

### WIND ANCHORS FOR SKY SCRAPERS.

A skyscraper in New York is provided with wind anchors so that it may be firmly braced against every gale. The new devices, which, for the first time, are being employed in any structure are found in the caisson piers which form the foundations of the new Singer building in Broadway, near Liberty street.

Skyscrapers of the ordinary type are not intended to withstand any uplifting strain. Their own weight prevents them from being disturbed. The new Singer building is to rise to

a height of 625 feet, and is to have sure, on account of the structure's great altitude, will be tremendous, and for that reason the building is to be literally tied to its foundations by an ingenious arrangement of steel rods. They will be three and a half inches in diameter and descend for nearly fifty feet into the concrete which form the caissons on solid rock eighty-five feet below the curb.

These rods, which are bolted together, are in lengths of from six to ten feet each, and the devices are put in before the cement is placed in the caisson. The lowest rod has on the end of it a great anchor plate, to which it is secured, and on the other

end are bolted the two rods of the second section. The third section has four steel rods bolted alternately to those of the section below and connected with four rods above. The four rods are made to converge so that they may be carried through the grillage beams at the top of the caisson and the iron base of the column. They are then run up into the hollow column, which they are intended to support, for a distance of five feet and bolted into position. The column which is thus tied is built up to the very top of the structure. The strength of these rods is ample to counteract the effect of severe storms. forty-one storeys. The wind pres-



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