

(No Model.)

2 Sheets—Sheet 1

W. A. MILES.
REVERSIBLE PLOW.

No. 593,328.

Patented Nov. 9, 1897.

Fig. 1.

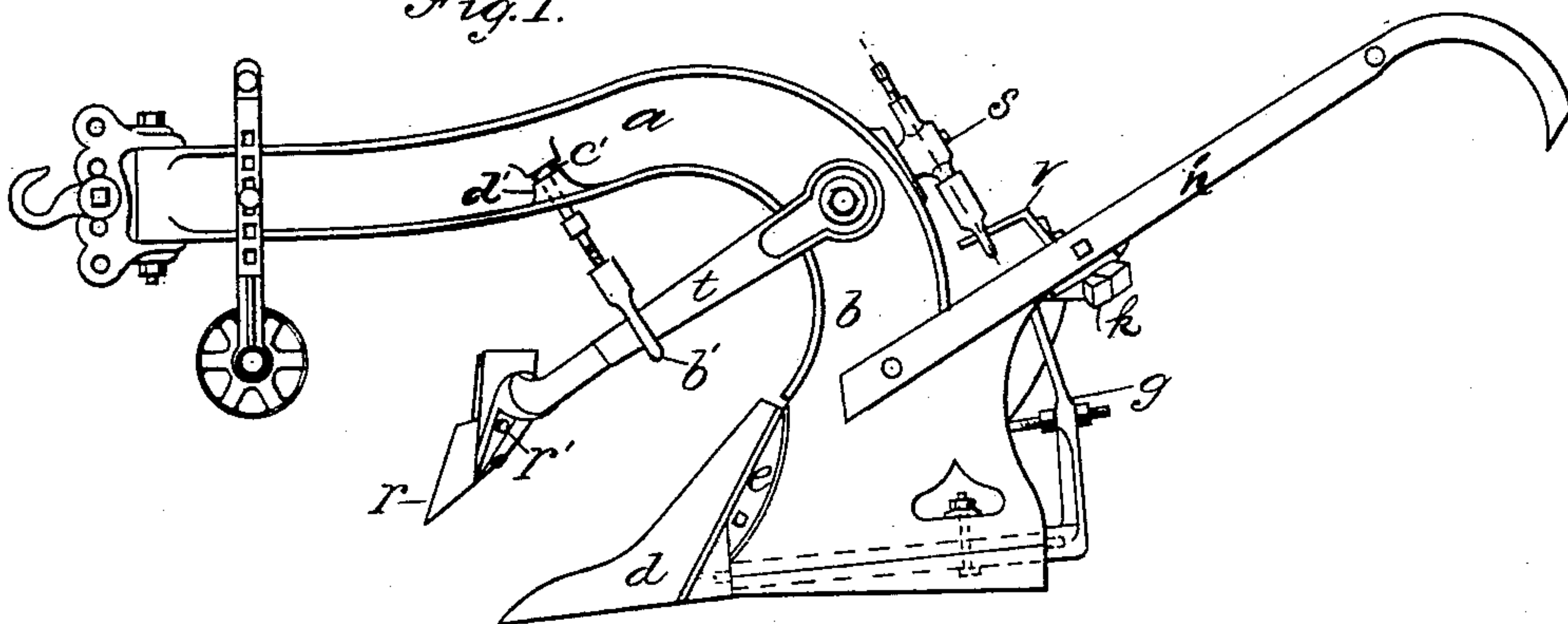


Fig. 2.

