

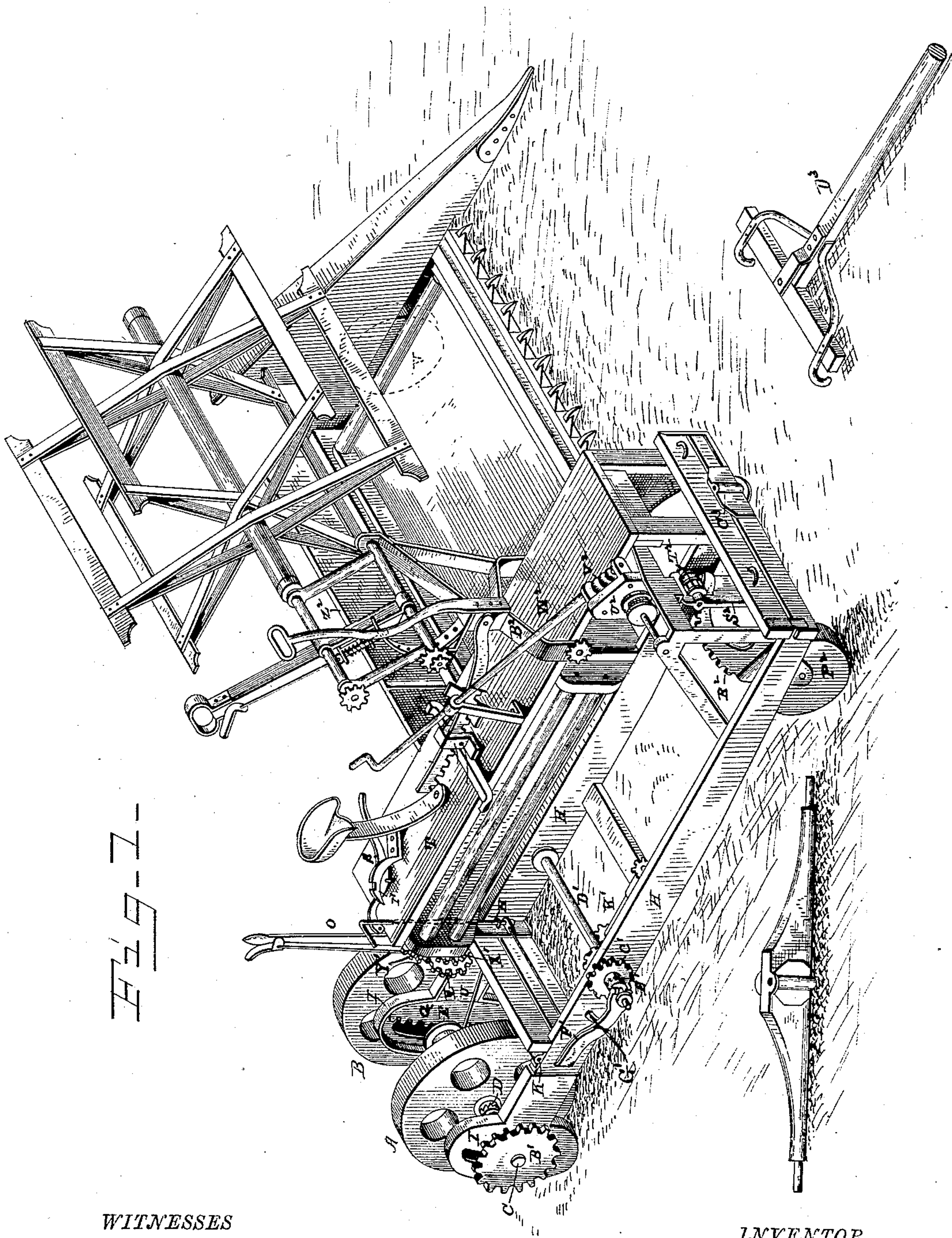
(No Model.)

5 Sheets—Sheet 1.

F. COOK.
HARVESTER.

No. 354,397.

Patented Dec. 14, 1886.



WITNESSES

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Charles H. Davis.

