

**Improved Hose Pipe.**

In very many conflagrations the origin of the disaster is confined to a very small and sometimes inaccessible place, as under the eaves of houses, in the holds of ships, between party walls, &c. Were it possible, in all cases, to direct a stream to the precise spot, much valuable property would be saved that is now lost. In general this cannot be done without cutting away walls, floors, or other parts of the building. Herewith is illustrated a hose pipe on an entirely new plan; it admits of turning a stream of water in any direction, while the hole through which the pipe is inserted need be no larger in diameter than a hat or an ordinary pane of glass. Upon inspecting the engraving it will be seen that there are two nozzles, A and B, on the butt, C; these nozzles are furnished with water-tight joints, D, which stand obliquely with the body of the butt. When these nozzles are turned (they revolve easily on their seats at the joints, D) the water passage is, of course, changed, and the stream follows the direction to which the nozzle is moved; in Fig. 2 we have illustrated this peculiarity, and it will be fully understood by referring thereto.

Another feature is provided in this hose pipe whereby the nozzles are rotated by the action of the issuing jet, and the same made to cover a larger area of surface than when simply thrown straight ahead. This is done by making an easy working bearing at E, by which both the nozzles and the jets issuing from them revolve rapidly when they are turned, as shown in Fig. 2. This revolution is caused by the stream impinging or striking against the air, and by its sudden divergence from a straight line; which causes its force to be transferred to the side of the curved nozzle and the same turned on the axis, E. These passages and nozzles can be set at any required curve, by simply turning the branch on which both of them are set and tightening the thumb-screw, F; or they can be as rapidly changed to throw revolving jets by the same agency: viz., the slacking of the screw just named. All firemen and others interested will readily see how many changes it is possible to make: the revolutions of the nozzle can be instantly checked by grasping the axis or bearing, E, so that the water may be continued on any desired point; in short, the changes are endless and combine a wide range of usefulness. The main nozzle throws as straight a stream as any other pipe, unless turned on one side, as in Fig 2; and all the passages in whatever position are easy curves and not abrupt angles. This invention has been patented in this country and in England, France and Belgium, through the Scientific American Patent Agency; the American patents bearing date Oct. 14, 1862, and 1863. Those wishing to purchase State, city or village rights, or nozzles, can address the proprietor, C. H. Morrison, LeRoy, Genesee Co., N. Y., or his attorney, H. B. Morrison, traveling agent, LeRoy, N. Y.

**HARBOR DEFENSES.**

We have recently received quite a number of communications on the above subject, in which different plans are proposed and described. Some of these are very good, while others are entirely inapplicable under the circumstances. But one correspondent asserts that it makes no matter how good a plan may be devised for such a purpose, neither Government officials nor city committees appointed to look after harbor defenses, take the time or the trouble to give inventors a fair hearing. He asserts that the neglect and indifference of persons in authority to suggestions for the benefit of the country, coming from persons out-

side of the military and navy departments, are notorious, and the action of State and city commissioners forms no exception to this charge. The charge is undoubtedly founded on personal experience, and it is to be regretted that such a state of indifference to the suggestions and plans of many ingenious men should exist. The New York Chamber of Commerce, as a body, appears to have come to the conclusion that the harbor is nearly in a perfect state of defense, and that in a short period no hostile fleet will be able to enter it. At its regular meeting, held on the 1st inst., Captain Marshall stated that the work of fortifying the harbor was rapidly progressing, and even at the present moment the defense was ample. It was asserted that a hostile fleet coming up would

ed all the other crops in Los Angeles and San Bernardino counties, appears to have had little or no deleterious effect on the grapes.

[The *Californian* has omitted to state one important point—whether it is "sold at a price within the reach of all."—Eds.]

**Artificial Marble.**

Sir James Hall upon one occasion produced crystalline marble by subjecting chalk to a high heat in a close vessel. Professor Rose of Berlin, Prussia, tried the experiment, and failing to produce such a result denied the correctness of Sir James Hall's statements. Being assured that crystalline marble had thus been produced, and that the specimens could be seen in London, he entered upon a second experiment, and in a recent communication to the Berlin Academy of Sciences, Professor Rose states that marble can be produced by exposing massive carbonate of lime to a high temperature under great pressure. His experiments were made with aragonite from Bilin in Bohemia, and with lithographic limestone. In one case the mineral was heated in a wrought-iron cylinder, and in the other in a porcelain bottle, the vessels being air-tight. They were exposed to a white heat for half an hour, and on cooling, both the aragonite and the lithographic limestone were found converted into crystalline limestone; the former resembling Carrara marble, and the latter a grey granular limestone. The change was effected without any material decomposition; the resulting marble containing a trifle less carbonic acid than lithographic limestone, from which it was produced.

