

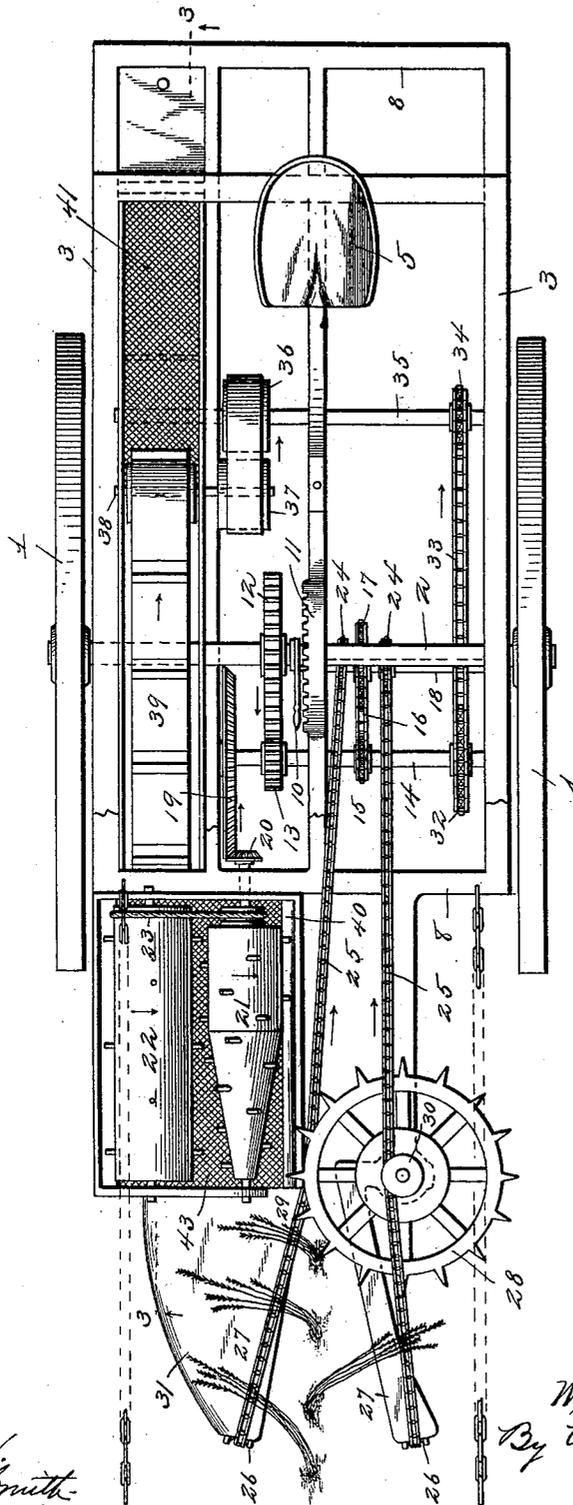
W. S. TEMPLE.
RICE HARVESTER.

(Application filed Apr. 24, 1899.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.



Witnesses

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No. 636,085.

Patented Oct. 31, 1899.

W. S. TEMPLE.
RICE HARVESTER.

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2 Sheets—Sheet 2.

FIG. 2.

