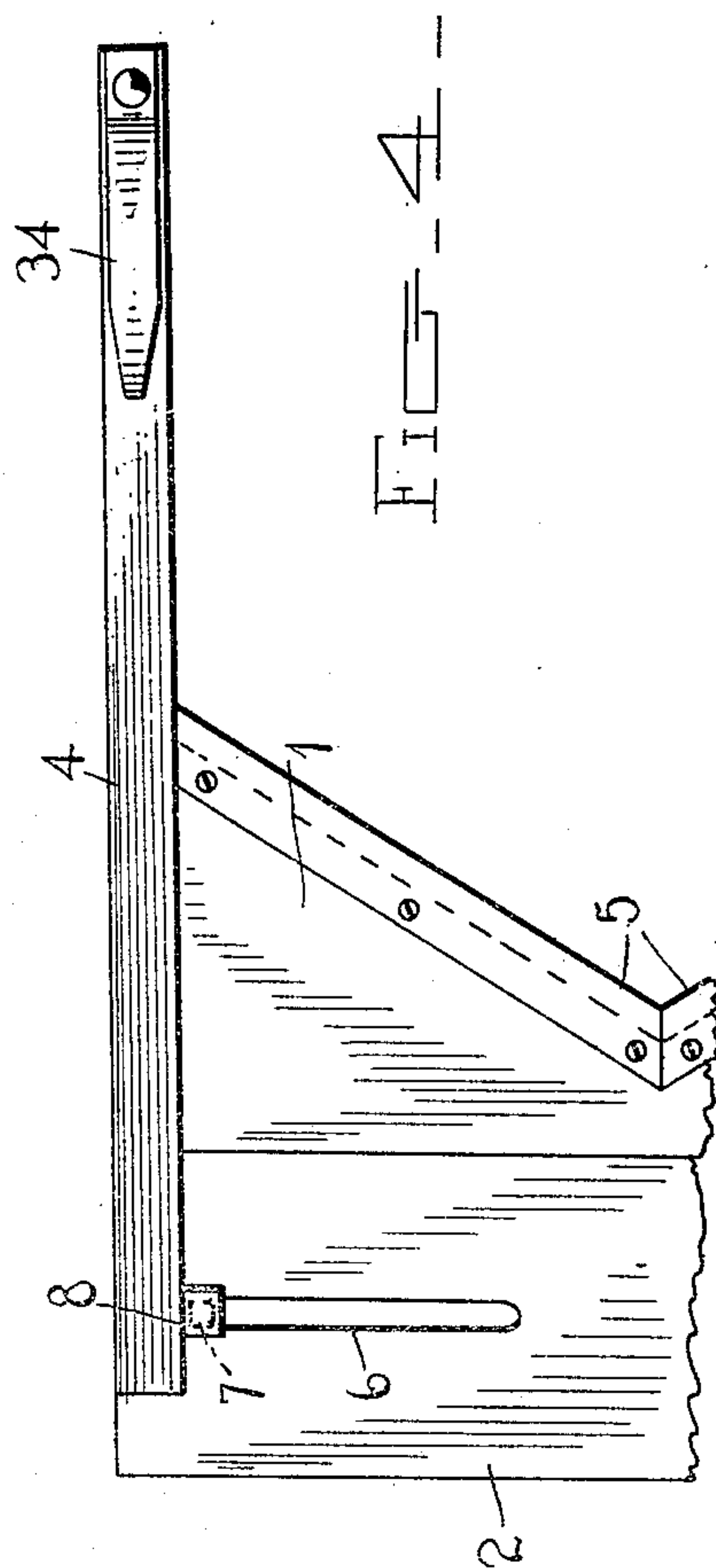


898,518.

