Collection of Projectiles.

A correspondent residing in Washington sends us a slip that contains the following facts in regard to a collection:—

A collection embracing all the different varieties of projectiles used during the war of the Rebellion. which has been made at the United States arsenal in this city, and systematically arranged in an apartment in one of the arsenal buildings specially fitted up for the purpose. Shelves are ranged completely round the room, while the center is occupied by two stands, upon which the shells and other projectiles are placed in regular order. In adnition to all the projectiles used by the Union forces, the collection includes a great variety of shells, solid shot, etc., many of English manufacture, which have been captured from the Rebels. Among those used by the Union forces we observed the James projectile, which was used to great advantage in the reduction of Fort Pulaski, in the earlier days of the Rebellion. The inventor unfortnnately lost his life while engaged in exhibiting his shells to several foreign officers and others. It appears that a workman attempted to remove a cap from a shell with a pair of pliers, when it exploded instantly killing the workman and General James, who was assisting him, and severely injuring several of the bystanders.

Several ingeniously constructed torpedoes, designed to be used in destroying the vessels of a blockading squadron, are suspended from the ceiling. Three of the torpedoes, taken from the James River, are constructed of common casks with conical floats attached to each end. They were to be allowed to float down the stream with the current, until they arrived in close proximity to the Federal ship-of-war, and were then to be exploded by means of a cord attached.

Upon one of the shelves we observed a number of singularly-shaped projectiles termed darts, invented by Floyd when Secretary of War, and by him forwarded to the arsenal for trial.

A collection of hand grenades of different patterns will engage the attention of visitors to the model room. One grenade is in the form of a hollow sphere designed to be filled with powder. From the outer surface a number of common gun nipples project, upon which percussion caps are placed. The grenades are to be used to repel an assault of an enemy upon a fortification, and as they explode with but slight concussion, they would undoubtedly prove exceedingly destructive to the assaulting party. The Adams grenade is made in a similer shape, only differing in the manner in which it is exploded. It is the invention of a private in the army, who had observed that the hand grenades in general use frequently failed to explode. The hollow globe contains the explosive matter and a common fuse, over which is placed a friction primer. To the primer a lanyard several yards in length is attached, one extremity of which is securely held in the hand of the person using the grenade. The projectile is thrown in any desired direction, and when it reaches the end of its lanyard, the friction-primer is suddenly jerked out igniting the fulminating powder in the fuse, and consequently exploding the grenade.

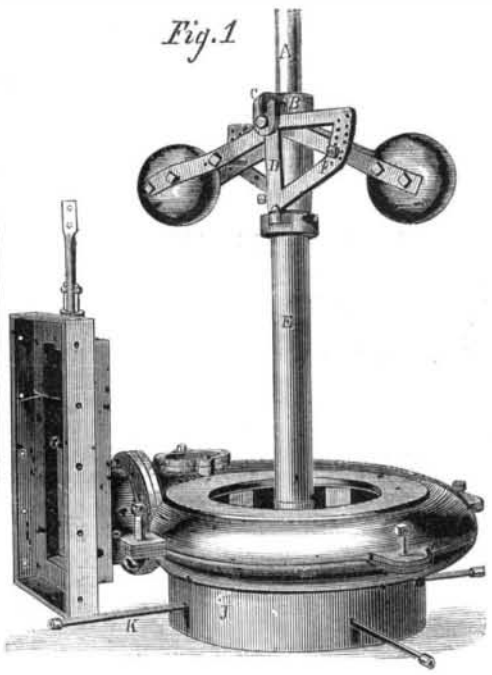
The collection contains a single specimen of a fire-ball, composed of highly combustible materials, which, when ignited, produce a powerful white light. It takes fire when discharged from the cannon, and is intended to be thrown in the direction of any point where the enemy are supposed to be engaged in throwing up intrenchments at night, in order that their correct position and the number of troops engaged in building them may be ascertained. The collection also contains a number of Hale's war rockets, which were extensively used in McClellan's Army during the disastrous campaign on the Peninsula.

The model room has been fitted up, and the shells and other projectiles carefully arranged under the supervision of Thomas Taylor, Esq., of the rifle-shell department. Every article in the collection is numbered, and Mr. Taylor is at present engaged in compiling a descriptive book to contain the names, distinguishing features, history, etc., of each individual shell or other projectile in the collection. We are informed that similar collections are being made at the Ordnance Department and Navy Yard, which will undoubtedly prove of immense benefit to army officers and scientific men interested in the matter.

LAKIN'S WATER-WHEEL REGULATOR.

