

coal from the bunkers to the foot-plates—a most important consideration in a ship of this size. The boiler pressure adopted is 225 pounds per square inch. The total grate area is enormous, being 3,121 square feet, as is also the total heating surface of 107,643 square feet.

It is an interesting fact that this new vessel will not make use of forced draft, but will be driven entirely under natural draft, the North German Lloyd Company being strongly opposed to the use of forced draft in any form whatever. This, of course, necessitates a proportionately larger grate surface and heating surface, and a more liberal allowance of space for boiler room installation. Thus the Hamburg-American liner "Deutschland," which has indicated 38,000 horse power under forced draft, has only 2,188 square feet of grate area, and 85,468 square feet of heating surface, as compared with the "Kaiser Wilhelm II.," which for a contract horse power of 38,000 to 40,000 will require 50 per cent more grate surface, and about 25 per cent more heating surface. It is easy to see from the figures we have given that the new ship is

a giant unit, compared with which the figure of the average man seems puny.

On the "Kronprinz Wilhelm," of the North German Lloyd Line, which steamship we have taken for the purpose of instituting our comparisons, some 19,800 pounds of fresh meat and 14,300 pounds of salt beef and mutton, in all 34,100 pounds of meat, are eaten during a single trip from New York to Bremen. This enormous quantity of meat has been pictured in the form of a single joint of beef, which, if it actually existed, would be somewhat less than 10 feet high, 10 feet long, and 5 feet wide. If placed in one end of a scale, it would require about 227 average men in the other end to tip the beam.

For a single voyage the "Kronprinz Wilhelm" uses 2,640 pounds of ham, 1,320 pounds of bacon, and 506 pounds of sausage—in all, 4,466 pounds. Since most of this is pork, it may well be pictured in the form of a ham. That single ham is equivalent in weight to 374 average hams. It is 7¼ feet high, 3 feet in diameter and 2 feet thick.

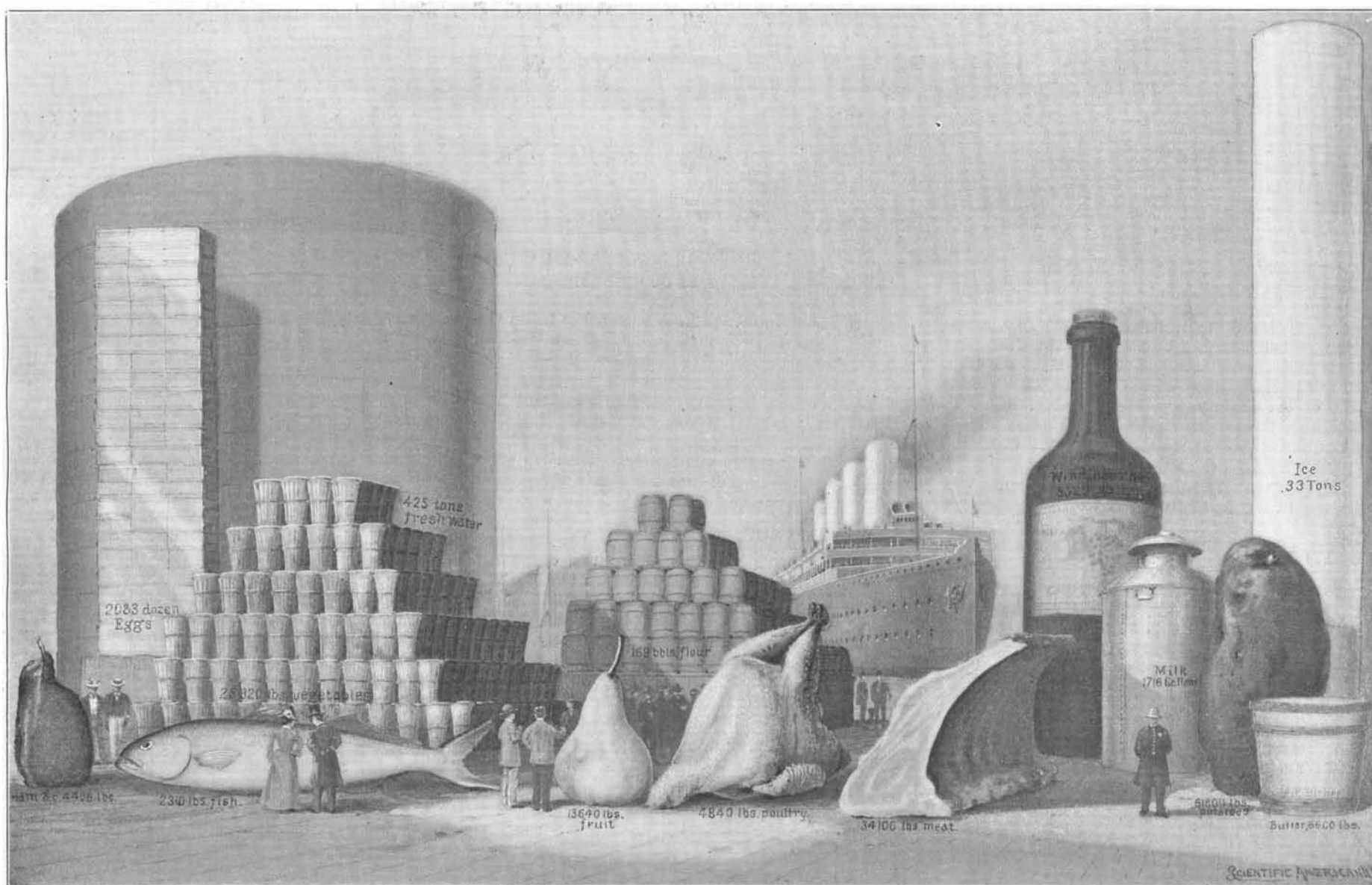
The poultry eaten by the passengers of the steamer

The potatoes required far outweigh any other single article of food contained in the storerooms; for their entire weight is 61,600 pounds. If it were possible to grow a single tuber of that weight, it would have a height of 14 feet and a diameter of 7 feet.