3 SHEETS—SHEET 1.



L. B. James  
L. C. McIntyre -

# Frederick W. Smith

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Charles Chandler

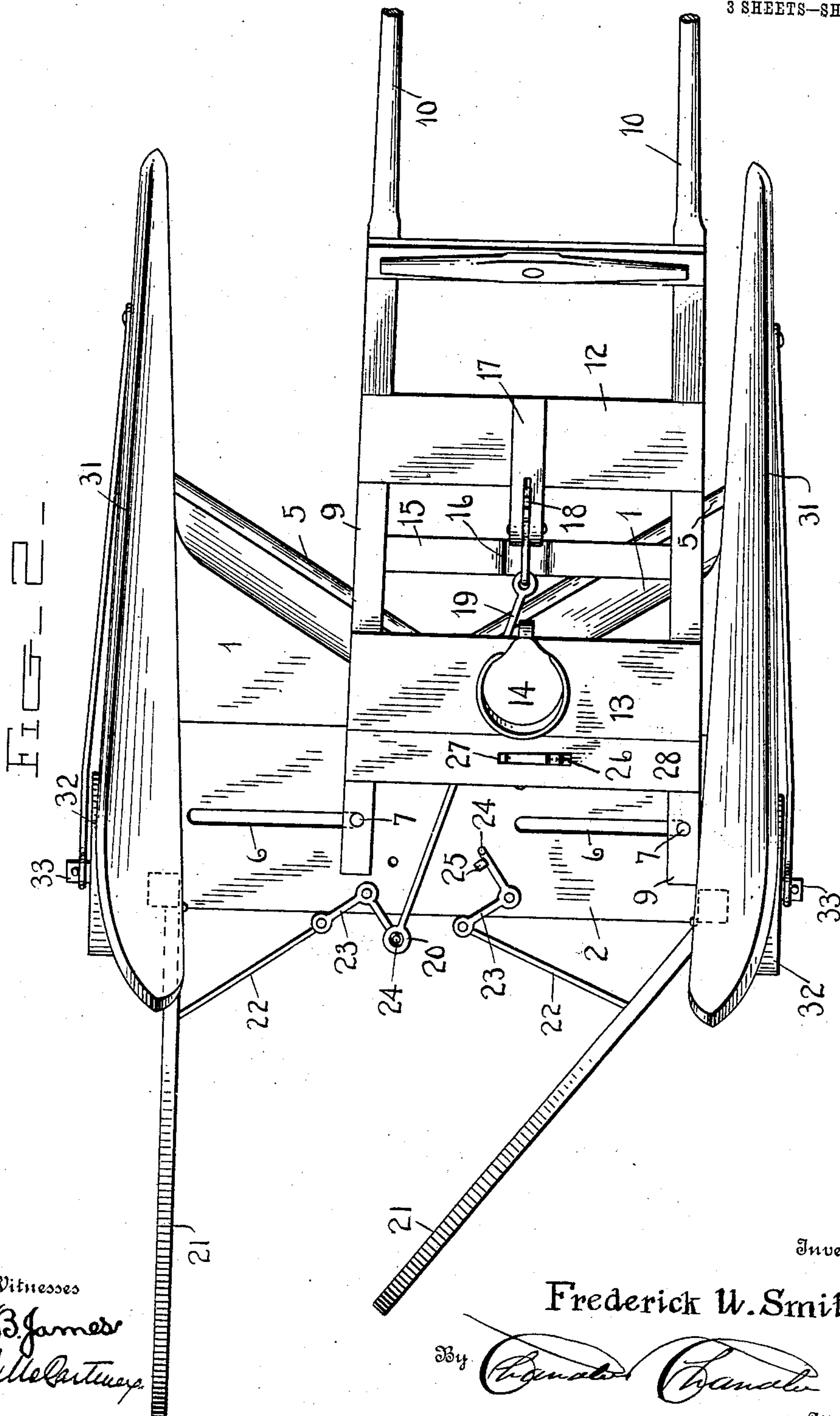
Attorneys

F. U. SMITH.  
CORN CUTTING MACHINE.  
APPLICATION FILED FEB. 26, 1908.

898,518.

Patented Sept. 15, 1908.

