No. 660,430. Patented Oct. 23, 1900.

J. N. HANNA.

PLOW.

(Application filed July 24, 1900.)

(No Model.)

Fig. 1.

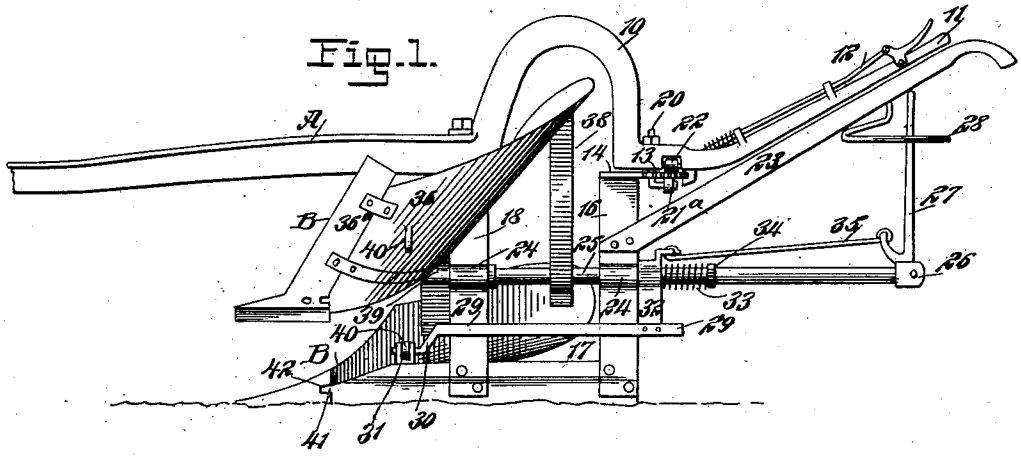


Fig 2

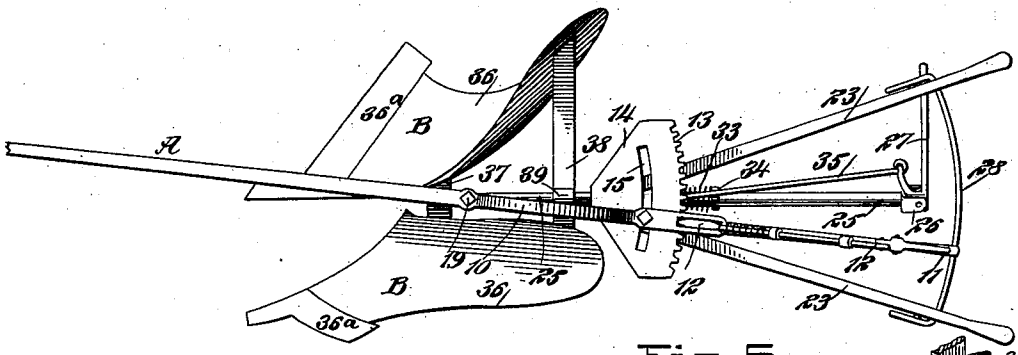


Fig. 5.

Fig. 4.

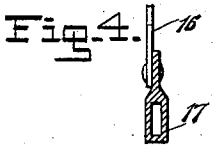
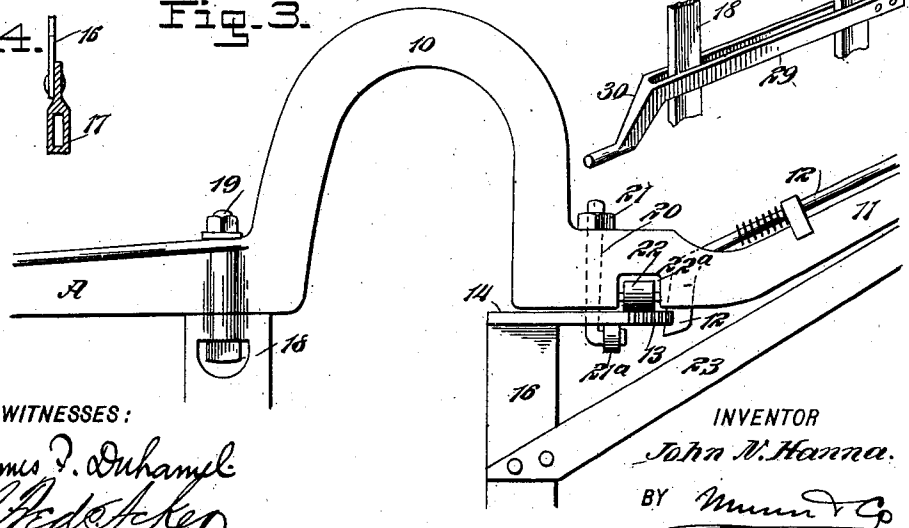


Fig. 3.



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PLOW.

