

(No Model.)

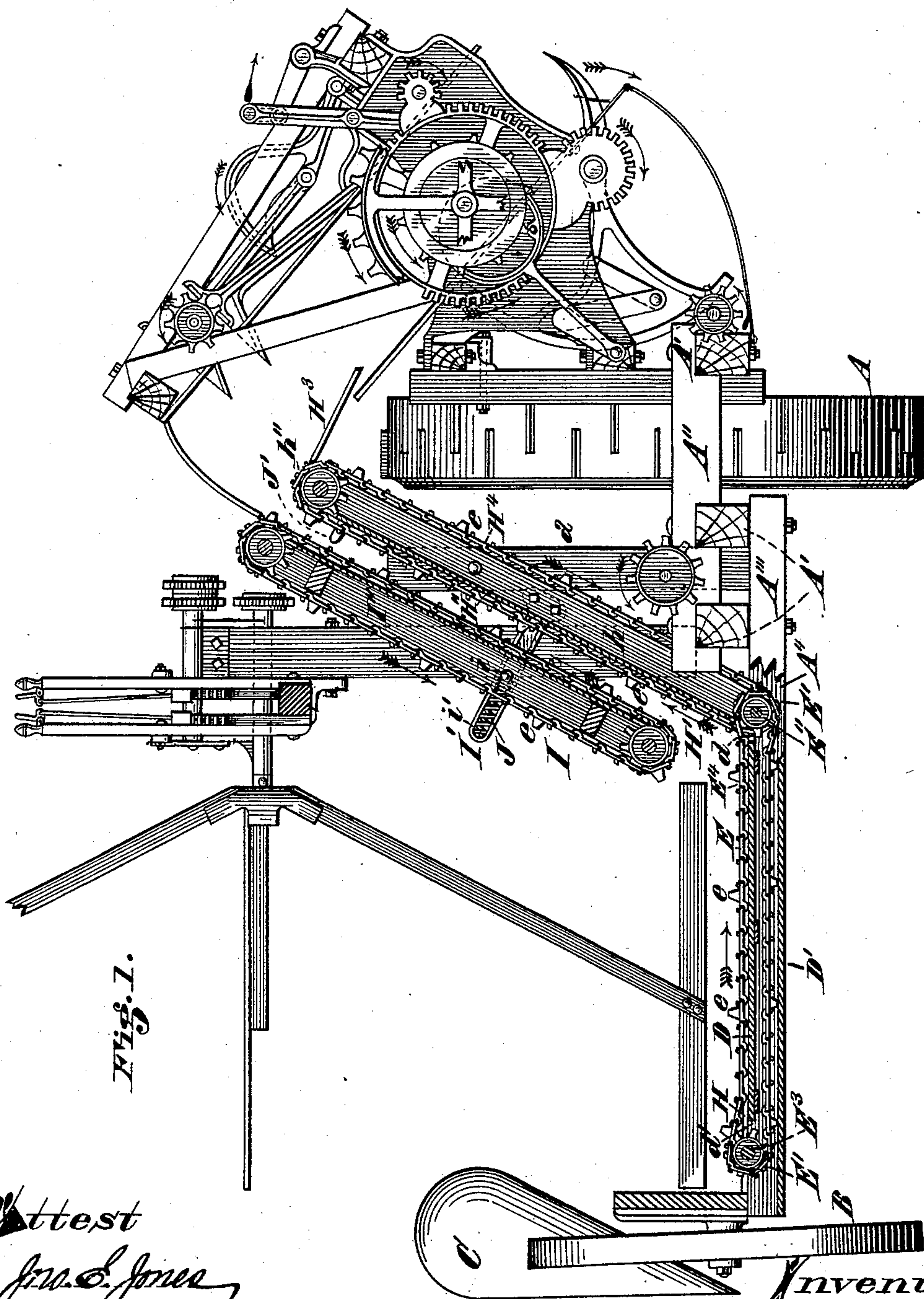
3 Sheets—Sheet 1.

R. BROWN.

HARVESTING MACHINE.

No. 285,730.