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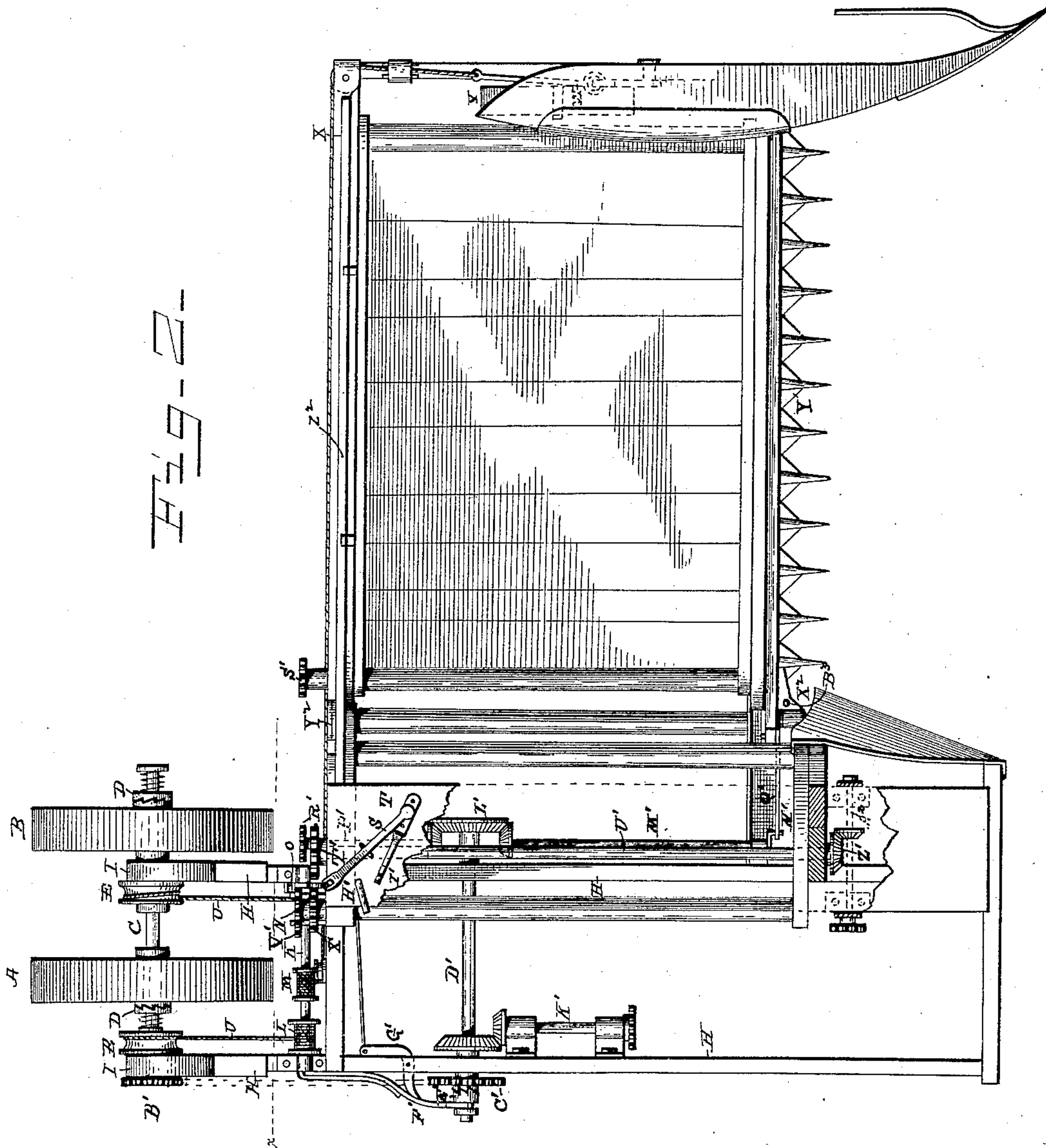
