore top mast shrouds                 | 3.50   | 7.50               | 60                 |
| 8  | Fore top mast puttox (ning back stais | 3.50   | 3                  | 24                 |
| 2  | Pennants of the fore top mast run-    | 3.50   | 3.50               | 7                  |
| 2  | Pennants of the fore top mast tackles | 3.50   | 2.50               | 5                  |
| 2  | Fore top sail clue lines              | 3      | 34                 | 68                 |
| 1  | Fore top mast brest rope              | 3      | 2.50               | 2.50               |
| 2  | Fore top mast parrel ropes            | 3      | 2                  | 4                  |
| 2  | Falls of the fore top mast running    | 3      | 19.50              | 39                 |
| 2  | Fore top sail clue lines (back stais  | 3      | 17                 | 34                 |
| 1  | Laniard of the fore top mast stay     | 2.50   | 5.50               | 5.50               |
| 2  | Fore top sail bunt lines              | 2.50   | 11.50              | 21                 |
| 2  | Fore top sail bolines                 | 2.50   | 30                 | 60                 |
| 2  | Pennants of the fore top sail braces  | 2.50   | 2.50               | 5                  |
| 2  | Falls of the fore top mast back stais | 2.50   | 5                  | 10                 |
| 2  | Fore top sail lifts                   | 2.50   | 19.50              | 39                 |
| 4  | Fore top sail boline bridles          | 2      | 2.50               | 10                 |
| 2  | Fore top sail braces                  | 2      | 25                 | 50                 |
| 8  | Laniards for the fore top mast shrou. | 2      | 2.50               | 20                 |
| 2  | Fore top sail lee bh lines            | 1.50   | 11.50              | 23                 |
| 2  | Fore top mast tackle falls            | 1.50   | 15.50              | 31                 |
| 67 | a                                     |        |                    |                    |

## 6. Cordage belonging to the fore top gallant mast.

|   |                       |      |    |      |
|---|-----------------------|------|----|------|
| 1 | Fore top gallant tie  | 2.50 | 4  | 4    |
| 1 | Fore top gallant stay | 2.50 | 21 | 21   |
|   | D                     |      |    | Fore |

# The Art of

|   |                                      | Inches | Fathā | Fathā |
|---|--------------------------------------|--------|-------|-------|
| 6 | Fore top gallant mast puttox         | 2.50   | 1.50  | 9     |
| 1 | Fore top gallant top rope            | 2.50   | 31    | 31    |
| 6 | Fore top gallant shrouds             | 2.50   | 4     | 24    |
| 2 | Penants of the fore top gallant back | 2.50   | 2.50  | 5     |
| 2 | Fore top gallant parrel ropes (stais | 2      | 1     | 2     |
| 6 | Fore top gallant lanniards           | 2.50   | 2     | 12    |
| 2 | Fore top gallant clue lines          | 1.50   | 25    | 50    |
| 2 | Fore top gallant bolines             | 1.50   | 27.50 | 55    |
| 2 | Pennants of the fore top gallant     | 1.50   | 2     | 4     |
| 1 | Fore top gallant halliards (braces   | 1.50   | 36    | 36    |
| 2 | Falls of the fore top gallant back   | 1.50   | 21    | 42    |
| 2 | Fore top gallant lifts (stais        | 1.50   | 25    | 50    |
| 4 | Fore top gallant boline bridles      | 1.50   | 1.50  | 6     |
| 2 | Fore top gallant braces              | 1.50   | 28.50 | 57    |

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## 7. Cordage for the Bousprite.

