

For the Journal of the Franklin Institute.

*Particulars of the Steamer Manjoor.*

Hull built by Paul Curtis. Machinery by Atlantic Works, Boston, Massachusetts. Intended service, Amoor River.

## HULL.—

Length on deck,	.	.	.	.	189 feet.	
Breadth of beam,	.	.	.	.	37 "	
Depth of hold,	.	.	.	.	12 "	5 inches.
Length of engine space,	.	.	.	.	54 "	
Draft,	{	forward,	.	.	8 "	6 "
	{	aft,	.	.	10 "	
Tonnage,	.	.	.	.	785 tons.	
Area of immersed section at load draft,	.	.	.	.	325 sq. ft.	
Contents of bunkers in tons,	.	.	.	.	200.	
Masts, three—barque rigged.						
Speed through water—10 miles.						

## ENGINES.—Two—Oscillating.

Diameter of cylinders,	.	.	.	.		42 inches.
Length of stroke,	.	.	.	.		4 feet.
Load on safety-valve per square inch,	.	.	.	.	25.	
Gross indicated horse power at $\frac{1}{4}$ th cut-off.	.	.	.	.	584.	
Cut-off—variable.						
Average revolutions,	.	.	.	.	38.	

## BOILERS.—Two—Return flued.

Length of boilers,	.	.	.	.		32 feet
Breadth "	.	.	.	.		8 " 6 inches.
Height " exclusive of steam chests,	.	.	.	.		9 " 6 "
Cubic feet of steam room,	.	.	.	.	210.	
Number of furnaces,	.	.	.	.	4.	
Breadth "	.	.	.	.		3 " 6 "
Length of grate bars,	.	.	.	.		7 " 2 "
Grate surface,	.	.	.	.	100 sq. ft.	
Heating surface,	.	.	.	.	3127 sq. ft.	
Diameter of chimney,	.	.	.	.		5 " 6 "
Height " above steam chest,	.	.	.	.		26 "
Consumption of coal per hour,	.	.	.	.	1400 lbs.	
Weight of boilers without water, in tons,	.	.	.	.	47.	
" " with " " "	.	.	.	.	87.	

## PROPELLER.—

Diameter of screw,	.	.	.	.		12 feet.
Length "	.	.	.	.		4 "
Pitch "	.	.	.	.		26 expanding to 30 "
Number of blades,	.	.	.	.		4.

*Remarks.*—Frames, *molded*, 15 ins., *sided*, 12 ins.— $\times$  24 inches apart. Three bulkheads; one independent steam, fire, and bilge pump. Hull, strapped with iron diagonally and double laid,  $4 \times \frac{5}{8}$ -inch, with truss straps at top of frames,  $5 \times \frac{3}{4}$ -inch. Three upper strakes of planking jogged on and edge bolted. Date of trial April 1st. C. H. H.

*A New Cement.*

M. Edmund Davy prepares a new cement which is well spoken of, by melting in an iron vessel, equal parts of common pitch and gutta-percha. It is kept either liquid under water, or solid to be melted when wanted. It is not attacked by water, and adheres firmly to wood, stone, glass, porcelain, ivory, leather, parchment paper, feathers, wool, cotton, hemp, and linen fabrics, and even to varnish.—*Cosmos*, vol. xii., p. 41.