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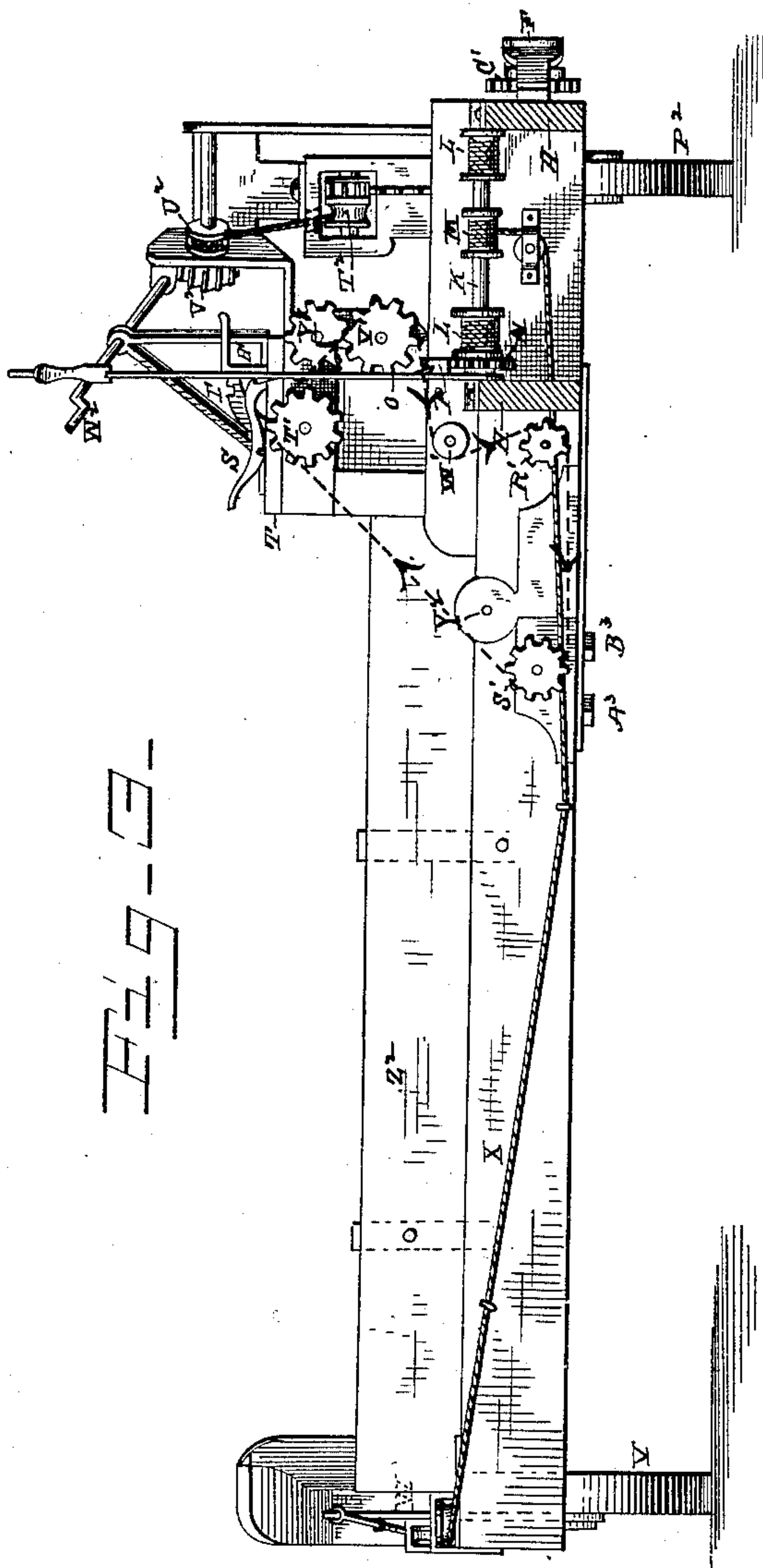
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