(No Model.)

A. NEUTASCHER.

COMBINED PULVERIZER, CULTIVATOR, AND ROAD SCRAPER.

No. 350,762. Patented Oct. 12, 1886.

Fig. 1.

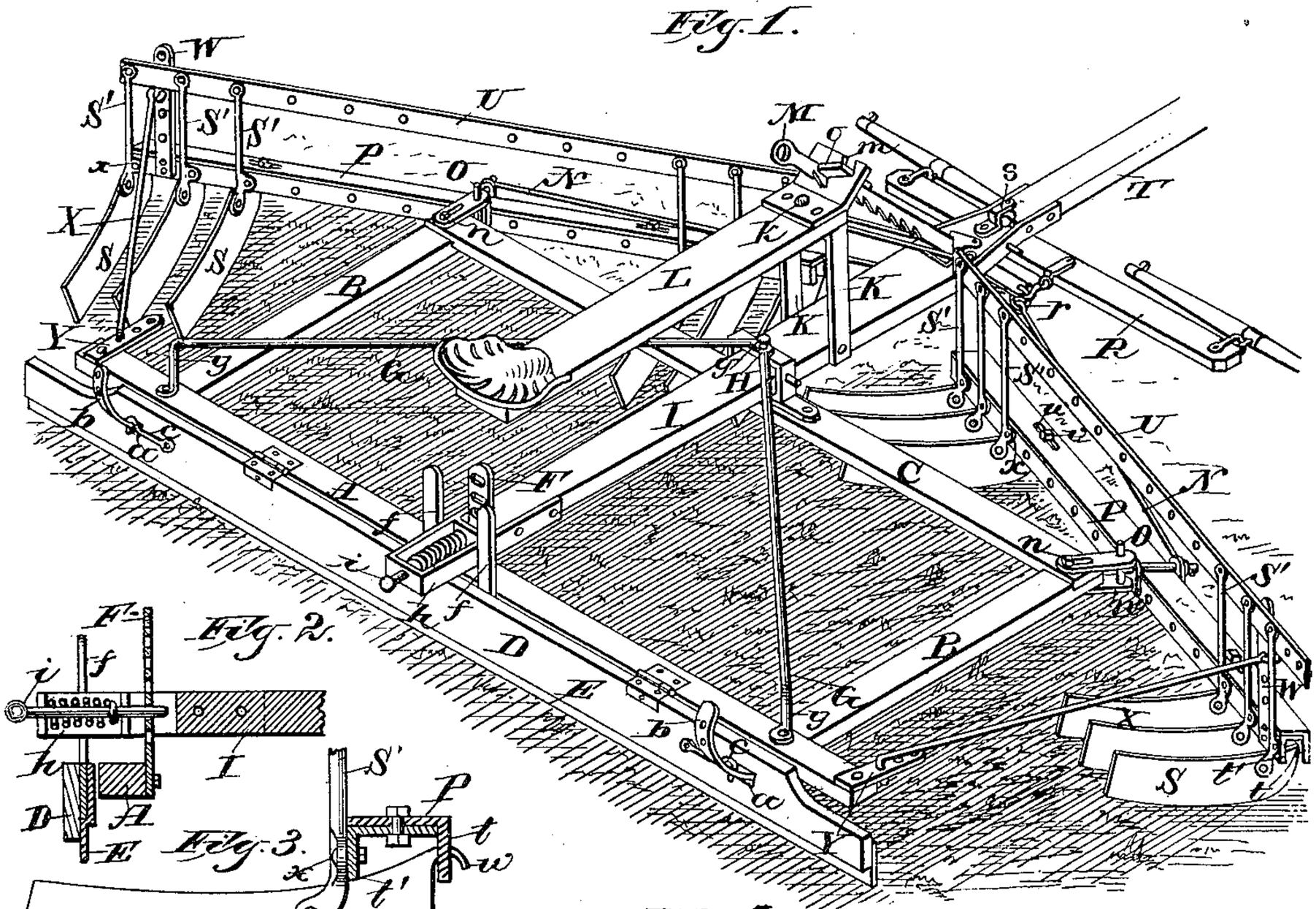


Fig. 2.

Fig. 3.

Fig. 4.

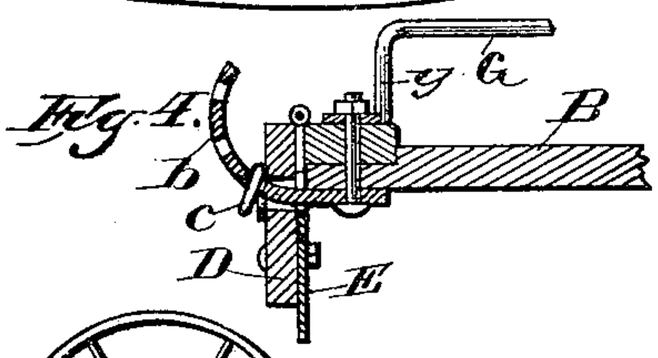


Fig. 5.