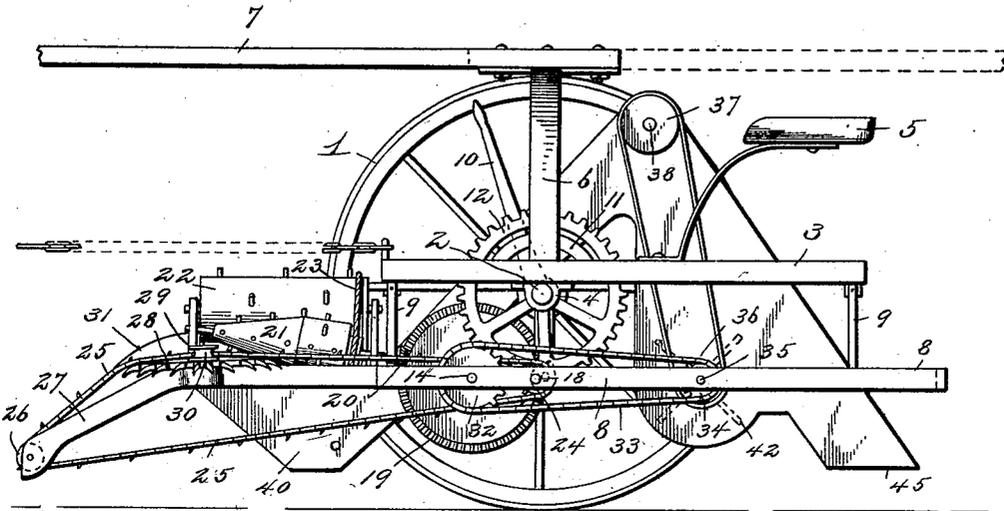


FIG. 3.

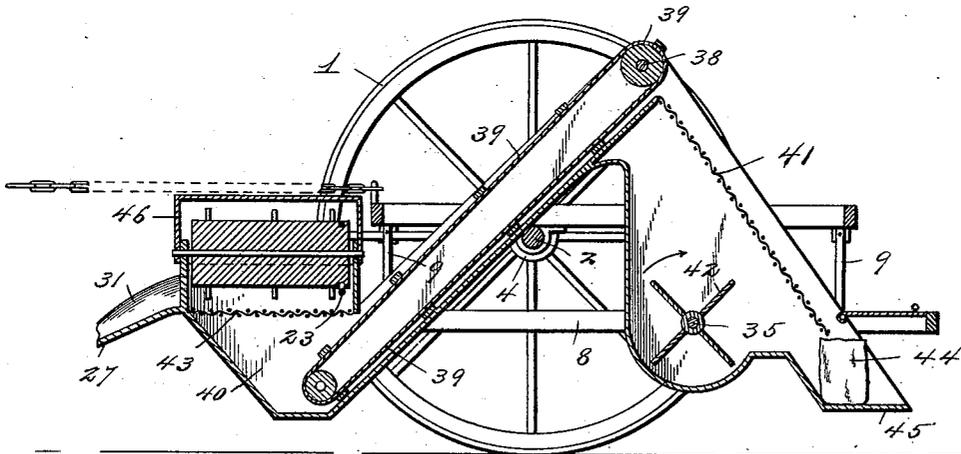
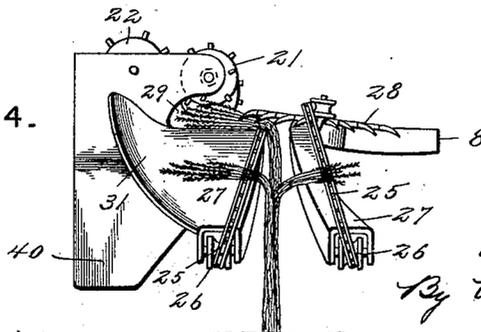


FIG. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

WILSON S. TEMPLE, OF MUMFORD, NORTH CAROLINA.

RICE-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 636,085, dated October 31, 1899.

Application filed April 24, 1899. Serial No. 714,251. (No model.)

To all whom it may concern:

Be it known that I, WILSON S. TEMPLE, a citizen of the United States, residing at Mumford, in the county of Pasquotank and State of North Carolina, have invented a certain new and useful Rice-Harvester, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to rice-harvesters.

The object of the invention is to provide a machine for gathering and threshing rice from the straw while it stands in a row or drill and winnowing and cleaning the same and putting it in sacks or bags.