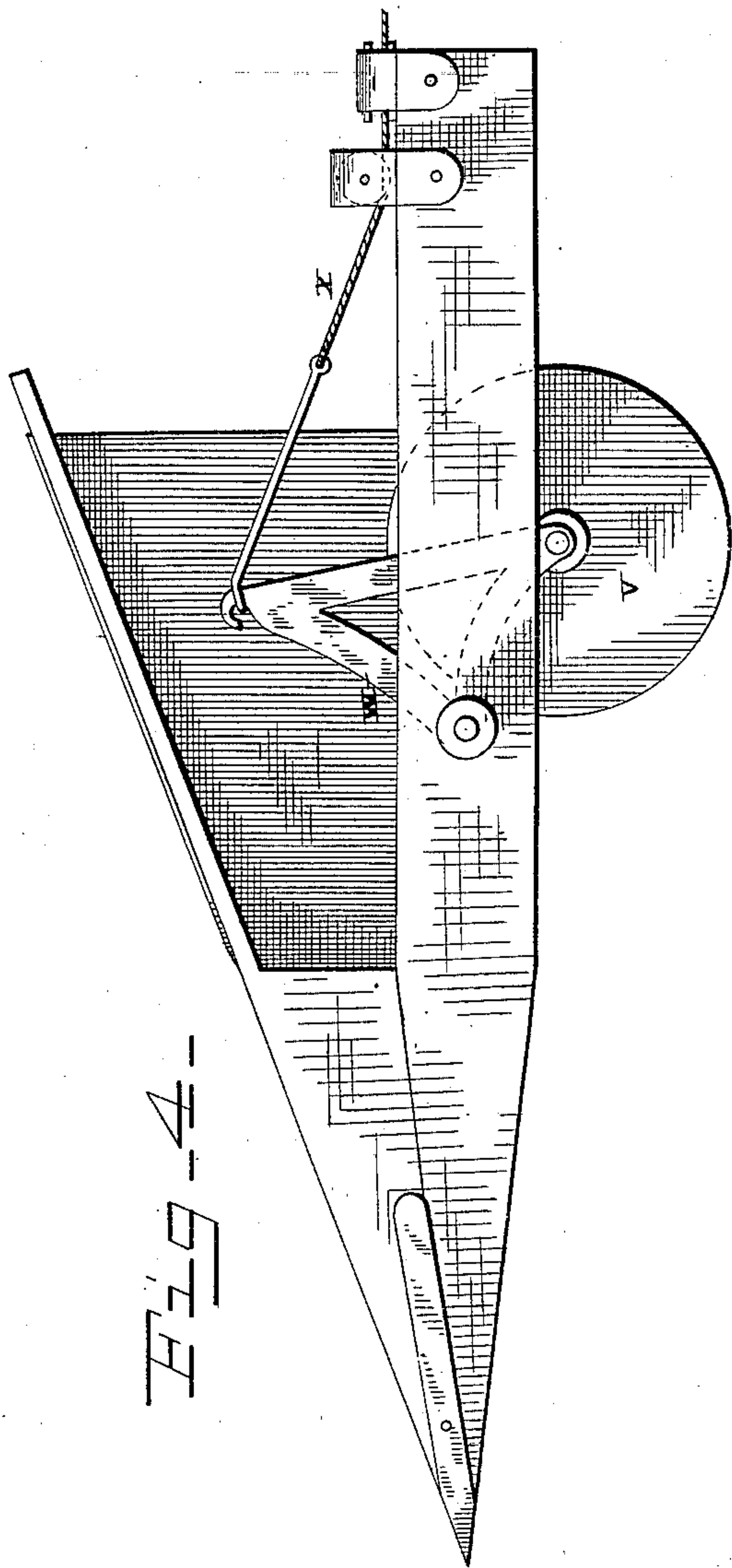
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