NEW PROPELLER SCREW.

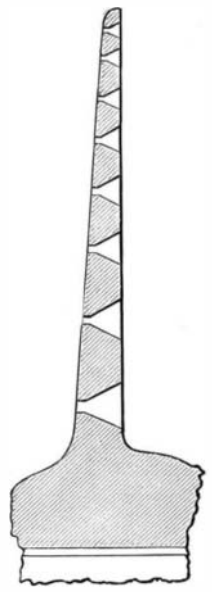
The accompanying engraving represents Mr. H. G. Deane's improved propeller screw, Fig. 1 being a side elevation and Fig. 2 an enlarged longitudinal section of one of the blades.

The improvement consists in perforating the propeller with holes, the diameters of which increase as they approach the center of the wheel. These holes are countersunk on the driving face of the blade. It is stated that this wheel has a number of advantages, among which are great facility in backing; decreased liability to breakage and corrosion; increased buoyancy at the stern of the boat; entire absence of vibrations and trembling; and last and most important, an increase of speed is secured. The explanation of all this is that the vacuum behind the blade being destroyed, the full effect of the power applied to the wheel is realized.

The number of blades which has been found to give the most satisfaction is four, but the inventor claims that perforations improve any and every kind.

Fig. 1.

Fig. 2.



DEANE'S PROPELLER.

TO PRESERVE AUTUMN LEAVES.—Spread the fresh leaves and press them in a suitable dish, with alternate layers of fine sand, which is thoroughly dry and as hot as the hand can bear. When the sand has cooled they may be removed, smoothed under a hot iron, dipped for a moment in clear French spirit varnish, and allowed to dry in the air.

A Big Jam of Logs Broken.

The big jam of 10,000,000 logs, on Carratunk Falls, was broken last week, 6,000,000 logs going out at once, which was said to have been a grand sight. It took 65 men 13 days to break the jam and get the rear over Carratunk Falls. A portion of the ledge was removed by blasting. Omar Clark, Esq., has had a crew of 50 men in charge from the time the first log started on Moose river, then on the main river until this time, and not an accident of any kind has happened to a man, not even the jamming of a toe. Tuesday the rear of the drive was at Patterson's Bridge, and by this time it is probably at Norridgewock. This will make 85,000,000 logs that have passed down river this season.—*Augusta (Me.) Journal.*

THE THUNDERER'S GUN.

It may probably be difficult for most of us to believe that the 38-ton gun illustrated by the engraving was actually fired with the long column of projectiles and charges, shown in the foreground, in its bore. This, says the *Engineer*, was the unanimous opinion of the committee—an opinion, however, which has been much questioned by many, and flatly contradicted by Sir W. Palliser. The gun is in the Arsenal, open to investigation, lying in the condition exhibited by the engraving. The gun has been built up and held together by hoops as depicted. The fragments of the steel tube, and the stud and *débris* that are considered significant in their condition, have been collected for careful inspection and kept in a glass case, and the figures of the projectiles and charges supposed to have been inside the gun have been chalked on the exterior, while actual specimens of such stores have been placed in their proper order on the ground, as shown by A B C D E F.

We will endeavor to put the leading points of the question briefly before our readers. That a gun may be fired with double ammunition in it is, we think, apparent from the fact that guns have been so loaded, and the mistake only discovered just in time to prevent the gun being fired. However monstrous such a state of things may appear, it may be easily seen that with a telescopic mechanical rammer it is possible to make a mistake when the tell-tale is not working. Indeed, it will be seen that if the thicker tube of the telescope is the one farthest from the rammer head, and of such a length as to enter the bore of the gun, the inside tube next the rammer head being in fact shorter than the bore, there is no means of knowing how short a way or how far the inside tube may have moved.

This being a very possible contingency, the three points urged by the committee are: (1) That portions of the steel tube showed that they had been scored by a shell after they had been dislodged from their proper position. (2) That a stud had been picked up which had been evidently torn out of a Palliser shell, which showed that a Palliser shell was in the bore, that is, the projectile of the round previous to that last entered. (3) That the gun has yielded in the place where it could be most likely to do so, if a charge were fired in about the position indicated under these extraordinary conditions.

Sir W. Palliser considers that the shell was wedged, and tripped up, as it were, by a portion of the wad lying some distance in front of the projectile, and that its base would, under such conditions, rise, and it should strike the bottom of the bore, scoring the steel tube, he thinks, in much the same way in which it is now seen to be scored. In fact Sir W Palliser considers, from experiments which he has made on a small scale, that the scoring of the pieces of steel tube is exactly what he would have expected. He feels, apparently, like the committee, that some demands are being made on our credulity in asking us to believe that this great result arose from a single shot jamming against a hard *papier maché* disk, but he assumes he has obtained very similar results in this way on a small scale, and that the great resistance of the millboard is due to the very great rapidity with which it must be crushed to let the shot pass. Sir W. Palliser, however, says with regard to the stud found by the committee in the turret, that if absolutely proved to be a Palliser stud it would be "conclusive" evidence in "favor of the committee's report." He thinks, however, that no certainty can be obtained in this matter; nevertheless the Royal Laboratory, who manufactured the studs and to whom this one has been submitted for opinion, pronounce unhesitatingly that it is actually a Palliser stud. This, it appears to us, ought to settle the matter.