Patented Sept. 25, 1883.



Attest
Jno. E. Jones
Herbert P. Cook

Inventor
Robert Brown
by Wood & Bond
his Attorneys at Law

(No Model.)

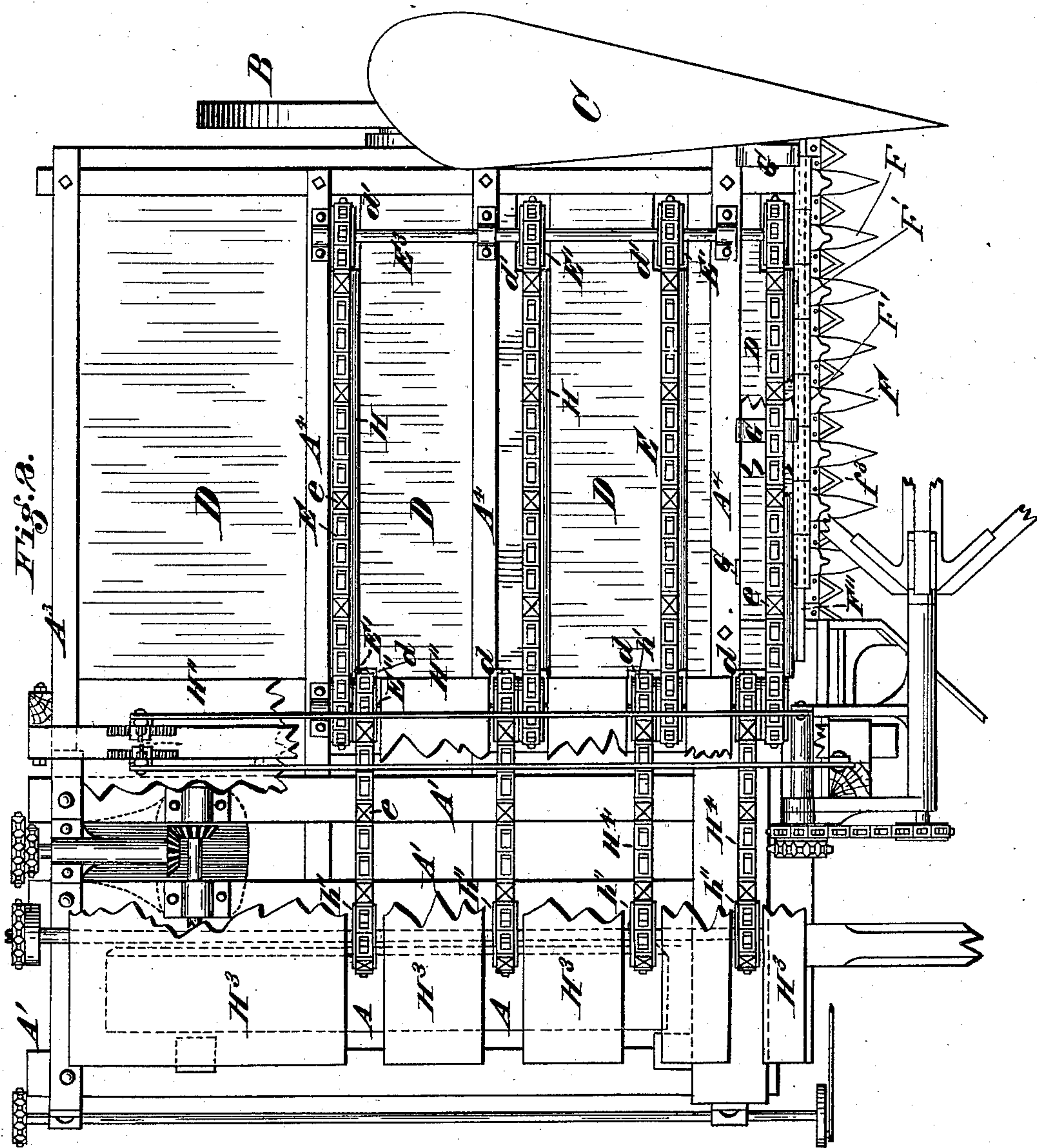
3 Sheets—Sheet 2.