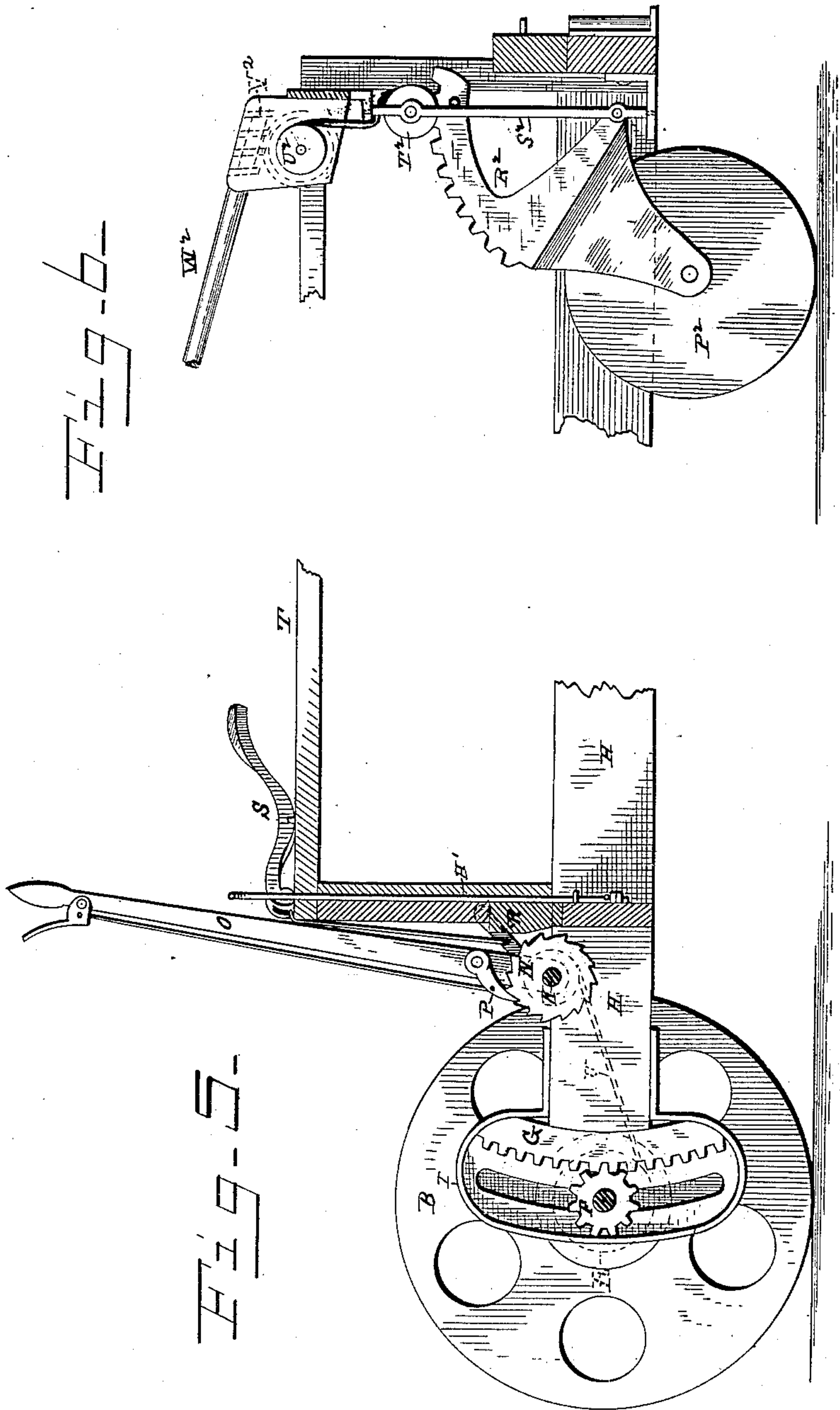
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UNITED STATES PATENT OFFICE.