The invention consists of a frame mounted upon and operated by driving-wheels through a system of multiplying or accelerating gearing connected with the axle which serves as the driving-shaft of the machine, of a threshing-cylinder, said cylinder being arranged longitudinally of the frame or in line with its movement, of lifters or chains for raising the lodged or bent stems of the rice, of a disk for deflecting or bending the stems of the rice over a ledge and underneath the threshing-cylinder, of an elevator for raising the rice from a pocket or well in the bottom of the frame and discharging it into a sack or bag, and a fanning-mill or cleaning device for separating the chaff from the rice.

In the drawings forming a part of my specification, Figure 1 is a plan of the machine with the casing of the threshing-cylinders and the pole or tongue removed, a part of the supporting-frame being also removed. Fig. 2 is a side view of the machine with one of the wheels removed. Fig. 3 is a section on the line 3 3 of Fig. 1. Fig. 4 is a view showing the lifting-chains, the deflecting-disk, and the threshing-cylinders in front elevation.

1 1 are the supporting and driving wheels of the machine. These wheels are coupled with the axle 2 by means of clutches, so that in the forward movement the axle will operate as a driving-shaft for the entire machine, but so that when backing or the machine is drawn in a reverse direction the shaft will remain inoperative, the wheels turning on the axle.

3 is the main supporting-frame of the machine, the same being itself supported upon the axle 2, being connected with said axle by

means of boxes or clips 4 4. The main frame carries a driver's seat 5 and an arch 6, with which the tongue or pole 7 of the machine is detachably connected, so that it may be reversed or turned entirely around to draw the machine in a forward or operative position or in the opposite direction when the same will be inoperative for going to and from a field.

8 is what I call a "floating" or "swinging" frame, which carries all of the machinery or mechanism of my improved harvester. This frame is suspended from the main frame through the medium of hangers 9 9 and is adjusted—that is, raised and lowered—to the desired position or height from the ground through the medium of a hand-lever 10, the said lever being pivoted on the axle of the machine and having one arm thereof connected with the floating frame. The lever and the frame are held in any adjusted position through the medium of an ordinary notched segment, as shown at 11.

12 is a master or main gear-wheel keyed to the axle 2. This main gear-wheel intergears with the pinion 13, keyed to counter-shaft 14, supported and carried by the floating frame 8. The counter-shaft 14, from which is driven all the machinery of my harvester, has also keyed to it a pinion-sprocket 15, which, through sprocket-chain 16, drives sprocket-wheel 17, keyed to shaft 18, mounted in and carried by the floating frame 8. The shaft 14 also has keyed to it beveled gear 19, meshing with beveled pinion 20, for driving the threshing-cylinder 21, arranged lengthwise of the machine. Geared to the threshing-cylinder 21 is a second clearing-cylinder 22 for discharging broken straw laterally from the machine. The cylinders are conveniently intergears by means of a cord or sprocket-chain 23, as may be desired. The shaft 18 has keyed to it two sprocket-wheels 24 24 for driving sprocket-chains 25 25, which extend around guides 26 26 on the outer extremities of divergent and depending forks or arms 27 27, formed upon and made a part of the floating frame 8. The object of these sprocket-chains is to raise or lift up lodged or bent stems of rice to bring them into the range of the threshing-cylinder, as shown in Figs. 1 and 4.

28 is a deflecting wheel or disk provided

with fingers or projections, as shown, mounted upon the arm 27 of the floating frame opposite the front end of the threshing-cylinder. The purpose of this is to swing or bend the heads of the rice laterally, so that they will enter the throat 29 in front of the threshing-cylinder, and thereby be brought within the range of said cylinder, and in order to efficiently serve the purpose the periphery of the wheel extends across the throat between the divergent arms 27 27, as shown in Figs. 1 and 4. One of the sprocket-chains 25 impinges a pulley 30, attached to the spindle of deflecting-wheel 28, and serves to operate or rotate said wheel to perform its work. One of the arms 27 has secured to it a guide plate or shield 31 for supporting and guiding the heads of the rice through throat 29 to threshing-cylinder.

