

July 17, 1951

M. D. LYNN ET AL
HARVESTER FOR TOBACCO

2,560,729

Filed Sept. 30, 1948

4 Sheets-Sheet 1

Fig. 1.

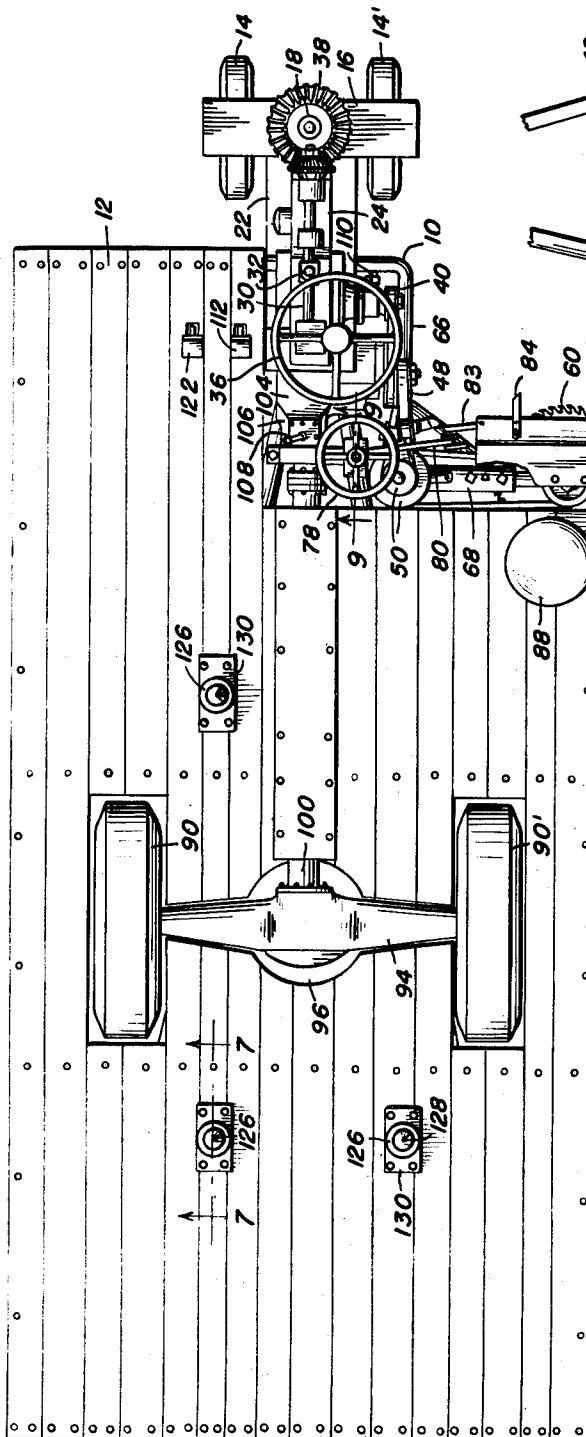
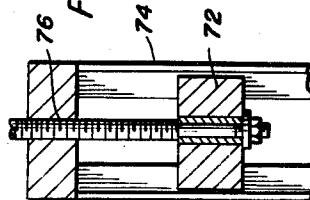


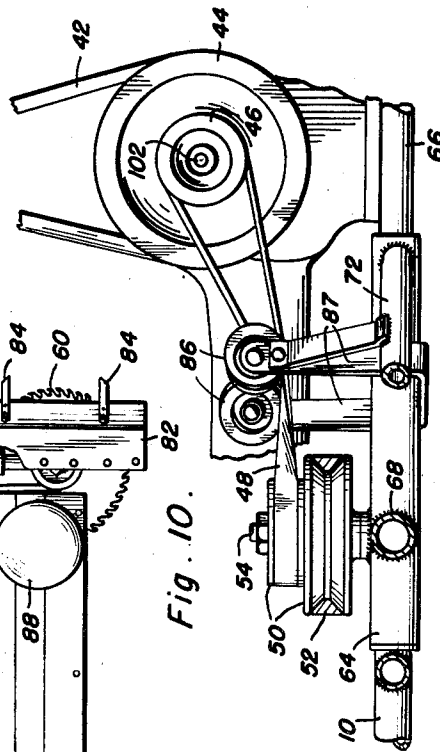
Fig. 9.



Mark D. Lynn
Russell D. Burkett
INVENTORS.

BY *Almonce A. O'Brien*
and Harvey B. Jackson
Attorneys

Fig. 10.