3 SHEETS—SHEET 2.



Witnesses  
L. B. James  
H. C. McCarty

Inventor  
Frederick W. Smith

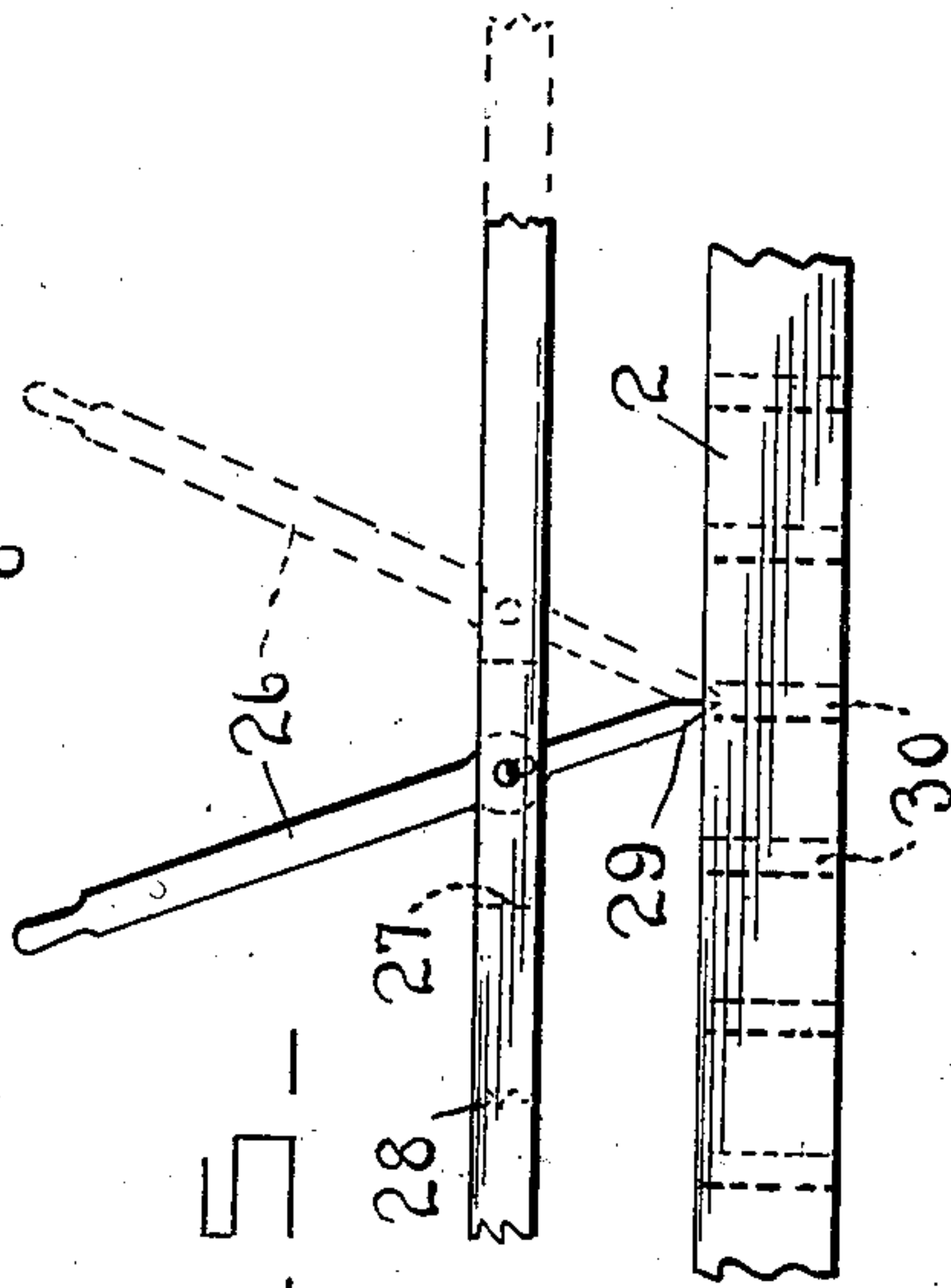
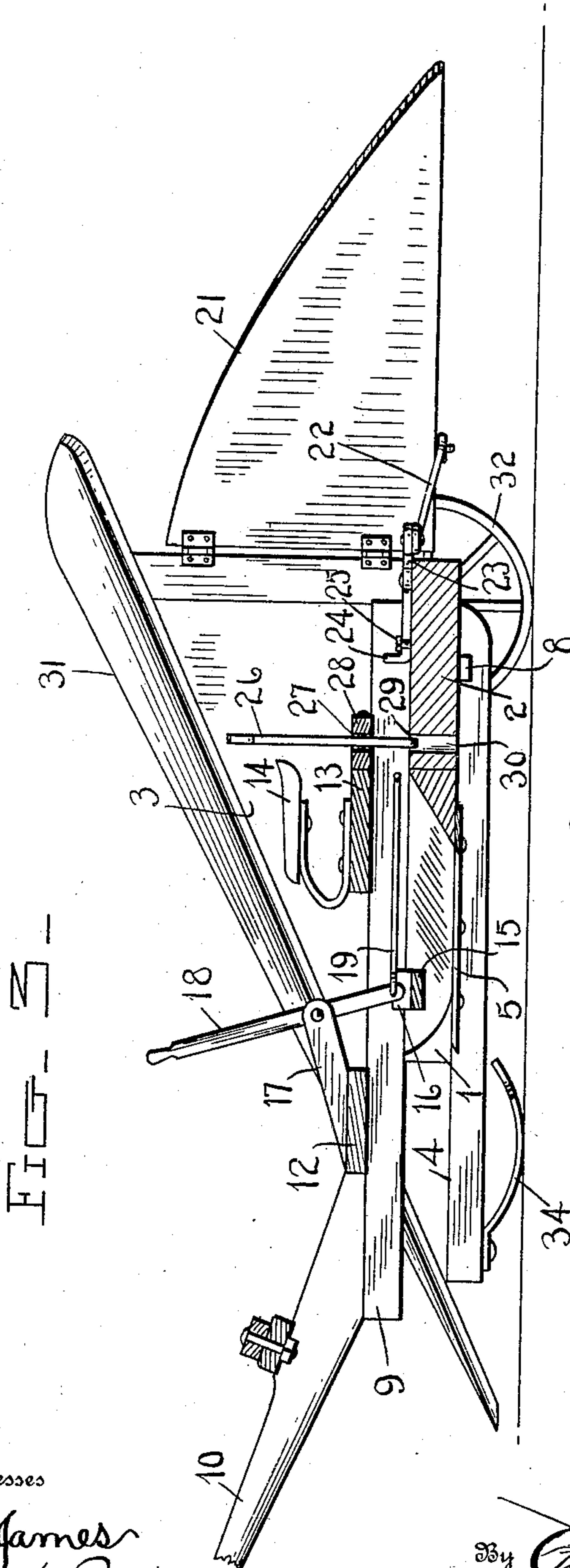
By *Charles Chan*  
Attorneys

