J. A. BOTKIN.

SCRAPERS FOR EXCAVATING EARTH.

No. 193,635. Patented July 31, 1877.

Fig. 1.

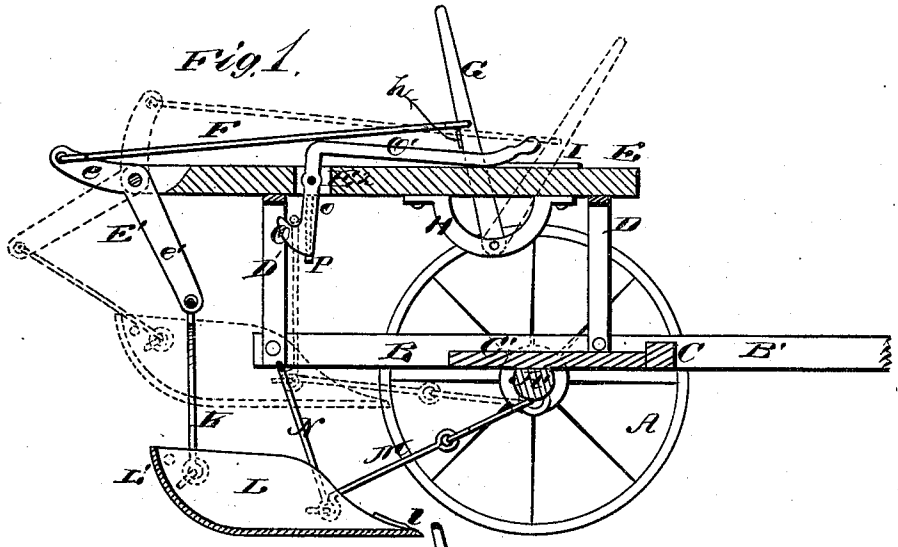


Fig. 2.

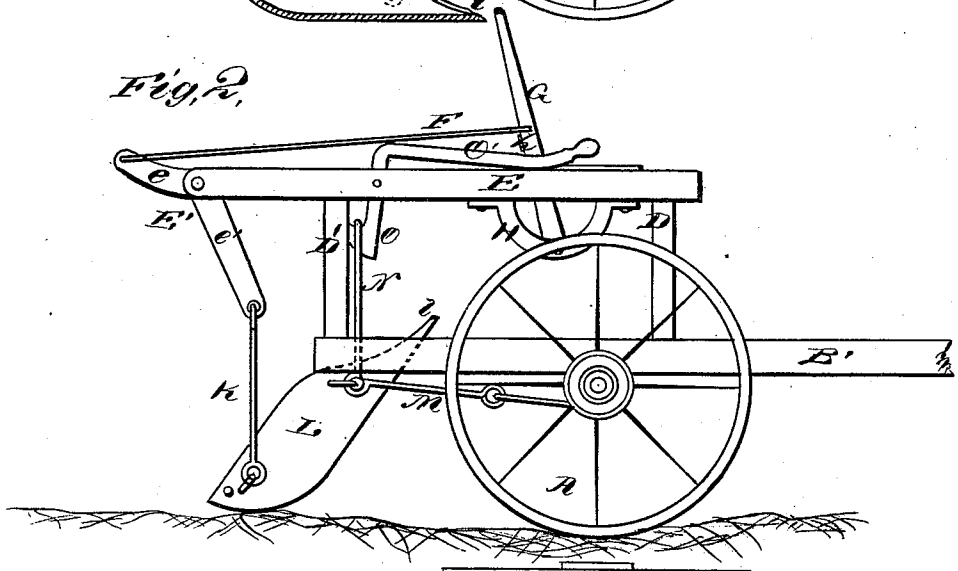
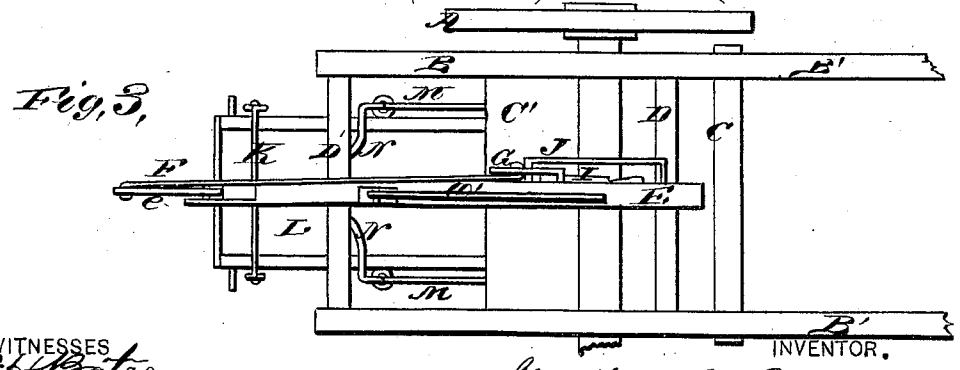


Fig. 3.



