

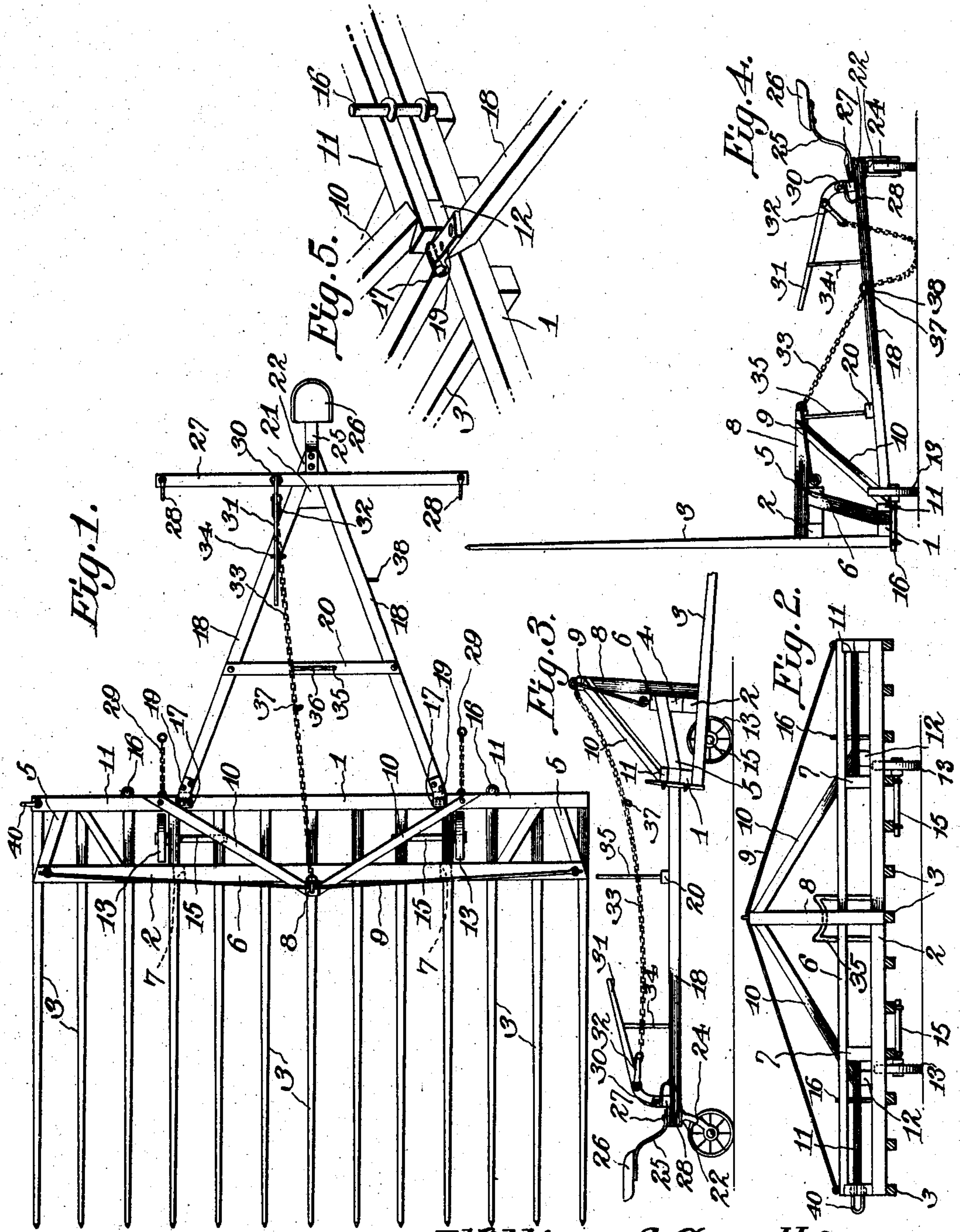
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W. A. & S. S. CAVETT.
HORSE HAY RAKE.

APPLICATION FILED OCT. 31, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM A. CAVETT AND SAMUEL S. CAVETT, OF KIRKSVILLE, MISSOURI.

HORSE HAY-RAKE.

SPECIFICATION forming part of Letters Patent No. 753,852, dated March 8, 1904.

Application filed October 31, 1903. Serial No. 179,299. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM A. CAVETT and SAMUEL S. CAVETT, citizens of the United States, residing at Kirksville, in the county of Adair and State of Missouri, have invented a new and useful Horse Hay-Rake, of which the following is a specification.

This invention relates to horse hay-rakes of that class which are used in connection with hay-stacking devices for the purpose of gathering hay and depositing the same upon the carrier element of the stacker.

