

Improved Cutter Bar Head.

The improvements continually going in agricultural machinery are of such a nature as to render tools of that class most efficient and reliable aids of the farmer. No sooner does a machine seem complete in all respects than the keen eye of some ingenious person discovers an opening for an improvement, which being added increases the value of the apparatus ten-fold. The engraving published herewith is an illustration of an improved method of constructing the heads which the cutter bars of harvesters or mowing machines work in. The great desideratum is to obtain a light bar, with a large wearing surface, and sufficient strength to withstand

ing surface on the top of the head, D; in securely holding the pitman in its place; in the arrangement of the oil cup and cover, as this lubricates the upper surface of the head, and the pitman; by working down behind, the oil also reaches the bottom of the head. The improvements also extend to the arrangement of the sections which are on the thin part of the malleable head, and on the bar, which is bent at the center of the third or fourth section, and passing down under the thin part of the head, allows it to be the full length of the bar; it is fastened to the head by two rivets shown at *a* and *b*, in Fig. 2, and with the five other rivets that hold on the first three sections; the rib, *c*, on the head, D, also giv

Fig. 1

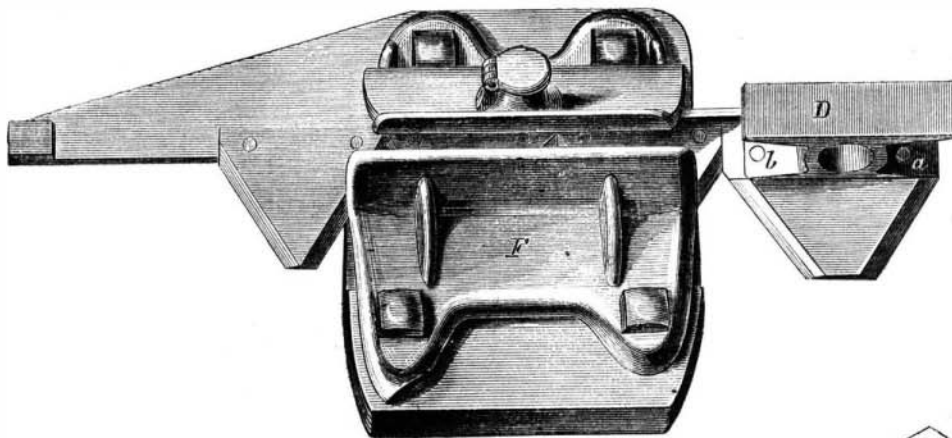
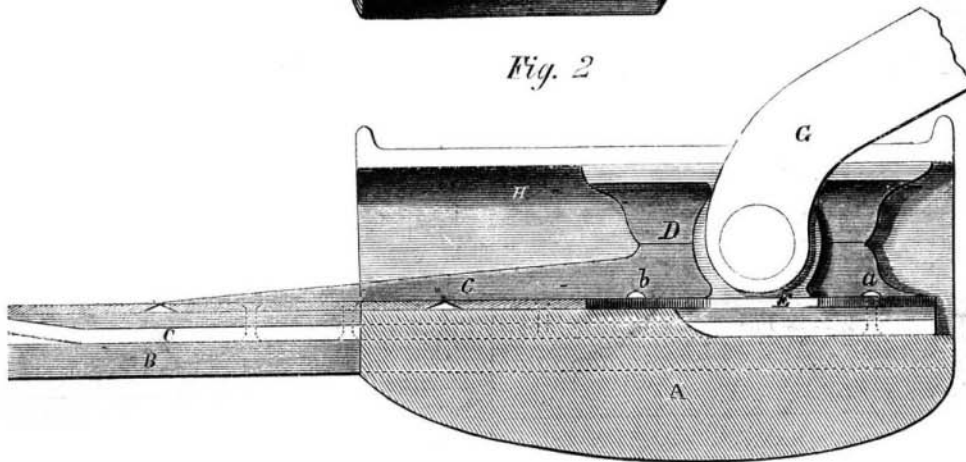


Fig. 2



SWEET'S CUTTER BAR HEAD.

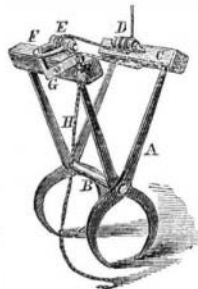
the rapid vibration to which it is subjected. It will also be noted that the upper surface of the head is smooth and unobstructed, so that grain will pass freely over it; this result is obtained by having the shank of the cutter bar head made in a taper form, and interposed between the sickle and the cutter bar, also by means of the oil cup a perfect lubrication of the working parts under it is at all times attained. The invention also relates to an improved arrangement of the slot cap and guide-way, whereby the pitman is provided with a suitable guide to prevent lateral motion. Appended is the inventor's description of the several parts, and the claim he sets up for his improvement.

Reference is had alternately to either Figure, the first being a plan in perspective and the second a section of the parts. A, is the inner shoe, and is constructed of cast-iron, and B, is the finger; C, is the steel cutter bar, $\frac{3}{4}$ of an inch by $\frac{5}{32}$ which is sufficiently strong for the work. The head, D, is of malleable iron, and has the blank section, E, cast on it to clear the grass out from under the slotted cap, F, shown in Fig. 1; while at the same time it helps to prevent the head from oscillating. The slotted cap, F, has a two-fold use, it forming a cap and also holding the pitman, G, in its place. The way piece, H, is held on to the finger bar by the same bolts that hold the finger bar to the shoe; this is nicely fitted over the top of the head, D, and is provided with an oil cup which has a cap to keep out dirt; the cover does not rise perpendicularly, a small tip being cast on the cover to prevent it from being opened by shock or jar while in operation. The merits of this invention consist in the large wear-

ing great additional stiffness. A patent is now pending through the Scientific American Patent Agency; for further information address W. A. Sweet, care of Sweet, Bros. & Co., Syracuse, N. Y.

GATES'S CHAMPION HAY ELEVATOR.

The severe labor devolving upon men in the hay field has demanded the introduction of apparatus to lighten the task. The above engraving illustrates an improved hay fork, for which Letters Patent have been granted to Silas L. Gates; the diminutive size of the engraving is by special request of the inventor. The machine consists of two pair of curved levers, A, united by a common shaft, B, on which they work freely. At the upper ends of the levers are attached two cross bars, C, on one of which is the roller, D, and on the other the stirrup roller, E; this stirrup hooks over a projecting pin, F. The short lever, G, is made to strike this stirrup when the cord, H, is drawn, thus opening the claws of the levers and allowing the hay which has been taken up to drop out. The act of hoisting the load causes the hooks to grasp the hay and hold it until disengaged by the cord; this is in brief the whole of the detail. The inventor says that it is a highly popular machine among farmers, and that at the recent fair held in Oneida County, large numbers of persons witnessed its operation and were convinced of its



utility. State, county, and country rights for sale. Price of fork \$10. Patented on Aug. 25, 1863, through the Scientific American Patent Agency; further information can be had by addressing the inventor, Silas L. Gates, at Verona, Oneida County, N. Y.

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