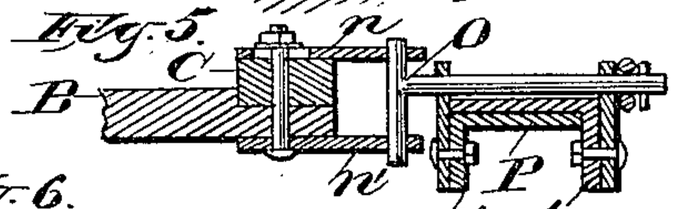


Fig. 6.

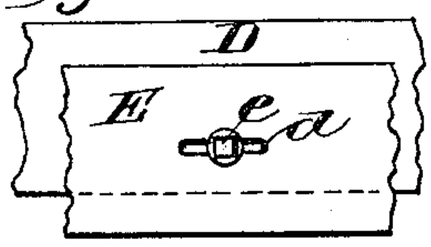


Fig. 7.

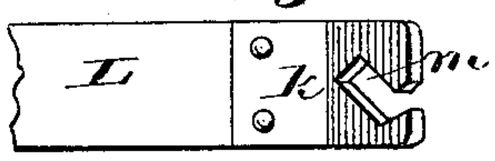


Fig. 8.

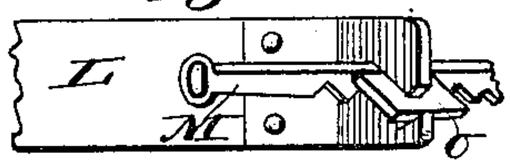


Fig. 10.

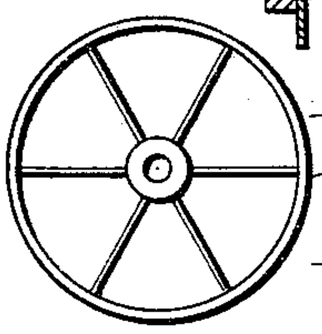
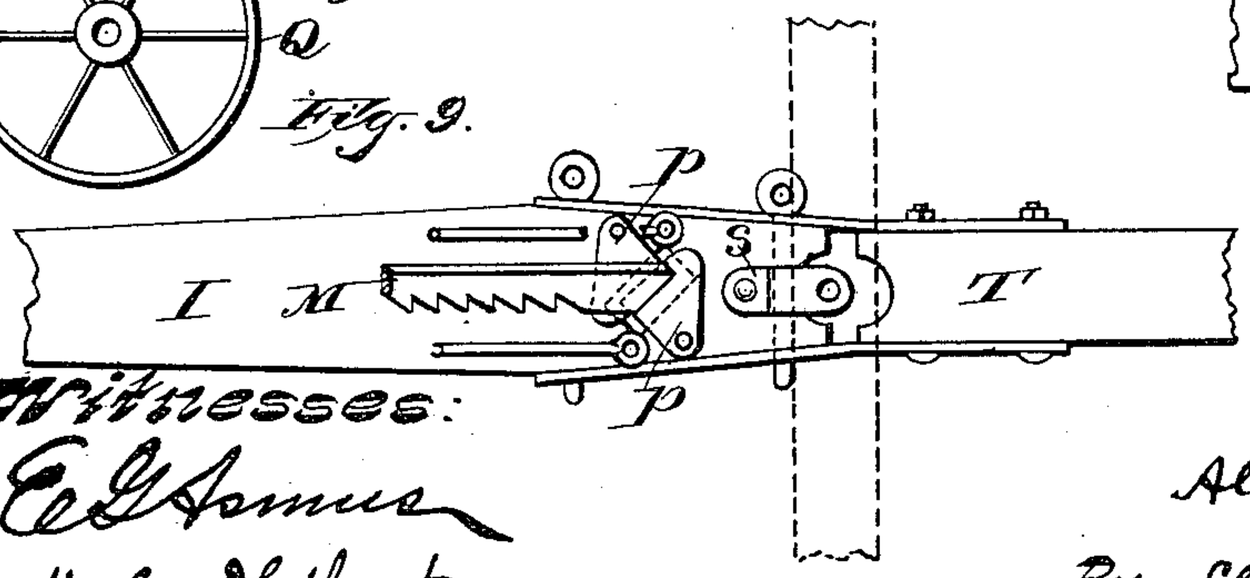


Fig. 9.



