

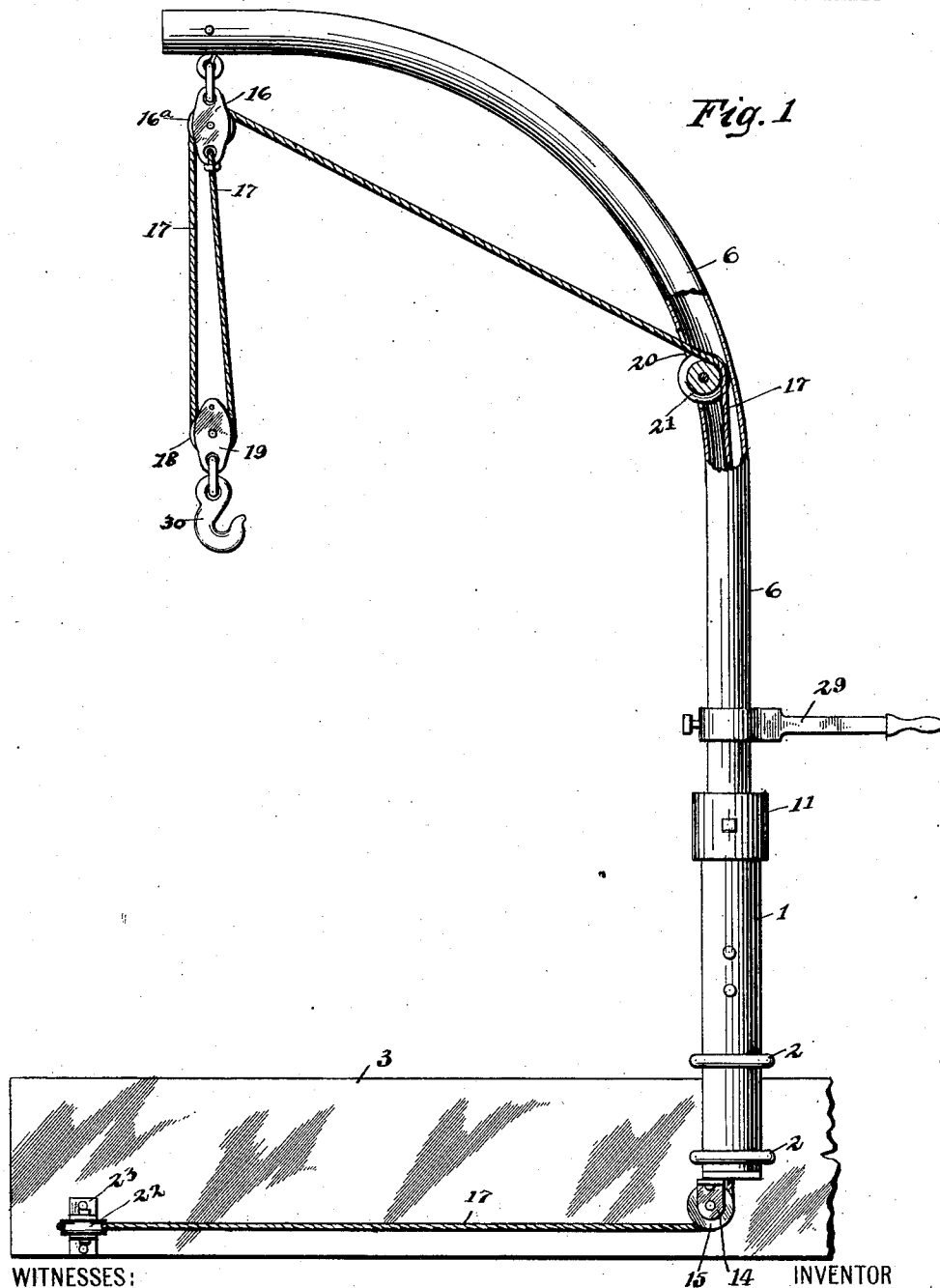
No. 754,586.

PATENTED MAR. 15, 1904.

