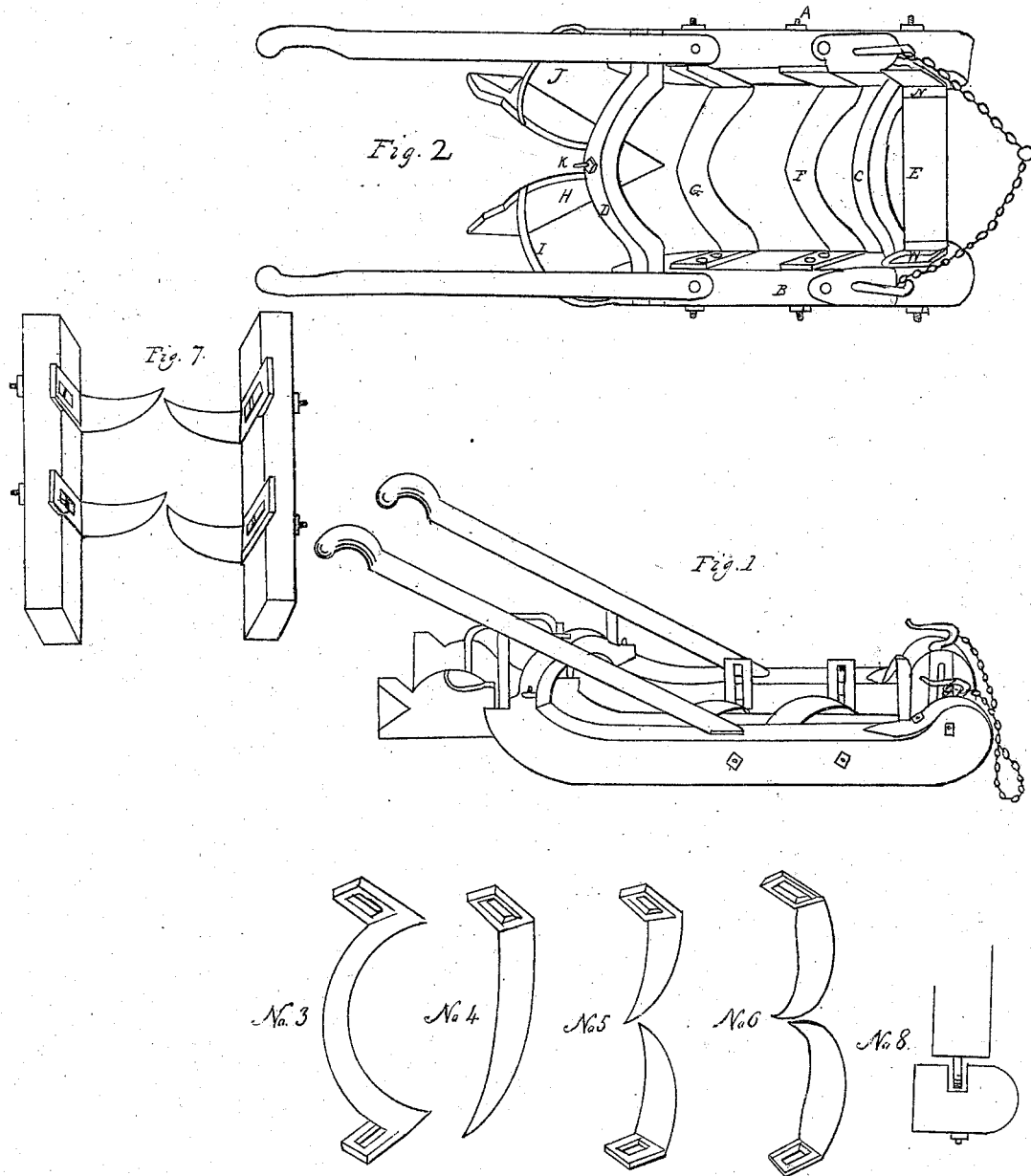


N. Lauve.
Corn Harvester.

N^o 3748

Patented Sep. 17, 1844.



UNITED STATES PATENT OFFICE.

NORBERT LAUVE, OF IBERVILLE PARISH, LOUISIANA.