The invention has particular reference to that species of rakes which are pushed by horses hitched in rear of the rake-head.

The object of the invention is to provide a device of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency; and with these and other ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a top plan view of our improved hay-rake. Fig. 2 is a vertical sectional view taken in front of the rake-head and looking in a rearward direction. Fig. 3 is a side elevation. Fig. 4 is a side elevation taken from the opposite side, showing the rake-head tilted and in position for transportation of the rake. Fig. 5 is a perspective detail view.

Corresponding parts in the several figures are indicated by similar numerals of reference.

The rake-head of our device includes, primarily, two cross-beams of desired dimensions, (designated, respectively, 1 and 2,) the latter being located in front of the former. These cross-beams may be said to be supported upon the rake-teeth 3, which are extended forwardly and which may be of any desired dimensions, the rear ends of said teeth being firmly secured to the under sides of the cross-beams 1 and 2. The front cross-beam, at the ends thereof, supports blocks 4, the upper sides of which are slightly inclined in a rearward direction, braces 5 connecting the upper ends of said blocks with a rear cross-beam 1, said braces

5 being disposed diagonally and their rear ends being secured to the cross-beam 1 at some distance from the ends of the latter. A third cross-beam 6 is intermediately supported upon struts 7, resting upon the cross-beam 2. 8 designates an upright which is mounted centrally in front of the beams 2 and 6 and the upper end of which supports a truss-rod 9, the ends of which are made fast at the ends of the cross-beam 6. Diagonal braces 10 also connect the upper end of the upright 8 with cross-bars 11, the outer ends of which are supported upon the braces 5 and the inner ends of which are supported upon spacing-blocks 12, resting upon the rear beam. The rake-head thus constructed is supported upon low wheels 13, which are journaled upon spindles 15, secured to the under sides of certain rake-teeth 3 between the rear and front cross-beams 1 and 2. The disposition of the spindles 15 is so calculated that the supporting-wheels 13 shall be located at a distance apart equal to twice the distance between either wheel and the proximate side of the rake-head. Owing to this particular disposition of the wheels the rake-head is most evenly balanced and is well adapted to support any load which may be placed thereon. The rake is by this arrangement also rendered much more mobile and easily managed under a load than would be the case if the supporting-wheels were disposed at the ends of the rake-head, as is frequently the case in this class of rakes. The rear beam 1 and the cross-bars 11, spaced above said rear beam, serve to support a pair of vertically-disposed spindles 16, which normally extend above the cross-bars 11, to which the wheels 14 may be transferred when it shall be desired to transport the rake from one place to another, as will be presently more fully described.

A pair of pintles 17, extending from the inner ends of the cross-bars 11 and supported between said cross-bars and the props or supporting-blocks 12, serve for the attachment of the rear frame of the rake. Said rear frame is composed of a pair of rearwardly-converging side beams 18, the front ends of which are provided with hinge-leaves 19 for hinge connection with the said pintles. The side

beams 18 are intermediately connected by a cross-bar 20, and their rear ends, which are connected with a spacing-block 21, are reinforced on their upper and under sides by metallic plates 22, perforated to form bearings for the revoluble shaft of an ordinary caster-wheel 24. The rear end of the V-shaped frame formed by the converging side beams 18 also supports a spring-bar 25, carrying a seat 26. 27 designates a hitching-bar or evener, which is mounted transversely upon the rear end of the V-shaped frame, said hitching-bar being provided with clevises 28 for the attachment of the draft. Short chains 29, suitably connected with the rear of the rake-head, are also provided to be attached to the breast-straps of the team in order to enable the rake to be readily backed from under the stacker-head, upon which the load is delivered. The cross-bar or evener 27 supports a bearing 30 for a lever 31, which is thus disposed in a position convenient to the driver. Pivoted eccentrically to said lever is a link 32, which is connected by a chain 33 with the top of the upright 8, rising from the rake-head. A support 34 is mounted upon one of the frame-bars 18 to sustain said lever when thrown in a forward direction. The cross-bar 20 supports an arch or bow 35, the upper side of which has a recess 36.

It will be seen from the foregoing description that when the lever 31 is depressed rearwardly strain will be exerted in a rearward direction upon the upper end of the upright 8 and that consequently the front end of the rake-teeth will be tilted in an upward direction, as is desirable and necessary when a load is to be transported to the stacker. By reversing the position of the lever the points of the teeth will be lowered into operative position for the gathering of hay.

