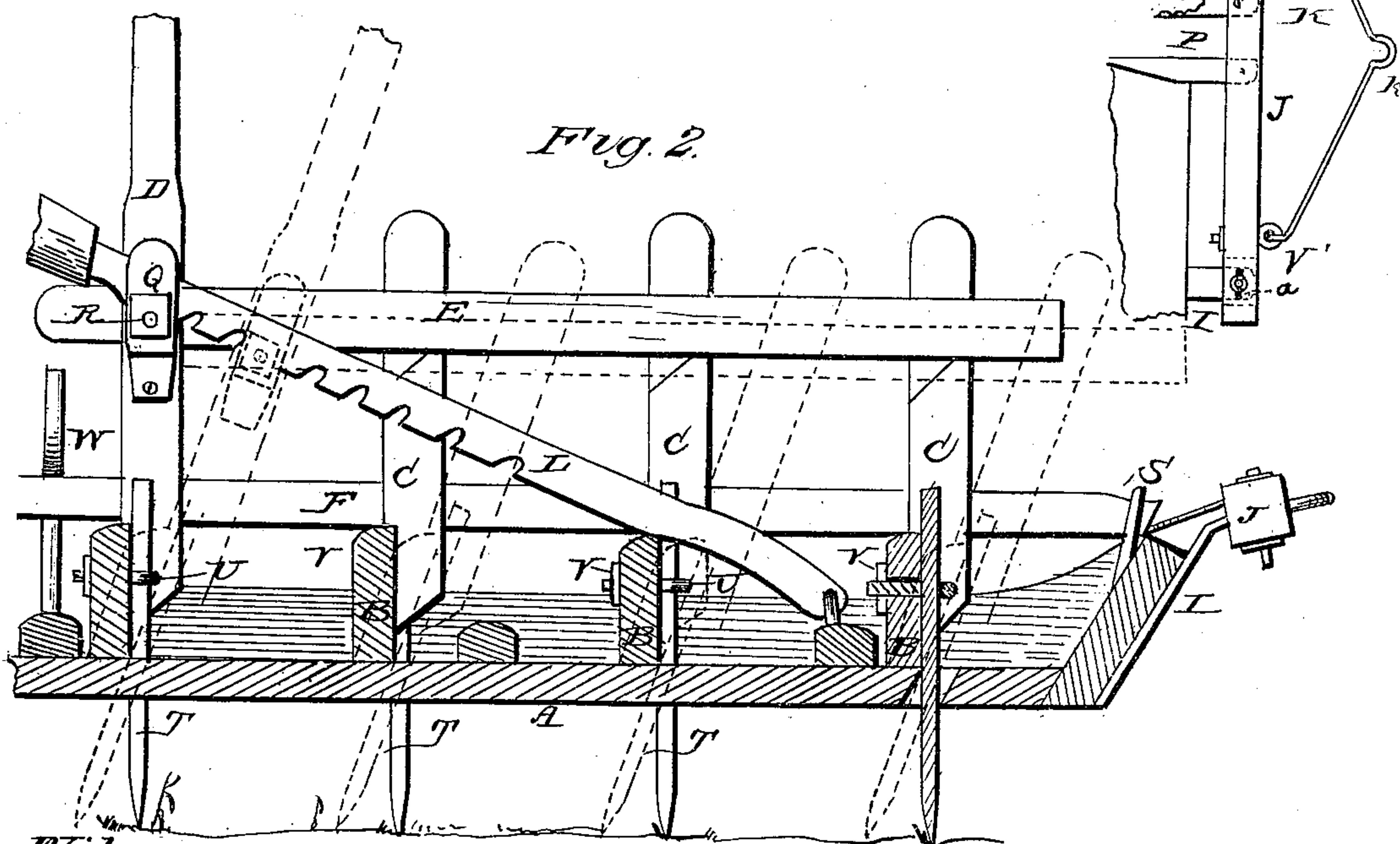
