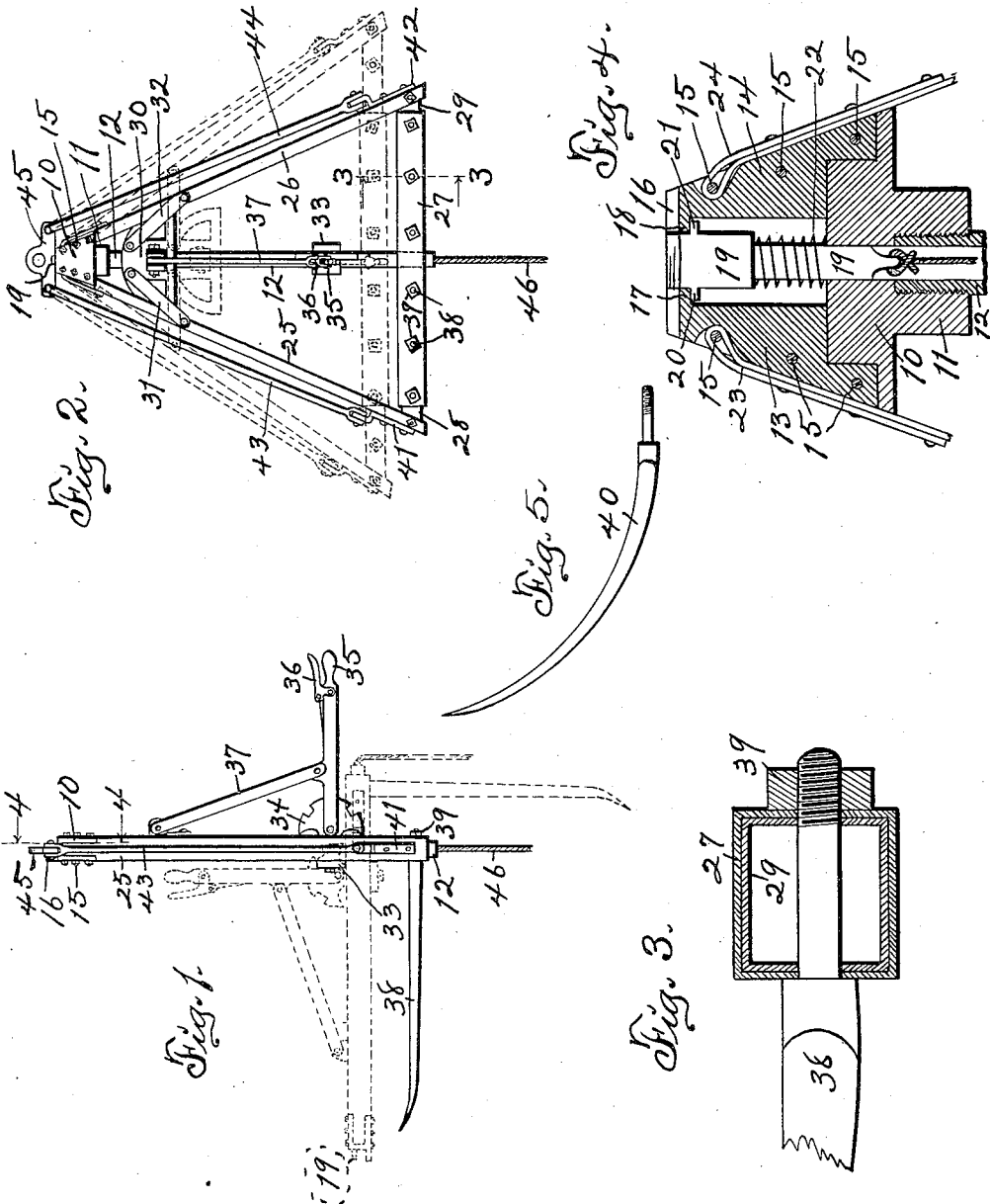


G. HEEDWELL & W. F. McNEW.  
ADJUSTABLE DUMPING FORK.  
APPLICATION FILED DEC. 11, 1911.

1,048,964.

Patented Dec. 31, 1912.



*Attest:*  
E. W. Miller  
H. J. Sweet.

*Inventors:*  
Gothard Heedwell and  
William F. McNew  
By *John Sweet* Att'y

# UNITED STATES PATENT OFFICE.

GOTHARD HEEDWELL AND WILLIAM F. McNEW, OF BOONE, IOWA.