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3 SHEETS—SHEET 3.



Witnesses  
L. B. James  
H. C. McQuinn

Inventor  
Frederick U. Smith  
By *Charles Charles*  
Attorneys



# UNITED STATES PATENT OFFICE.

FREDERICK U. SMITH, OF MCGINNIS, MARYLAND.

## CORN-CUTTING MACHINE.

No. 898,518.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed February 26, 1908. Serial No. 417,906.

*To all whom it may concern:*

Be it known that I, FREDERICK U. SMITH, a citizen of the United States, residing at McGinnis, in the State of Maryland, have invented certain new and useful Improvements in Corn-Cutting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention has reference to improvements in machines for cutting corn, and it aims, generally, to provide an exceedingly simple and effective machine of the above specified class, in which the main or cutting frame has mounted thereon, a shaft carrying frame, shiftable from side to side, so as to expose for operation, either of the pair of oppositely inclined knives carried by the cutting frame.

More especially, the invention resides in the specific construction of the shaft carrying frame, in the particular means employed for effecting the shifting movement thereof, in the provision of a pair of drop-gates hinged to the rear ends of the sides of the cutting frame, and in the provision of means for holding said gates against movement and for operating the gates.

With the above and other ends in view, the invention consists in the particular construction, combination and arrangement of parts, all as hereinafter fully described, specifically claimed, and illustrated in the accompanying drawings, in which drawings like parts or features, as the case may be, are designated by similar reference numerals in the several views.

Of the said drawings: Figure 1 is a side elevation of the improved machine. Fig. 2 is a plan view. Fig. 3 is a longitudinal vertical section through Fig. 2. Fig. 4 is a fragmental bottom plan view illustrating the position of the inclined cutting knives and the headed bolts which connect the shifting frame to the main frame. Fig. 5 is a fragmental rear elevation illustrating the position of the lever for moving the shifting frame.

Referring more particularly to the drawings, the machine is shown as comprising a main or cutting frame and a shaft carrying frame which is mounted on the main frame and shiftable from side to side thereof.

The beams 1 and 2 which constitute the base of the main frame extend at opposite

ends through openings formed in the lower edges of the triangular sides 3 of said frame, said beams and sides resting upon the longitudinal sills 4. The front beam 1 is itself composed of a pair of right-angled triangular members which are oppositely disposed with respect to each other and have their hypotenuses directed towards the front of the machine, each of said members having a cutting blade 5 secured to the lower face thereof at such edge, said blades thus forming, virtually, a V-shaped cutting member.

The rear beam 2 has formed therethrough a pair of alining longitudinal slots 6, through each of which slots extends a bolt 7 whose head 8 bears against the under face of said beam. The major portion of the shank of each bolt is rectangular in cross section, while the free end thereof, which projects above the upper face of said beam, extends through a threaded opening formed in the rear end of the adjacent longitudinal sill 9 of the shiftable frame, each sill having secured to its forward end, a shaft 10. The sills 9 are connected together adjacent their opposite ends, by front and rear cross pieces 12 and 13, upon the latter of which, a seat 14, for the operator or driver, is mounted.

The cross pieces 12 and 13 are secured to the upper faces of the sills 9, which latter are further connected by a central cross piece 15 secured to the lower faces of said sills, and disposed between the first mentioned cross pieces, said cross piece having a transverse seat 16 formed in the upper face intermediate the ends thereof. The front cross piece 12 has mounted thereon, a rearwardly extending bracket 17, whose free end is bifurcated and has pivotally connected thereto at such point a lever 18, the lower end of which is pivoted to the front end of a pitman 19, which extends across the beams 1 and 2, and has its rear end provided with an eye 20. The lower end of the lever 18 extends into the seat 16 formed in the cross piece 15.

Each side member 3 of the main frame has hinged to the rear edge thereof, a drop-gate 21 which is likewise triangular in shape, each gate being pivotally connected by a pitman 22 with the rear arm of an angle lever 23 pivoted to a pin set into the upper face of the rear beam 2, said angle levers being disposed opposite to each other in the rear of the sills 9 and towards the center of said beam. The free end of the forward arm of each angle lever is bent upwardly, as indicated by the numeral



24, the eye end of the pitman 19 being adapted for engagement with the bent end of either angle lever according as one gate or the other is to be operated, as hereinafter described.

5 The angle lever unengaged with the pitman 19 is held against movement when the machine is in motion by means of a headed bolt 25 which is adapted to contact with the forward arm of said angle lever, the shank of said bolt fitting in a bolt hole formed in the rear beam 2, there being a pair of such bolt holes, so as to permit the bolt to be engaged with either angle lever.