R. BROWN.

HARVESTING MACHINE.

No. 285,730.

Patented Sept. 25, 1883.



Attest

Jno. E. Wiles.

Mr. E. Jones

Inventor

Robert Brown,

by Wood & Bond

His Attorneys re.

(No Model.)

3 Sheets—Sheet 3.

R. BROWN.
HARVESTING MACHINE.

No. 285,730.

Patented Sept. 25, 1883.

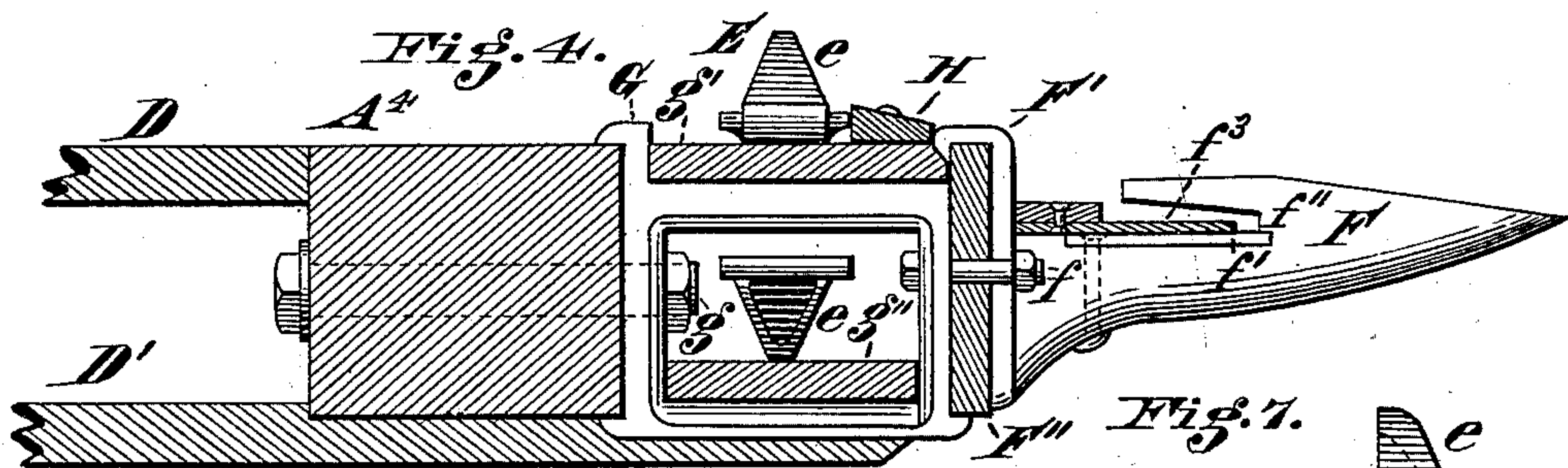
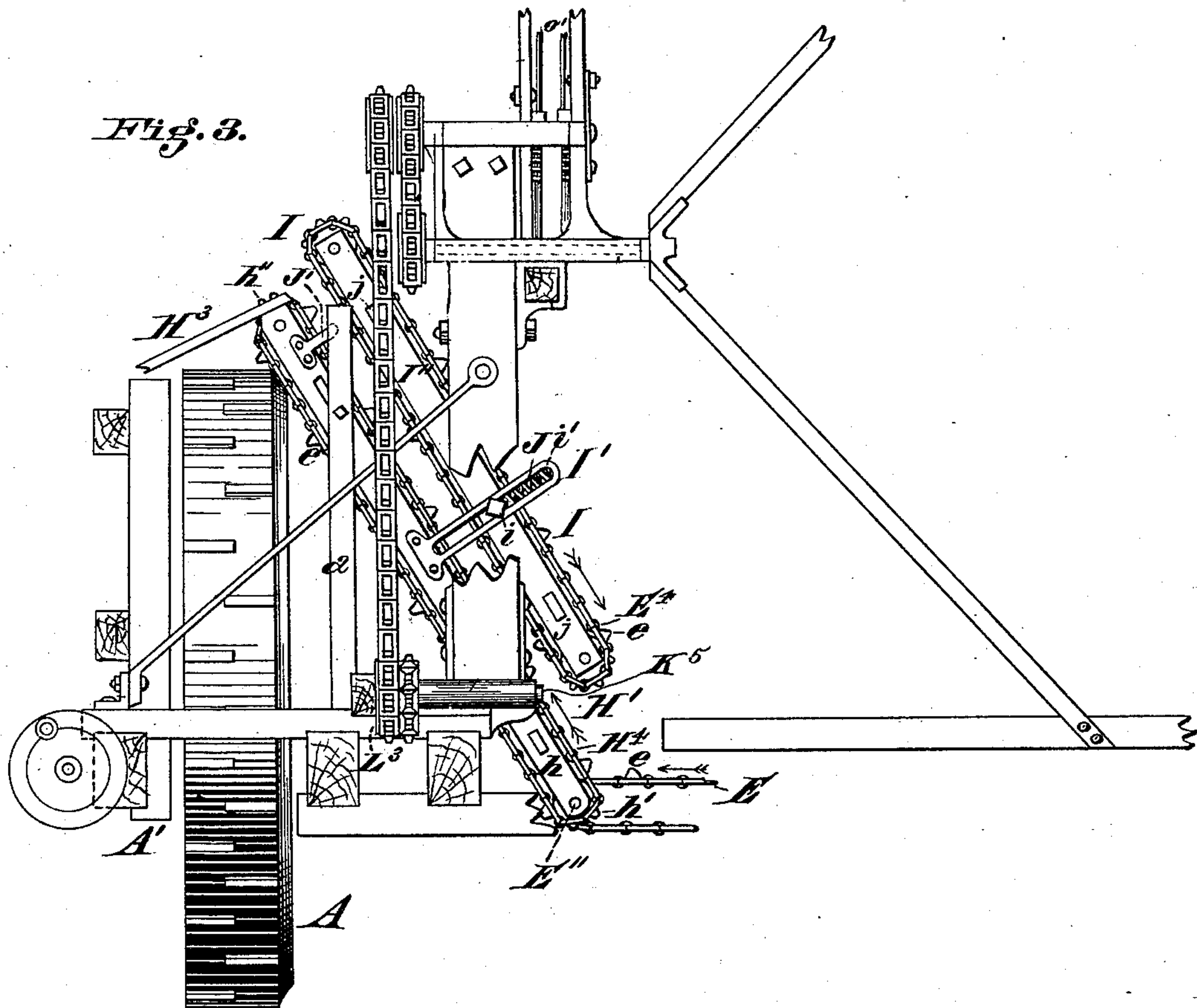