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UNITED STATES PATENT OFFICE.

ALLISE NEUTASCHER, OF MENDOTA, ILLINOIS.

COMBINED PULVERIZER, CULTIVATOR, AND ROAD-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 350,762, dated October 12, 1886.

Application filed April 2, 1886. Serial No. 197,497. (No model.)

To all whom it may concern:

Be it known that I, ALLISE NEUTASCHER, of Mendota, in the county of La Salle, and in the State of Illinois, have invented certain new and useful Improvements in Combined Pulverizer, Cultivator, and Road-Scraper; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to a combined pulverizer, cultivator, and road-scraper; and it consists in certain peculiarities of construction, as will be fully described hereinafter with reference to the accompanying drawings, in which—

Figure 1 represents a perspective view of my device in the form of a pulverizer and cultivator; and Figs. 2 to 10, inclusive, detail views of various parts of my device.

Referring by letter to the drawings, A represents a rear cross-piece, B B side bars, and C a front cross-piece, said parts being suitably united to form the frame of my device. Hinged to the rear cross-piece, A, is a smoothing board or scraper, D, provided with suitable openings, *a*, through which pass upwardly-curved plates *b*, secured to the side bars, B B, each of these plates having a series of perforations adapted to be engaged by hooks *c*, pivotally connected to said smoothing-board, thus permitting the latter to be variously adjusted from a vertical toward a horizontal position, as may be found necessary or desirable.

To the front side of the smoothing board or scraper D is attached a plate, E, preferably of metal, having slots *d*, through which pass the securing-bolts *e*, thus permitting this plate to have a vibratory movement when the device is in operation, to prevent dirt sticking to the part D, said movement being caused by the uneven draft of the team, and is limited by stops *f*, that are designed to come against the rear cross-piece, A.

At the meeting-points of the rear cross-piece, A, and side bars, B B, I secure the ends of an Λ-shaped brace-piece, G, having its apex connected to a sleeve, H, that is pivotally connected to the front cross-piece, C. This sleeve embraces a short tongue, I, a pin, *g*, forming a pivotal connection for said parts. The rear end of the short tongue I has secured thereto a housing, *h*, for a spring-bolt, *i*, the latter being designed to engage the perforations in a vertical standard, F, so as to vary the adjustment of said tongue when the device is employed as a cultivator or pulverizer.

Near the forward end of the short tongue I is secured a suitably-braced vertical standard, K, to which is pivotally connected a seat-board, L, that has fastened thereto a plate, *k*, provided with an open slot, *m*, in the form of an obtuse angle. This plate forms a latch for a rack-lever, M, that extends up through the short tongue I, and has its lower end united to rods N, extending therefrom, and connecting at their other ends with elbows O, that are pivotally operative in adjustable socket-plates *n* *n'*, bolted, respectively, to the side bars, B, and front cross-piece, C, at their points of juncture, the horizontal portions of said elbows serving as hangers for sectional knife-bars P when the machine is employed as a cultivator or pulverizer, and as axles for wheels Q when used as a road-scraper.

If desirable, I may employ a wedge-block, *o*, to aid in retaining the rack-lever M in the position to which it may be adjusted, and to relieve the latch-plate from the strain on this lever, caused by the draft of the machine, I pivotally connect to the short tongue suitable wedge-plates, *p*, that automatically adjust themselves to accomplish the desired result just specified.

The rack-lever M is employed to regulate the double-tree R, that is connected to a ring, *r*, at the lower end of said lever, and thus the draft thereon will regulate the depth of cut by the knives S, secured to the sectional bars P, when the operator rides, and the same effect can be had when the horses are hitched to a clevis, *s*, at the extreme front end of the short tongue I, and the operator walks.

If desired, a pole, T, may be connected to the front end of the tongue I when the machine is in use as a cultivator or pulverizer, and such a pole is always employed when the machine is converted to a scraper.

The two sections that compose each of the knife-bars P overlap one another, and are respectively provided with a depending vertical flange, *t t'*, as shown by Fig. 3. The top sections of the knife-bars are provided with slots *u*, so as to be horizontally adjustable on bolts *v*, passed up through the bottom sections,

thereby forming a means for adjusting the front ends of the knives S, that are provided with hooks *w*, that engage the perforations in the depending flange *t* of said top section. The knives S are severally provided with arms S′, that have their upper ends pivotally connected to a horizontal bar, U, and these arms have lugs *x* bolted to the perforated flange *t* of the lower knife-bar section. The lower section of each knife-bar has a perforated upright, W, secured to its outer end, and angular stay-rods X serve to adjustably unite said uprights with perforated plates Y, rigidly connected to the outer ends of the rear cross-piece, A.