|   |                                      |      |       |      |
|---|--------------------------------------|------|-------|------|
| 8 | Mouldings for the bousprite          | 7    | 5.50  | 44   |
| 1 | Sling of the spritsail yard          | 6.50 | 2.50  | 2.50 |
| 2 | Pennants of the spritsail sheats     | 5.50 | 4.50  | 9    |
| 2 | Pennants of the spritsail crainlines | 3    | 1     | 2    |
| 2 | Spritsail standing lifts             | 4    | 4     | 6    |
| 2 | Hosles of the spritsail yard         | 3.50 | 2     | 4    |
| 1 | Spritsail halliards                  | 3.50 | 19.50 | 39   |
| 1 | Hosse for the stay                   | 3    | 7     | 7    |
| 2 | Spritsail sheats                     | 3    | 19.50 | 39   |
| 2 | Pennants of the spritsail braces     | 3    | 2.50  | 5    |
| 1 | Fall of the spritsail crainlines     | 1.50 | 20.50 | 41   |
| 2 | Spritsail lifts                      | 1.50 | 5.50  | 11   |
| 2 | Spritsail garnets                    | 3    | 20.50 | 41   |
| 1 | Spritsail bunt line in two parts     | 2.50 | 24    | 48   |
| 2 | Spritsail clue lines                 | 2.50 | 12.50 | 25   |
| 2 | Spritsail braces (lifts              | 2.50 | 18    | 36   |
| 2 | Lanniards of the spritsail standing  | 2.50 | 2.50  | 7    |

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## 8. Cordage

# Apparelling a Ship.

## 8. Cordage of the Spritsail Topmast.

|    |  | Inches | Fathā | Fathā |
|----|--|--------|-------|-------|
| 1  | Spritsail top mast tie (tackles)             | 3      | 3.50  | 3.50  |
| 2  | Pennants of the spritsail top mast           | 2.50   | 1.50  | 3     |
| 2  | Spritsail top mast parrel ropes              | 2.50   | 1     | 2     |
| 8  | Puttox of the spritsail top mast             | 2.50   | 1.25  | 10    |
| 8  | Spritsail top mast shrouds (shrouds)         | 2.50   | 3.50  | 28    |
| 3  | Pennants of the spritsail top sail crain     | 2.50   | 3     | 9     |
| 2  | Spritsail top sail clue lines (lines)        | 1.50   | 12.50 | 25    |
| 2  | Spritsail top sail braces (braces)           | 1.50   | 11.50 | 23    |
| 2  | Pennants of the spritsail top sail           | 1.50   | 1.25  | 2.50  |
| 1  | Fall of the spritsail topsail crainlines     | 1.50   | 41    | 41    |
| 2  | Spritsail top sail lifts                     | 1.50   | 5.50  | 11    |
| 1  | Spritsail top sail halliards                 | 1.50   | 7     | 7     |
| 2  | Falls of the spritsail top mast tackles      | 1.50   | 7     | 14    |
| 8  | Lanniards of the spritsail top mast (shroud) | 1.50   | 7     | 16    |
| 44 |  |        |       |       |

## 9. Cordage of the Mizne mast.

|    |                              |      |      |       |
|----|------------------------------|------|------|-------|
| 1  | Mizne tie                    | .6   | 8    | 8     |
| 1  | Mizne stay                   | 5    | 10   | 10    |
| 10 | Mizne shrouds                | 4.50 | 9    | 90    |
| 2  | Mizne parrel rope            | 4    | 3.50 | 13.50 |
| 1  | Mizne tack                   | 3    | 3    | 3     |
| 1  | Mizne sheat.                 | 3.50 | 15   | 15    |
| 1  | Mizne halliards              | 3.50 | 22   | 22    |
| 2  | Runners of the mizne tackles | 3.50 | 9    | 18    |
| 1  | Mizne bolines                | 2.50 | 5.50 | 5.50  |
| 1  | Mizne trusse                 | 2.50 | 14   | 14    |
| 2  | Falls of the mizne tackles.  | 2.50 | 36   | 36    |

# The Art of

|    |                                 | Inches | Fath̄. | Fath̄ |
|----|---------------------------------|--------|--------|-------|
| 20 | Lanniards for the Mizne shrouds | 2      | 3      | 30    |
| 8  | Mizne brails                    | 2      | 9      | 72    |
| 2  | Pennants of the mizne tackles   | 4      | 2      | 5     |
| 1  | Mizne jeere                     | 4      | 13.50  | 13.50 |
| 43 |                                 |        |        |       |

## 10. Cordage of the Crosse jeck yard.

|   |                                    |      |    |    |
|---|------------------------------------|------|----|----|
| 2 | Crosse jeck lifts                  | 3    | 17 | 34 |
| 2 | Slings for the crosse jeck yard    | 2    | 2  | 4  |
| 2 | Pennants of the crosse jeck braces | 2    | 2  | 4  |
| 2 | Crosse jeck braces.                | 1.50 | 23 | 46 |
| 8 |                                    |      |    |    |