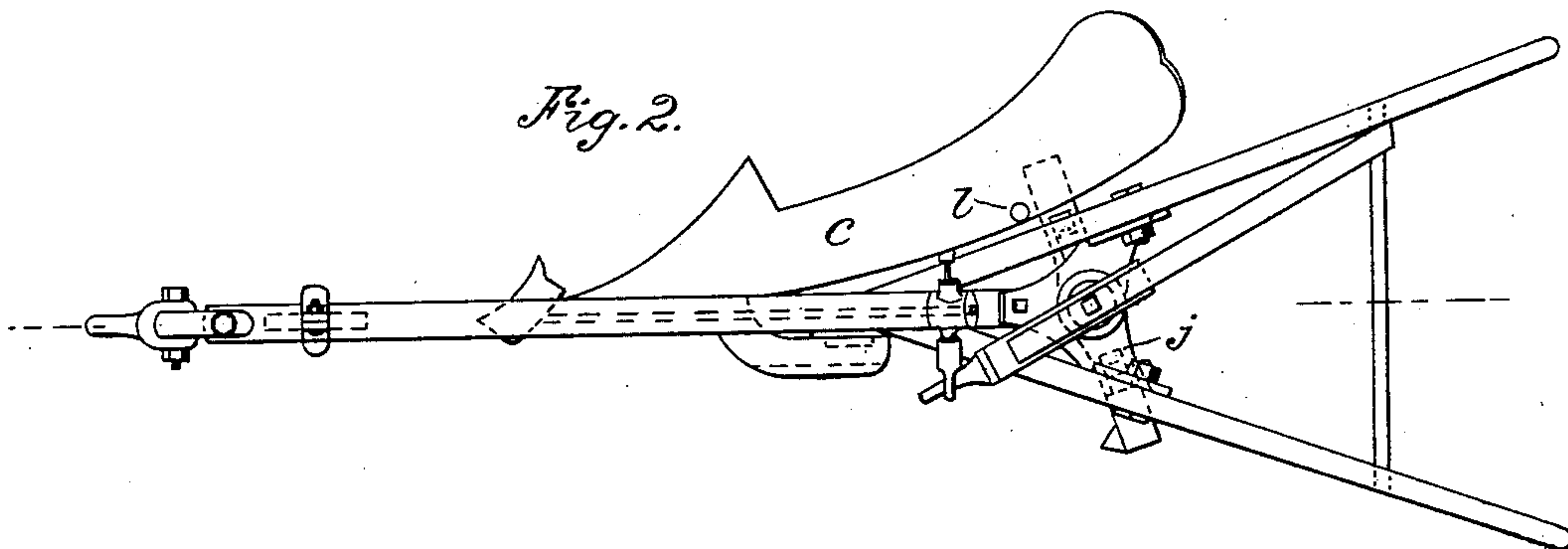
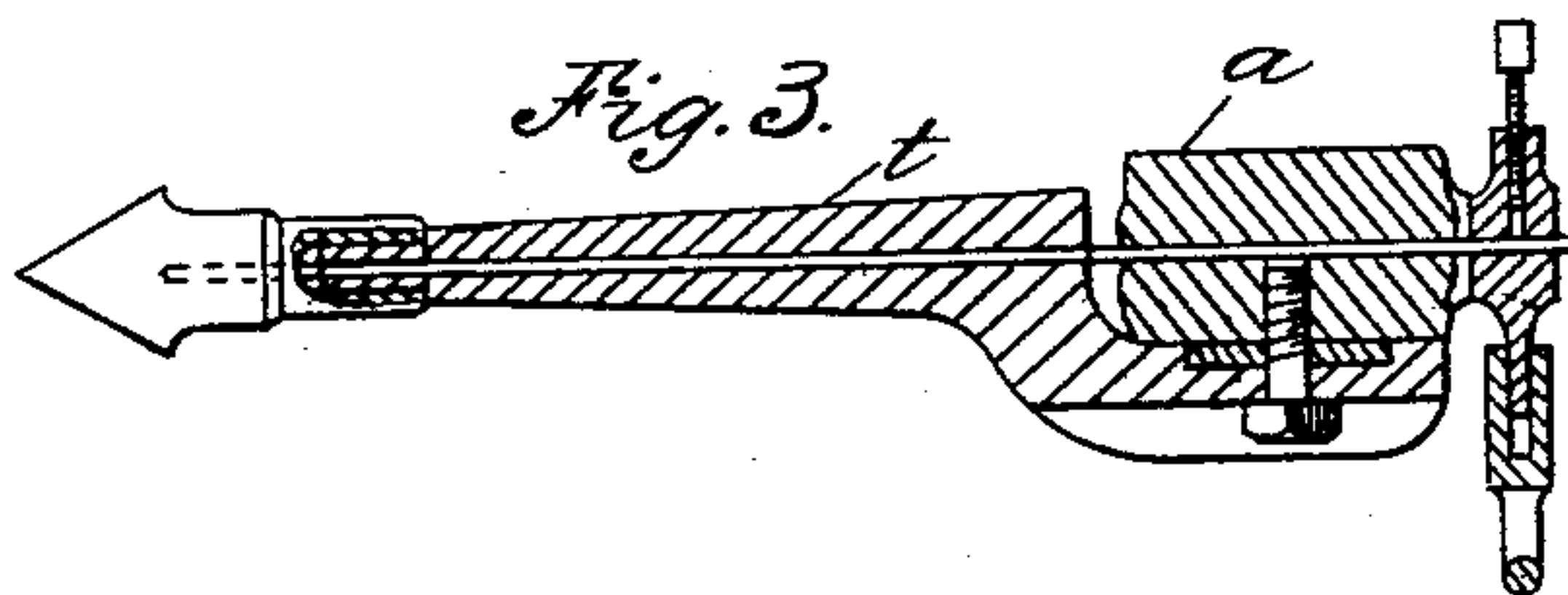


