

(20) When wire stays are used in lieu of shores for either permanent or non-permanent fittings, the following minimum sizes will be required :—

- (a) 3 in. flexible steel-wire-rope stays, fitted horizontally.
- (b) 1½ in. rigging screws, which preferably should be fitted at the side of the ship for convenience and easy access for tightening.
- (c) 1 in. shackles.
- (d) 1½ in. screw bolts through wood or angle-bar uprights.
- (e) Four ¾ in. nut and screw bolts, for securing the wood uprights or steel angle bars together.
- (f) 1 in. eyeplates, efficiently riveted to side stringers or frames, or 1 in. shackle through frame.

(21) Where no special arrangements are made for grain-tight filling between the beams, wood filling-pieces the same thickness as the shifting-boards must be fitted grain-tight between the beams, and must be secured in place by cleats at both ends and fitted both sides. The cleats are to be at least 2 in. by 4 in., and must extend the full depth of the filling-piece and as much again below, and be securely nailed or spiked to the shifting-boards and filling-pieces.

(22) Where permanent steel uprights and wire stays are fitted which have been approved by the Board of Trade or any authority administering regulations approved by the Board of Trade, the maximum unsupported span allowed for boards of various thicknesses is as follows :—

Thickness.	Span.	Housing of Bulkheads.
2½ in. planks ..	Unsupported span, 12 ft.	3 in.
3 in. planks ..	Unsupported span, 13 ft.	3 in.

(23) Where steel uprights are secured as approved at both head and heel one wire stay on each side of each upright will be accepted in holds 20 ft. and under in depth, to be placed approximately one-third down from under deck. Over 20 ft. two wire stays on each side of each upright will be required, the upper stays to be placed approximately one-quarter down from under deck and the lower stays at half-depth of hold. In after holds depth to be measured to tunnel-top.

(24) The following dimensions are recommended for angle-bar uprights :—

Each upright to consist of four angle bars 4 in. by 4 in. by 0.40 and steel plate 11½ in. by 0.50 riveted to form one complete structure allowing 4 in. housings on both forward and aft sides; equivalent brackets riveted to head and heel of uprights, each to take five ¾ in. bolts with corresponding lugs and/or angles on tank-top, tunnel-top, and hatch-webs.

CONSTRUCTION OF FEEDERS AND WOOD BULKHEADS.

10. (1) The walls of trunk feeders and wood bulkheads must be of sufficient strength to withstand the pressure due to the head of grain contained, and must be made grain-tight.

(2) Trunk feeders in the 'tween decks constructed in the hatchways must be made grain-tight around the hatch-coamings and hatch-beams.

(3) Ships having one or more decks with one continuous hold forward and/or one continuous hold aft with two hatches to each hold shall have a well-constructed bulkhead extending from side to side of the ship between the two hatches to divide the space.

(4) Thwart ship bulkheads in holds for partitioning holds or reserve bunkers shall be constructed of planks not less than 3 in. in thickness, efficiently stiffened and shored.

(5) Trunk feeders in the 'tween decks fitted in the hatchways may be constructed of planks worked vertically of a minimum thickness of 2 in. When the vertical unsupported span exceeds 8 ft. thicker planks must be used, or increased stiffening must be fitted, as the Surveyor may require.

(6) Where more convenient, feeders may be constructed of studding and lined with grain-tight boards 2 in. or two 1 in. layers of shiplap, laid horizontally with broken joints. Studding where possible should be placed inside the hatch-coamings and must be not less than 4 in. by 6 in. on edge spaced not more than 2. centres.