WITNESSES

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JONATHAN A. BOTKIN, OF FARMLAND, INDIANA.

IMPROVEMENT IN SCRAPERS FOR EXCAVATING EARTH.

Specification forming part of Letters Patent No. **193,635**, dated July 31, 1877; application filed January 13, 1877.

To all whom it may concern:

Be it known that I, JONATHAN A. BOTKIN, of Farmland, in the county of Randolph and State of Indiana, have invented a new and valuable Improvement in Scoops; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central vertical section of my scoop, and Fig. 2 is a side elevation of the same. Fig. 3 is a plan view thereof.

This invention relates to scoops for removing and dumping earth and other substances of similar consistency.

It consists in certain devices for raising said scoop out of contact with the ground, and holding it in such elevated position.

It also consists in the combination of a pivoted bail and catch, for supporting the front end of said scoop, with certain devices for depressing the rear end thereof, in order to dump the same; and, finally, it consists in various auxiliary devices hereinafter particularly described.

In the accompanying drawings, A designates the transporting-wheels of my scoop, and A′ the axle connecting the same. B designates the two side bars of the frame or body, which are extended to form shafts or thills B′ B′. The remainder of said frame or body consists of a cross-bar, C, and platform C′, which parts, as well as side bars B B, are supported by axle A′. To said side bars are rigidly secured two upright arched supports, D D′, the former of which is arranged somewhat in advance of axle A′, and the latter at the rear end of side bars B B. Said arched supports uphold a longitudinal beam, E, which extends backward beyond the rear ends of side bars B B. In the cleft rear end of said elevated beam E is pivoted the angle of an elbow-lever, E^1, the upper arm *e* of which is connected by a rod, F, to a hand-lever, G, that is pivoted at its lower end to a curved plate or bracket, H, secured to the under side of said elevated beam near the front thereof. Said hand-lever is provided with an inwardly-extending locking-flange, *h*, (shown in Figs. 1 and 2,) which flange is adapted to engage with a notched plate or rack, I. (Shown in Fig. 3.) Said lever G is also guided and braced by a guide-rod or long staple, J. Said parts I and J are fixed to the same side of said elevated beam E. When said hand-lever G is vibrated forward it operates to throw upward the long lower limb *e′* of elbow-lever E^1, which is loosely connected by a bail, K, to the rear end of a scoop, L. Said scoop is provided with a sharp front edge, *l*, and is connected near its front by toggle-links M M to the under side of axle A′. At the point of attachment of the said links to the said scoop the latter is provided with a pivoted front bail, N. Said bail, when raised to an upright position, is adapted to engage with a hanging catch, O, which is provided with a vertical shank, *o*, from the upper end of which a long handle, O′, extends forward parallel to beam E. Said parts O *o* O′, taken together, constitute a rigid elbow-lever of unequal arms, having a catch at the end of the short arm, and a handle at the end of the long one, and pivoted in a longitudinal slot, E^2, of said beam. P designates a fixed stop-pin, secured to the under side of elevated beam E. Its office is to prevent bail N from being thrown forward too far.

By raising the free end of handle O′, catch O releases front bail N. If hand-lever G is then vibrated backward, the said scoop will assume the position shown in full lines in Fig. 1, and will be in readiness for operating upon the soil. When the said scoop has taken up its load of earth said lever G is vibrated forward, so as to raise said scoop and its load into the position indicated by dotted lines in Fig. 1, and is secured there by devices *h* I; and to make the same more secure, the front bail N is raised so as to set over catch O. Said scoop and its load are then transported to the place for dumping. Hand-lever G is then vibrated backward, allowing the rear of said scoop to tip downward, as shown in Fig. 2, for the purpose of depositing the load. When empty, the said scoop may be raised into the position shown by dotted lines, Fig. 1, in order to avoid obstacles in its transportation.

Said scoop L is provided with a flat bottom and an inclined rear part, L′, to facilitate the dumping operation above described.

It may be used for grading streets or roads, hauling earth, or operating upon any substance which can be scooped up, transported, and dumped.

Various modifications may be made in the devices hereinbefore described, and especially catch O may be varied in form, or any equivalent fastening may be substituted therefor.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of pivoted catch O, having handle O′, with bail N and scoop L, substantially as set forth.

2. The combination of elbow-lever E^1, rod F, straight lever G, bail K, scoop L, and toggle-links M M, substantially as set forth.

3. The combination of bail N with stop-pin P, on the under side of beam E, substantially as set forth.

4. The combination of elbow-lever E^1, rod F, straight lever G, bail K, and scoop L with devices retaining the front part of said scoop in an elevated postion, while the rear part is dumped by said levers, rod, and bail, substantially as set forth.

5. In a scoop or scraper, constructed as herein described, the combination of the vehicle-frame with arched supports D D′, elevated beam E, longitudinally slotted at E^2, cleft at its rear end, and provided near its front end with rack I, and staple or guide-rod J, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JONATHAN A. BOTKIN.

Witnesses:
T. J. HELM,
D. T. HARRIS.