bear the same load again, much less does it show that it has the proper margin for safety. It simply shows that it did not break down at that time. Every rotten, worn-out, and defective bridge that ever fell has been submitted to exactly that test. More than this, it has repeatedly happened that a heavy train has passed over a bridge in apparent safety, while a much lighter one passing directly afterwards has gone through. In almost all such cases, the structure has been weak and defective; and finally some heavy load passes over, and cripples the bridge, so that the next load produces a disaster. For the test of a bridge to be in any way satisfactory, we must know just what effect such test has had upon the structure. We do not find this out by simply standing near, and noting