July 17, 1951

M. D. LYNN ET AL
HARVESTER FOR TOBACCO

2,560,729

Filed Sept. 30, 1948

4 Sheets-Sheet 2

Fig. 2.

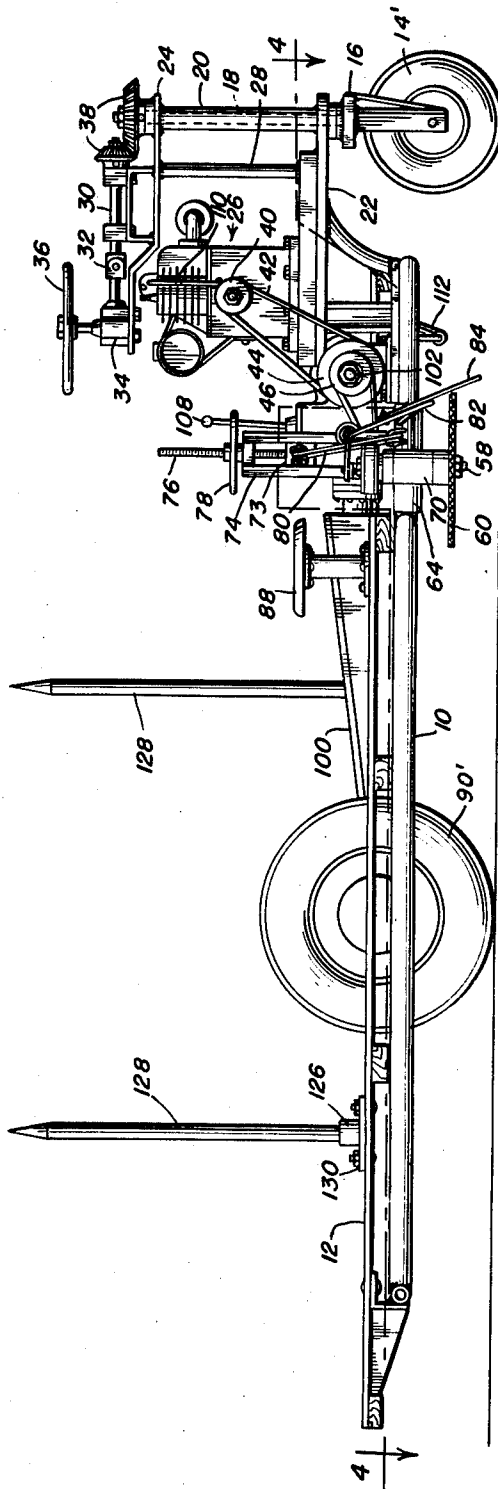


Fig. 8.

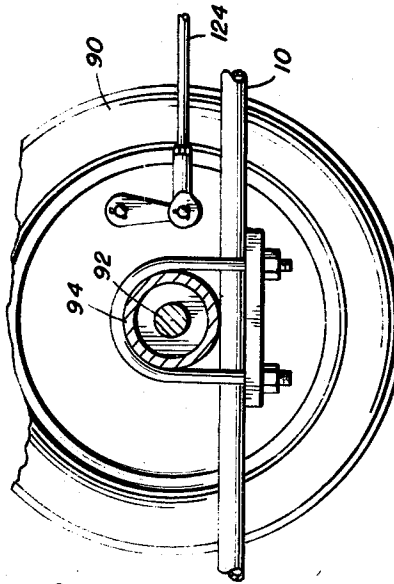
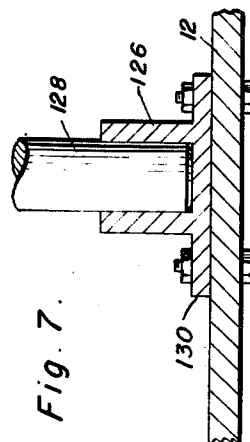


Fig. 7.



Mark D. Lynn
Russell D. Burkett
INVENTORS.

BY *Oliver A. O'Brien*
and *Harvey B. Jacobson*
Attorneys

July 17, 1951

M. D. LYNN ET AL
HARVESTER FOR TOBACCO

2,560,729

Filed Sept. 30, 1948

4 Sheets-Sheet 3

Fig. 3.