The fact is that the accident was an extraordinary one, and we must not therefore be surprised to find that there was something extraordinary in the condition of matters to account for it, and we should accept the explanation that seems irresistibly supported by the evidence of the Palliser stud, to say nothing of the scored steel fragments and position of fracture. We are informed that definite instructions have been given to the War Office Committee, ordered shortly to assemble to investigate the whole question of heavy guns, to test the twin 38-ton gun of the Thunderer to destruction. General S. Enderby Gordon, C.B., has been appointed president of this committee. Admiral Boys, C.B., late Director of Naval Ordnance, and Major Ellis, R.A., are among the members, who are exclusively naval and military officers.

Relief of Color Blindness.

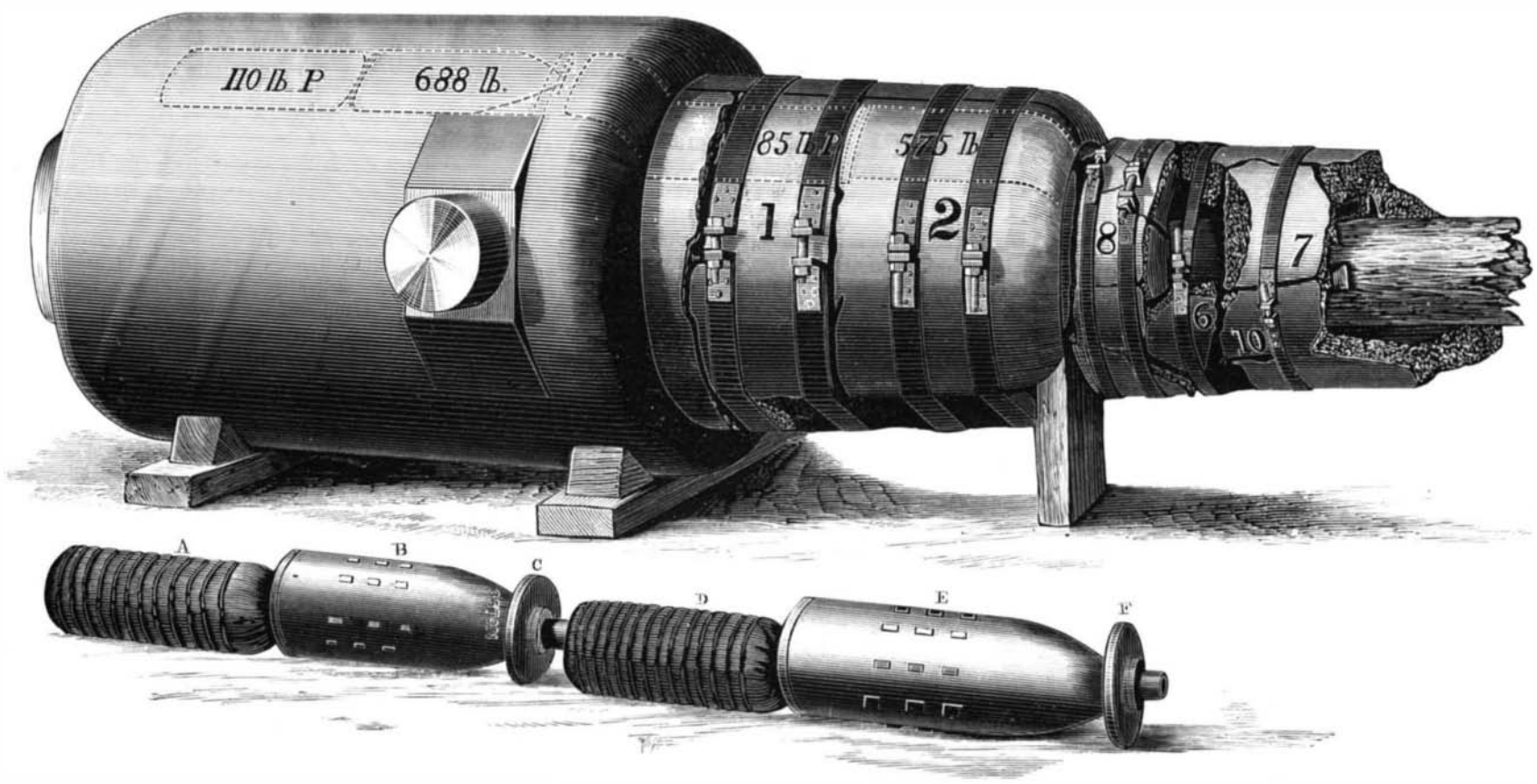
M. Delbœuf has found that if a person afflicted with Daltonism looks through a layer of fuchsine in solution his infirmity disappears. A practical application of this discovery has been made by M. Javal, by interposing between two glasses a thin layer of gelatine, previously tinted with fuchsine. By regarding objects through such a medium, all the difficulties of color blindness are said to be corrected. Experiments in Philadelphia, says the *Medical and Surgical Reporter*, by Dr. P. D. Keyser, affirm the success of this method.

American Institute Exhibition.

Our manufacturers are now fully awake in the matter of exhibitions, and, so far as their limited space is concerned, we are assured the coming Exhibition of the American Institute, of this city, will be of more than usual value and novelty. For information address the General Superintendent, New York city.

The Old Telegraph Mine.

In our issue of July 26, a correspondent, in describing the Old Telegraph Mine in Utah, gave a report of analyses of 1,000 tons of ore by Othon Wuth, of Pittsburg, in which a most important item was omitted. The report should have stated that the ore, in addition to the other matters enumerated, yielded from 15 to over 100 oz. of silver, and $2 to $4 gold per ton.



THE THUNDERER'S GUN AT WOOLWICH.