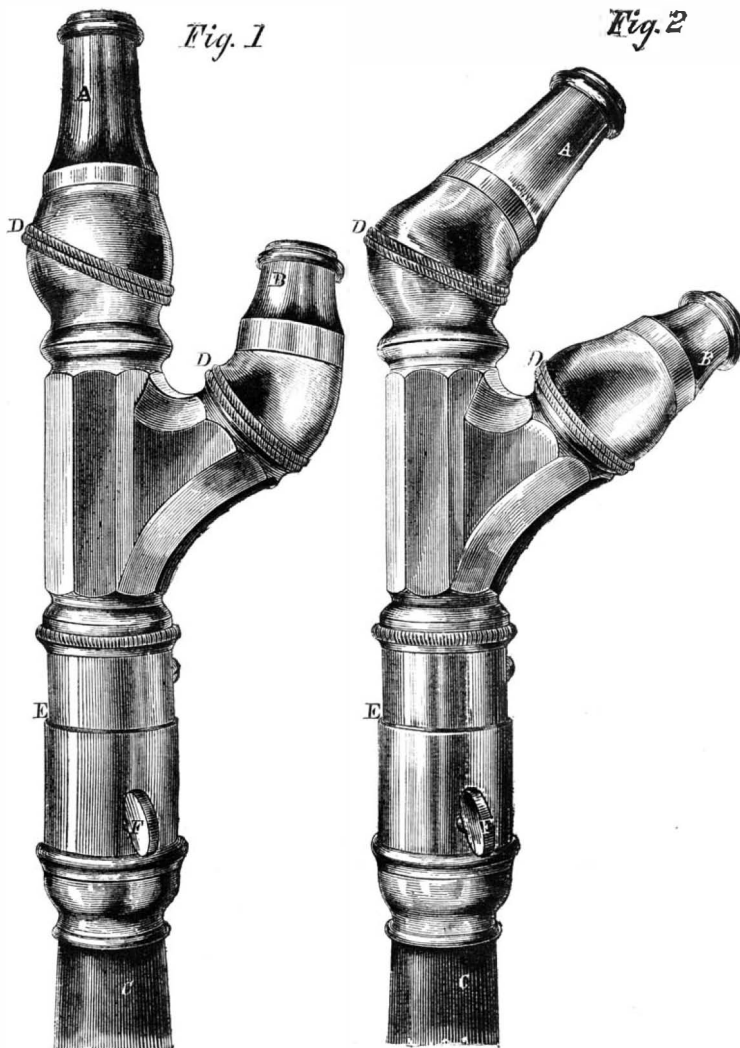
**The Armstrong Gun Useless.**

The London *Army and Navy Gazette* of Sept. 12, regrets to state that in the late experiments with the Armstrong guns at Newhaven the defects of the lead-coated shot and fine grooving were very apparent, as happened in the previous practice. With the full charge of twelve pounds, several of the shells burst at the muzzle, and one in the gun, cutting up the grooving; while others of the shells were stripped of their lead coating and fell short. Last Thurs-

day's experiments, which were conducted partly to try the fuses, showed that the one hundred and ten-pounder could not be depended upon in the hour of greatest need in a close hand-to-hand combat, and established also the fact that the peculiar nature of the Armstrong rifling rendered it very difficult, if not impossible, to obtain a safe fuse for the gun.

**SEWING MACHINES.**—A few weeks ago in noticing the articles of most interest in the Fair of the American Institute, it was stated that Messrs. Grover & Baker's sewing machines were on exhibition. We have since been informed that none of the machines of this company, but specimens of the work executed by them, were exhibited on that occasion. The Grover & Baker machines and their work have been exhibited in competition with other machines at the State Fair's of Vermont, New York, Iowa, Michigan, Kentucky, Indiana and Illinois, during the past month, at each of which they have taken the highest premiums, both for the machines and work.

**THE Michigan Central Railroad Company** is about to erect a very extensive grain elevator at Detroit. Its dimensions will be one hundred and ninety-three feet four inches in length, by seventy-seven feet six inches in width. The height to the summit of the cupola will be one hundred and twenty-eight feet. The bins will be eighty in number, with a depth of fifty-five feet each.

**MORRISON'S IMPROVED HOSE**

have to encounter the fire of 800 guns of the heaviest caliber. No wooden vessel could sustain this, nor any iron-clad at a short range. Very soon all question as to the impregnability of the harbor will be set at rest by the completion of the defences.

**California Champagne.**

The success of the experiment of manufacturing champagne in California is now an established fact, and the production of that generous beverage in our State hereafter will undoubtedly be so great as to enable us to drive the poisonous European simulated brands from the American market, lay "Jersey lightning" on the shelf, and compete successfully with the manufacturers of the most celebrated European brands for the trade of the world. About 15,000 bottles have already been put up at the Harazthy Vineyard at Sonoma, this season, and about 600 bottles per diem are now being turned out. This wine will commence ripening fit for market in October. One thousand dozen of this wine has already been ordered by a French house in New York, to be shipped next month via Cape Horn. Thirty thousand gallons of still wines of the same growth will be shipped by the same vessel. The vintage in both the northern and southern grape-producing districts of California will be larger than ever before, more vines coming into bearing, and the crop in all the vineyards, so far as we can learn, being more than an average one. The drouth which so injuriously affect-