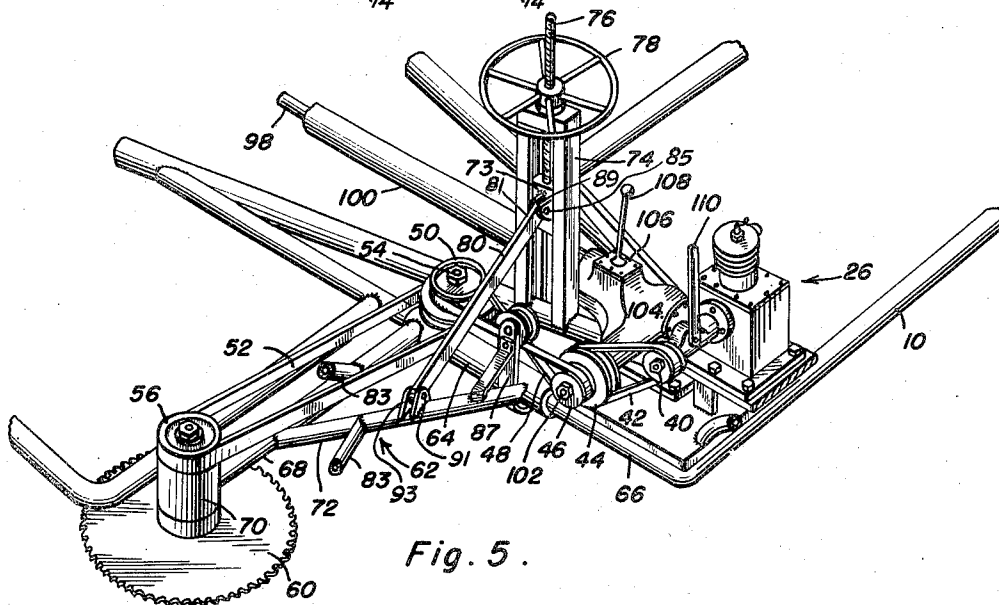
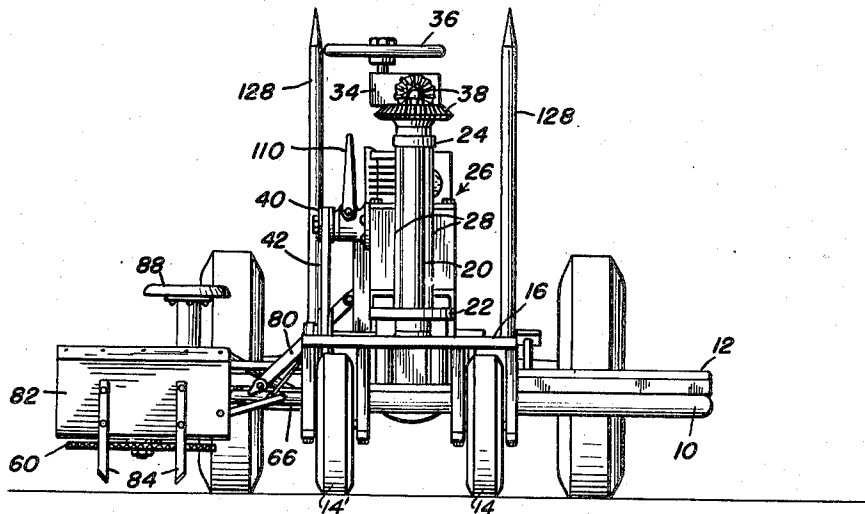


Fig. 5.

Mark D. Lynn
Russell D. Burkett
INVENTORS.

BY *Clarence A. O'Brien*
and *Harvey B. Jacobson*
Attorneys

July 17, 1951

M. D. LYNN ET AL
HARVESTER FOR TOBACCO

2,560,729

Filed Sept. 30, 1948

4 Sheets-Sheet 4

Fig. 4.

