

SCHEDULES.

SECOND SCHEDULE

Sections 77, 78, 81, 85.

Measurement of Tonnage.

Rule I.

Measurement of ships to be registered and other ships of which the hold is clear. Lengths.

- (1.) Measure the length of the ship in a straight line along the upper side of the tonnage neck from the inside of the inner plank (average thickness) at the side of the stem to the inside of the midship stem timber or plunk there, as the ease may be (average thickness), deducting from this length what is due to the rake of the bow in the thickness of the deck, and what is due to the rake of the stern timber in the thickness of the deck, and also what is due to the rake of the stern timber in one third of the round of the beam; divide the length so taken into the number of equal parts required by the following table, according to the class in such table to which the ship belongs:—

TABLE.

Class 1. Ships of which the tonnage deck is according to the above measurement 50 feet long or under, into 4 equal parts :
Class 2. Ships of which the tonnage deck is according to the above measurement above 50 feet long and not exceeding 120, into 6 equal parts:
Class 3. Ships of which the tonnage deck is according to the above measurement above 120 feet long and not exceeding 180, into 8 equal parts :
Class 4. Ships of which the tonnage deck is according to the above measurement above 180 feet long and not exceeding 225, into 10 equal parts:
Class 5. Ships of which the tonnage deck is according to the above measurement above 225 feet long, into 12 equal parts :

Transverse areas.

- (2.) Then the hold being first sufficiently cleared to admit of the required depths and breadths being properly taken, find the transverse area of the ship at each point of division of the length as follows :—Measure the depth at each point of division, from a point at a distance of one third of the round of the beam below the tonnage deck, or, in case of a break, below a line stretched in continuation thereof, to the upper side of the floor timber at the inside of the limber strake, after deducting the average thickness of the ceiling which is between the bilge planks and limber strake (subject, however, to the provisions of this Act in the case of a ship constructed with a double bottom for water ballast) ; then if the depth at the midship division of the length do not exceed sixteen feet, divide each depth into four equal parts; then measure the inside horizontal breadth at each of the three points of division,

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and also at the upper and lower points of the depth, extending each measurement to the average thickness of that part of the ceiling which is between the points of measurement ; number these breadths from above (i.e., numbering the upper breadth one, and so on down to the lowest breadth) ; multiply the second and fourth by four, and the third by two; add these products together, and to the sum add the first breadth and the fifth; multiply the -quantity thus obtained by one third of the common interval between the breadths, and the product shall be deemed the transverse area; but if the midship depth exceed sixteen feet, divide each depth into six equal parts instead of four, and measure as before directed the horizontal breadths at the five points of division, and also at the upper and lower points of the depth ; number them from above as before ; multiply the second, fourth, and sixth by four, and the third and fifth by two; add these products together, and to the sum add the first breadth and the seventh multiply the quantity thus obtained by one third of the common interval between the breadths, and the product shall be deemed the transverse area.

Computation from areas.

- (3.) Having thus ascertained the transverse area at each point of division of the length of the ship as required by the above table, proceed to ascertain the register tonnage under the tonnage deck in the following manner :—Number the areas respectively 1, 2, 3, &c., No. 1 being at the extreme limit of the length at the bow, and the last No. at the extreme limit at the length at the stern ; then, whether the length be divided according to the table into four or twelve parts as in classes 1 and 5, or any intermediate number as in classes 2, 3, and 4, multiply the second and every even numbered area by four, and the third and every odd numbered area (except the first and last) by two ; add these products together, and to the sum add the first and last if they yield anything; multiply the quantity thus obtained by one third of the common interval between the areas, and the product will be the cubical contents of the space under the tonnage deck ; divide this product by one hundred, and the quotient, being the tonnage under the tonnage deck, shall be deemed to be the register tonnage of the ship subject to any additions and deductions under this Act.

In case of decks above the tonnage deck.

- (4.) If the ship had a third deck, commonly called a spar deck, the tonnage of the space between it and the tonnage deck shall be ascertained as follows:—Measure in feet the inside length of the space at the middle of its height from the plank at the side of the stem to the lining on the timbers at the stern, and divide the length into the same number of equal parts into which the length of the tonnage deck is divided its above directed ; measure (also at the middle of its height) the inside breadth of the space at each of the points of division, also the breadth at the stem and the breadth at the stern , number them successively 1, 2, 3, &c. commencing at the stem ; multiply the second and all the other even numbered breadths by four, and the third and all the other odd numbered breadths (except the first and last) by two ; to the sum of these products add the first and last breadths; multiply the whole sum by one third of the common interval between the breadths, and the result will give in superficial feet the mean horizontal area of the space; measure the mean height of the space, and multiply by it the mean horizontal area, and the product will be the cubical contents of the space ; divide this product by one hundred, and the quotient shall be deemed to be the tonnage of the space and shall be added to the tonnage of the ship ascertained as aforesaid. If the ship has more than three decks, the tonnage of each space between decks above the tonnage deck shall be severally ascertained in

manner above described, and shall be added to the tonnage of the ship ascertained as aforesaid.

