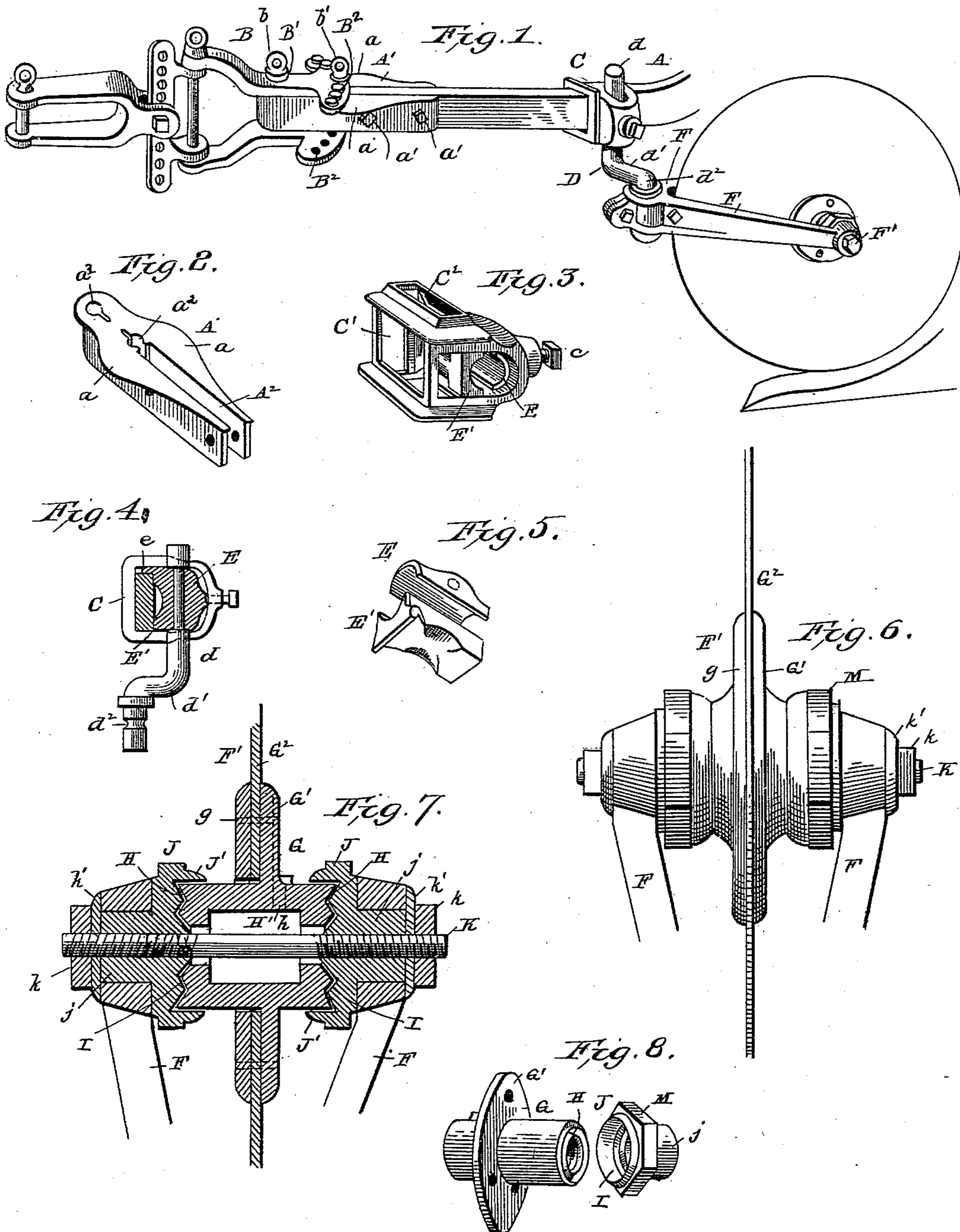


(No Model.)

H. H. SATER.  
PLOW.

No. 420,247.

Patented Jan. 28, 1890.



WITNESSES,

Edwin L. Yewell,

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# UNITED STATES PATENT OFFICE.

HANS H. SATER, OF DUBUQUE, IOWA.

## PLOW.

SPECIFICATION forming part of Letters Patent No. 420,247, dated January 28, 1890.

Application filed April 11, 1888. Serial No. 270,336. (No model.)

*To all whom it may concern:*

Be it known that I, HANS H. SATER, of Dubuque, in the county of Dubuque and State of Iowa, have invented certain new and useful Improvements in Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to plows, and more particularly to metal-beam plows and means for attaching a clevis and a colter to such a plow.

The object of my invention is to provide a simple, durable, and inexpensive means for attaching a clevis to an iron-beam plow.

A further object of my invention is to provide an improved device to secure a colter to a plow.

A still further object of my invention is to provide a colter of improved and novel construction.

The invention consists in the combination, with a plow-beam, of a bifurcated bracket secured to the forward end of said beam and provided with suitable bearings to support the clevis.

The invention further consists in the combination, with a plow-beam, of a frame having passages for the beam and colter-stem arranged at right angles.

The invention still further consists in providing a colter of improved and novel construction.

The invention still further consists in the details of construction and combination of parts hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of the forward end of a plow-beam with my improvements applied thereto. Fig. 2 represents the bracket mounted on the forward end of the beam. Fig. 3 shows a perspective view of the frame detached. Fig. 4 is a sectional view of the frame. Fig. 5 shows the clamping devices. Fig. 6 is a plan view of the colter. Fig. 7 is a sectional view taken on line  $x x$ , Fig. 6; and Fig. 8 is a perspective view of the hub detached.