SPECIFICATION forming part of Letters Patent No. 660,430, dated October 23, 1900.

Application filed July 24, 1900. Serial No. 24,635. (No model.)

To all whom it may concern:

Be it known that I, JOHN N. HANNA, a citizen of the United States, and a resident of Del Norte, in the county of Rio Grande and State of Colorado, have invented a new and Improved Plow, of which the following is a full, clear, and exact description.

The invention relates to that class of plows provided with two shares and moldboards located at opposite sides of the beam and means for bringing either share and its moldboard in operative connection with a common landside.

The purpose of the invention is to simplify the construction of such plows and to provide an adjustable beam so arranged that but little strain will be sustained by the handles and to so shape the beam that large or small sized moldboards may be employed, together with a turning and locking device for the shares and their moldboards, which turning and locking device is located within convenient reach from the handles.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved plow. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged side elevation of one portion of the plow-beam and the supports for the same. Fig. 4 is a vertical section through the landside, illustrating its tubular construction; and Fig. 5 is a detail perspective view of parts hereinafter more particularly described.

The beam A may be made of any material. Usually, however, metal is employed, and at or near the center the beam A is provided with an upwardly-arched section 10, and the rear end 11 of the beam is given more or less of an upward inclination, as is best shown in Fig. 1. A thumb-latch 12 is mounted upon the rear end portion of the beam, said thumb-latch being spring-controlled, and the forward end of this thumb-latch extends down through an opening at the rear of the arched section 10 of the beam to an engagement with teeth 13, formed in the rear edge of a horizontal plate 14, in which plate a curved longitudinal slot 15 is produced for the purpose of guiding the plow-beam, which beam is pivoted on supports to be hereinafter described. The plate 14 is supported by a vertical standard 16, which at its lower end is attached in any suitable or approved manner to the landside 17, and the standard 16 is located near the rear portion of the arched section 10 of the beam, while near the forward portion of this arched section 10 of the beam a second standard 18 is located, the forward end whereof is also attached to the landside 17. The upper portion of this forward standard 18 serves as a pivot-support for the beam A, and to that end a pin 19, provided with a head at its lower end and with a suitable nut at its upper end, is passed loosely through the beam and likewise through a suitable bearing made in the upper portion of said standard 18, adjacent to which bearing an opening is produced, as shown in Fig. 3, in order that the head of the bolt may be placed at the top of the beam, if desired, and the nut introduced at said opening, said opening also enabling the bolt to be placed in the position shown in Fig. 3.

The beam A has guided movement upon the plate 14, which serves as a table, and to that end a bolt 20 is passed through the beam at the rear of its arched section 10 and through the curved slot 15 in the plate or table 14. The upper end of this bolt is provided with a suitable nut 21, and the lower end of said bolt is carried in direction of the rear of the beam, and on the arm thus formed a friction-roller 21^a is mounted, adapted to engage with the under face of the plate or table 14, as is especially shown in Fig. 3. The beam A is further guided by placing a friction-roller 22 in a recess 22^a made in the lower edge of the beam over the table or platform 14, as is shown in Figs. 1 and 3, the trunnions of the upper friction-roller 22 being journaled in the side walls of the recess 22^a, and this upper roller 22 travels upon the upper face of the table 14. The bolt 20 is preferably square where it passes through the beam, so that the bolt will not turn.

It will be observed that by adjusting the bolt 20, carrying the lower roller 21^a, both rollers will be in practically the same adjust-

ment. The handles 23 of the plow are attached to the rear standard 16, so that should the beam be carried to the right or to the left said handles 23 do not sustain undue strain, since they are in no manner connected with the beam.

Boxes 24 are formed upon the standards 16 and 18, and in these boxes a shaft 25 is journaled. This shaft 25 is usually made tubular in the interest of lightness and extends forward beyond the standard 18 and rearward beyond the standard 16 to a point below the handles 23. The shaft is preferably provided with a socket 26 at its rear end, and an angle-lever 27 is pivoted at the junction of its members in said socket, so that the handles may be rocked vertically and so that said handles when operated laterally will turn the shaft 25 to the right or to the left. A guide 28, attached to the handles 23 and extending below them, is utilized to direct the movement of the main member of the lever 27, and the ends of this guide extend forward parallel with the outer faces of the handles 23. The lever 27, in addition to its function of turning the shaft 25, is likewise intended to operate a locking device for the shares and moldboards, to be hereinafter described, and to this end a slotted bar 29 is held to slide on the standards 16 and 18 at a point above the landside 17, and at the forward end of this bar an angle-arm 30 is formed, the horizontal member of which is adapted to pass through a **U**-shaped projection 31, formed upon the upper edge of the landside near the front. The slotted bar 29 is provided with guides upon the front standard 18, and said bar is open at the front except that portion of the arm 30 which enters the projection 31, so as to free itself of dirt.