Fig. 5.

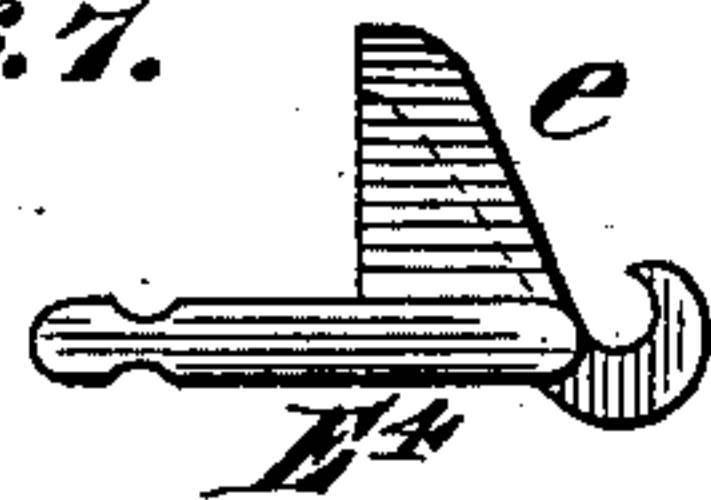
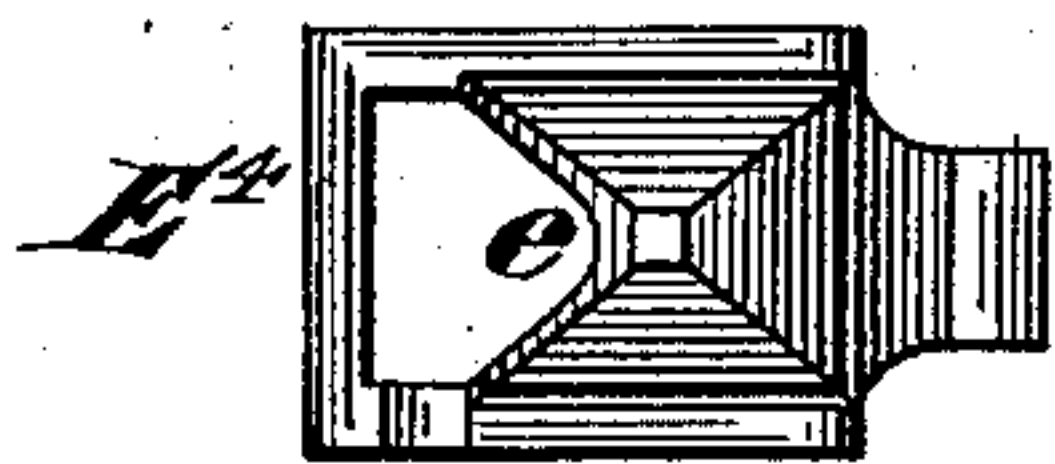
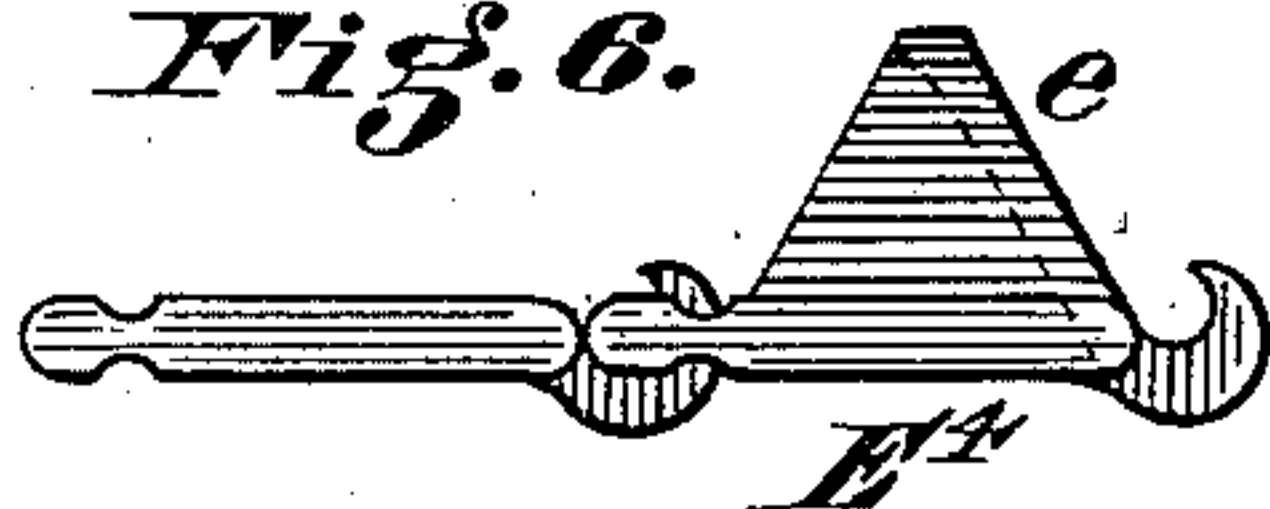


Fig. 6.



Attest
Jm. E. Jones
Herbert P. Cook

Inventor
Robert Brown
by *Wood & Bony*
his Attorneys &c.

UNITED STATES PATENT OFFICE.

ROBERT BROWN, OF SPRINGFIELD, OHIO.

HARVESTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 285,730, dated September 25, 1883.