FREDERICK COOK, OF TAYLORVILLE, ILLINOIS.

HARVESTER.

SPECIFICATION forming part of Letters Patent No. 354,397, dated December 14, 1886.

Application filed March 9, 1885. Serial No. 158,169. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK COOK, a citizen of the United States, residing at Taylorville, in the county of Christian and State of Illinois, have invented certain new and useful Improvements in Harvesters, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in harvesters of that class known as "low-down harvesters," and is designed to produce a machine that may be lowered or raised in a vertical direction to adjust the cutting apparatus for heading or for cutting different lengths of straw, to obviate the excessive elevation of the grain to carry it over the drive-wheel. The peculiarity of construction also enters into the invention.

The above object, as well as the construction of the device, is set forth below in the description, reference therein being had to the annexed drawings, in which—

Figure 1 represents a perspective view of the harvester; Fig. 2, a plan view of the same; Fig. 3, a rear elevation with the reel and drive-wheels removed; Fig. 4, an elevation of the grain end of the platform; Fig. 5, a detail elevation of one of the drive-wheels, and Fig. 6 a detail elevation of the front caster-wheel.

The machine is provided with two drive-wheels, A and B, arranged preferably at the rear of the frame, but which may be placed at any convenient and practical point where the conveyer of the binding apparatus will not pass over them. One wheel may be used in place of two. Each of the wheels is loose on the axle C and carries it in one direction only by means of clutch D.

Pulleys E, carrying pinions F, form bearings for the shaft or axle C. The pinions F engage with racks G, secured to projecting portions of the frame-beams H. A slotted casing, I, keeps the pinions, and consequently the shaft, in proper conjunction with the rack, the shaft extending through the said slots and vertically adjustable in them.

Secured by suitable bearings to the frame-beams H is a shaft, K, carrying drums L L and M, said drums L L being connected with the pulleys E. A ratchet-wheel, N, fastened to the shaft and a lever, O, loosely pivoted

thereon, with its pawl P and its connections to the small thumb-lever at the upper end of the hand-lever O, serve to operate the said shaft. A detaining-pawl, R, pivoted to the frame, prevents the backward turning of the shaft K during the reverse motion of the lever O, and this pawl is operated to disengage with the wheel N by means of a foot-lever, S, secured on the bridge T of the machine, in proximity to the seat.

Chains or ropes U pass from the pulleys E to the drums L and serve to turn the said pulleys so as to elevate the rear of the machine, the lever O being used for the purpose, while the disengagement of both pawls from the ratchet-wheel N will allow the said machine to fall quickly, a slower downward movement being obtained by the proper management of both the lever and the pawl.

The grain-wheel V is mounted on a bell-crank bearing, W, so that it may be simultaneously elevated or depressed with the drive-wheels by means of the connection X, consisting of a chain or rope passing to the drum M on the shaft K. The forward arm of the bell-crank being pivoted to the frame, the lower arm forming a bearing of the grain-wheel and the upper arm connected to the chain or rope X, it is evident that a rearward motion of the said rope will depress the wheel and raise the grain-receiving platform, while the slackening of the said rope will allow the said platform to descend by gravity.

On one end of the main drive-shaft is a sprocket wheel or pulley, B', from which a chain or belt passes to a sprocket wheel or pulley, C', on a shaft, D', journaled in the frame of the machine. The wheel C' turns loosely on its shaft, and by means of a clutch, E', carries it in one direction only. One portion of the clutch is annularly grooved and is splined to the shaft to permit a longitudinal travel. A spring-arm, F', with one end resting in the said groove of the clutch, keeps it normally engaged with the pulley or wheel C', while a lever or pawl, G', pivoted in the frame and connected to a shaft, H', extending to near the driver's seat, so as to be conveniently operated by him, disengages the clutch from the pulley or wheel C', and so stops the mechanism without stopping the machine. The shaft

H' is shown in the drawings as a rock-shaft, with the upper end so formed as to engage with a catch, I', on the bridge T when the clutch E' is thrown out of gear.

5 On the interior of the frame the shaft D' carries a bevel-gear, which operates a short shaft, K', actuating the binding mechanism.

The binding mechanism, which may be of any approved form or pattern, is not shown in the drawings, as it forms no part of the invention and would only serve to confuse.

The shaft D' carries at its inner end, beyond the inner frame beam, H, a bevel gear-wheel, L', which engages with a bevel-pinion on and gives motion to a shaft, M', journaled to the frame, and which carries a crank, N', giving a reciprocatory movement to the cutter-bar by means of a pitman, O'. (See Fig. 2.) The gear L' also operates a shaft, P', which passes through the rear of the frame and there carries a sprocket-wheel or pulley, R'. From this pulley the chain or belt passes to a wheel, S', at the end of one of the platform-carrier rollers, thence upward to a wheel, T', on the reel mechanism driving-shaft U', thence downward to a wheel, V', on one of the elevator-rollers, and thence over the loose pulley W' to the said wheel R'. A cog-wheel or pinion, X', on the roller carrying the wheel V' engages with a cog-wheel, Y', on another of the elevator-rollers and serves to operate the same. (See Figs. 2 and 3.) These various rollers, except those belonging to the platform-carrier, are journaled in the uprights supporting the bridge T. The shaft U' extends longitudinally under the bridge, close up to it, out of the way of the elevator-carriers, and projecting beyond the uprights in which the said rollers are journaled is there provided with a gear-wheel, Z', which intermeshes with one on a short transverse shaft, A², projecting beyond the sides of the bridge. The projecting portions of the said shaft form a pivotal bearing for the reel-supporting frame B².