Fig. 3.



Witnesses

Andrew Ferguson
John P. Healy

Inventor

William A. Miles
By *W. E. Simons*
Attorney

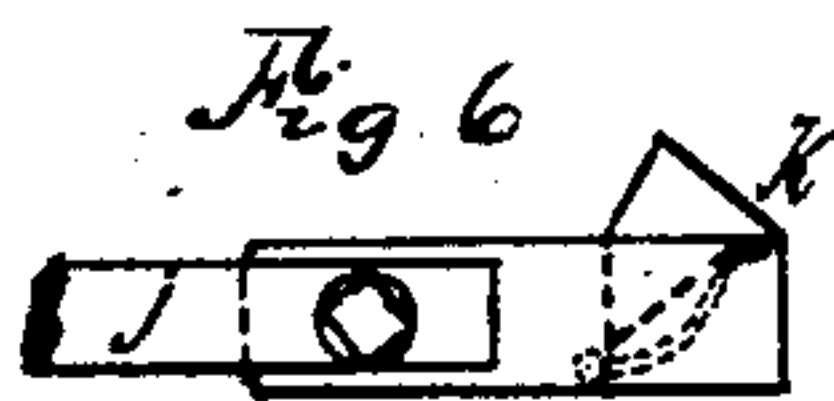
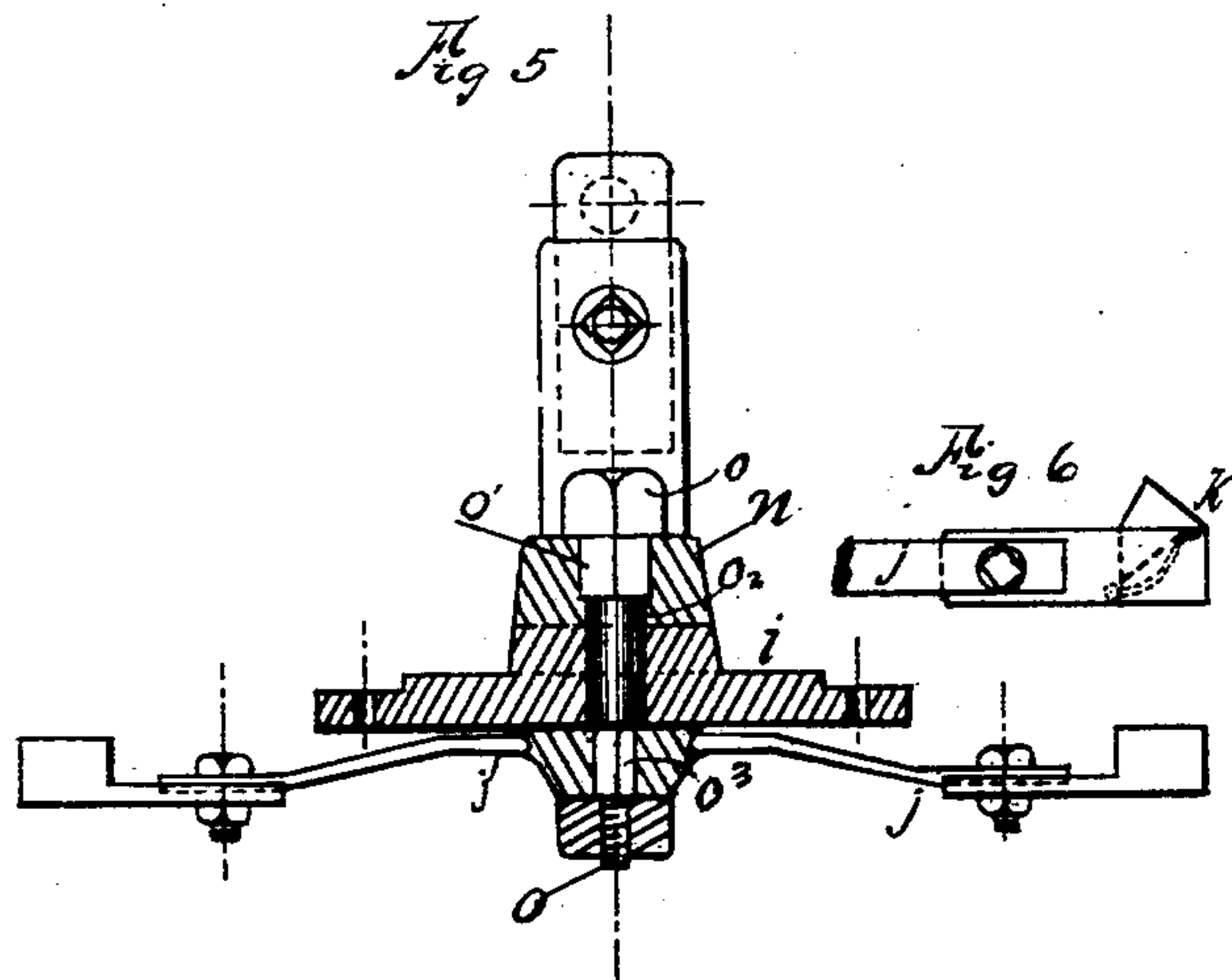
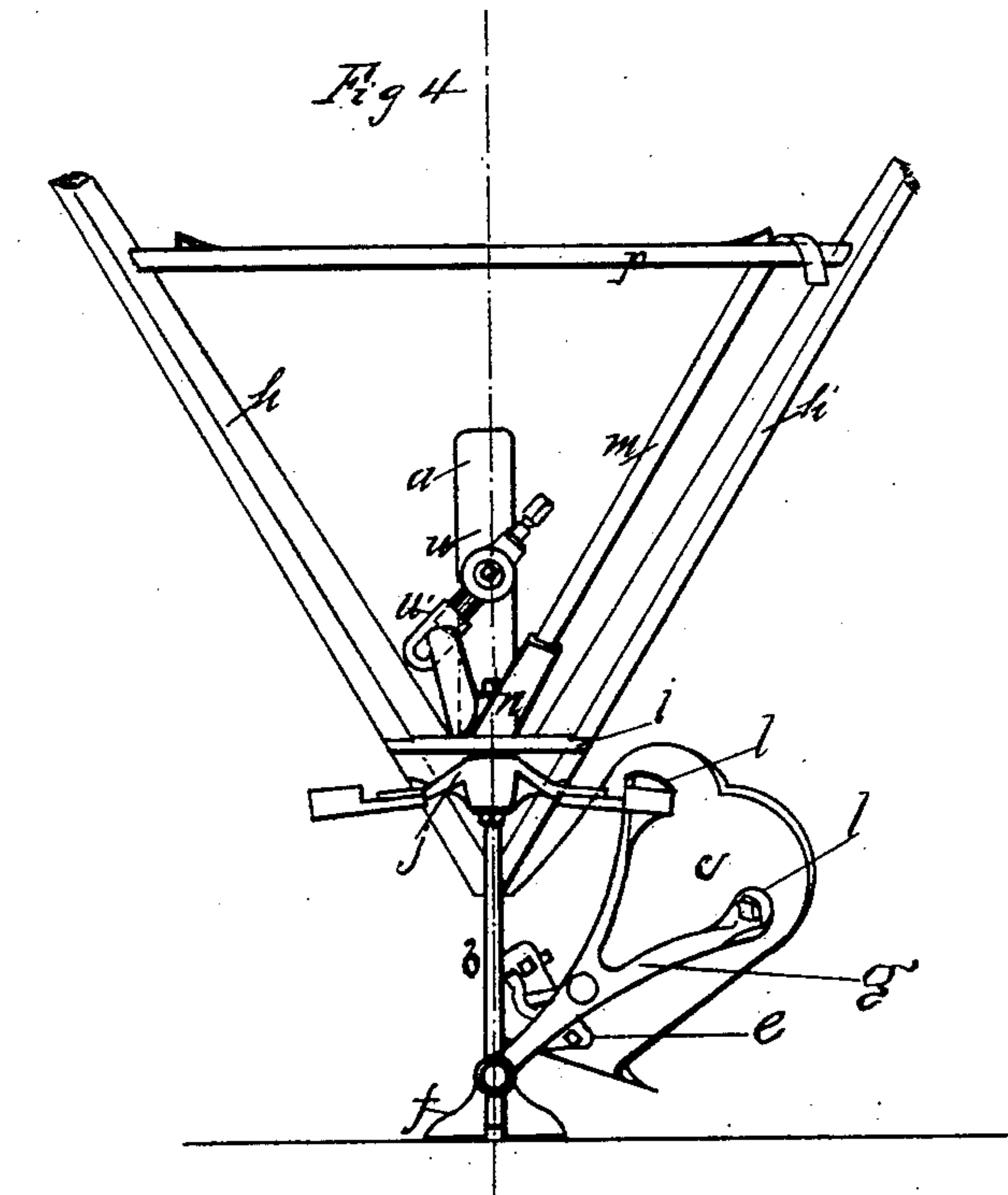
(No Model.)