32 is a sprocket-wheel keyed to shaft 14 for driving chain 33, and through it pinion 34 and shaft 35. Shaft 35 carries pulley 36, which drives pulley 37 on elevator driving-shaft 38. The elevator consists of an endless belt or band 39, carrying suitable lifting-buckets, the lower end of said elevator being carried on a suitable guide-pulley in the bottom of well or hopper 40, arranged beneath the threshing-cylinder. The elevator is inclosed in a suitable casing and discharges at the upper end over a screen 41. Within the casing, beneath the elevator and screen, is a fan 42, carried by shaft 35. Between the well or hopper 40 and the threshing-cylinder I arrange a screen 43 to prevent straw and coarse material from passing through the same to the elevator. The cylinder 22 serves to discharge or clear the cylinder-casing from straw or coarse substances. Below the screen 41 a bag or sack 44 is carried on support 45 when the machine is in operation. 46 is a removable hood or cover for inclosing the threshing-cylinder.

It should be observed that the threshing-cylinder is made conical at its front end, as shown in the drawings, for the purpose of more freely admitting the heads of the rice through the throat 29 beneath the same. In operation the threshing-cylinders are covered by a removable casing 46.

In operation the harvester is arranged to straddle a row or drill of rice, the row normally extending between the forks or arms 27 27. The machine being started, the lifters or chains 25 serve to raise the lodged or bent stems of the rice and draw them into the narrow throat between the arms 27 27, and the deflecting-wheel 28 bends the stems or straws of the rice so that the heads are carried through throat 29 to the threshing-cylinder 21, where the grain is removed from the heads, drops down through screen 43 into hopper or well 40, and is taken thence by the elevator and carried up over screen 41, where a blast from fan 42 blows the chaff and light substances away, the rice falling down over screen 41 into sack or bag 44, which may be removed

from time to time and another substituted in an obvious manner. The floating frame is readily adjusted up and down through the medium of the hand-lever 10 to accommodate the machine to rice of different growths.

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

1. In rice-harvesters, the combination of a floating frame, a diverging fork connected with said frame, a pair of lifting-chains, for raising the lodged or bent stems, a threshing-cylinder arranged lengthwise of the machine alongside the path of the lifting-chains, and a deflecting-wheel having its periphery or rim extending over and beyond the branches of the fork and the passage between them for bending the heads of the grain laterally into the range of the threshing-cylinder, substantially as described.

2. In a rice-harvester, the combination with the frame of the machine, of a longitudinally-arranged threshing-cylinder, guides for directing the grain alongside the cylinder, and means for bending the stems of the grain to present the heads thereof in a plane beneath that of the axis of the cylinder, substantially as described.

3. In a rice-harvester, the combination of a suitable frame, a longitudinally-arranged threshing-cylinder mounted in said frame, means for guiding the grain in a path alongside the threshing-cylinder, a lateral throat or passage leading in a plane beneath the cylinder, and a rotary deflector for bending the stems and directing the heads of the grain into the throat beneath the threshing-cylinder, substantially as described.

4. In a rice-harvester, the combination of a threshing-cylinder arranged lengthwise of the machine, means for guiding the grain alongside the threshing-cylinder, a screened hopper or well arranged below the cylinder, an elevator leading from the hopper, and discharging over a screen, a fan arranged behind the screen, and means for bending and directing the grain to the threshing-cylinder, substantially as described.

5. In a rice-harvester, the combination of means for gathering and bending the rice-heads laterally, and a conical threshing-cylinder, substantially as described.

6. In a rice-harvester, the combination of means for gathering and raising lodged or bent grain, means for laterally deflecting and bending the stems of the grain, and a threshing-cylinder having its axis arranged longitudinally of the machine and alongside and above the lateral throat or passage for the grain, substantially as described.

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

WILSON S. TEMPLE.

Witnesses:

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JOHN S. BELT.