By the construction and arrangement of parts just described the knives can be readily adjusted as to inclination and depth of cut. The sections composing the knife-bars P and the horizontal bar U being severally provided with a series of perforations, the knives S can be readily adjusted to vary the width of space therebetween.

To convert the pulverizer or cultivator to a scraper, the knife-bars P are removed and the elbows O swung around to be in line with the length of the front cross-piece, C. Wheels Q are now placed on the horizontal portions of the elbows, the front ends of the stay-rods X placed thereon just back of the linchpins, to hold said elbows stationary in the position to which they have been adjusted. The machine is now complete as a scraper for cleaning out ditches or other work in line with the draft.

To convert the machine to a road-scraper the elbows O are swung around so as to be in line with the length of the side bars, B, or at right angles to the position they were in when operating said machine for scraping in the line of draft. The stay-rods X are unhooked from the plates Y and carried round to engage eyes projecting from the front cross-piece, C, beneath the tongue I, thus acting to retain said elbows in this new position. The pole T and tongue I are now swung around in either direction until said tongue comes against a vertical part, *y*, of the ∧-shaped brace G, thus placing the smoothing-board (or "scraper" proper, as it may now be termed) at an angle to the line of draft.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the main frame, of a vertical standard centrally secured to the rear of said frame, and having a series of perforations, a tongue pivotally connected to the front of the frame and transversely extended across the latter, and a suitable bolt operatively secured to the rear end of the tongue to engage the perforations in the standard, according to the adjustment of said tongue, as set forth.

2. The combination, with the main frame, of a vertical standard centrally secured to the rear of said frame and having a series of perforations, a tongue pivotally connected to the front of the frame and transversely extended across the latter, a housing secured to the rear end of said tongue, and a spring-bolt operative in the housing to engage the perforations in the standard, as set forth.

3. The combination, with the main frame, of a tongue adjustable thereon, a scraper secured to the rear of said frame, and a clearing-plate loosely connected to said scraper, as set forth.

4. The smoothing board or scraper hinged to the rear cross-piece of the main frame and provided with a vibratory clearing-plate, in combination with perforated curved plates secured to the side bars of said main frame and passed through openings in the smoothing-board and clearing-plate, suitable hooks or stops pivotally connected to said smoothing-board and adapted to engage the perforations in the curved plates, and a short tongue pivoted to the front cross-piece of the main frame, as set forth.

5. The main frame consisting of front and rear cross-pieces united by side bars, an adjustable smoothing-board hinged to the rear cross-piece and provided with a vibratory clearing-plate, and a short tongue pivoted to the front cross-piece, in combination with a pivotal seat-board supported by a standard secured to said tongue near its front end, as set forth.

6. The short tongue pivoted to the front cross-piece of the main frame, and a seat-board elevated above said tongue and provided at its forward end with a slotted plate, in combination with a rack-lever extended through the tongue and connected at its lower end with suitable rods, that are in turn connected to elbows pivotally operative in suitable socket-plates secured to the main frame at the meeting-points of the side bars and front cross-piece, and the knife-bars, also connected to the elbows, as set forth.

7. The short tongue I, elevated seat-board L, having the plate *k*, provided with angular slot *m*, and the knife-bars P, having elbow-connection with the main frame, in combination with the rack-lever M, rods N, and wedge-shaped plates *p p*, pivotally connected to the forward end of the tongue, as set forth.

8. The knife-bars P, each consisting of two overlapping flanged sections, the top section laterally adjustable on the lower one, and having its flange *t* formed with a series of perforations, and said lower bar provided with a perforated vertical upright, in combination with the knives S, having hook-shaped forward ends, *w*, and arms S′, provided with lugs *x*, adapted to be bolted to the perforated flange *t′* of said lower knife-bar section, and a horizontal perforated bar pivotally connected to the several knife-arms, as set forth.

9. The knife-bars P, consisting of two overlapping flanged sections, the lower sections provided with perforated uprights W, in combination with the angular rods X, pivotal plates Y, and elbows O, pivotally connected to the main frame, as set forth.

10. The combination, with the main frame, of the adjustable socket-plates *n n'*, bolted thereto, the elbows O, having their vertical portions pivotally operative in said socket-plates and their horizontal portions designed as hangers or axles, and the angular stay-rods X, as set forth.

11. The combination, with the frame, of the pivotally-connected short tongue I, elbows O, smoothing board or scraper D, and the detachably-connected pole T, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Mendota, in the county of La Salle and State of Illinois, in the presence of two witnesses.

ALLISE NEUTASCHER.

Witnesses:
LUCIEN B. CROOKER,
GEO. B. EDWARDS.