

In design, PIONEER could best be described as a "transitional" vessel, a stepping stone along the way from the wooden-hulled bulk freighters of prior years, via the first few metal-hulled lakers which were built of iron (steel hulls did not make their appearance until 1886), to the more modern steel-hulled steamers that were to be constructed in such great numbers around the turn of the century. She was built to canal dimensions, so that her operations were not limited to the upper lakes, but as yet there was no appreciation of the art of achieving the greatest possible carrying capacity through careful hull design. PIONEER was of light draft, and it will be seen that her Gross and Net tonnages were relatively small. In addition, there was a rather substantial difference between her "overall" and "between perpendiculars" lengths, most of this resulting from the great amount of overhang of her extremely sharp counter stern.

PIONEER had a straight stem, and her hull boasted a fair amount of sheer. A heavy steel rub-rail ran all around the hull just at the waterline, and a smaller fender-strake ran along the spar deck gunwale. There was a full, raised forecastle, and a closed steel rail ran not only for the full length of the forecastle head, but also all down the sides of the spar deck below.

Two stocked anchors of the "fisherman's" type were carried atop the forecastle head, their chains running up outboard from hawseholes in the bow below. If it became necessary to drop an anchor, a moveable section of the forecastle head rail was opened and the anchor was hoisted over the side by means of a radial davit set at the bow, just abaft the steering pole.

PIONEER's bridge structure was set back off the forecastle and behind the first cargo hatch, as was the style of the day. The large, squarish texas cabin sat right on the spar deck, and it contained the master's office and accommodation, and perhaps quarters for other senior officers as well. The texas roof extended out to the sides of the ship to form bridgewings, and the sidelights were carried on the wing rails. A catwalk extended forward to connect with the forecastle head to facilitate movement from the bridge to the bow. This catwalk was moveable, so that it could be pulled out of the way when cargo was being worked through the first hatch.

The pilothouse was set atop the texas, and on a slightly elevated bridge deck to provide better visibility. (A separate set of open handrails surrounded this raised bridge deck.) There were three large, four-sectioned windows in both front and back of the pilothouse, with two windows and a door in each side. There was no fixed sunvisor over the front windows, but a gaily-striped canvas awning could be (and was) rigged there.

An open navigation bridge was fitted on the monkey's island, equipped with a binnacle and "cussing-box", the latter an opening for the relaying of helm and engine orders to the pilothouse below. A canvas weathercloth could be rigged around the monkey's island rail, and stretcher-poles were provided to carry an awning overhead. The tall, heavy, and nicely raked pole mast, equipped with a gaff (although photos do not reveal the presence of auxiliary sail), rose from the deck just abaft the bridge.

PIONEER was fitted with three primitive deck cranes designed to facilitate the handling of pig iron. Steam operated, they were of the "whirly" or rotating type, with a short boom to reach out over the hatches, and a bucket suspended by chain from the end of the boom. The cranes, which were a fascinating assembly of gears, wheels, pulleys, cranks and levers, were fixed in place, and did not travel along the deck. All three were carried on the starboard side, two spaced at even intervals down the spar deck and the third set atop the starboard bridgewing to serve the first hatch.

Rather surprisingly, PIONEER's after cabin was completely plated in around its sides and across the fantail, with portholes to admit light to the interior. It is assumed that this was done to prevent damage from boarding seas, but it did contribute to the peculiar appearance of the ship. There