

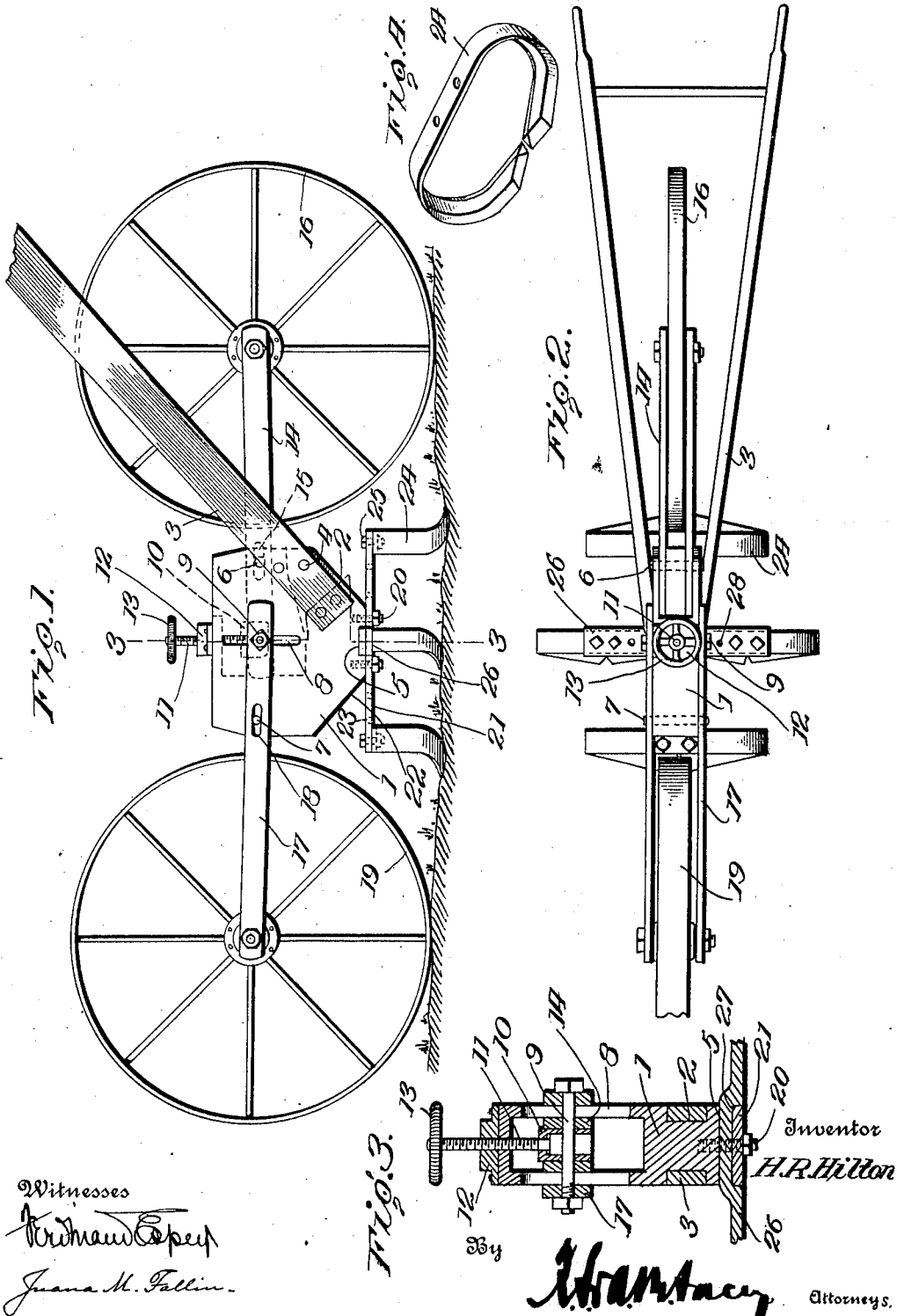
H. R. HILTON

WHEEL HOE.

APPLICATION FILED JAN. 6, 1912.

1,040,325.

Patented Oct. 8, 1912.



UNITED STATES PATENT OFFICE.

HUGH R. HILTON, OF PORT ALLEGANY, PENNSYLVANIA.

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Specification of Letters Patent.

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Application filed January 6, 1912. Serial No. 669,808.

To all whom it may concern:

Be it known that I, HUGH R. HILTON, citizen of the United States, residing at Port Allegany, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Wheel-Hoes, of which the following is a specification.

This invention relates to wheel hoes, and has for its object to provide a hoe of simple structure especially adapted to be manually propelled or operated for the purpose of cleaning out weeds between standing rows of plants, or for stirring the soil.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a side elevation of the hoe; Fig. 2 is a top plan view of the same; Fig. 3 is a sectional view of the same cut on the line 3—3 of Fig. 1. Fig. 4 is a perspective view of a blade used upon the hoe.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