E. T. MAXWELL.
LOADING APPARATUS.
APPLICATION FILED SEPT. 14, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

S. Edwin Ward.
A. L. Phelps

INVENTOR
Elmer T. Maxwell

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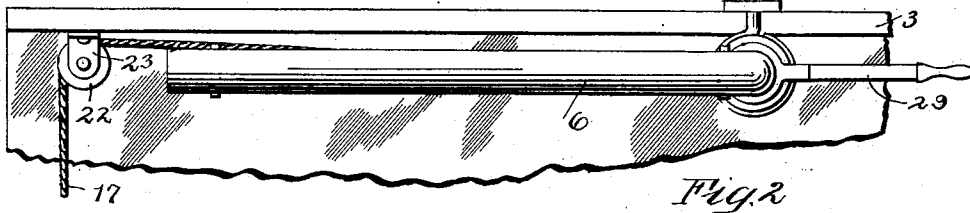
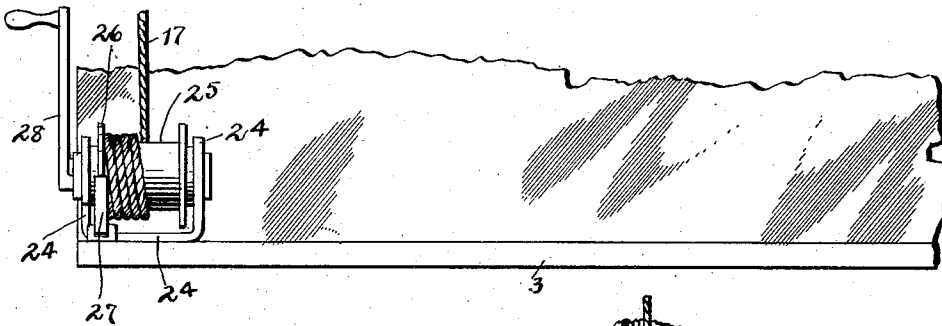
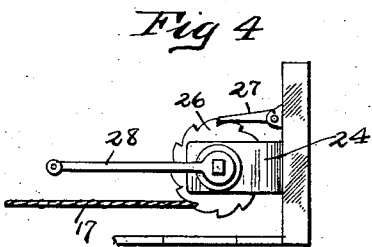
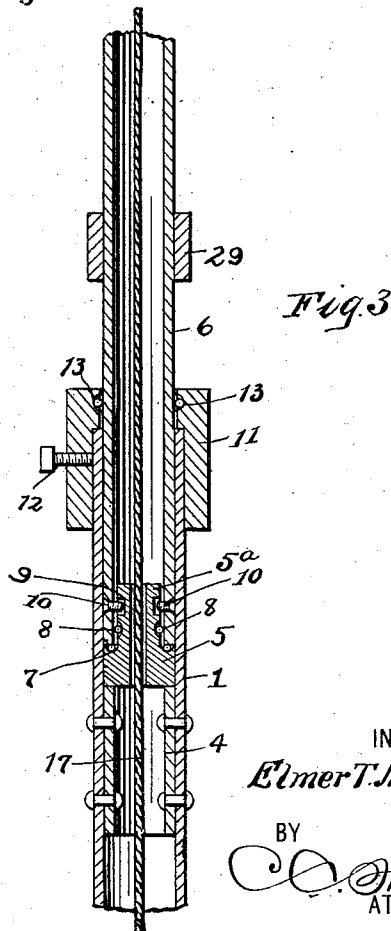
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UNITED STATES PATENT OFFICE.

ELMER T. MAXWELL, OF WOOSTER, OHIO.

LOADING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 754,586, dated March 15, 1904.

Application filed September 14, 1903. Serial No. 173,212. (No model.)

To all whom it may concern:

Be it known that I, ELMER T. MAXWELL, a citizen of the United States, residing at Wooster, in the county of Wayne and State of Ohio, have invented a certain new and useful Improvement in Loading Apparatus, of which the following is a specification.

My invention relates to the improvement of devices for loading corn-shocks or other material onto wagons or other elevated receptacles; and the objects of my invention are to provide, in conjunction with a wagon-frame or other structure, an improved construction of hoisting and loading apparatus, to provide improved means for operating the same whereby the elevation of a corn-shock or other similar body may be attained with comparative ease, and to produce other improvements the details of which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation of my improved loading device, showing the same in connection with the inner side of a wagon side frame and showing a portion of the swinging crane-arm broken away for the sake of clearness in illustration. Fig. 2 is a plan view of my device, shown in connection with a wagon-bed. Fig. 3 is a central vertical section of a portion of the crane standard and arm enlarged from that shown in Fig. 1, and Fig. 4 is a side elevation of the rope-reel which I employ in the manner hereinafter described.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention I employ a vertical tubular standard 1, the lower portion of which is adapted to be secured, through the medium of suitable keepers 2, to one of the horizontal side bars 3 of a wagon-frame or other framework or receptacle. Within the lower portion of the tubular standard 1 is secured a comparatively short pipe-section 4, and upon the upper end of this pipe-section is supported a tubular bearing-plug 5, the latter having its lower enlarged end portion of equal circumference with the pipe-section 4 and having its reduced upwardly-extending or neck portion, which is indicated at 5^a, fitting loosely

within the lower end of the vertical portion of a rotatable crane-arm 6. The lower portion of the crane-arm 6 is adapted to bear, as shown in Fig. 3 of the drawings, upon a circular row of bearing-balls 7, which are arranged within a raceway in the upper side of the shoulder formed by the enlargement of the lower portion of plug 5. The reduced portion 5^a of the plug is also formed with a ball-raceway on its periphery, containing bearing-balls 8, said balls adapted to lie between the surfaces of said raceway and the crane-arm 6. In the upper portion of the plug 5 is provided a peripheral groove 9, into which are adapted to project the inner ends of set-screws 10, which pass through the lower portion of the arm 6.