Poop, deck house, forecastle, and any other closed-in space.

- (5.) If there be a break, a poop, or any other permanent closed-in space on the upper deck, available for cargo or stores, or for the berthing or accommodation of passengers or crew, the tonnage of that space shall be ascertained as follows :— Measure the internal mean length of the space in feet, and divide it into two equal parts; measure at the middle of its height three inside breadths, namely, one at each end and the other at the middle of the length ; then to the sum of the end breadths add four times the middle breadth, and multiply the whole sum by one third of the common interval between the breadths, the product will give the mean horizontal area of the space ; then measure the mean height, and multiply by it the mean horizontal area; divide the product by one hundred, and the quotient shall be deemed to be the tonnage of the space, and shall be added to the tonnage under the tonnage deck ascertained as aforesaid. Provided that no addition shall be made in respect of any building erected for the shelter of deck passengers, and approved by the Board of Trade.

Rule II.

Measurement of ships not requiring registry with cargo on board and ships which cannot be measured under Rule I. Length. Breadth. Girting of the ship.

- (1.) Measure the length on the uppermost deck' from the outside of the outer plank at the stem to the outside of the stern post, deducting therefrom the distance between the outside of the stern post and the rabbet of the stern post at the point where the counter plank crosses it; measure also the greatest breadth of the ship to the outside of the outer planking or wales, and then, having first marked on the outside of the ship on both sides thereof the height of the upper deck at the ship's sides, girt the ship at the greatest breadth in a direction perpendicular to the keel from the height so marked on the outside of the ship on the one side to the height so marked on the other side by passing a chain under the keel; to half the girth thus taken add half the main breadth; square the sum ; multiply the result by the length of ship taken as aforesaid ; then multiply this product by the factor .0018 (eighteen ten-thousandths) in the case of ships built of wood, and .0021 (twenty-one ten-thousandths) in the case of ships built of iron, and the product shall be deemed the register tonnage of the ship, subject to any additions and deductions under this Act.

Poop, deck house, forecastle, and other closed-in spaces on upper deck.

- (2.) If there be a break, a poop, or other closed-in space on the upper deck, the tonnage of that space shall be ascertained by multiplying together the mean length, breadth, and depth of the space, and dividing the product by 100 and the quotient so obtained shall be deemed to be the tonnage of the space, and shall be added to the tonnage of the ship ascertained as aforesaid.

Rule III.

Measurement of allowance for engine room space in steamships.

- (i.) Measure the mean depth of the space from its crown to the ceiling at the limber strake, measure also three, or, if necessary, more than three breadths of the space at the middle of its depth, taking one of those measurements at each end, and another

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at the middle of the length; take the mean of those breadths; measure also the mean length of the space between the foremost and aftermost bulkheads or limits of its length, excluding such parts, if any, as are not actually occupied by or required for the proper working of the machinery; multiply together these three dimensions of length, breadth, and depth, divide the product by 100 and the result shall be deemed the tonnage of the space below the crown ; then find the cubical contents of the space or spaces, if any, above the crown aforesaid, which are framed in for the machinery or for the admission of light and air, by multiplying together the length, depth, and breadth thereof; add such contents to the cubical contents of the space below the crown ; divide the sum by 100; and the result shall (subject to the provisions hereinafter contained) be deemed to be the tonnage of the space.

- (ii.) If in any ship in which the space for propelling power is to be measured the engines and boilers are fitted in separate compartments, the contents of each shall be measured severally in like manner, according to the above rules, and the sum of their several results shall be deemed to be the tonnage of the said space.
- (iii.) In the case of screw steamers in which the space for propelling power is to be measured, the contents of the shaft trunk shall be ascertained by multiplying together the mean length, breadth, and depth of the trunk, and dividing the product by 100.
- (iv.) If in any ship in which the space aforesaid is to be measured any alteration be made in the length or capacity of the spaces or if any cabins be fitted in the space, the ship shall be deemed to be a ship not registered until remeasurement.

Rule IV.

Measurement of open ships.

- IV In ascertaining the tonnage of open ships the upper edge of the upper strake is to form the boundary line of measurement, and the depths shall be taken from an athwartship line, extended from upper edge to upper edge of the said strake at each division of the length.