The hoe comprises a head 1 which is provided in its sides with recesses 2. The recesses 2 receive the lower ends of handles 3 and the said handles are secured therein by means of bolts 4 which are passed transversely through the said handles and head. The upper portion of the head 1 is hollow, and the said head is provided at its lower side with a transversely disposed recess 5. A pin 6 passes transversely through the rear portion of the head and a pin 7 passes transversely through the front portion of the head. The ends of the pin 7 project beyond the sides of the head. The head 1 is provided in its sides approximately midway between the pins 6 and 7 with vertically disposed slots 8. A pin 9 passes transversely through the slots 8 and is slidably mounted therein. A block 10 is mounted upon the intermediate portion of the pin 9 and receives the head of a bolt 11. The bolt 11 is threaded through a block 12 which is mounted upon the upper side of the head 1

and the said bolt 11 is provided at its upper end with a handle 13. Arms 14 are pivoted at their forward ends upon the bolt 11 and are located within the hollow of the head 1. The said arms 14 are provided with slots 15 which receive the rear pin 6. A supporting wheel 16 is journaled between the rear ends of the arms 14. The rear ends of arms 17 are pivoted upon the pin 9 and are located against the sides of the head 1. The said arms 17 are provided with slots 18 which receive the forward pin 7. A supporting wheel 19 is journaled between the forward ends of the arms 17. The wheels 16 and 19 are approximately of the same diameter. The head 1 is provided at its lower side with pins 20 which are located at the opposite sides of the transversely disposed recess 5. A bar 21 is secured upon the pins 20 and bridges the recess 5. The lower portions of the head 1 at the front and rear sides thereof are undercut as at 22 and the end portions of the bar 21 project forwardly and rearwardly under the said undercut portions. The projecting end portions of the bar 21 are provided each with a series of bolt perforations 23.

A hoe blade indicated at 24 may be secured at the forward or rear projecting end portions of the bar 21 by means of bolts 25 which pass through the said blade and through the registering perforations 23, provided in the said bar. This blade 24 is approximately elliptical in edge elevation and is provided at its lower side with forward and rear cutting edges, and the portions of the lower side of the blade 24 are disposed at a slight angle with relation to each other, as shown. The material of which the blade 24 is formed is in the form of a strip with its end portions disposed inwardly toward each other. These end portions do not connect with each other but are so positioned that the end portions of the blade may vibrate independently of each other when the blade is in use.

A cross bar 26 is adapted to be seated in the transversely disposed recess 5 of the head 1 and the said bar 26 is in turn provided at its under side with a recess 27 which receives the bar 21. The bar 26 is provided at its end portions with perforations 28 through which securing bolts may be passed and, if desired, blades similar to the blade 24 may be secured at the end portions of the said cross bar 26. The blades

24 that are positioned upon the bar 21 are designed to cut or operate in the soil and upon the weeds occurring approximately midway between two adjacent rows of plants, while the blades 24 which are positioned upon the cross bar 26 are intended to operate in the soil and cut the weeds which occur in close proximity to the sides of two adjacent rows of plants. The blades that are positioned upon the cross bar 26 are of the same design and configuration as the blades that are positioned upon the bar 21. However, the dimensions of the blades may vary as occasion requires or fancy suggests.

In operation the hoe may be either pushed or pulled through the soil in preparing the seed bed, or between two standing rows of plants in the cultivation that follows seeding, and to secure more effective tillage may be operated with an arm's length swinging motion backward and forward, as the operator himself moves either backward or forward. As the cutting edges of blades 24 come in contact with the soil and weeds, the soil is stirred and the weeds are cut or rooted up, but the material thus operated on will pass through the hoe blades and deposit approximately in its original position, and thus as the hoe is used the material is not accumulated and piled up in heaps at certain points. If at any time it should be desired to clear any obstacle or obstruction at the surface of the soil, the operator may depress the handles 3 to lift the forward wheel 19 over the obstruction and then he may raise the handles 3 as the rear wheel 16 is passed over the said obstruction.

By manipulating the bolt 11 the block 10 may be moved up or down in the head 1, and consequently the inner ends of the arms 14 and 17 may be raised or lowered. When the inner ends of the said arms are lowered the blades carried by the bars 21 and 26 are caused to operate comparatively deep in the soil and when the inner ends of the said arms are raised the said blades will operate

comparatively shallow in the soil. The parts are so arranged that when the bolt 11 is adjusted it will retain its adjusted position during ordinary usage of the hoe.

Having thus described the invention, what is claimed as new is:

1. A hoe comprising a head having in its lower side a transverse recess, arms pivoted to the head, means for swinging the arms and for holding the same in adjusted positions, a transverse bar located in the recess in the head, said bar having a recess, a bar secured to the head and lying in the recess of the first mentioned bar, and hoe blades carried by the bars.

2. A hoe comprising a head provided in its side with slots, arms arranged in pairs and pivoted one within the head and one against the outer sides of the head, a pin passing through the said slots and through all of the arms, means for adjusting the pin along the slots and for holding the same in an adjusted position, a wheel journaled between each pair of arms, and a blade carried by the head.

3. A hoe comprising a head provided with an upper hollow portion and having in its sides vertically disposed slots, a pair of arms pivoted within the head, a pair of arms pivoted against the outer sides of the head, the arms of each pair having overlapping end portions, a pin passing through the slots in the head and the overlapping portions of the arms, a block mounted upon the pin, a block having screw threaded engagement with the head and engaging the first mentioned block and adapted to move the same to adjust the inner ends of the arms, a wheel journaled between each pair of arms, and a hoe blade carried by the head.

In testimony whereof, I affix my signature in presence of two witnesses.

HUGH R. HILTON. [L. s.]

Witnesses:

F. C. RETZER,
F. A. ECKERT.