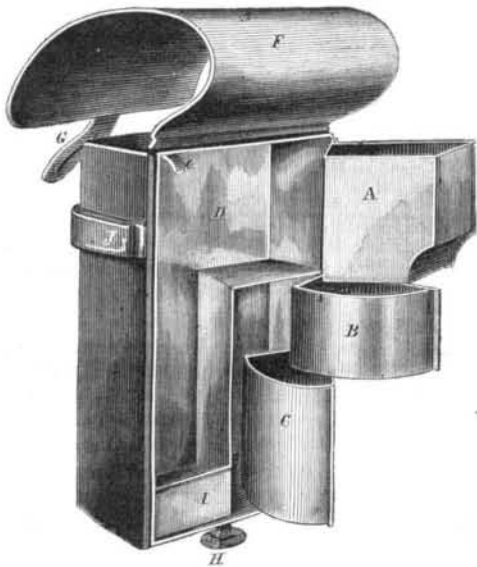


HIRSCHBUHL'S AMMUNITION BOX FOR ARMY OFFICERS.

The accompanying engraving illustrates an ammunition box intended for army officers to carry the powder, balls, caps and cartridges needed for their pistols. It consists of a light leather box lined with tin, divided into compartments and provided with small interior boxes hung upon hinges at one side, so that they may be swung out when it is desired to take the ammunition from them.

The upper box, A, is designed to hold the balls, the middle box, B, the percussion caps, and the lowest, C, the prepared cartridges. The compartment, D, is for the powder flask, which is held in place by the spring, e. The leather face, F, is made to turn up out of the way, as represented, and when it is closed, the tongue, G, is secured by the button, H. A loop is provided at the back of the box for the waist belt of the bearer, and two loops, J, upon the sides for the shoulder strap. The small compartment, I, at the bottom is for wads.



The lowest drawer of the box may contain a vial of oil and a pin for cleaning the tube. These are held by an open ring which is soldered to the inside of the drawer in such a manner as to form a spring to hold the vial and pin without breaking, and still to allow a larger or smaller vial to be used.

The special novelty of this box is the attachment of the compartments, A B and C, by hinges at their sides, enabling them to be turned out so that their contents will be readily accessible.

The patent for this invention was granted through the Scientific American Patent Agency, February 18, 1862, and further information in relation to it may be obtained by addressing the inventor, J. S. Hirschbuhl, at Louisville, Ky.

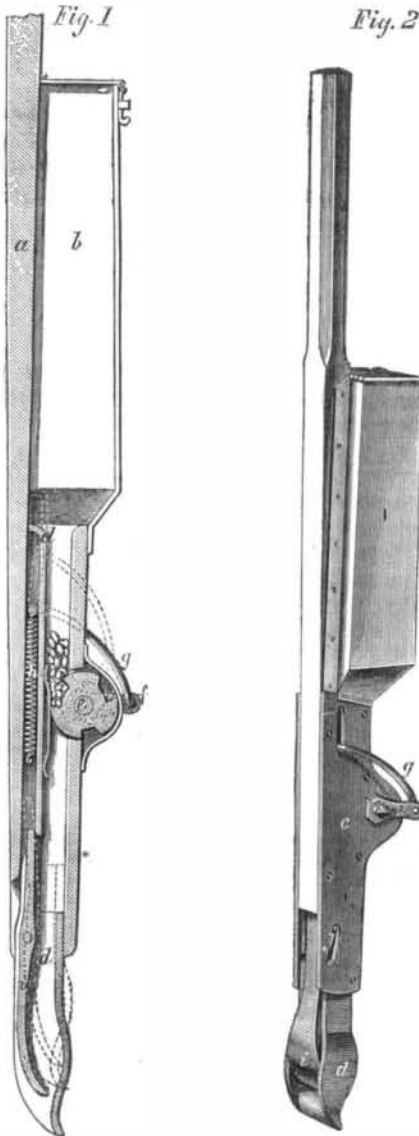
Feathering Screw Propellers.

The British frigate *Aurora*, of 51 guns, 227 feet long, 50 feet breadth of beam, with a capacity of 2,558 tons, has been fitted with a Maudslay feathering propeller. The diameter of this screw is 17 feet, and the angle of the blades can be varied till they are set in a fore-and-aft position. In a recent trial with this vessel, which took place at Plymouth, the blades were first set at a pitch of 22 feet 6 inches, and their angle was altered from the quarter deck, when the screw was in motion at full speed. The advantages of this description of propeller are, that it enables a vessel to proceed under canvas alone, without lifting the screw out of the water, by placing the blades fore-and-aft in a line with the keel, in which position they offer little or no resistance to the progress of the vessel through the water. By thus altering the screw to any required pitch, advantage is taken of varying winds in long voyages, so as to use sail and steam according to circumstances, and thus save fuel.

At the battle of Austerlitz the Russians lost 30 per cent and the Austrians 44 per cent of their army, the French 14 per cent; at Wagram the Austrians lost 14 per cent, the French 13; at Waterloo the Allies lost 31 per cent, the French 36; at the battle of Magenta the Austrians lost 8 per cent, the French only 7 per cent.

SHORES'S HAND CORN PLANTER.

Among all the farm implements invented in modern times we know of none which saves so much labor in proportion to its cost, as the hand corn planter. After the field is furrowed in one direction, the workman may set his stakes, and, taking one of these little tools, may walk across the field in a straight line, at right angles to the furrows, planting a hill as he crosses each furrow as rapidly as a person can drop the seed; thus saving the labor of furrowing the field in one direction, and of covering the corn. Since the first invention of this valuable implement many improvements have been made in its construc-



tion, designed to render it either cheaper, lighter or more certain in its operation. One of the latest and best of these is illustrated in the accompanying engravings.

Fig. 1 is a vertical section of the principal parts, and Fig. 2 a perspective of the whole implement. To a light wooden handle, a, is secured a tin box, b, and thin iron plates, c; the edges of these plates being connected by a strip of wood to complete the box. Inserted into the lower end of this box is the cast-iron trough, d, which extends upward to the lower end of the tin box, b; this trough being secured in such manner that it has a sliding motion up and down within the box. The tin box, b, is filled with seed which is prevented from falling down through the lower end of the planter by the wheel, e. This wheel has a notch cut in its edge of sufficient size to hold the quantity of seed suitable for one hill, and it will be seen that if this notch is turned down, the charge of seed will be carried past the wheel and dropped into the lower part of the implement. To the axle of the wheel is rigidly secured the arm, f, which is connected with the trough, d, by the rod, g; this rod being bent so as to pass through a long slot in the plate, c. As the workman presses the lower end of the implement into the ground, the trough, d, is forced upward in the box, thus turning the wheel, e, and dropping a charge of seed. When the planter is raised, the trough is again drawn down by the spiral spring, h, and the notch in the wheel, e,

is turned up to receive a second charge of seed for the next hill.

The lower end of the trough, d, is closed by a curved tongue, i, which has its fulcrum at its upper end and receives a horizontal vibrating motion at each vertical movement of the trough, d, from a pin which passes through the tongue and enters inclined slots, j, in each of the plates, c. As the lower end of the trough is pressed into the ground the lower end of the tongue, i, is pressed against it, as represented in dotted lines; but as the implement is raised the passage is opened, as shown in full lines, allowing the seed to fall into the hill.

The advantages claimed for this planter are, that it is durable, cheap and easily operated and that it may be relied on for accuracy. The price is three dollars.

The patent for this invention was granted, through the Scientific American Patent Agency, July 2, 1861, and further information in relation to it may be obtained by addressing the inventor, S. Z. Shores, at Towanda, Pa.



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