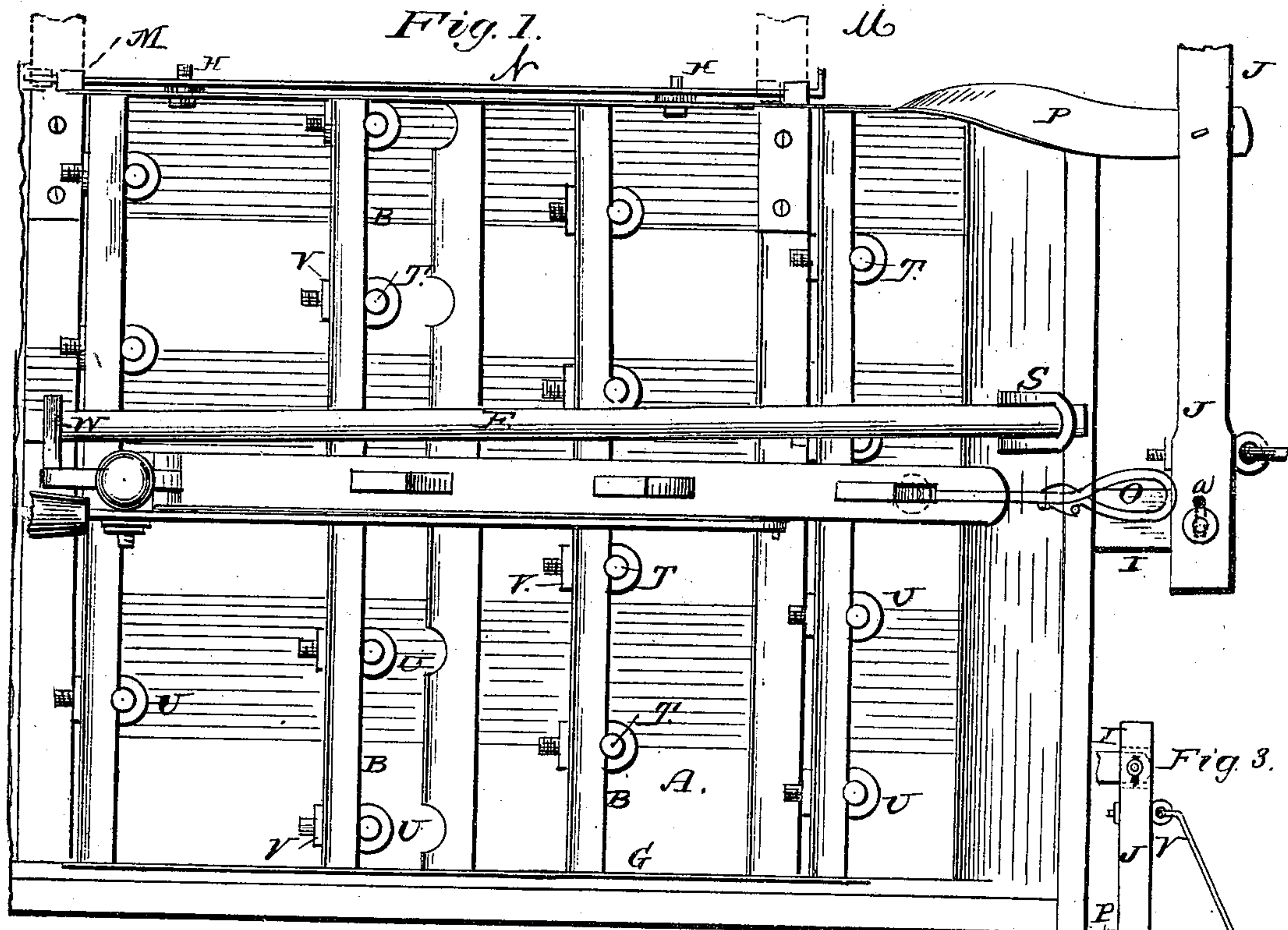