When it shall be desired to transport the rake over roads and through gates or other obstructions which are not sufficiently wide for the passage of the extreme width of the rake, the head of the latter is tilted to the upright approximately vertical position shown in Fig. 4 of the drawings, the transporting-wheels 13 being transferred from the spindles 15 to the spindles 16, which latter by tilting the rake-head will be drawn into an approximately horizontal position. In this position the rake-head is secured by one of the links of the chain 33 or by a ring 37, connected with one of said links, being hitched upon a pin 38, extending laterally from one of the frame-beams 18. In this position the end of the upright 8 is also supported in the recess 36 at the upper end of the arch 35, where it is held securely by the connection of the chain with the hitching member 38. When the rake is arranged in this position, it may be drawn by a single horse attached to a clevis 40 at the outer end of one of the cross-bars 11.

From the foregoing description, taken in

connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood by those skilled in the art to which it appertains. The construction of the rake-head is not only light and durable, but it is calculated to support any load which may be placed thereon in such a manner as to avoid sagging at any point which would injuriously interfere with the operation. This is accomplished partly by the precise disposition of the supporting-wheels herein specified, whereby it is obvious that the distribution of weight is most nearly equalized. The truss 9 and the brace members 10 also contribute to increase the rigidity of the framework, so that the latter, although comparatively lightly constructed, shall be able to resist any strain to which it may be subjected in the operation of the device. The cross-beam 6 of the rake-head is elevated a sufficient distance above the rake-teeth to check the load and to prevent any portion thereof from being pushed too far in a rearward direction, the supporting-struts partaking to some extent of the same function. The cross-bars 11, elevated above the rear cross-bar 1, cooperate with the latter to form suitable points of attachment for the auxiliary spindles 16, so that the rake-head when elevated into position for transportation shall be well and safely supported. When thus elevated, it will also be seen that the rake-head is held safely against shaking and jarring by the upright 8 being supported upon the arch 35, in which position it is securely retained by the chain being engaged with the hitching member 38, thus permitting the rake to be transported without any shaking or jarring, which might prove injurious to the connections between the constituent parts of the device.

While a simple and preferred form of our invention has been shown and described in the foregoing specification, we desire it to be understood that we do not necessarily limit ourselves to the precise structural details set forth, but reserve the right to any changes, alterations, and modifications which may be resorted to within the scope of our invention and without departing from the spirit or sacrificing the principles of the same.

Having thus described our invention, we claim—

1. A rake-head comprising parallel cross-beams supported upon the rear ends of the rake-teeth, spacing-blocks upon the ends of the front cross-beam, braces connecting said spacing-blocks with the rear cross-beam near the ends of the latter, a cap-beam supported upon the upper front ends of said braces, struts intermediately supporting said cap-beam, cross-bars supported above the ends of the rear beam, an upright supported in front of the front and cap beams, inclined braces connecting the upright with the inner ends of

the cross-bars supported above the rear beam, and a truss supported upon the upright and attached at the ends of the cap-beam.

2. A rake-head comprising a front and a rear cross-beam supported upon a plurality of rake-teeth, wheel-carrying spindles secured to the under side of the rake-teeth, cross-bars mounted above the rear cross-beam at the ends of the latter, and spindles secured to said cross-bars and cross-beam, approximately vertical and at right angles to the wheel-carrying spindles under the rake-teeth.

3. In a device of the class described, a rake-head including front and rear main cross-beams, cross-bars supported above the rear cross-beam, pintles extending from the inner ends of said cross-bars, pairs of wheel-supporting spindles suitably spaced from the sides of the rake-head and disposed approximately at right angles to each other, and supporting-wheels transferable from one to the other of said sets of spindles, in combination with a frame comprising rearwardly-converging side bars hingedly mounted upon the pintles of the rake-head, rotary supporting means for the rear end of said frame, and means for tilting the rake-head and for sustaining it in adjusted position with relation to said hinged frame.

4. In a device of the class described, a rake-

head having an upright, a frame hingedly connected with said rake-head, pairs of spindles connected with the rake-head, suitably spaced from the sides thereof and disposed at approximately right angles to each other, supporting-wheels transferable from one to the other of said sets of spindles, rotary supporting means for the rear end of the hinged frame, an operating-lever upon the latter, flexible connecting means between said lever and the upright upon the rake-head, an arch mounted upon a cross-bar of the hinged frame and adapted to support the upright of the rake-head when the latter is tilted to an approximately vertical position, and hitching means for the flexible connecting means, connecting said upright with the operating-lever, whereby said upright may be secured against jarring when supported upon the arch member of the hinged frame.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM A. CAVETT.
SAMUEL S. CAVETT.

Witnesses:

ALBERT HERREN,
W. E. SHIRLEY.