45 The front of the machine is supported on a caster-wheel, P², journaled to a sector-plate, R², which in turn is pivoted at its center to a post, S², which turns in its bearings, so as to allow a lateral movement of the wheel P². 50 The curved edge of the sector-plate is formed into a rack and passes through a slot in the post. A combined pinion and pulley, T², is journaled in the post above the sector-plate.

In the frame-work of the machine above the pulley T² is a pulley, U², on a short shaft carrying also a worm-gear, V². A chain or wire rope connects the two pulleys. A shaft or rod, W², with a handle near the driver's seat and a worm at the other end engaging with the gear V², is journaled on the machine, and serves as a means whereby the mechanism controlling caster-wheel is operated, and the front of the machine raised or lowered at will. The mechanism above described is clearly 65 shown in Figs. 1, 3, and 7.

By reference to Figs. 2 and 3 it will be seen that the grain-receiving platform is hinged to

the frame at X² in the front and Y² in the rear. By removing the wind-board Z² and the bolt A³ from the rear and the bolt B³ from the front the entire platform may be turned up so as to rest against the bridge, the reel having been first thrown as far to the front as possible. By this arrangement the transportation and shipment of the machine through narrow places and convenience for storing is greatly facilitated. 70 75

In the foreground of Fig. 1 is shown an auxiliary axle, which is designed for use when it is desirable to move the machine from place to place, and is secured to a position under the front of the main frame of the machine by a king-bolt passing through a socket, C³, on the frame and a similar socket on the said axle. The grain and caster wheels are removed from their journals and placed on the auxiliary axle. The purpose of the axle is to provide a wide support for the front of the machine when it is transported, as the grain-receiving platform is then raised and the grain-wheel would no longer partially support the machine, and the front would be supported by the caster-wheel only, and the liability of the machine tipping over greatly increased. By placing the axle as described the said grain and caster wheels are utilized and a secure support obtained. A tongue, D³, is removably secured to the frame by flexible couplings, and may also be attached to the axle when the machine is transported. As the front caster-wheel sustains the front of the machine when in operation, and the tongue is flexibly connected to the frame, strain on the horses' necks from the weight of the machine is obviated. 80 85 90 95 100

In transportation the two drive-wheels are used, while in cutting and bundling the grain one will do, and both may be used. All the grain is carried under the bridge before being delivered to the binder, and the elevation to which it is carried is comparatively small, thereby making the power necessary for the operation proportionally less. 105 110

The operation is clearly apparent from the foregoing description.

As the invention is not confined to the specific construction nor the exact location of the various parts as herein described, and shown in the drawings, and as it is not intended to limit the claims by placing a too restricted interpretation upon the above specification, the right to vary the machine and its parts consistent with the spirit of the invention and its novelty is reserved. 115 120

The reel and mechanism connected therewith, as shown in Fig. 1 of the drawings, forms no part of this invention. 125

I claim—

1. In a harvester, a platform vertically adjustable on the drive wheel or wheels and on the grain-wheel simultaneously and on a front supporting-wheel independently, combined with means, substantially as specified, whereby the several adjustments are effected, substantially as described. 130

2. In a harvester, a supporting wheel, in
combination with a sector-lever provided on
its periphery with cog-teeth and having the
bearings for said wheel, a swivel-post to which
5 said lever is pivoted and provided with a lon-
gitudinal slot, a pinion and sheave journaled
in said post, said pinion engaging the sector
teeth, a sheave and worm-gear journaled on
the frame of the machine, a chain or cord con-

necting the said sheaves, and means for oper- to
ating the said worm-gear, substantially as
specified.

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

FREDERICK COOK.

Witnesses:

JAMES A. FIZZELL,

EUGENE C. F. KEMMERER.