consideration, unless, as we understand, Mr. Chamberlain has already made up his mind that only members of the Institute of Chartered Accountants shall be deemed eligible for that position. The provision is certainly to be commended, inasmuch as its operation would exclude an outside class of men who have proved the bane of the existing system, whilst the chartered accountants are necessarily respectable and responsible persons. The amendment of the Patent Law is a very desirable matter, but it is of secondary importance as compared with the Bankruptcy bill—hence we trust the latter will be pushed forward and passed without delay.—*The Ironmonger.*

WHAT ARE SUN-SPOTS?

The great atmosphere of the sun, whose breath is flame, is yet, says Mr. Proctor, so cool compared with his intensely glowing surface that it absorbs a large proportion of his light as well as of his heat. But while the general absorptive action of the sun is wonderful, the story is still more wonderful which the spectroscope has to tell about the specific absorptive effects due to its constitution. We find that whereas in our air the vapour of water is present (to condense into water drops and form clouds at certain levels, and to change to ice crystals and form cirrus at high levels), in the sun the atmosphere is laden with the vapours of iron, copper, zinc, sodium, magnesium, and like elements to form clouds of metallic drops, great gatherings of metallic crystals, while the rains that pour down toward the concealed true globe of the sun are mighty showers of molten metal. When a hurricane occurs in the sun, the clouds which form the sun's surface are swept along, or whirled around, not at the rate at which we measure our storms, but with a velocity compared with which their swiftest motion is as rest. The solar tornadoes rage, not over a few hundred square miles, but over regions as large as the whole surface of the earth, over hundreds, even thousands of millions of square miles; and they travel over these enormous regions at a rate not of so many miles per hour or per minute, but of many miles, sometimes more than a hundred miles, in every second of time.

Such storms are in progress now, when we see the spots upon the sun. Such storms tell us of the activity of that great central engine whose throbs are the life-beats of the solar system. We measure the sun's work, per force, by our own forms of work. We speak of his emission of light and heat as corresponding to what would result from the burning of eleven thousand millions of millions of tons of the finest coal in every second of time. But what mind can conceive the real vitality of that mighty orb which seems so silent and so still in our skies? The throbbing of the great engine which beats out light and life to the whole family of planets can only be seen by the mind's eye, and as yet that eye is no more capable of seeing the sun's work as it really is than is the bodily eye of seeing the distant millions of suns which the great gauging telescopes of the Herschels bring within our ken. Nor can the mental ear hearken to the uproar and tumult with which the work of the great central engine is accomplished, or imagine what would be heard if one could visit that spot which looks like a tiny speck on the sun's surface, and, passing below the limits of the solar air so that sound waves could reach him, could find (as assuredly he would if he could live at a temperature which turns the hardest metal into vapour all forms of noise known to us—the roar of the typhoon, the crash of thunder, even the hideous groaning of the earthquake—surpassed a millionfold by what takes place within every square mile of that disturbed region.—*Ex.*

MINISTERS IN BED.

A Spanish Minister signalized his accession to power by going straightway to bed and staying there, lest he should be expected to do something. No English Minister ever adopted that ignoble expedient to escape performing his duties, but Walpole relates that William Pitt and the Duke of Newcastle once held counsel together in bed. Pitt had the gout, and, as was his custom when so afflicted, lay under a pile of bed-clothes in a fireless room. The Duke, who was terribly afraid of catching cold, first sat down upon another bed, as the warmest place available, drew his legs into it, as he grew colder, and at length fairly lodged himself under the bed-clothes. Somebody coming in suddenly beheld the "two Ministers in bed at the two ends of the room, while Pitt's long nose and black beard, unshaved for some time, added to the grotesque nature of the scene." The Great Commoner was abed and asleep when Wyndham and others of his colleagues burst into his room and shook their chief out of his slumbers to tell him there was mutiny in the fleet, that the Admiral was a prisoner on board his own ship and in danger of death. Sitting up in bed, Pitt asked for pen, ink, and paper, and wrote:—"If the Admiral is not released, fire upon the ship from the batteries," turned over on his pillow, and was asleep again before his disturbers were well out of the room. The shadow of death was upon Fox when George Jackson came for instructions before setting out for Germany, and followed so quickly on the heels of the servant announcing him that Mrs. Fox had only time to slip from her husband's side and take refuge in a closet. The interview proved longer than she expected or desired, and finding her signals of distress, in the shape of sundry little coughs all unheeded, the prisoned lady had no resource but to tap on the closet panels and ask if the young gentleman was going, as she was perishing with cold. Looking at him with a smile, Fox bade Jackson farewell forever, and released his shivering wife from her unpleasant situation.—*Chambers' Journal.*

JOHN HARRISON, THE CHRONOMETER MAKER.

At the Royal Observatory, Greenwich, one of the most remarkable instruments is to be seen—the first chronometer, the parent of a numerous progeny of chronometers, used on board of every sea-going ship, to the advantage of navigation, of commerce, as well as of science. As far back as the reign of Queen Anne, in the year 1714, the English Government offered the large prize of £20,000 to the person who should find the method of discovering the longtitude at sea, within certain specified limits. The reward was offered to the world, to inventors and scientific men of all countries, without any restriction of nation, or race, or language. To the surprise of every one—it was thought remarkable, and it *was* remarkable—the prize was won by a man who had been brought up as a village carpenter, of no school, or college, or university. But the truth is that the great mechanic, like the poet, is born, not made; and John Harrison, the winner of the famous prize, was a born