2 Sheets—Sheet 2.

W. A. MILES.
REVERSIBLE PLOW.

No. 593,328.

Patented Nov. 9, 1897.



Witnesses
J. H. Thompson
Andrew Ferguson

Inventor
William A. Miles
By *W. E. Simonds*
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM A. MILES, OF POUGHKEEPSIE, NEW YORK.

REVERSIBLE PLOW.

SPECIFICATION forming part of Letters Patent No. 593,328, dated November 9, 1897.

Application filed February 19, 1895. Serial No. 539,033. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. MILES, a citizen of the United States of America, residing at Poughkeepsie, in the county of Dutchess and State of New York, have invented a certain new and useful Improvement in Reversible Plows, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is a side elevation view of a plow embodying said improvement with the moldboard swung to that side of the plow-beam which is opposite the observer. Fig. 2 is a top or plan view of the same. Fig. 3 is a detail view in section upon the plane denoted by the dotted line xx of the beam and jointer-standard. Fig. 4 is a rear elevation view of the plow adjusted as in Fig. 1. Fig. 5 is a detail view in section upon the plane denoted by the dotted line y , showing the peculiar bolt which connects the vibratory catch-bar with the hand-lever base. Fig. 6 is a detail top view of one end of the vibratory catch-bar.

The letter a denotes the plow-beam, and b the standard, both cast of iron in one piece. c denotes the moldboard, and d the share, held together by the joint-plate e .

The letter f denotes a shoe fast to the bottom of the standard b , with pivot-pins at each end, and on these pivot-pins the moldboard and share as one united structure are reversible from side to side of the plow-beam. The forward one of these pivot-pins enters a corresponding journal-socket in the joint-plate. The rearward one of these pivot-pins enters a corresponding journal in the lower end of the vibratory brace-bar g , the upper end of which is bifurcated and suitably attached to the rear side of the moldboard.

The letters h h' denote two wooden handles of the plow, which are bolted at the lower end to and through the beam.