Manufacturers who use water power know that it is as unsteady in action as any other motor, and the quantity admitted to the wheel must be governed by

Fig. 1

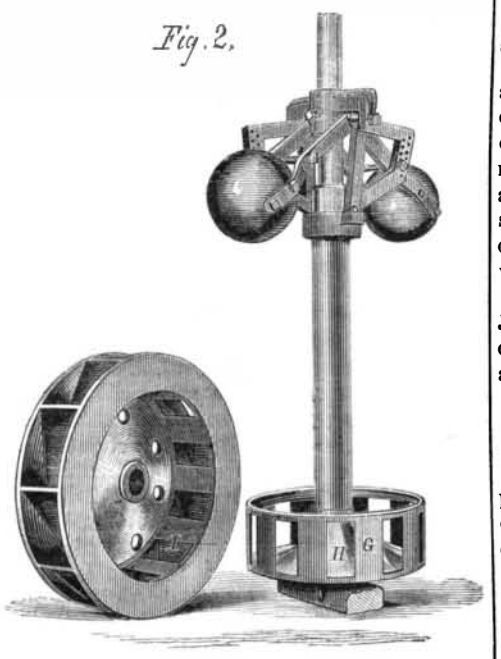


the duty to be performed at the moment, otherwise irregularities are manifest. This must be done by the wheel itself, automatically. It cannot be done by hand, for no human intelligence could foresee the precise moment when a machine was about to put on or off in the mill.

The apparatus here shown is to be attached to a central vent wheel, and controls the velocity of the same by obstructing or enlarging the issues. It also obviates in a measure excessive weight and labor on the step, and instead of increasing the strain, diminises it. This end is attained in the following manner:—

The upright shalt, A, of the wheel has a collar, B, on it, with two projecting arms, C. To these the upper end of the governor levers are jointed, and also

Fig. 2.



the end of a bell crank, D. The other end of the same connects with a coller on a cast-iron sleeve, E, fitting over the main shaft, and the governor levers also connect with it through the medium of a bolt, F. The sleeve, E, connects at the bottom of a regulator valve, G, Fig. 2.

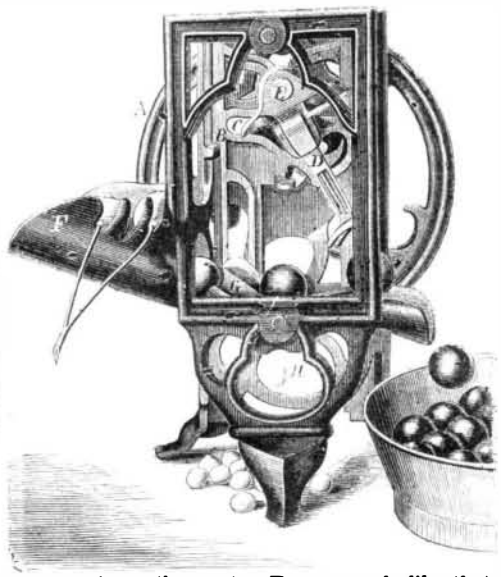
It is easy to see that, as the main shaft revolves, the governor will also, and that an increase or decrease of velocity will act on the balls and cause them to rise or fall, thereby affecting the position of the valve and its openings, H, with reference to the wheel and its issues, I. Any given velocity may be obtained for the main wheel by simply rasing the balls in the bell crank, D. The higher the point they are set at the greater velocity will be required in the wheel to raise them yet further.

Below the wheel is a water chamber, J, which has limited issues, as in the pipes, K. Upon this water, the result of leakage through the edges of the wheel and the scroll, the wheel and shaft rest in a measure, or in such a degree that great wear is obviated on the step.

A patent was issued on this governor to T. D. Lakin, on Oct. 13, 1863. This governor is manufactured by G. W. Davis & Co., Nashua, N. H., whom address for further information.

VAN KANEL'S CHERRY STONER.

This is a little machine designed to remove the pits from cherries that are to be preserved with sugar or dried. It is difficult to give a clear representation of this machine, owing to the nature of the framing, which is so open and light that the working parts become confused with it. In effect the work is done by turning a wheel, A. This has a pin in it which works a slide, B, inside the main frame. This slide rises and falls vertically by the action of the pin in the slot, C, and there is a fork, D, attached to it which receives the same motion; besides that, it ha



a movement on the center, E, very much like that given a paddle in moving a boat.

To stone the cherries they are taken by the stems and laid inside the trough, F, through notches in the edge. A little pull detaches them, and they roll down on to a table, G, which rises and falls alternately and throws one at a time under the fork, D; as it descends it pierces the cherry and pushes the stone out through the bottom, as at H, and by a dexterous flirt, throws the fruit out at one side into a vessel, completely pitted.

Rights for sale. For further information address Joseph Beare, Chester, Ill. Parties in Ohio and vicinity can address Babbitt, Harkness & Co., Nos. 18 and 19 Public Landing, Cincinnati, Ohio.

SPECIAL NOTICES.

Samuel Nye Miller, of West Roxbury, Mass., has petitioned for the extension of a patent granted to him on the 29th day of June, 1852, for an improvement in compound anchors.

Parties wishing to oppose the above extension must appear and show cause on the 11th day of June next, at 12 o'clock, M., when the petition will be heard.

Christopher C. Brand, formerly of New London, Conn., but now of Norwich, Conn., has petitioned for the extension of a patent granted to him on the 22d day of June, 1852, for an improvement in bomb lances for killing whales.

Parties wishing to oppose the above extension must appear and show cause on the 4th day of June next, at 12 o'clock, M., when the petition will be heard.

BACK NUMBERS.—New subscribers are informed that the back numbers of the present volume are out of print. Subscriptions are entered from the date of their receipt.