IMPROVEMENT IN RATOON AND CANE CUTTERS.

Specification forming part of Letters Patent No. 3,748, dated September 17, 1844.

To all whom it may concern:

Be it known that I, NORBERT LAUVE, of the parish of Iberville and State of Louisiana, have invented a new and useful machine for cutting the ratoons of sugar-cane and cleaning the same, and for scraping the earth from the plant-cane; and I do hereby declare that the following is a full, clear, and exact description of the construction of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a bird's-eye view; and Figs. 3, 4, 5, 6, and 7 are detached representations of the knives and the slide for the roller I use.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct the machine with two common sled-runners, A and B, (see Fig. 2,) slightly turned up in front, each seven feet six inches long, four inches thick, and six inches high. The width between the sled-runners is two feet two inches—that is, they are placed two feet two inches apart, parallel to each other, and they are connected together by two iron or wooden cross-pieces curved upward, marked C and D, (see Fig. 2,) in a substantial manner. In order to do this I mortise sufficient square holes into the two sled-runners and insert the ends of the cross-pieces already tenoned into them. The front cross-piece, C, is placed about one foot from the head of the machine, and the rear cross-piece, D, the like distance from the rear of the machine. (See C and D, Fig. 2.) On the top, and about the center of the sled-runners A and B, where the two cross-pieces C and D are inserted into them, I bore a half-inch hole, piercing each tenon of the two cross-pieces and also entirely through the two sled-runners, through which holes an iron bolt is passed from the bottom of the sled-runners upward, and secured on the top by a screw-tap. The head of the bolt, at the bottom, is let into the wood so as to present an even surface. These cross-pieces C and D, thus fastened, give the sled-runners A and B a strong, substantial, and firm connection. (See Fig. 2.)

In front of the knives, revolving on its own axis or iron gudgeons, I place a substantial roller, about six inches in circumference, marked

E. (See Fig. 2.) The bottom of the roller will run a few inches above the level of the plane of the two knives F and G. (See Fig. 2.) The roller is placed at the head of the machine and attached to it by means of two slides, marked M M, (see Fig. 2,) made of iron, one-quarter of an inch thick, three and one-half inches wide, and eight inches long. These slides are either let into the head of the machine by common grooves or placed upon the surface on the inside of the two sled-runners A and B, and kept in their places in the following manner: In each of these slides are two eyes, one-half inch wide and three inches long, with a screw or bolt in the upper and lower eye. Running through the heads of the two sled-runners, and fastened with taps on the outside, between these two eyes, and in the center of the slide, is fixed the roller E, revolving on its own axis or iron gudgeons, and by means of the screws and oblong eyes in the slides the roller may be elevated or depressed at pleasure. (See the head of Fig. 1, where the slide may be more plainly discovered as attached to the machine.) This roller is to prevent the knives from running too deep and cutting up or otherwise seriously injuring the ratoon, or, in other words, to serve as a guide to the machine.

Behind the roller E, I place two curved knives, marked F and G. (See Fig. 2.) These knives are nearly in the shape of a crescent. The shape may be more accurately described as being between an obtuse angle and a crescent—that is, the edge falling gradually back from each end in an oblique line until near the center of the blade, when it is slightly curved, as in Fig. 3. The knives are thus formed so as not to slip or drag across the ratoon, every part of the edge doing its duty, and when it reaches the ratoon draws obliquely across it, something in the same manner that you would draw a common pocket-knife in cutting it with the hand, thus preventing the ratoon from being split or shattered in the operation and cutting it off smoothly and even. These two knives are made of the best kind of steel, bearing a good edge, and sufficiently strong to do the required work without breaking—say from six to eight inches broad and one-quarter of an inch thick on the back. The blades are beveled on the upper side only, leaving the un-

der side perfectly flat. These knives are made with flanges at the sides, bent at right angles with the blade, and of the same width, for the purpose of adjusting them on the inside of the sled-runners in common grooves. In each flange there is an eye in the center, one-half inch wide and four inches long, with a bolt running through the sides of the sled-runners and the eye of the flange and screwed on the outside of the sled-runners with a tap, so as to secure the knives tightly on and elevate or depress them at pleasure, as will be seen in Fig. 2. The front knife, F, is placed at two feet six inches from the head of the machine, and the edge of the second knife, G, is placed in the rear of and exactly two feet from the edge of the first knife, F, (see Fig. 2,) the curved edges of the knives being in front.