## 11. Cordage of the mizne top mast.

|    |  |      |       |      |
|----|--|------|-------|------|
| 1  | Mizne top mast top rope                  | 3    | 15    | 15   |
| 2  | Mizne top mast parrel ropes              | 2.50 | 1.50  | 3    |
| 8  | Puttox of the mizne top mast shrouds     | 2.50 | 2     | 16   |
| 1  | Mizne top mast tie                       | 2.50 | 5     | 5    |
| 8  | Mizne top mast shrouds                   | 2.50 | 5     | 40   |
| 2  | Pennants of the mizne top mast tackles   | 2.50 | 2.50  | 5    |
| 2  | Mizne top sail elue lines                | 2    | 16    | 32   |
| 1  | Mizne top sail halliards in 3 parts      | 2    | 32    | 32   |
| 2  | Pennants of the mizne topsail crain lin. | 2    | 1.50  | 3    |
| 2  | Pennants of the mizne topsail braces     | 1.50 | 1.50  | 3    |
| 6  | Mizne topsail boline bridles             | 1.50 | 1.25  | 7.50 |
| 1  | Fall of the mizne topsail crain lines    | 1.50 | 41    | 41   |
| 2  | Mizne top mast tackle falls              | 1.50 | 10    | 20   |
| 2  | Mizne top sail braces.                   | 1.50 | 19.50 | 39   |
| 2  | Mizne top sail bolines                   | 1.50 | 14.50 | 29   |
| 8  | Mizne top sail lanniards                 | 1.50 | 2     | 16   |
| 50 |  |      |       |      |

Here followeth another Table of some other Cordage and Ropes that are of necessity in a ship, and are here put down for their sizes and lengths according to the last foregoing Table of Cordage for the last propounded ship of 448 Tun.