The sidewise movement of the shifting frame is effected by means of a shifting lever 15 26, which is pivoted intermediate its ends in a slot 27 formed longitudinally of a cross piece 28 secured at opposite ends to the sills of said frame and disposed in the rear of the cross piece 13, the lower end 29 of said lever being pointed, as shown, for engagement interchangeably in a series of perforations 30 formed in the beam 2 of the main frame and occupying a plane common with that of said slot. The shifting lever has its free end extending within reach of the occupant of the seat 14, who can therefore shift the movable frame to one side or the other by a corresponding movement of said lever, so as to expose either cutting blade 5 for operation, according to the direction in which the machine is traveling, the shifting of said frame being effected after one row of corn has been cut and the machine is being turned to cut the succeeding row, as hereinafter described.

The side members of the main frame are each further provided with a guide 31, secured to the upper edge or hypotenuse thereof and set at an angle to its vertical plane, the front end or nose of each guide extending below the plane of the sills 4, said guides tapering from end to end as shown. During the movement of the machine, the corn cut by the exposed blade 5 will pass along said guides and the exposed portions of the beams 1 and 2, and will be directed by the adjacent drop gate (which is held against movement in the manner above described), towards the other drop gate and held between said gates until the stack is reached, whereupon the drop gate lever 18 is shifted so as to swing outwardly, the gate with which it is connected, thus dropping the accumulated mass of stalks upon the stack already formed.

The main frame is supported at its rear ends by ground wheels 32 revolubly mounted upon the trunnioned ends 33 of the beam 2, and at its front end, upon a pair of rearwardly extending metal shoes 34, secured to the forward ends of the sills 4, said shoes serving to hold the noses of the guides slightly above the surface of the ground.

In operating the machine, the shaft-

expose the corresponding cutting blade and the machine then started, the cut stalks being directed by the guide towards the adjacent drop gate and held by the gates until the point where the stack is to be formed is reached, as above described. When one row of corn is cut and the machine is turned to cut the succeeding row, the frame is shifted to the opposite side to bring the other cutting blade into operation and the movement of the machine then continued. The machine thus travels at all times upon the outside of the row to be cut, operating upon one row at a time, as will be understood. By reason of the provision of the shifting frame, it is possible by exposing the proper blade to cut one row of corn, then turn the machine, and then to shift the shaft-carrying frame and cut the succeeding row, this being especially important where the corn has been blown to any great extent by the wind, whereas in the ordinary single row cutting machine, it is necessary to start the cutting always at the same end of the field, or in other words, to cut one row and then before cutting the succeeding row, to return the machine to that end of the field from which it originally started.

What is claimed is:

1. The combination, in a machine of the class described, of a wheeled main frame; a V-shaped cutting member secured to the under face of said frame; and a shaft-carrying frame mounted upon the upper face of the main frame and shiftable from side to side, to expose either arm of the cutting member.

2. The combination, in a machine of the class described, of a wheeled main frame; a V-shaped cutting member secured to the under face of said frame at the forward end thereof; and a forwardly-extending shaft-carrying frame mounted upon the main frame and shiftable bodily from side to side thereof, to expose either arm of the cutting member for operation.

3. In a machine of the class described, in combination, a wheeled main frame; a pair of convergent cutting blades secured to the under face of the main frame; and a shaft-carrying frame mounted upon the main frame and shiftable bodily from side to side thereof, to expose either cutting blade for operation.

4. In a machine of the class described, in combination, a wheeled main frame; a pair of rearwardly extending converging cutting blades secured to the under face thereof; and a shaft-carrying frame mounted upon the main frame and shiftable bodily from side to side thereof, to expose either blade for operation.

5. In a machine of the class described, in combination, a wheeled main frame provided adjacent its rear edge with a pair of alining transverse slots, a pair of rearwardly converging cutting blades secured to the under



face of said frame; a frame mounted upon the main frame and shiftable bodily from side to side thereof, said shiftable frame comprising a pair of longitudinal sills, cross pieces  
5 connecting said sills, and a forwardly extending shaft secured to each sill; and a member carried by each sill at the rear end thereof and extending through the adjacent slot, for guiding the shiftable frame during its move-  
10 ments.