At the rear end of the slotted bar 29 an upward extension 32 is formed, adapted to slide on the shaft 25, and a spring 33 engages with the rear edge of the extension 32 and has bearing against a collar 34. When the slotted bar 29 is drawn rearward to disengage the arm 30 from the **U**-shaped projection 31 on the landside, the spring 33 is compressed, and this movement of the slotted bar 29 is accomplished by connecting the ends of a link 35 with the upper portion of the bar extension 32 and the forward member of the lever 27, as is best shown in Fig. 1. When the main portion of the lever 27 is carried along the main or rear surface of the guide 28, the arm 30 of the slotted bar 29 will be disengaged from the **U** projection 31 of the landside and the lever may be moved laterally, so as to turn the shaft 25 at the same time. When, however, the lever 27 reaches an end of the guide 28, the lever will be no longer held by the guide 28, and the spring 33 will act to carry the slotted bar 29 forward and cause the arm 30 to be brought again in locking engagement with the landside.

The shares and moldboards are each two in number, and the shares 36^a are attached to the moldboards 36 in any desired manner. These combined shares and moldboards are placed with the inner edges of the shares and moldboards facing each other, and the opposing moldboards are connected near the front by a short strap 37 and near the rear by a longer strap 38. At the central portion of these straps 37 and 38 eyes 39 are formed, through which the shaft 25 passes, the eyes being secured to said straps in any approved manner. When the moldboards and shares are so attached, the forward eye 39 will be in front of the forward standard 18 and the rear eye between the two standards 16 and 18.

At the under face of each moldboard an eye 40 is formed, and these eyes are so placed that when the moldboard by turning the shaft 25 is brought down to an engagement with the ground and in engagement with the landside 17 the eye of that moldboard will enter the space between the members of the **U** projection 31 from the landside, so that the arm 30 in passing through said projection 31 will likewise pass through the eye 40, and thus hold one of the moldboards and attached share in working position. Preferably an interlocking connection is formed between the point of the share and the landside, made by producing a spur 41 on the forward end of the landside adapted to enter a recess 42, one of said recesses being made at the landside portion of each point. The landside 17 is preferably made hollow and tubular, as shown in Fig. 4, in order that it may be as light as possible; but its ends may be closed, if desired.

In operation the beam may be directed at its forward end to the right or to the left without interfering with the position of the supports for the beam and the position of the moldboards and shares. It is evident that by moving the lever 27 to the right or to the left either one or the other of the combined moldboards and shares may be brought to the ground, and when one moldboard and share are in working position the opposing moldboard and share will be held out of the ground. The arch 10 in the beam A permits the use of a very large size of moldboard, as shown in Fig. 1. If a still larger size of moldboard is required, a larger arch 10 may be substituted for the one shown.

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

1. In a plow, the combination, with standards arranged for connection with a beam and a landside secured to the lower ends of the standards, of a shaft mounted to revolve upon the standards above the landside, extending forward and rearward from the standards, two combined plowshares and moldboards, straps connecting the moldboards, which straps are secured at their centers to said shaft, a locking device arranged to lock the moldboards to the landside, and a lever connected with the shaft, which lever is likewise

connected with the locking device and serves to operate both, as described.

2. In a plow, the combination, with standards arranged for connection with a beam and a landside secured at the lower ends of the standards, of a shaft mounted to revolve in said standards above the landside, extending beyond the front and rear portions of the standards, handles attached to the rear standard, a lever pivoted to the rear end of the shaft, a guide with which the lever is connected, a slotted projection formed upon the upper surface of the landside near its forward end, a locking device consisting of a slotted bar having sliding movement on the standards and an arm which passes through the slotted projection from the landside, an extension from the rear of the bar, held to slide on the shaft, a spring mounted on the shaft and acting to force the slotted bar forward, and a connection between the extension from the slotted bar and the lever pivoted on the shaft, combined plowshares and moldboards located one at each side of the shaft, straps connecting the moldboards, which straps are secured at their centers to the shaft, and eyes carried by the moldboards, adapted to enter the space between the members of the slotted projection on the landside and receive the arm carried by the slotted bar of the locking device, for the purpose set forth.

3. In a plow, the combination, with standards, handles attached to the rear standard, a table secured upon the upper surface of the rear standard, having a longitudinal guide-slot therein and teeth at its rear edge, of a beam pivoted upon the forward standard, a roller engaging with the under surface of the table, a support for the said roller, adjustably attached to the beam and passed through the guide-slot in the table, a second roller carried by the beam and arranged for engagement with the upper surface of said table, and a thumb-latch located at the rear end portion of the beam, the forward end of which latch is adapted to engage with the toothed surface of said table, for the purpose specified.

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

JOHN N. HANNA.

Witnesses:
HENRY HANNA,
WILBER E. SHAW.