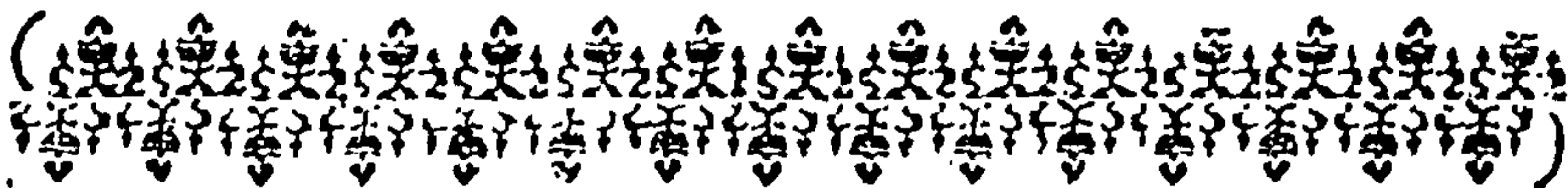
Stoppers

# Apparelling a Ship.

|   | Inches | Fathā | Fat hā |
|---|--------|-------|--------|
| 2 } Stoppers at the bits of 6 inches    | 6      | 4.50  | 9      |
| 2 } Lanniards of 2.50 inches            | 2.50   | 5.50  | 11     |
| 2 } Stoppers at the Bough of 4 inches   | 4      | 7     | 14     |
| 4 } Shank panter of 4 inches            | 4      | 3     | 12     |
| 1 } Shank panter for the stream anchor  |        | 3     | 3      |
| 1 } Stopper for it (3.50 inches         |        | 3     | 3      |
| 2 } Can buy ropes                       | 3.50   | 57    | 114    |
|   | 2      |       |        |
| 6 } For Robbins and erings 1 small coil |        |       |        |
| 6 } Lead lines                          |        |       |        |
| 2 } Catt ropes                          | 3.50   | 3     | 6      |
| 1 } Pennant of the fish tackle          | 5      | 4.50  | 4.50   |
| 1 } Fall of the fish tackles            | 2.50   | 14    | 14     |
| 1 } Long boats Davids seasing           | 3.50   | 2.50  | 2.50   |
| 1 } Long boats panter                   | 4.50   | 3.50  | 3.50   |
| 1 } Pinnasses Davids seasing            | 3      | 2.50  | 2.50   |
| 1 } Pinasses panter                     | 3.50   | 3.50  | 3.50   |
| 1 } Jellewats panter                    | 2.50   | 2.50  | 2.50   |
|   | 3.50   | 4.50  | 4.50   |
| 1 } Hosses for the head                 |        |       |        |
| 1 } Ladder for the bosprite             | 3      | 9     | 9      |
|   | 1.50   | 4.50  | 4.50   |
| 1 } Lanniards of                        |        |       |        |
| 1 } Buy rope for the stream anchor      | 3.50   | 10    | 10     |
| 1 } Buy rope for the kedge anchor       | 2.50   | 10    | 10     |
| 2 } Pair of but slings                  | 3.50   | 2.50  | 2.50   |
| 2 } Pair of hogshed slings              | 2.50   | 2.50  | 2.50   |
| 1 } Ladder for the Poop                 | 3.50   | 9     | 9      |
| 6 } Winding tackle blocks               |        |       |        |
| 3 } Buy ropes of                        | 4.50   | 11    | 33     |
| 2 } For new bolt ropes a Cablet of      | 4.50   |       |        |
|   | 3.50   |       |        |
| 2 } For a guesse rope a Cablet of       |        |       |        |
|   | 3.50   |       |        |
| 1 } Cackling of 3 inches or             |        |       |        |

The

# The Art of



**T**HE first thing to begin with is to find the length of the Main mast of any Ship, whose length at the Keel, the breadth at the Beam, and the depth in Hold is known, which may be done two severall wayes,

The first, which is the best, is to adde the breadth and the depth of the ship together, and double it; and divide the product by 3. the quotient is the length of the Main mast in Yards.

*Example,* In the second ship I have propounded, the breadth is 33, the depth is 15, their sum is 48, that doubled is 96, which divided by 3. the quotient is 32, that is 96 foot. Or it is all one to adde the breadth and depth together, and double it, and the sum is the length in feet.

A second way is to adde the length of the Keyle, the breadth of the beam, and the depth together, and to that sum adde the difference between the breadth and twice the depth, and multiply the last sum by the breadth at the Beam, the product whereof divide by the former last sum, and the quotient is the length of the main mast in yards.

*Example,* In the ship last propounded, the length of the Keele 86, the breadth of the beam 33, the depth 15, their sum is 134, unto which adde the difference between the breadth and twice the depth, which is 3, the sum is 137, which multiplied by 33, the breadth, the product is 4521, which divided by 137, the quotient is 33, which is a yard more then it was the former way, but it is too much, and therefore the former way is the better way. Notwithstanding, either of these wayes, the builder of the ship may see some just cause, wherefore he will not have the main mast of his ship so long as the shortest of these two wayes doth allow, but it may be one yard or two shorter. It will be demanded what the former two Tables that I have put down are useful for. I answer, very useful, because the Masts and

Yards

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Yards that I have put down in those Tables (for their lengths) are in such a proportion one to another, that whatsoever length the Main mast of any ship be propounded to be, the rest ought to follow in order according to that proportion that I have there set downe; or else, the ship, when it is masted, Yarded, and Rigg'd, will not be uniform, or rather (if you please) not ship-shapen, nor yet so good to sail.

And accordingly all the rigging also may be fitted according to that proportion, or if one mast alone should be altered different from this proportion; yet all things belonging to that Mast (as smaller Masts and Yards, and all Cordage) shall all be found from the former Tables, from either of them, by the Instrument nominated in the Title page, only by inspection.

Having found the length of the main mast, as before is shewed, and the like may be done for any other ship, we may by the help of either of the two Tables, which I have here before set down, after the length of the main mast, and the thicknesse at the partners is found, the length and thicknesse of all the other masts and yards may be found by either of our former Tables, by the *Rule of Three*, because it is but a lineal proportion; but I shall onely make use of the Mariners Scale mentioned in the Titlepage, by which it may be done (as is aforesaid) by inspection, without altering the Scale, as I shall immediately shew.