About the upper end of the standard 1 I employ a collar 11, the latter being adjustably secured to said standard 1 through the medium of one or more set-screws 12. The upper portion of the collar 11, which extends above the standard 1, has a central opening reduced and made to embrace the arm 6. On the inner side of the upper portion of the collar 11 is provided a continuous ball-raceway, within which are mounted bearing-balls 13, the latter being thus retained in frictional contact with the periphery of the arm 6.

Journaled between suitable bearing-lugs 14, which depend from the lower open end of the standard 1, is a grooved wheel 15.

That portion of the hollow or tubular crane-arm 6 which rises above the standard 1 is, as shown, curved or bent outward until the upper end portion of said arm is at right angles with the lower vertical portion thereof. With this outer end portion of the crane-arm is connected a depending pulley-block 16, and with the lower end of the latter is connected a rope 17, which depending from said block passes about a pulley 18, mounted in a suspended block 19, and from said block 19 said rope 17 runs upward over a pulley 16^a within the block 16, thence inward through a slotted opening 20 in the arm 6 and over a pulley 21, journaled within said arm. From the pulley 21 the rope leads downward through the crane-arm, bearing-plug 5, and standard 1, passing out and about the under side of the pulley 15,

from which said rope leads lengthwise of the adjoining side frame 3 to and about a pulley 22, the supporting-bracket 23 of which is secured to said side frame at a point near the rear end of the wagon.

Secured to the inner side of the wagon-frame bar 3, which is opposite that carrying the pulley 22, is a yoke-like bracket 24, in the projecting arms of which are journaled the ends of a reel-body 25, said reel-body carrying on one side of its center a toothed flange or ratchet-wheel 26, with which teeth is adapted to engage successively the outer or free end of a pivoted pawl 27. One end of the reel-body is provided with an operating crank-handle 28. From the pulley 22 the rope 17 leads across to and is connected with the reel 25, on which said rope is adapted to be wound.

As indicated in the drawings, I provide the vertical portion of the crane-arm with an outwardly-extending operating bar or handle 29, and, as indicated at 30, the pulley-block 19 may have suspended therefrom a hook.

In utilizing the above-described mechanism for loading corn-shocks onto a wagon with which my device is connected, as above described, the outturned end portion of the crane-arm is swung outward over the wagon side and the rope 17 lowered until in position for an operator standing upon the ground to engage said rope in a suitable manner with the corn-shock. This being accomplished, the corn-shock is elevated by turning the crank-handle of the reel and winding the rope on said reel until the shock is at the desired elevation. The crane-arm 6 is now swung or partially rotated so as to bring the shock in proper position for discharge upon the wagon or load. In swinging the crane-arm it is obvious that the handle 29 may be employed as a lever therefor and that owing to the ball-bearing support of the crane-arm within the tubular standard and about the internal plug 5 the swinging movement of said crane-arm will be made with comparative ease. It will also be understood that owing to the fact that the reel is located adjacent to the end of the wagon-frame the operator upon the ground may readily control the operation of said reel

and the engagement or disengagement of the pawl of the ratchet-wheel thereof.

It will be observed that the construction herein described is simple and that owing to the fact that the rope throughout a greater portion of its length runs through the tubular parts said rope is prevented from undesirable interference with the material forming the load.

While the device herein described is particularly adapted for loading corn-shocks onto a wagon or other receptacle, it is obvious that the same might be employed for elevating and depositing material other than corn-shocks.

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

1. In an apparatus of the character described, a hollow standard having an internal annular shoulder, a tubular bearing-plug supported upon the shoulder and having its upper end reduced, a tubular crane-arm seated within the standard with its lower end rotatably supported upon the bearing-plug and embracing the reduced portion thereof, and a hoisting-cable hung from the crane-arm with one end portion running through the arm and also through the tubular bearing-plug.

2. In an apparatus of the character described, a hollow standard which is open at the top and bottom and has an internal annular shoulder, a tubular bearing-plug supported upon the shoulder and having its upper end reduced, a rotatable tubular crane-arm having its lower end fitted within the standard to embrace the reduced portion of the bearing-plug and also supported thereon, a pulley at the open lower end of the standard, a pulley set in an opening in the crane-arm, a hoisting-cable hung from the crane-arm with one portion engaging the last-mentioned pulley and running through the opening in the arm down through the latter and the tubular plug and out across the lower pulley, and a reel for the cable.

ELMER T. MAXWELL.

In presence of—

CLIFTON C. EUANS,
C. C. SHEPHERD.