In the rear of the machine I place a fluke, marked H, (see Fig. 2,) which is kept suspended in the center between the two sled-runners A and B by means of two iron arms, marked I and J, (see Fig. 2,) made sufficiently strong for that purpose. These arms are attached firmly to the rear of the sled-runners by screws or bolts, and curving inward in a semicircle or bent down about six inches at right angles and fastened on the inner sides of the fluke, as will be seen at H, Fig. 2, by means of a screw or bolt passing through an eye in the bent part of the arm, about three inches long and one-half inch wide, and also through the side of the fluke H. (See Fig. 2.) The fluke H is made of wood or iron, according to desire. If wood, the boards or sides are required to be eight or ten inches high and two inches thick, the length of each board or side being two feet seven inches, placed perpendicular and in such a manner as to form an acute angle. The apex or point of the fluke running in front is cased with cast-iron and made very sharp. The fluke is two feet wide across the base of the angle. At the apex or point of the fluke is a bolt one-half inch thick, marked K, (see Fig. 2,) and securely fastened thereto, which bolt runs perpendicularly up through the center of the cross-piece D, (see Fig. 2,) with a screw-tap on the upper part of the bolt, (which bolt is about thirteen inches long,) where it pierces the cross-piece D. This serves to keep the apex or point of the fluke firmly fixed, and immediately under the center of the cross-piece D and equidistant from the two sled-runners A and B. By means of the eyes and screws in the arms of the fluke already described as I and J (see Fig. 2) and this bolt K the fluke H can be depressed or elevated at pleasure. (See Fig. 2, letters I, J, and H.)

Operation of the machine: The ratoon of sugar-canes is the stubble or stubs left after cutting the cane off for grinding. They are

generally from six inches to a foot in height, and are very much in the way of the hoes. When they proceed in the spring of the year to scrape and cultivate the same, which is an exceedingly slow operation, the two knives cut off this ratoon perfectly even with the ground or just below the surface—say an inch or more, according as they are depressed or elevated in the manner already described, deep or shallow. The fluke H, following after the knives and throwing the dirt right and left, cleans all the dirt and rubbish thrown or cut up by the knives, and leaves the ridge or ratoon row not only perfectly even, but clear of grass, thus performing the important and double operation of cutting off the ratoon smooth and even with the ground and leaving it cultivated at the same time. The operation of the roller is for the purpose of a guide to the machine, as already stated. In the same manner the machine operates in scraping off and throwing the dirt from the plant-caues in the spring of the year, serving for the first working instead of the hoes; and the great utility and advantage of this machine consist in its being capable of performing the work of twenty-five hands or laborers. I also use, instead of the knife No. 3, four separate knives (see Nos. 4, 5, and 6) of the same width and thickness as knife No. 3, placed opposite each other and meeting in the center of the machine, as shown at Fig. 7. The knives are attached to the sled-runners in the same manner as knife No. 3. (See Fig. 7.) The shape of these knives is that of a broadsword or semicircle, the edge curving rapidly back to a point. One knife, being a little longer than the other, is made to pass the center a little and an inch or two in the rear of the opposite knife, as shown at Fig. 7.

What I claim is—

1. The manner in which I construct my ratoon-cutter and plant-cane scraper, as above described and specified—that is to say, I claim attaching to the bottom of the two sled-runners A and B (see Fig. 2) the curved knives F and G (see Fig. 2) in the manner substantially set forth above, and in combination therewith I claim the fluke H (see Fig. 2) for cleaning off the trash and dirt, constructed and arranged substantially as set forth above in the foregoing description.

2. The combination of the roller E (see Fig. 2) with the above arrangement of knives, said roller being arranged in the manner and for the purpose set forth in the above specification and description.

N. LAUVE.

Witnesses:

WM. B. ROBERTSON,
A. LECLERC.