But first I shall describe the Mariners scale, so much of it as is usefull in this businesse. It is the one halfe of a Geometrical Square, which is cut off in the Diagonal line, having each side divided into 100 equal parts, and an Index divided into the same equall parts moving upon a centre, so that if there be never so many things depending upon one proportion, they may be all found by once setting the Index by inspection, as all the things that we have vow in question do.

*Example,* To find the length and thicknesse of all the masts and yards for a ship of 448 Tuns (having first the main mast,) by our Table of Masts and yards of a ship of 600 Tuns, the main mast of the first being 107 foot, and of the second 96 foot. Bring 96 of the base  
of

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of the Scale to fit with 107 of the Index of the Scale, and there stay it fast, and look against 93 the main yard of the first, in the Index of the Scale, and in the base you shall see 83 the length of the main yard of the second, and against 36 in the Index, the thickness of the main mast of the first, and in the base you shall see 32 the thickness of the main mast of the second; and so proceed for all the rest, and you shall find 27.50 for the thicknesse of the main yard, and 49 for the length of the main top mast, and 16 the thicknesse, and 41 the length of the main top mast yard, and 12.50 inches the thicknesse, and 25.50 the length of the main top gallant mast, and 9 inches the thicknesse, and so all the rest of the masts and yards their lengths and thicknesse, as you may see it set down in the Table before belonging to our supposed ship of 448 Tun.

Now I will go forwards to find the sizes, the lengths, and the quantity of Cordage that will serve to Apparel our supposed Ship completely, which shall be performed with the same ease and speed that the masts and yards were, the Scale remaining still unaltered.

Here note that I should have given the lengths of all the masts and yards by a way that is used by some from the main mast, and so from one to another: but because the way that I have here propounded is far more easie and speedy, I make use of it.

First, for the size of our cordage, we are to consider it is but a lineal proportion between the diameters of the two main masts, which are 36 and 32, so that if we shall look against 1 inch  $\frac{100}{100}$  the first size Cordage of the ship of 600 Tun in the index of the Scale, we shall see 1.25 in the base for the first size for the ship of 448 Tun, and for 1 inch,  $\frac{6}{10}$  parts we shall find one inch  $\frac{4}{10}$  parts, & for 2 inches  $\frac{2}{10}$  parts we shall find 2 inches, and for 2 inches  $\frac{2}{10}$  parts we shall find 2 inches  $\frac{2}{10}$  parts, and for 3 inches  $\frac{1}{10}$  parts we shall find 3 inches, and for 3 inches  $\frac{2}{10}$  parts we shall find 3 inches  $\frac{1}{10}$  parts, and for 4 inches  $\frac{1}{10}$  parts we shall find 3 inches  $\frac{1}{10}$  and for 4 inches  $\frac{1}{10}$  parts, we shall find 4 inches, and for 5 inches  $\frac{1}{10}$  parts, we shall find 5 inches, for 6 inches parts we shall find 5 inches  $\frac{1}{10}$  parts, for 6 inches  $\frac{2}{10}$  parts we shall find 5 inches  $\frac{6}{10}$  for 7 inches 00 parts we shall find 6 inches  $\frac{2}{10}$  parts,  
for

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for 7 inches  $\frac{1}{2}$  parts we shall find 7 inches, for 8 inches  $\frac{1}{2}$  parts we shall find 7 inches  $\frac{1}{2}$  parts, for 13 inches  $\frac{1}{2}$  parts we shall find 12 inches, and for 17 inches  $\frac{1}{2}$  we shall find 16 inches.

