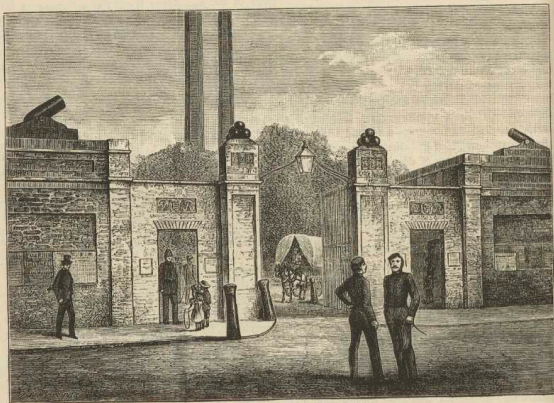


Frazer, the principal executive officer of the department, was found to be less expensive than the original one. Mr. Frazer's plan is an important modification of Sir W. Armstrong's, from which it differs principally in building up a gun with a few long double or triple coils, instead of several short single ones, and a forged breech-piece. There is less material, less labour, less fine working, and consequently, less expense, required for the 'Frazer,' or present service construction."

a new 'mucous membrane') is still as good as ever." Mr. Vincent adds that "the name of the 'Woolwich Infant,' which has become a household word in all parts of the world, and has been adopted for the whole family of large guns, was suggested to the writer of these pages by Sergeant-Major Adamson, of the Depot Brigade, Royal Artillery, and finding its way by that means into print, was universally adopted as the word needed, and has, no doubt, assisted in making the gun famous."



ENTRANCE TO WOOLWICH ARSENAL.

"Woolwich guns of the Frazer construction," writes Mr. Vincent, "cost only about £70 a ton, while those built on the original plan cost fully £100 a ton. Nevertheless, the guns thus made are undoubtedly the cheapest, the safest, and best in existence. Even when one or two have been 'tested to destruction,' it has been found next to impossible to burst them, and, unlike steel or cast iron, they almost invariably give warning. Two of the Frazer guns lie in 'the cemetery,' which endured upwards of 2,000 rounds each with extraordinary charges before giving way; and the original 'Woolwich Infant,' which is constructed on this system, was fired many times after the experimenters had succeeded in cracking its steel lining, and (with

The 38-ton Woolwich gun will, with a charge of 130lbs., discharge a Palliser shell of 800 lbs., with an "initial velocity" of 1,425 feet per second, or a force sufficient to carry it through an armour plate 14 inches thick, with all its wood and iron backing; and the 81-ton gun, with a charge of 300 lbs., will send a shot of 1,460 lbs. with an initial velocity of 1,540 feet per second.

There are several steam hammers at work in this forge, varying from 30 cwt. to 60 cwt., used for welding together short bars of iron, to form one long bar for coiling. Over the north doorway is a window of stained glass, representing Edward III. and his officers examining an early specimen of brass ordnance, and comparing what was then