## ADJUSTABLE DUMPING-FORK.

1,048,964.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed December 11, 1911. Serial No. 665,148.

*To all whom it may concern:*

Be it known that we, GOTHARD HEEDWELL and WILLIAM F. McNEW, both citizens of the United States of America, and residents of Boone, Boone county, Iowa, have invented a new and useful Adjustable Dumping-Fork, of which the following is a specification.

The object of this invention is to provide an improved construction for hoisting forks adapted for removing fibrous substance such as hay, straw and manure.

A further object of this invention is to provide means for adjusting the width of a fork to adapt it to loads of different bulk and weight.

A further object of this invention is to provide improved means for latching a dumping fork in closed position.

Our invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in our claims and illustrated by the accompanying drawing, in which—

Figure 1 is a side elevation of the complete device in position for use, dotted lines indicating dumping positions of parts of the device. Fig. 2 is a rear elevation of the same, dotted lines indicating the device adjusted for use as a hay or straw fork. Fig. 3 is a cross-section on the indicated line 3—3 of Fig. 2, on an enlarged scale. Fig. 4 is a vertical section on the indicated line 4—4 of Fig. 1, on an enlarged scale. Fig. 5 is a side elevation of a tine particularly adapted for use in hay or straw.

In the construction of the device as shown the numeral 10 designates a head formed with a downwardly extending neck 11 of tubular form and interiorly threaded to receive a tubular stem 12. The head 10 is bifurcated in its upper portion and filling blocks or plates 13, 14 are mounted in the side portions of the bifurcation of the head and are secured therein preferably by bolts 15. One side portion of the head 10 extends beyond the upper ends of the blocks 13, 14 to form a lip against which lip 16 a bail is stopped. The filling blocks 13, 14 are spaced apart and at their upper ends are formed with opposing lips 17, 18. The head 10 is formed with a central bore registering with the bore of the stem 12 and a latch 19 is mounted loosely in the head, the stem of the latch being fitted to and arranged for rectilinear

reciprocation in said bore, while the upper end portion of the latch is fitted to the space between the sides of the head and between the lips 17, 18. The latch 19 is formed with oppositely extending lugs 20, 21 adapted to engage beneath the lips 17, 18 and limit movement of the latch in one direction. An expansive coil spring 22 is mounted on the latch 19 and engages or impinges at opposite ends on a shoulder of the latch and the upper face of the body of the head respectively. The outer end of the latch 19 is beveled opposite to the lip 16. The filling blocks 13, 14 are formed with outwardly-opening notches and two of the bolts 15 extend through said notches. Hinge members 23, 24 are pivoted at the outer ends on the bolts 15 within the notches of the filling blocks and extend in diverging planes along the outer faces of said blocks. Hanger bars 25, 26, preferably of channel form are fixed at their outer ends to the hinge members 23, 24 and extend in diverging planes on opposite sides of the stem 12. A tubular socket 27, preferably square in cross-section, is mounted loosely on and at right angles to the lower end portion of the stem 12. Tubular foot bars 28, 29 are fitted to and slidingly mounted in the socket 27 and project from opposite ends thereof. The inner ends of the foot bars 28, 29 abut the stem 12 at times within the socket 27 and the outer ends of said bars are respectively pivoted to the lower ends of the hanger bars 25, 26.

A block 30 is slidingly mounted on the stem 12 and is pivotally connected, by oblique rods 31, 32 arranged in pairs on opposite sides of the block, to central portions of the hanger bars 25, 26. A set collar 33 is mounted on and adjustable longitudinally of the stem 12 below the block 30 and a segment 34 is formed on and extends rearwardly from said collar. A hand lever 35 is fulcrumed at one end on the segment 34 and extends outwardly therefrom and is provided with detent devices 36 of any suitable form adapted to set the lever to the segment. A rod 37 (or link) pivotally connects the central portion of the lever 35 to the central portion of the block 30. Tines 38 of any desired shape, size and number are mounted with threaded stem ends extending through registering holes in the socket 27 and foot bars 28, 29. The tines serve to connect the socket and foot bars