C. MORRIS & M. S. HEACOCK.
Platform Harrow.

No. 231,080.

Patented Aug. 10, 1880.



Witnesses
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UNITED STATES PATENT OFFICE.

CHRISTOPHER MORRIS, OF HENRY COUNTY, AND MILES S. HEACOCK, OF WAYNE COUNTY, INDIANA.

PLATFORM-HARROW.

SPECIFICATION forming part of Letters Patent No. 231,080, dated August 10, 1880.

Application filed February 2, 1880.

To all whom it may concern:

Be it known that we, CHRISTOPHER MORRIS, of Henry county, Indiana, and MILES S. HEACOCK, of Wayne county, Indiana, have
5 invented certain new and useful Improvements in Platform-Harrows; and we do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings.

10 Our invention consists of a novel construction of flexible harrow and double platform or clod-crusher, arranged to be operated together or separated, when desired, all of which will be fully understood by the following description and claims.

15 In the accompanying drawings, Figure 1 is a top view of the right-hand section of our machine. Fig. 2 is a longitudinal section of the same, showing the motion of the teeth in dotted lines; and Fig. 3 shows the adjustable spreader-bar and its connections.

20 In the construction of our machine we make two platforms or drags, A, and connect the same together by hinges M and rod or wire N, Fig. 1. By this means the machine is flexible, and the two sections of the platform or drag adapt themselves to the uneven ground, whether a ridge or a hollow, as the case may be.

30 Upon the platform A, or on each section thereof, is a series of teeth-bars, B, pivoted at their ends to the side bars, G, which connect the whole series together. The teeth T are fastened to these bars B by means of eyebolts U, which are provided with screw-nuts V,
35 which devices afford a very simple, cheap, and efficient means of holding the teeth in place, as the eyebolts may be easily tightened in dry weather, if the teeth become loose; and
40 the teeth may also be quickly removed for sharpening, or if they be bent or broken. Also, the teeth can be turned one-quarter round three times, and have a sharp cutting-edge, without smithing.

45 The teeth-bars B have knees O attached thereto, except the rear bar, which is provided with an upright lever, D, for the purpose (in connection with the reach E) of vibrating the teeth at pleasure. A ratchet-bar, L, locks this
50 lever D, which drops into loop Q and catches

on a bolt, R, therein, and a strong binder, F, rests upon the teeth-bars, and is locked in place by means of a staple, S, and crank-hook W. By this means the teeth-bars are pressed
55 hard upon the platform, and held as if permanently fixed thereto; and yet they can be released in a moment, when necessary.

The two sections of the harrow may be removed from the sectional platform, and in that case they are attached together by means of
60 two friction bolts, H, provided with nuts and washers. The two sections of the platform have central draft-bars, I, which are bolted to the ends of the spreader-bar J, as seen in Figs. 1 and 3, and the inner edges of the harrow have twisted draft-bars P, also attached
65 to the spreader-bar near its center. By this arrangement the two sections retain some flexibility, and yet are held to their work and prevented from cramping together.

70 The hitch-bail K, Fig. 3, is hooked into the eyebolt V', and its opposite end hooks into a corresponding eyebolt on the opposite half of the machine, while the team or draft is attached to the middle of the bail or point k.

75 When the harrow is removed from the platform the twisted link O serves for attaching the draft to the forward knee of the harrow.

The harrow and clod-crusher may be separated, and thus employed, which is sometimes
80 very desirable, and a valuable improvement.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. In a combined harrow and clod-crusher
85 in which the harrow-teeth are arranged to swing backward and forward, the double or folding harrow, in combination with the double or folding clod-crusher, arranged to be operated substantially as set forth.

2. In a folding or double harrow and platform, the rocking teeth-bars B, provided with the series of knees C, connected with the reach E, and thus movable together by means of the lever D, the same being locked in place by
90 means of the ratchet-lever L, in combination with the binder F, resting on the teeth-bars B, and the crank-hook W, all arranged to operate substantially as set forth.

3. In a sectional platform-harrow, the spread- 100

er-bar J, the ends thereof being loosely bolted
to the rigid draft-bars I of the two sections of
the platform, and the inner edges of the two
sections of the harrow being provided with
5 pivoted draft-bars P, also connected with the
spreader-bar J, whereby the two sections of both
the platform and the harrow are made to re-
tain some flexibility, and yet are held to their
work and prevented from cramping together,
10 substantially as and for the purposes set forth.

The above specification of said invention
signed and witnessed at Dublin, Indiana, this
26th day of January, A. D. 1880.

CHRISTOPHER MORRIS.
MILES S. HEACOCK.

Witnesses:

JOHN W. SCOTT,
IDA J. SCOTT.