The letter i denotes a cast-iron support-piece which is bolted to a rear projection from the standard, also to the under side of the wooden handles. On the under side of the support-piece there is hung a vibratory catch-bar j , equipped at the ends with the latches or cams k , which are constantly pressed forward by springs. (Shown in dotted lines in Fig. 6.) These latches cooperate alternately with the stops l on the rear of the moldboard

for the purpose of holding such moldboard in its alternate proper adjustments first one side of the beam and then the other. The spring just referred to permits the stop to brush past the latches when it is coming up to lock into place, but that being done the latch prevents the stop from escaping, thus holding the moldboard and share meanwhile in positive adjustment until the operator releases it by shifting the hand-lever m , which shifting of the hand-lever throws the opposite end of the vibratory catch-bar forward ready for the other stop to be locked into place when the moldboard is reversed to the opposite side of the beam.

The letter n denotes the hand-lever base, which is connected with the hub of the vibratory catch-bar and made to have rotary movement simultaneously therewith by means of the peculiar bolt whose construction and relation to the other parts are brought out in Fig. 5. This bolt o has a squared part o' inside the hand-lever base n , a round part o^2 inside the support-piece i , and a still smaller squared part o^3 inside the hub of the vibratory catch-bar j . The head of this bolt and the nut at the lower end thereof are apparent without special lettering. By means of this shape of the bolt o and its described relation to the parts which cooperate therewith the vibratory catch-bar j and the hand-lever base n must rotate together.

The hand-lever m is attached to the hand-lever base n at its lower end. Its upper end has back-and-forth play between the plow-handles, the upper wooden round p thereof being furnished with catches near each end of the hand-lever, which readily has spring action enough for that purpose. When the operator desires to reverse the moldboard and share from one side of the plow-beam to the other, he grasps the upper end of this hand-lever and moves it over against the opposite plow-handle, which has the effect of moving the vibratory catch-bar, with the result of releasing the moldboard, so that it can be reversed, and at the same time putting the opposite end of the vibratory catch-bar into position ready for catching and holding the moldboard when reversed.

The same motion which operates the vibratory catch-bar in the manner just described

reverses the jointer r by means I will now describe. The jointer r is fast, through the medium of the jointer-plate r' , to the jointer-shaft s , which is journaled in the jointer-standard t . The jointer-shaft passes through the beam, the hole therefor being large enough to permit a certain play of the jointer-shaft, soon to be referred to. At the upper side of the beam the jointer-shaft bears a crank-arm u , which takes upon it an eye-piece u' , the latter sliding back and forth on the former, both parts constituting what may well be called an "eye-pierced" crank-arm. A tappet v , attached to the hand-lever base, enters the eye in this eye-pierced crank-arm. The result of the whole arrangement is that whenever the vibratory catch-bar j is shifted the jointer r is correspondingly reversed. The tappet v is adjustably attached to the hand-lever base, so that its throw can be altered and the reversing movement of the jointer adjusted accordingly.

The forward end of the jointer-standard is adjustable up and down by reason of its being pivotally attached to the plow at its rear end. The pivot of this rotation is a screw w . This pivotal attachment is strengthened by the pivot-boss a' , fast on the plow-beam, setting into a corresponding socket on the inside of the jointer-standard. It is to permit the play of the jointer-shaft resulting from this arrangement that the hole for the jointer-

shaft through the beam needs to have the largeness hereinbefore referred to.

The jointer-standard has an adjustable support near its forward end which I will now describe. The letter b' denotes a collar around the jointer-standard. The letter c' denotes a nut seated in the beam. The letter d' denotes a rod with a right-hand thread screwing into the collar b' and a left-hand thread screwing into the nut c' . The whole acts as an adjustable support for the forward end of the jointer-standard, the adjustment being effected by rotating the screw-rod d' , it having an enlargement d^2 thereon for that purpose.

I claim as my improvement—

1. In combination the plow-beam a , the jointer rotarily adjustable within the standard and the standard t radially adjustable on the beam, substantially as described and shown.

2. In combination, the support-piece i , the hand-lever base n , the vibratory catch-bar j , and the bolt o , round where it traverses the support-piece, and squared each side thereof, all substantially as described and for the purposes set forth.

WILLIAM A. MILES.

Witnesses:

L. W. BOLIN,
JOHN F. DAVIS.