and are in turn supported by them and project forwardly therefrom in a direction opposite to the lever 35. The tines are removable and replaceable in their seats and are held therein by nuts 39 on their rear ends. The tines 38 are shown relatively straight and pointed at their outer ends, and are particularly adapted to act on heavy substances such as manure or rotted straw or rotted hay. In Fig. 5 a tine 40 is shown, which tine is of greater length and curvature than the tine 38 and is particularly adapted to act on straw or hay in condition for stacking or mowing away. The tines 38 and 40 may be used interchangeably in the fork frame, but it is suggested as preferable that the manure tines be employed when the frame is compacted by telescoping the foot bars in the socket as shown by solid lines, and that the hay tines be employed when the frame is expanded as shown by dotted lines. When this suggestion is followed it is desirable to supply a greater number of tines for hay than for manure. Angle plates 41, 42 are fixed to the outer faces of the lower end portions of the hanger bars 25, 26 and bail rods 43, 44 are pivoted at their lower ends to said angle plates and extend therefrom in converging planes along the outer faces of the hanger bars. The upper ends of the bail rods 43, 44 are pivoted to opposite ends of a bail eye 45 adapted to receive attachment to hoisting devices not shown. The bail eye 45 extends across the upper end of the head 10 into contact with the lip 16 and in so doing engages the beveled end of and depresses the latch 19 and passes to the rear of said latch for temporary retention by it. Draft devices, such as a rope 46 or small chain, are attached to the lower end of the latch 19 and extend outside the lower end of the stem 12 for manual actuation to withdraw the latch and permit the head and frame to swing clear from the bail eye 45. In practical use the parts are assembled as shown and then the frame is grasped at its lower corners and moved forwardly and downwardly, the tines preferably extending obliquely into the substance to be taken away, to the full length of the tines. Then the frame is tilted to upright position and hoisted and swung to desired position by the hoisting devices, not shown, and when the load has reached the desired position the frame is released at its upper end by manual draft on the rope 46, thus permitting the load to overbalance the frame and tilt it forwardly relative to the bail so that the tines assume depending positions (see dotted lines Fig. 1) and drop the load. Then the dumped fork is returned to position for use and is reset as originally by manipulation. The hanger bars are moved through arcs

(the tines 38 or 40 being first removed to permit such movement) to telescope or withdraw the foot bars relative to the socket 27 by manipulation of the lever 35, the movements of the lever being communicated through the rod or link 37, block 30 and oblique rods 31, 32 to the hanger bars.

We do not desire to be understood as limiting ourselves to the precise arrangement and construction shown and described and the same may be modified in many particulars without departing from our invention.

We claim as our invention—

1. An adjustable dumping fork, comprising a head, hanger bars hinged to said head and diverging on opposite sides thereof, a stem depending from said head, a socket loosely mounted on said stem, foot bars mounted in and adjustable longitudinally of said socket, said bars pivoted at their outer ends to the lower ends of the hanger bars, a bail pivoted to said hanger bars, means for latching said bail to said head, and tines removably and replaceably mounted in said socket and foot-bars.

2. An adjustable dumping fork, comprising a head, hanger bars hinged to said head, a stem depending from said head, a socket on said stem, foot bars pivoted to said hanger bars and adapted for telescoping in said socket, lever operated devices on said stem adapted to move said hanger bars through arcs, a bail pivoted to said hanger bars, means for latching said head to said bail, and tines removably and replaceably mounted in said socket and foot bars.

3. In an adjustable dumping fork the combination of a head, hanger bars hinged to said head, a telescoping frame pivoted to said hanger bars, tines removably and replaceably mounted on said frame, an adjustable bail pivoted to and carrying said hanger bars, and means for latching said head to said bail.

4. In an adjustable dumping fork, a head, hanger bars hinged to said head, an expandible frame pivoted to said hanger bars, a stem fixed to said head and extending loosely through said frame, lever devices carried by said stem toggle connections between said lever devices and the hanger bars, tines in said frame, and a bail carrying said hanger bars and latched to said head.

5. In an adjustable dumping fork, a head, a stem fixed thereto, a socket loosely mounted on said stem, foot bars slidably mounted within said socket, said socket and foot bars formed with registering holes, tines mounted through said holes and locked to the socket, pivotal connections between said foot bars and head and suspending means carrying said pivotal connections and latched to said head.

6. In an adjustable dumping fork, a head, a bail embracing said head, a latch

in said head adapted to engage said bail, said latch being spring-held in one direction and adapted to be manually moved against said spring, a stem depending from  
5 said head, a socket slidably mounted on said stem, foot bars telescopically mounted in said socket, tines in and connecting said socket and foot bars, suspending connections between said foot bars and head, and pivotal connections between said bail and 10 suspending connections.

Signed by us at Des Moines, Iowa, this twenty first day of October, 1911.

GOTHARD HEEDWELL.

WILLIAM F. McNEW.

Witnesses:

S. C. SWEET,

EARL M. SINCLAIR.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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