It it shall happen that any number be too long for the Scale, either in the size or length of any Cordage, we may do it by the half or the quarter of it, or one tenth part of it, as for example, our 4th. Cordage in our first Table of Cordage is 1006 fathom for a ship of 600 tun, how much must we have for the ship of 448 tun? look against 100 $\frac{1}{2}$  of the Index of the Scale, and in the base you shall see 89 $\frac{2}{3}$ , which is 89 $\frac{1}{2}$  fathom, and so in like manner we may proceed to find the quantity of all the other sizes; as it follows: For the first size in the table is 313, for which we shall find 278; and for the second size, for 842 we shall find 752; and for the third size, for 443 we shall find 393; and for the fifth size for 846, we shall find 755; and for the 6th. size for 892, we shall find 791; and for the 7th. size for 455, we shall find 405; and for the 8th. size for 100, we shall find 84; and for the 9th. size for 234, we shall find 208; and for the 10th. size for 226; we shall find 201; and for the 11th. size for 270, we shall find 240; and for the 12 size for 291, we shall find 258; and for the 13th. size for 382 we shall find 340; and for the 14th. size for 52, we shall find 46; for the 15th. size for 29, we shall find 25 & an half; for the 16th. size for 20, we shall find 18. So now we have found the quantity of cordage of every size for the rigging of the supposed ship of 448 tun.

If it be objected, that there is too much variety of cordage for every ordinary ship, any man may go to the Table and take out the quantity of cordage of each size that he intends to make use of, and adde it into one summe, then by the Scale he may find what quantity will serve either for a bigger or a lesser ship then that Table is made for, as is plain by finding the quantities of each size before.

Next we will proceed to find the lengths of some particular Cordage, in which there is no difficulty at all, for the Scale remaining as it was at first, if we look for the length of any particular Cordage in the first or second Tables of Cordage, if it be for a lesser ship then that which is of 300 Tun, then look the length of the Cordage that is in

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the Table, in the Index of the Scale, and right against it you shall see the length of the Cordage required in the base of the Scale; or if it be for a greater then that of 600 or that of 448 you must look that in the Table in the base of the Scale, and right against it in the Index you shall see the length of the Cordage required.

*Example,* I would know what should be the length of the two fore-top sail braces for our supposed ship of 448 tun. I look in the first Table of cordage, and find them to be in the third size cordage of two inches 3 tenth parts, and their lengths, both of them, to be 56 fathoms, which I look in the Index of the Scale, and right against it in the base is 50 the length of the fore-top sail braces for the ship of 448 tun, as you may see in the second Table of cordage: so likewise if you look for any other cordages length, you shall find it in the same manner, as you may make tryal from the one Table to the other, by either Scale, which is instruction sufficient for finding any thing of this kind, for any ship, and whatsoever may be done by proportion by the Marriners Scale, may be done by two sliding lines of numbers.

It remains that in the next place I say something concerning the sizing of cables,

Your sheat cable is commonly so many half inches about as your ship is breadth in feet at the mid ship beam.

Our supposed ship of 448 tun is 33 foot at the mid ship beam, therefore the sheat cable must be 16 inches and a half about. To find the sizes of the rest of the cables, it may be done by the weight of the Anchors in the manner following.

Suppose your sheat anchor be 18 hundred weight, and your cable be 16 inches and a half about, and you have another anchor of 3, 14, 100, weight, how many inches about shall be the cable for it?

To answer this and the like demands, there are two lines at the lower side of the Scale, the one of equal parts containing 38.5 parts, and the tens and fives drawn out, and is numbred at every 50 thus, 50, 100, 150, &c. the other line is of unequal parts, and begins at 1 and ends at 27.7, and is numbred to every unite, and each unite is divided from 5 to 10 by fives, and from 10 to 27.7 by tens, each unite into ten parts.

First,

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First, because 11 and 18 are but small numbers, I double them and they are 22 and 36, and I look in the unequal parts for 16 and an half, and against it in the equal parts is 136, of which I take half (which is 68) because it is above 100. Then I bring 36 of the Index against 22 of the perpendicular side of the Scale, and stay the Index fast, and look against 68 of the Index, where I shall see 41 and a half of the perpendicular side of the Scale, which being doubled is 83, which I look in the equal parts, and against it in the unequal parts you shall see 12.8, which is 12 inches and 8 tenth parts, the circumference of a cable for an anchor of 11 hundred weight.

But cables may be also proportioned from the burthens of ships in this manner following :

Suppose a ship of 300 tun have a sheat cable of 15 inches about, what shall the circumference of a sheat cable for a ship of 448? because the numbers are great, I take the tenth part of each, and they are 30 and 46, then look 15 in the unequal parts, and against it in the equal parts is 112 and an half, the half of which is 56 and a quarter: so I bring 30 of the base of the Scale against 46 of the Index, and against 56 and a quarter of the base of the Scale, I see in the Index 75, which I double, and it is 150, which I look in the equal parts, and against it in the unequal parts is 17 and 3 tenths, which is 8 tenths of an inch more then it was the other way: but it is not the more unsafe for the ship to ride by if the hemp be good: and so the sizes of all the rest of the cables may be found from one ship to another, after the same manner.