6. In a machine of the class described, in combination, a wheeled main frame provided with vertical sides; a rearwardly extending gate hinged to each side; a shaft-carrying  
15 frame mounted upon the main frame; connecting devices between each gate and the main frame; means adapted for engagement with one of said devices for holding the adjacent gate against movement; and means  
20 adapted for engagement with the other connecting device for swinging the adjacent gate.

7. In a machine of the class described, in combination, a wheeled frame provided with vertical sides; a rearwardly extending gate  
25 hinged to each side; a pair of angle levers pivoted to the main frame; a pitman connecting each angle lever with the adjacent gate; means adapted for engagement with one of said angle levers, to swing the adjacent  
30 gate; means adapted for engagement with the other angle lever, to hold the adjacent gate against movement; and a cutting member secured to the under face of said frame at the forward end thereof.

8. In a machine of the class described, in combination, a wheeled main frame provided with vertical sides; a gate hinged to the rear  
35 edge of each side; a V-shaped cutting member secured to the under face of said frame at the front end thereof; a shaft carrying-  
40 frame mounted upon the main frame and shiftable bodily from side to side thereof, to expose either arm of the cutting member for operation; means carried by the shiftable  
45 frame and adapted for connection with one of said gates, to swing the same; and means for holding the other gate against movement.

9. In a machine of the class described, in combination, a wheeled main frame provided  
50 with vertical sides; a gate hinged to the rear edge of each side; a V-shaped cutting member secured to the under face of said frame at the front end thereof; a shaft-carrying frame  
55 mounted upon the main frame and shiftable bodily from side to side thereof, to expose either arm of the cutting member for operation; a pair of angle levers pivoted to the  
60 main frame adjacent the rear end thereof, one arm of each angle lever being connected to the adjacent gate; a lever pivoted to the

shiftable frame; a pitman pivoted to the lower end of the last mentioned lever and adapted for engagement with the other arm of either angle lever, to swing the adjacent  
gate; and means for holding the other gate 65 against movement.

10. In a machine of the class described, in combination, a wheeled main frame; a V-  
shaped cutting member secured to the under face of said frame at the front end thereof; a 70 shaft-carrying frame mounted upon the main frame; and a lever carried by the last mentioned frame, for shifting the same bodily from side to side of the main frame, to expose  
either arm of said cutting member for opera- 75 tion.

11. In a machine of the class described, in combination, a wheeled main frame, a V-  
shaped cutting member secured to the under face of said frame at the front end thereof; a 80 shaft-carrying frame mounted upon the main frame; and a lever carried by the last mentioned frame and adapted for direct engagement with the main frame, for shifting the shaft-carrying frame bodily from side to  
85 side of the main frame to expose either arm of said cutting member for operation.

12. In a machine of the class described, in combination, a wheeled main frame; a V-  
shaped cutting member secured to the under 90 face of the main frame at the forward end thereof; a shaft-carrying frame mounted upon the main frame; and a lever pivoted to the last-mentioned frame and provided with a pointed lower end adapted for direct en- 95  
gagement with the main frame, for shifting the shaft-carrying frame bodily from side to side of the main frame, to expose either arm of said cutting member for operation.

13. In a machine of the class described, in 100 combination, a wheeled main frame provided towards its rear end with a transversely disposed series of perforations; a V-shaped cutting member secured to the under face of said  
frame at the front end thereof; a shaft-car- 105 rying frame mounted upon the main frame; and a lever pivoted to the last-mentioned frame and having its lower end adapted for interchangeable engagement in said perforations, for shifting the shaft-carrying frame 110  
bodily from side to side of the main frame, to expose either arm of said cutting member for operation.

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

FREDERICK U. SMITH.

Witnesses:

M. T. MILLER,

GEO. H. CHANDLER.