Application filed April 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, ROBERT BROWN, a citizen of the United States, and a resident of Springfield, in the county of Clarke and State of Ohio, have invented certain new and useful Improvements in Harvesting-Machines, of which the following is a specification.

This invention relates to improvements in grain-binding harvesters; and it consists in the combination, with the elevator-chain carrier having fingers, of a carrier-float having carrier chains and fingers, and suspended on pivotal bearings acted on by springs, and arranged between the upper and lower ends of said float, on which it is adapted to oscillate, said float being arranged over the elevator-carrier, and adapted to automatically adjust itself on its pivotal bearings, as will more fully hereinafter appear.

The invention also consists of certain other features of construction and combination, all of which will be first specifically set forth in detail, and afterward pointed out in the claims.

In the accompanying drawings, Figure 1 represents a rear sectional elevation of sufficient of a harvesting-machine to illustrate my invention, with a binder mechanism attached thereto, which binder mechanism will form the subject-matter of a separate application. Fig. 2 is a plan view with the binder removed. Fig. 3 is a front elevation of the machine, with a part of the carrier-platform, reel-actuating levers, and reel broken off. Fig. 4 is a detail sectional elevation, showing one of the guard-fingers, the manner of mounting and securing the same to the platform, and two finger-links of the front carrier. Fig. 5 is a plan view of a finger carrier link. Fig. 6 is a side elevation of the same, showing its connection with an ordinary drive-chain link. Fig. 7 is a similar elevation, showing a modified form of finger carrier link.

The letter A indicates the ground or main driving-wheel, mounted in the usual manner on the main frame A'. The main and platform frames are composed of the beams or sills A' A'' A''' A⁴, upon which the carrier, cutter, and elevating mechanism are mounted.

The master-wheel is constructed, as customary, with gear on the interior of its rim connecting through suitable gear and shaft mech-

anism with cutting, carrying, elevating, and binding devices by which they are operated.

B indicates the grain-wheel; C, the grain-divider, and D a board platform. The platform D is provided with slots *d d'* at its ends, in which slots are sprocket-wheels E', mounted on shafts E² E³, driving the carrier-chains E. The carriers E are preferably ordinary drive-chains, being driven by the said sprocket-wheels E', and traveling around platform D, along it on its upper face, and passing underneath it, being supported by a bottom platform or floor, D', as shown in Fig. 1. The drive chains or carriers E have at intervals thereupon links E⁴, provided with upright fingers or hollow projections *e*, which run over the teeth of the upright wheels, catching the grain as it drops and conveying it to the elevating devices. These fingers *e* are preferably cast integral with the link, and are of pointed or pyramidal form.

The cutting mechanism operates in the ordinary way.

I provide detachable means of securing the guard-fingers F to the front beam or sill, A⁴, of the platform D, which is as follows:

F' indicates a hook-flange cast integral with the finger F, and projecting laterally from each side thereof; F'', a transverse strip or bar, over which the hook F' engages. The fingers are secured by bolts *f*, one of which passes through the lateral extension of the flange at each side of the finger F and through the bar F'', so that each finger is by this means firmly and separately secured, and at the same time is capable of being readily detached when required.

f' indicates steel-face plates in the slots *f''* of the guards, on which the knives *f³* travel.

G indicates a series of boxes or hollow brackets, by which the fingers are secured to the front beam of the platform-frame by bolts *g*. These boxes or brackets are located along the front beam of the platform at a suitable distance from each other, as shown in Fig. 2, any number being employed as may be found requisite to substantially support the finger-supporting bar and the strips on which the front carrier-chain travels.

g' indicates a strip of wood, placed on the boxes or brackets G, with its upper face on the same plane with the other parts of the platform

D, and upon which the front carrier, E, travels. Within the boxes or brackets G is a strip of wood, g'' , similar to strip g' , forming a continuous floor in the bottom of the boxes, upon which the said carrier is supported to prevent sagging.

H indicates beveled strips of wood or other suitable material secured on the platform D in line with and contiguous to each carrier-chain E, in front thereof only, to prevent the grain getting under said chains and becoming entangled therewith or otherwise affecting the operation of the machine.

