

PRESSES, HAY AND COTTON. *Hay-baling presses* are operated by steam-power or by

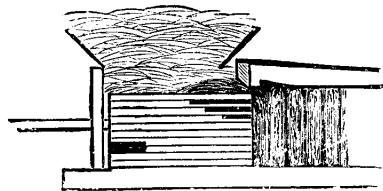


FIG. 1.

The Dederick press.

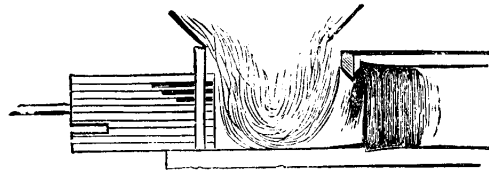


FIG. 2.

horses, and are made in some variety, but all on the plan of compressing small charges in detail consecutively into a long, horizontal, square-cornered box by strokes of a reciprocating

traverser.



FIG. 3 —
Bale-section.

then looped and fastened to retain the mass in a firm parallelepiped of convenient size and dense enough to load railway cars to their weight capacity. Numerous ingenious bale ties have been invented for this purpose. One of the latest and best devices is that devised by Mr. J. Wool Griswold, and manufactured by Griswold Bros., of Troy, N. Y. The bale band is of wire, having in one end an eye in which is received thimble-fashion a V-shaped saddle. After the band is put around the bale, the end is passed through the saddle. When strain is applied, the wire jams in the angle of the saddle, and at the same time the saddle being compressed in the eye, closes tightly upon the wire. Fig. 5 is an improved form of hay press constructed of steel. The loose hay is introduced as fast as a man can pitch it into a self-feeder, and, when tied, is emitted at the open end. The duty is claimed as 20 or 30 tons a day, according to power applied. In the Whitman hay-baling press, the plunger rebounds automatically after each operative stroke. The horse makes a tour to

Fig. 1, which represents the Dederick press, shows the bale begun, the traverser shot home, an overlap of hay from the charge last before pressed, and a fresh charge in the hopper above. Fig. 2 shows the traverser withdrawn, the overlap of hay folded down by the spring top to level the top face of the bale, and the fresh charge of hay rammed down to receive the next stroke of the traverser. Fig. 3 is a section of the bale of hay as it may be peeled from the end of a completed bale convenient for feeding. Fig. 4 is a complete bale ready to ship. While the bale is compressed in the press-box of the machine, several metal ties or bale bands are passed around it lengthwise, but transversely to its series of layers, and along grooves on the inner faces of the compressing surfaces of the movable bulkheads in the press-box, and the ends are



FIG. 4.—Hay bale.

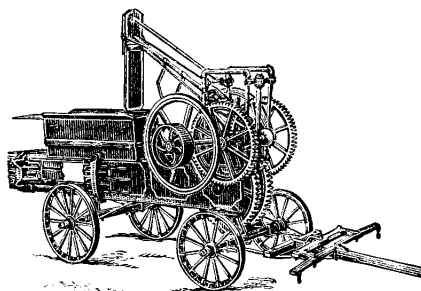


FIG. 5.—Hay press.

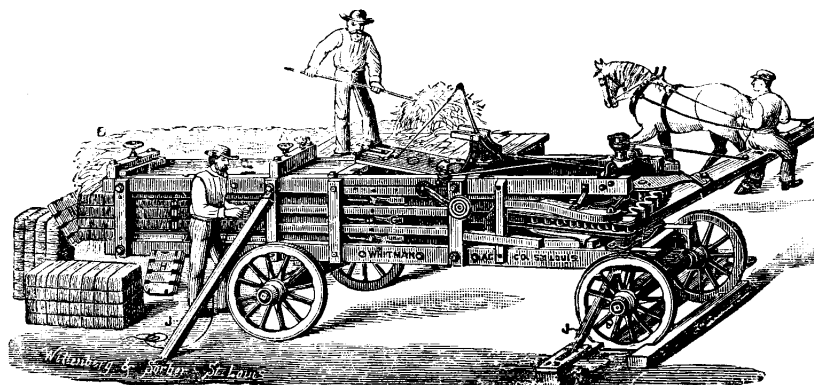


FIG. 6.—Hay-baling press.

press each charge of hay. The latter is introduced by an attendant, when the trap-door (seen in Fig. 6, on top, automatically falls open. The plunger, automatically released by a latch,

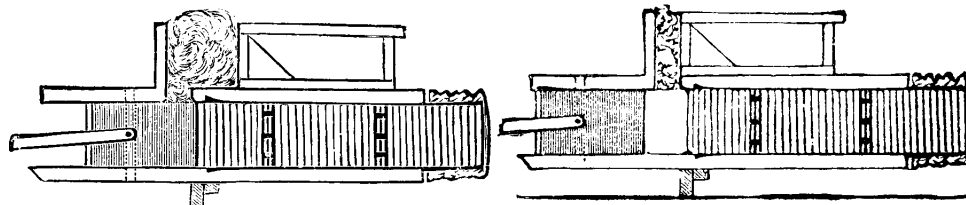


FIG. 7.

Cotton-baling press.

FIG. 8.

is thrown back to initial position by the expansive force of the compressed hay, providing an empty space in the press-box for receipt of a fresh charge. The bales may be made any-

where from 1 ft. to 5 ft. long. With one horse 6 tons, or with two horses 8 tons, may be baled in a day. The bales made by these presses load and stow with economy of labor and space, and in use the layers of hay are neatly separable. Recent rapid adoption of high-speed, reliable hay-baling presses has caused a decided change in methods of handling the great hay crop of the country, by making it an extremely available shipping commodity, extending areas of consumption, and steadily shifting areas of production westward in the United States, to the prolific, grass-growing prairie regions where the broad, level stretches of land are peculiarly suited to the use of machinery.

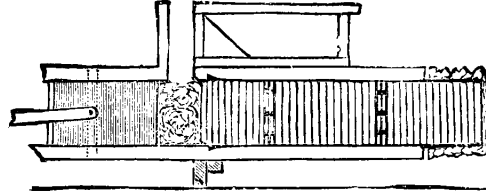


FIG. 9.—Cotton-baling press.

Cotton Press.—Dederick makes a press on the same detail ramming plan, for baling cotton on the home plantation or elsewhere. Its operation is exhibited in Figs. 7, 8, and 9. It does away with the usual necessity of re-pressing for ocean shipment, as it produces extraordinarily condensed bales, straight-edged and flat-sided, without bilge or any expansion when released. As compared with cotton treated by the customary pressing and repressing, claims are made that the fiber of the cotton pressed in the Dederick press is less crushed, as the detail compression admits of a lower maximum of pressure, and that the work is more rapidly done and is less expensive. The capacity of a press is 400 or more of "quarter" bales daily. The average weight of a bale is 125 lbs., and measurement $12 \times 15 \times 30$ in. = 5,400 cub. in. The ordinary 500-lb. bales, to be equally condensed, would measure but 21,600 cub. in., whereas they are stated as a matter of fact to exceed 33,000 cub. in., average, even after re-pressing. It should be added that the new quarter bales come



FIG. 10.—The "quarter" bale.

apart, when opened at the mill, in sections suitable for the picker. They may, if desired, be ejected by the press directly into sacks or covers. Fig. 10 illustrates size and shape of a "quarter" bale in comparison with a man.