Referring to the drawings, A represents a plow-beam. As my invention is intended to

provide means for attaching clevises and colters to metal-beam plows, I have so illustrated it; but it will be understood that I do not limit my invention to that use, as it may be used on plows of different construction with equal facility. To the forward end of the beam A a bifurcated bracket A' is secured. The bracket A' is preferably constructed of metal, and is bifurcated at its rear end, as shown at A<sup>2</sup>, the bifurcated portion extending some distance through the body of the bracket. The upper portion of the bracket A' is provided with laterally-extending flanges  $a a$ . The upper faces of said flanges are flush with the upper side of the bracket, and thus form a bearing for the clevis. The said bracket and beam are provided with suitable bolt-holes, through which pass bolts  $a' a'$ , which are secured, and thus rigidly secure the bracket to the forward end of said beam. The bracket A' is also provided with vertical bolt-holes  $a^2$  and  $a^3$ .

B represents a clevis of ordinary construction provided near its rear end with a perforation B' and a series of perforations B<sup>2</sup>. A pin  $b$  passes through the perforation B' and the bolt-hole  $a^2$ , thereby forming a pivot-connection between the clevis and the bracket. The clevis can be adjusted by removing a pin  $b'$ , which passes through one of the series of perforations B<sup>2</sup> and the bolt-hole  $a^3$ , turning the clevis until the desired adjustment is attained, and then replacing the pin  $b'$ .

From the foregoing description it will be seen that I provide a durable and inexpensive way of adjustably attaching a clevis to a metal-beam plow, thereby overcoming difficulties and inconveniences which have hitherto been experienced.

C represents a frame mounted on the beam A at a designated point and which is intended to support a colter.

It will be seen on reference to the drawings that the frame C is provided with a horizontal passage C' and a vertical passage C<sup>2</sup>. The interior of the frame C being hollow, the passages are connected with each other. On the side of the frame adjacent to the passage C<sup>2</sup> a screw-threaded perforation is formed and a thumb-screw  $c$  is placed therein.

D represents a colter-stem constructed with a vertical portion  $d$ , a horizontal bent portion

$d'$ , and a depending vertical portion  $d^2$ . To enable the frame to be clamped to the beam and at the same time to clamp the stem D, I have constructed a set of gibs E E', whose adjacent faces are formed to correspond to the contour of the portion  $d$  of the stem D, so that said stem may be clamped therein. The gibs E E' are so arranged in the frame that the thumb-screw will press against the outer face of the gib E, and that the outer face of the gib E' is pressed against the beam. The gib is formed at its upper end with a projecting portion  $e$ , which rests on the upper edge of the beam and prevents the gibs from being displaced when the thumb-screw is loosed to permit the adjustment of the colter; hence, it will be seen that when the thumb-screw is tightened it will at the same time make a rigid connection between the beam, frame, and colter-stem.

To the lower end  $d^2$  of the colter-stem D are secured, by suitable means, two supporting-arms F F, which pass rearwardly and are at the same time inclined downwardly. The said arms are provided on their ends with journal-boxes, in which a colter F' revolves.

The colter F' consists of a hub G, provided with an external annular flange G'. A colter-blade G<sup>2</sup> is arranged upon said flange G' and secured thereon by a plate  $g$  and suitable bolts passing through the plate, blade, and flange. The ends of the hub G are formed with annular grooves H, as shown in the drawings. An oil-receptacle H' is constructed within the hub G and has an inlet  $h$ . Upon each side of the hub are internally-threaded washers J. These washers are provided on their inner ends with overlapping flanges J', which hold the hub G in position, and they also have annular grooves I on their faces which are adjacent to the grooved faces of the hub, which correspond with said grooves H. The washers J are provided with extended portions  $j$ , which form bearings, and they are placed in the journal-boxes on the ends of the arms F F. A bolt K, screw-threaded in opposite directions on its ends, is passed through the washers and hub and is secured in place by a nut  $k$  and a light washer  $k'$ .

The washers J are provided with hexagonal or equivalent shaped external portions M, so that they may be adjusted with a wrench or other suitable tool relative to the hub.

It will be understood that I do not confine the application of my invention, and especially the stem D, supporting-arms F F, and colter F', to metal-beam plows, but reserve the right to make all necessary changes in the construction of said parts, and also in their application to plows, as may properly fall within the scope of the following claims.

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

1. The combination of a plow-beam, a colter, and an intermediate fastening consisting of a frame C, having a passage C<sup>2</sup> for the plow-beam, gibs E and E' within said frame, and a set-screw H, whereby the gibs may be clamped together on a supporting-stem D, and whereby the gib E may be joined against the plow-beam, substantially as set forth.

2. An improved colter consisting of the supporting-arms F F, nuts J J, having grooved faces and mounted near the end of each arm, a flanged hollow hub H, mounted between said nuts, a colter-blade G<sup>2</sup>, secured to said flanged hub, a screw-threaded rod K, connecting said nuts J J and passing through said hollow hub, and nuts  $k$  at each end of said rod, substantially as set forth.

3. The combination, with the beam, colter-stem, and frame having passages, of gibs E E', arranged within said frame, the adjacent faces of the said gibs constructed to conform to the contour of the colter-stem, the other face of the gib E' provided with a projecting portion  $e$ , adapted to rest upon the beam, and a set-screw attached to gib E, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

H. H. SATER.

Witnesses:

ALEX. SIMPLOT,  
FRANK H. WEIHE.