any air entrained in the tee might cause a disastrous accident with probable loss of life in case of premature bursting of a fitting.

The accompanying sketch shows characteristic fractures of the fittings tested. Most of the tees failed as in Test No. 5, cracking through the beads at one end and the side outlet of the fitting. No pieces of metal were entirely separated from the tees when they failed, as was the case with the cast iron fittings. The malleable iron fitting, being tough and slightly elastic, was simply torn apart while the cast iron fitting, being more brittle, broke in many cases into separate and distinct pieces. These tests show plainly the superiority of malleable over cast iron for use in the manufacture of pipe fittings of small size.

PUTTYLESS GLAZING.

The system of Puttyless Glazing known as the National System, invented and patented by a structural engineer from New York, is now being manufactured in the Dominion under Canadian patent rights, the growth of our industries having provided a field for the manufacture of this system. Many thousands of feet of this system have been installed throughout the United States, and the satisfactory results obtained will doubtless interest engineers and architects in this country.

The features of this system are well adapted to glazing, being designed and worked out with the evident knowledge of the requirements of a perfect skylight, thus mechanically meeting in every way the demands made upon such construction.

Of the most practical and unique features of the many which are claimed for this system, may be mentioned: The flexible bearing for the glass which is attached to the side stems of the steel bars, which form a resilient or yielding bearing for the glass; this bearing consists of asbestos fibre, enclosed so that it is protected from the weather at all times, thereby remaining permanently flexible. The spring surface bearing cap, which forms a yielding or spring-like bearing upon the glass, provides a broad surface in perfect contact with the glass; while the vertical legs of the caps keep the glass free from binding or coming in contact with any rigid surface; and the steel expansion clip which allows the bars to expand or contract and to move freely when affected by vibration, thus obviating the breakage of glass.

This system is wholly free from the use of putty, roof cement or any other filling substance which would bind the glass, causing breakage, and which must of necessity crack and disintegrate in time, causing leakage and expensive repairs.

We are informed that the cost of this system is moderate and not in excess of the usual skylight construction.

This system has been used in several buildings for the United States Navy in the Navy Yards, the shops for the New York, New Haven & Hartford Railroad at Readville, Mass., the Waterside Power Station for the New York Edison Electric Company, and many other important buildings.

The manufacturers, Burke & Schalkenbach, 396 St. Denis street, Montreal, will be pleased to furnish information, prices and details. Their standard detail sheet will be mailed upon request and would be added information to every architect and engineer's office.

WIND PRESSURE.

Messrs. Stanton and Bairstow have recently made some experiments at the National Physical Laboratory, London, which bring out a new and practically very valuable fact, namely, that pressure is not the same on large surfaces as on small experimental models. If, for example, a given wind velocity is brought to bear on a square foot of surface it will be 18 per cent. less per square foot of surface than if it were directed on 100 square feet of surface. It was demonstrated, too, that this relation is constant for flat forms, however complicated. A builder or engineer who knows that a structure may be exposed to a wind of eighty miles per hour and that the pressure per square foot as determined by model is, say, x pounds, should allow for his larger construction 20 per cent. extra. The reason for this seems to be the more thoroughly reduced pressure on the lee side of a larger area.