|  |  |
| --- | --- |
| The areas of theſe ſeveral planes, calculated by the common method, will be as follow : | |
| 5558.90 for that of the plane, and its momentum 5558.9 × 84 = | 466947.6000 |
| 199.13 for that of double the trapezium ARg8, and its momentum 199.13 × 9 = | 1792.1700 |
| 214.59 for that of double the trapezium Goγγ*,* and its momentum 214.59 × 159.22 = | 34167.0236 |
| 0.77 for that of the ſection of the ſtern-poſt, and its momentum 0.77 × 0.29 = | 0.2233 |
| 0.77 for that of the ſection of the stem, and its momentum 0.77 × 169.76 ≡ | 130.7152 |
| 5974.16 Sum | 503037.7321 |
| Now 503037.7321/5974.16 = 84.2, the distance of the centre of gravity of the whole ſection from the aft side of  the ſtern-poſt. | |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| II. *Determination of the Centre of Gravity of the second Horizontal Section.*  To find the diſtance of the centre of gravity of double the plane 8fnG from its firſt ordinate | | | | | | | | | | | | | |
| Ordinates. | | | Double Ord. 1. Factors. | | | | . I. Products. | | | 2. Fact. | 2. Products. | | |
| **Feet.** | **In.** | **Pt8.** | **, Feet.** | **In.** | **Pt».** | | **Feet.** | **In.** | **Pts.** |  | **Feet.** | **In.** | **Pts.** |
| II | 2 | 3 | 22 | 4 | 6 | o⅜ | 3 | 8 | 9 | oτ | II | 2 | *3* |
| >5 | 3 | 0 | 30 | 6 | O | I | 30 | 6 | 0 | I | **AO** | 6 | *®* |
| 17 | *5* | 0 | 34 | IO | 0 | 2 | 69 | 8 | Jθ | I | 34 | IO | 0 |
| 18 | **IO** | 3 | 37 | 8 | *6* | 3 | 113 | I | *6* | 1 | 37 | 8 | 6 |
| 19 | IO | 6 | 39 | 9 | 0 | 4 | 159 | 0 | 0 | I | 39 | 9 | 0 |
| 20 | 7 | 0 | 4\* | *2* | 0 | *5* | \*05 | IO | 0 | I ⅛ | 4τ | 2 | 0 |
| 21 | 0 | 3 | 42 | 0 | 6 | 6 | 252 | 3 | 0 | I | 42 | 0 | 6 |
| 21 | 2 | 0 | 42 | 4 | 0 | 7 | 296 | 4 | 0 | I | 42 | 4 | 0 |
| **21** | 0 | 6 | 42 | I | **0** | 8 | 336 | 8 | 0 | I | 42 | I | 0 |
| 20 | **IO** | *9* | 41 | 9 | 6 | 9 | 376 | I | 6 | I | 41 | 9 | *6* |
| 20 | 6 | *6* | 41 | I | 0 | 10 | 410 | IO | 0 | I | 4r | I | 0 |
| 19 | **IO** | 0 | 39 | 8 | 0 | II | 43 6 | 4 | 0 | X | 39 | 8 | 0 |
| 18 | 6 | 0 | 37 | 0 | 0 | 12 | 444 | 0. | 0 | 1 | 37 | 0 | 0 |
| \*5 | 9 | 6 | 31 | 7 | 0 | ,3 | 410 | 7 | 0 | I | 31 | 7 | 0 |
| XI | 2 | 9 | 22 | 5 | 6 | ((3×15)~4) | ×τ 153 | *5* | 6 | Oi | II | *2* | **9** |
| 273 | 2 | 3 | 546 | 4 | 6 |  | 3698 | *5* | 3 |  | 523 | II | 6 |

|  |  |
| --- | --- |
| Hence the diſtance of the centre of gravity of double the plane 8fnG from its firſt ordinate 8n is 3698/523 × 5/11 × 3/6 × 10.0.04 = 369843/523.95 × 10.03 = | 70.79 |
|
| Diſtance of this ordinate from the aft side of the ſtern-poſt | 13.5 |
| Diſtance of the centre of gravity of the above plane from the aft side of poſt | 84.29 |
| Diſtance of the centre of gravity of double the trapezium ARf8 from its ordinate AR |  |
| Diſtance of this ordinate from aft side of ſtern-poſt | 0.57 |
|
| Diſtance of the centre of gravity of the trapezium from the aft side of the poſt | 8.95 |
| Diſtance of the centre of gravity of the trapezium before the ordinate G*n* from that ordinate | 5.74 |
| Diſtance of that ordinate from the aft side of the poſt | 153.78 |
| Diſtance of the centre of gravity of the trapezium from the aft side of the poſt | 159.52 |
| Diſtance of the centre of gravity of the ſection of the ſtern-poſt from the aft side of the poſt | 0.29 |
| Diſtance of the centre of gravity of the ſection of the ſtem from the aft side of the poſt | 169.76 |
| The areas of theſe ſeveral plans being calculated, will be as follow: |  |
| 5255.22 for that of the plan 8fnG, and its momentum 5255.22 × 84.29 = | 442962.4938 |
| 153.11 for that of double the trapezium ARf8, and its momentum 153.11 × 8.95 = | 1370.3345 |
| 182.40 the area of the trapezium before, and its momentum 182.40 × 159.52 = | 29096.4480 |
| 0.77 the area of the ſection of the ſternpoſt, and its momentum 0.77 × 0.29 ≡ | 0.2233 |
| 0.77 the area of the ſection of the ſtem, and its momentum 0.77 × 169.76 = | 130.7152 |
| 5592.27 Sum - | 473560.2148 |