H' indicates the grain-elevating mechanism. It is provided with an elevator-frame or inclined table, H'', arranged at an obtuse angle to the carrier-platform D, and abutting against it at its lower end. The table H'' is slotted at the points where the sprocket-wheels and chains are mounted in the same manner and at the same points as is the carrier-platform. The elevator-frame H'' is mounted on end walls or frames, h , which are secured to the main frame or uprights a , and is provided with an extension-shelf, H³, projecting at right angles to it over the ground-wheel A, to drop the grain onto the binder-platform. The extension-shelf H³ is slotted transversely, to permit the elevated grain to pass along it freely, and prevent its becoming entangled in the elevating mechanism or becoming choked.

H⁴ indicates elevating-chains of the same construction as carrier-chains E, and mounted on sprocket-wheels, h' h'' , for catching the grain from the carriers and elevating it to the binding mechanism.

I indicates a carrier-float suspended over the elevator H'' and in slotted arms I' at its ends, in front of elevator-frame H'', and constructed in a like manner. It is hung or pivoted on bolts i , passing through the end frames, I'', and slots i' of the arms I' and pressing against springs J, inserted in slots i' , swinging to and from the elevator H'' at top and bottom, according to the varying pressure of the grain at either of these points. The arms I' are secured at one of their ends on the end walls, n , of the elevator H', and project from it at right angles, the bolts or pivots i of float I moving in slots i' thereof, which are made concave on the inner faces to accommodate the said springs J. Short arms or stops J' may be attached to the elevator-walls or frames h , to abut against stops j on the float walls or frames, and thereby limit the swinging movement of the float.

I have shown the fingers e of the carrier-chains as made integral with the sprocket-chain links and as tapering upward from the chain-links. The forward edge alone of the finger may be made tapering, as shown in the modification Fig. 7, and perform the same office, which is to leave the grain easily without entangling. Instead of sprocket-wheels and chains, other forms of metallic carriers

with the fingers tapered in a similar manner might be substituted, if desired.

I have illustrated in the drawings devices for swinging the reel post or standard to adjust the reel; but such are not here claimed, as they will form the subject-matter of a separate application for Letters Patent.

What I claim is—

1. The combination, with the elevator-chain carrier having fingers, of a carrier-float having carrier chains and fingers, and suspended on pivotal bearings acted on by springs, and arranged between the upper and lower ends of said float, on which it is adapted to oscillate, said float being arranged over the elevator-carrier, and adapted to automatically adjust itself on its pivotal bearing, substantially as set forth.

2. The combination, with the elevator-chain carrier having fingers, of a grain-car-rying float composed of a series of traveling chains, also provided with fingers, and having pivots intermediate its ends, slotted bearings in which said pivots are arranged and supported, and springs provided in the slotted bearings to act on the pivots for permitting the float to oscillate and adjust itself parallel with the elevator, substantially as described.

3. In a harvester, the combination of the finger-supporting bar F'', the hollow boxes or brackets G, secured between the finger-supporting bar and the front beam of the platform-frame of the machine, the upper and lower strips, g' g'' , supported by the hollow boxes or brackets, and the carrier-chains E, traveling over and sustained by said strips, substantially as described.

4. In combination with the fingers F, their supporting-bar F'', and the grain-platform, the front carrier-chain-supporting devices, formed of a series of hollow boxes or brackets, upon the top of which the said front carrier-chain is supported, and through the interior of which the return portion of the chain travels, and to which the finger-supporting bar is secured, substantially as described.

5. In a harvester having an endless chain carrier, the series of hollow brackets G, supporting the bar F'', and the guard-fingers F, the supporting-bar being attached to the hollow brackets, substantially as described.

6. In a harvester having the grain-platform, a hollow boxing for supporting the endless front carrier-chain in close proximity to the cutters, composed of a series of hollow boxes or brackets G and strips g' g'' , substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ROBERT BROWN.

Witnesses:

JNO. E. JONES,
HERBERT P. COOK.