The butter, too, if packed into a single tub, would assume large dimensions. This single tub would contain 6,600 pounds and would be 6 feet high.

Of dried fruit, 2,640 pounds are eaten, and of fresh fruit 11,000 pounds, in all 37,400 pounds. If this fruit were all concentrated into a single pear, its height would be 7 feet, and the width at the thickest part 5 feet.

Whole lakes of liquids are drunk up by the thirsty passengers and crew. No less than 425 tons of fresh water are required, which occupy 14,175 cubic feet and would fill a tank 25 feet in diameter and 30 feet high. The 1,716 gallons of milk used for drinking and baking would be contained in a can 6 feet 1 inch in diameter and 11½ feet high. The gallons and gallons of wines, liquors, and beer consumed should dishearten the most optimistic temperance advocate. Under the joyous ti-



A GRAPHICAL COMPARISON OF THE PROVISIONS OF A TRANSATLANTIC LINER.

likely to exceed her contract horse power and speed by a very wide margin, and we fully expect that after a voyage or two she will be indicating not less than 45,000 and possibly as high as 47,000 horse power, with a corresponding speed of 24 to 24½ knots an hour.

PROVISIONING A LINER FOR A SINGLE TRANS-ATLANTIC TRIP.

The Book of Genesis does not record the tonnage of the huge vessel which finally stranded on Mount Ararat, after finishing the most wonderful voyage ever described in the annals of mankind. But it is quite safe to assume that the dimensions of the Ark, that old-time floating storehouse, are exceeded in size by the largest of steamships now crossing the Atlantic:

Not the least striking evidence of the size of these modern monsters of the deep is afforded by the vast quantities of food which must be taken aboard for a single six-day trip across the Atlantic. For the 1,500 passengers and the several hundred men constituting the crew, carloads of food and whole tanks of liquids are necessary. To enumerate in cold type the exact quantities of bread, meat, and vegetables consumed in a weekly trip would give but an inadequate idea of the storing capacity of a modern liner. We have, therefore, prepared a picture which graphically shows by comparison with the average man the equivalent of the meat, poultry, and breadstuffs, as well as the liquors used.

during a trip to Bremen or New York weighs 4,840 pounds. This being the turkey season of the year, suppose that we show these 4,840 pounds of poultry in the form of a turkey, dressed and ready for the oven. The bird would be a giant 10 feet long, 8 feet broad, and 5 feet high.

Sauerkraut, beans, peas, rice, and fresh vegetables are consumed to the amount of 25,320 pounds. Packed for market, these preserved and fresh vegetables would be contained in 290 baskets of the usual form, which piled up make a very formidable truncated pyramid.

The quantity of eggs required is no less startling than the quantity of vegetables; for some 25,000 are needed to satisfy the wants of passengers and crew. Eggs are usually packed in cases, 30 dozen to the case. The "Kronprinz Wilhelm," when she leaves New York or Bremen, must therefore take on board 69 of these cases, which have been shown in a great pile, 23 cases high and three cases wide.

The bakers of the ship find it necessary to use 33,000 pounds of flour during the trip. In other words, 169 barrels are stowed away somewhere in the hold of the big ship.

Besides the foods already enumerated, 1,980 pounds of fresh fish and 330 pounds of salted fish are eaten during the six-day voyage. The total amount of 2,310 pounds would be equivalent to a single bluefish 20 feet long, 5 feet in greatest diameter, and 1½ feet broad. Such a fish compares favorably in length, at least, with a good-sized whale,

while of "beverages" the following items are to be found in the purser's account-book:

Champagne .....	850 bottles.
Claret .....	980 bottles.
Madeira, sherry, etc.....	135 bottles.
Rhine and Moselle wines.....	1,700 bottles.
Rum and cordials.....	760 bottles.
Mineral water .....	5,250 bottles.
Beer in kegs.....	2,960 gallons.
Beer in bottles.....	600 bottles.

Suppose these things to drink were contained in one claret bottle. Some idea of the hugeness of this bottle may be gained when it is considered that its height would be over 24 feet and its diameter over 6 feet.

In order to cool the wines and the beer, as well as to preserve the fresh meats, vegetables, eggs and fruit, 33 tons of ice are needed. That seems a small quantity, and, in truth, it is. But the "Kronprinz Wilhelm" has also refrigerating machines, which have cut down the quantity of ice which it is necessary to take on board. The 33 tons of ice actually consumed, however, would make a column 37 feet high.

Compared with these vast quantities of food, the live stock of Noah's Ark must pale into insignificance. It must not be forgotten, however, that in provisioning a liner an allowance is made for accidents, which may prolong a voyage over many days. For that reason not all, but only the major portion of the food taken aboard is consumed,