Here it may be it will be objected that the stais of the middle masts may not hold in proportion according to the lengths of the middle masts in all ships, because the distance between the main mast and the fore mast may not be proportionable in all ships according to their lengths; if it be so, yet the Scale performs it another way very easily and exactly.

1. *Example*, I suppose a ship of 75 foot by the Keel, the main mast is 84 foot, the depth in hold 13 foot, and 5 foot between the Decks, that is 18 foot, which taken out of 84, rests 66, the height of the mast

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above the Decks, and commonly the distance between the main mast and fore mast is three fifths of the ships keele, which in this is 45 foot, (and the distance between the main mast and the mizne. mast is halfe as much as the distance between the main mast and the fore mast) but to proceed to find the length of the main stay, I looke upon the Scale where 66 of the base of the Scale doth intersect 45 of the perpendicular side of the Scale, and bring the edge of the Index to that intersection, and in the edge of the Index you shall see 80 foot, the length of the main stay besides the collar.

2 *Example*, in the second propounded ship of 86 foot by the keel, whose mast is 96 foot, the depth in hold 15 foot, and 5 foot and an helse between decks, that is 20 foot and an halfe, which taken out of 96 rests 75 and an halfe, the height of the mast above the deck, three fifths of the keel is 51, the distance between the main mast and the fore mast, so I look upon the scale for the intersection of 75 and an halfe of the base of the Scale, and 51 of the perpendicular side, and bring the edge of the Index to it, and in the edge of the Index I see 91 foot, the length of the main stay without the Coller.

Thus I have finished what I intended for this businesse of Mastings, Yarding, Apparelling, Anchoring, and Cableing of any ship whatsoever: but

I will farther shew by this following Table how you shall finde what weight of each size cordage you shall use for to Apparel any ship whatsoever, which Table shews how many fatham and odde feet of any Cordage there is in one hundred weight, from one inch to ten inches in circumference, to every tenth part of an inch...

# Aparrelling a Ship

| Inch. | Part. | Fathom and feet<br>in one C. Weig. |  | Inch. | Part. | Fathom and feet<br>in one C. Weig. |
|-------|-------|------------------------------------|--|-------|-------|------------------------------------|
| 1     | 1     | 405 0                              |  | 3     | 1     | 50 3                               |
| 1     | 2     | 338 0                              |  | 3     | 2     | 47 1.50                            |
| 1     | 3     | 289 0                              |  | 3     | 3     | 44 3                               |
| 1     | 4     | 249 0                              |  | 3     | 4     | 42 0                               |
| 1     | 5     | 216 3                              |  | 3     | 5     | 39 3                               |
| 1     | 6     | 191 0                              |  | 3     | 6     | 37 1.50                            |
| 1     | 7     | 169 0                              |  | 3     | 7     | 35 3                               |
| 1     | 8     | 150 0                              |  | 3     | 8     | 33 4.50                            |
| 1     | 9     | 135 0                              |  | 3     | 9     | 31 4.50                            |
| 1     | 0     | 121 3                              |  | 4     | 0     | 30 1.50                            |
| ----- |       |                                    |  |       |       |                                    |
| 2     | 1     | 111 0                              |  | 4     | 1     | 29 0                               |
| 2     | 2     | 100 3                              |  | 4     | 2     | 27 3                               |
| 2     | 3     | 92 2                               |  | 4     | 3     | 26 1.50                            |
| 2     | 4     | 84 3                               |  | 4     | 4     | 25 0                               |
| 2     | 5     | 77 3                               |  | 4     | 5     | 24 0                               |
| 2     | 6     | 72 0                               |  | 4     | 6     | 23 0                               |
| 2     | 7     | 67 0                               |  | 4     | 7     | 22 0                               |
| 2     | 8     | 62 3                               |  | 4     | 8     | 21 0                               |
| 2     | 9     | 58 0                               |  | 4     | 9     | 20 1.50                            |
| 3     | 0     | 54 0                               |  | 5     | 0     | 19 3                               |

| Inch. | Part. | Fa feet<br>in C. w. | Inch. | Part. | Fa. & feet<br>in C. weig. | Inch. | Part. | Fa. & feet<br>in C. weig. | Inch. | Part. | Fa. & feet<br>in C. part |
|-------|-------|---------------------|-------|-------|---------------------------|-------|-------|---------------------------|-------|-------|--------------------------|
| 5     | 1     | 18 4                | 6     | 1     | 13 0.50                   | 7     | 1     | 9 3.50                    | 8     | 1     | 7 2.50                   |
| 5     | 2     | 18 0                | 6     | 2     | 12 3.50                   | 7     | 2     | 9 2                       | 8     | 2     | 7 1.50                   |
| 5     | 3     | 17 2                | 6     | 3     | 12 1                      | 7     | 3     | 9 1                       | 8     | 3     | 7 0                      |
| 5     | 4     | 16 5                | 6     | 4     | 11 5                      | 7     | 4     | 8 5.50                    | 8     | 4     | 6 5                      |
| 5     | 5     | 16 1                | 6     | 5     | 11 3                      | 7     | 5     | 8 4                       | 8     | 5     | 6 4.25                   |
| 5     | 6     | 15 3                | 6     | 6     | 11 1                      | 7     | 6     | 8 2.50                    | 8     | 6     | 6 3.50                   |
| 5     | 7     | 15 0                | 6     | 7     | 10 5.50                   | 7     | 7     | 8 1                       | 8     | 7     | 6 2.50                   |
| 5     | 8     | 14 3                | 6     | 8     | 10 3                      | 7     | 8     | 8 0                       | 8     | 8     | 6 1.75                   |
| 5     | 9     | 14 0                | 6     | 9     | 10 1                      | 7     | 9     | 7 5                       | 8     | 9     | 6 1                      |
| 6     | 0     | 13 3                | 7     | 0     | 9 5.50                    | 8     | 0     | 7 3.50                    | 9     | 0     | 6 0                      |

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I shall now give an example or two of the use of this Table, and so conclude, but first I shall set down a decimal Table of such numbers as are to be set to the right hand of the fathams, when you are to divide any quantity of fathams of cordage to know how many hundred weight it is. As for 1 foot you must take 15, for  $1\frac{1}{2}$  foot 25, for 2 foot 34, for  $2\frac{1}{2}$  foot 42, for 3 foot 5, for  $3\frac{1}{2}$  foot 6, for 4 foot 7, for  $4\frac{1}{2}$  foot 75, for 5 foot 8, for  $5\frac{1}{2}$  foot 86. Also you are to note, that if you set one figure before the fathams that are in the Table above, you must also set one Cipher to the right hand of your Dividend, or if you set two figures, you must set two Ciphers before your dividend.

1 *Example*, I desire to know how many hundred weight is in the 4 sixe Cordage in the first Table, which is 2 inches  $\frac{2}{10}$  parts, and the number of fathams is 1006, and in this last table we find 92 fatham and 2 foot is in hne hundred weight, and (as is before directed) for 2 foot I am to take 34. so my divisor must be 92.34, and my dividend must be 1006.00, which being divided, the quotient will be 10 hundred weight, and about nine tenths of an hundred, for the weight of 1006 fathams of that cordage of 2 inches  $\frac{2}{10}$  circumference.

2 *Example*, Suppose that a man may have a parcell of cordage of the sixth size in the first Table of 3 inches 9 tenth parts circumference, and the weight of it is 12 hundred, how shall I know whether it be enough to satisfie that which is required in that Table? I look in this last Table and find that 50 fatham and 3 foot weigheth one hundred weight, then according as in the first example, I put down for 3 foot 5, and then it will be 50.5, which I multiply by 12, and the product is 606 fatham, which is not so much as is there required, for it should be 829, so it is 223 fatham too little, which being divided by 50.5 will come to 4 hundred, one quarter, and more of the same sized cordage. And so I conclude.

FINIS.