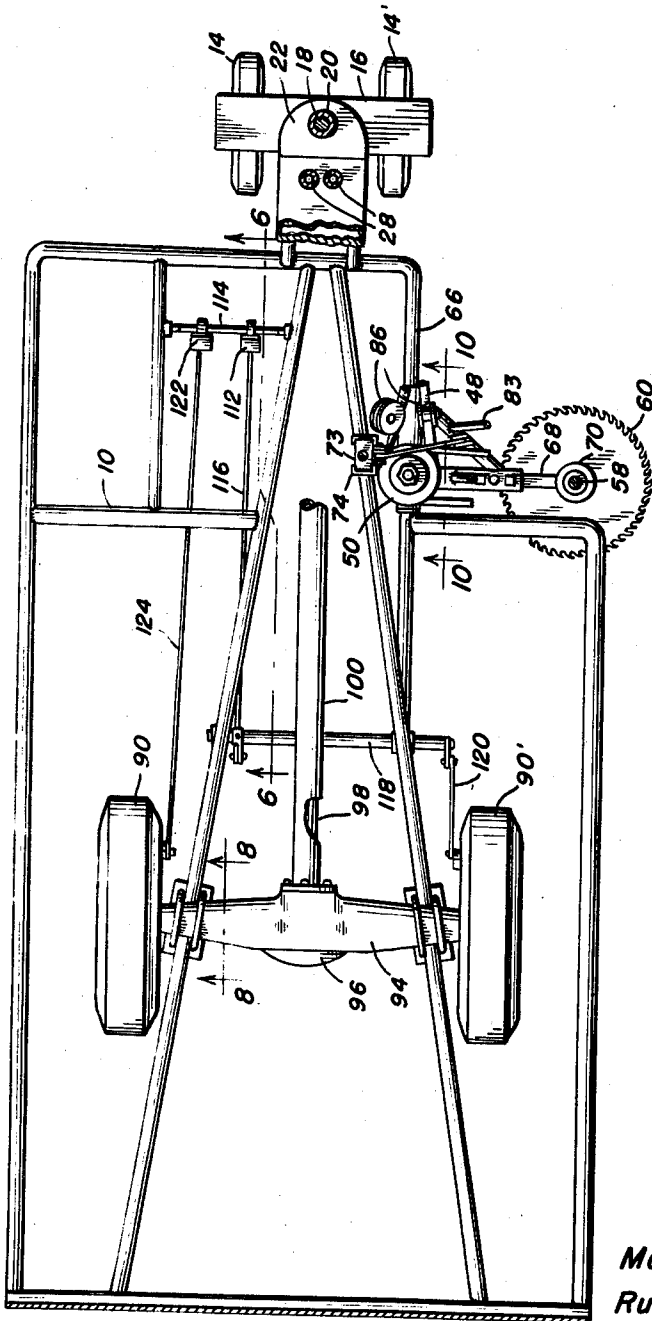
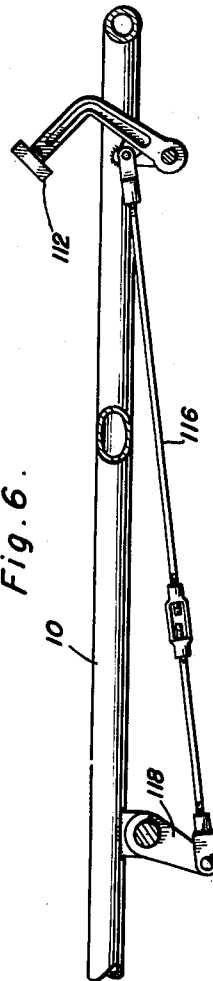


Fig. 6.



Mark D. Lynn
Russell D. Burkett
INVENTORS.

BY *Chance A. O'Brien*
and *Harvey B. Jackson*
Attorneys

UNITED STATES PATENT OFFICE

2,560,729

HARVESTER FOR TOBACCO

Mark D. Lynn and Russell D. Burkett,
Columbia, Tenn.

Application September 30, 1948, Serial No. 52,016

3 Claims. (Cl. 56—27.5)

1

This invention relates generally to harvesting machinery and more particularly to a harvester for tobacco.

A primary object of this invention is to provide a machine which may be used to cut tobacco as it stands in rows in the field, and which will facilitate the placing of the tobacco upon drying sticks, the latter being carried on the machine and successively placed by operators in vertical positions within sockets on a platform provided on the machine, the full sticks being then manually removed from the socket and replaced by a new stick, it being unnecessary to stop the forward motion of the machine as it proceeds along the row of tobacco.

Another object of this invention is to provide a harvesting machine for tobacco in which a single power source is used to drive a tobacco cutter and to propel the machine.

Still another object of this invention is to provide a rotary cutter which is pivoted upon a horizontal axis so as to be adjustable vertically, novel means being incorporated with the drive mechanism of the cutter enabling this pivotal action to be used in connection with belt and pulley drive means for the cutter.

Still another object of this invention is to provide improved means for lifting the leaves at the lower ends of the stalks of tobacco in front of the rotary cutter.

Still another object of this invention is to provide improved means for steering the machine, and making the machine capable of being turned within a very short radius.

Yet another object of this invention is to provide simple and effective means for removably mounting drying sticks upon a platform, the platform and the frame supporting the same being of a construction allowing a number of men to stand and/or sit thereon during the operation of the machine, these men being thereby in a position to handle the cut tobacco plants, it being understood that the speed in cutting and handling of the tobacco is considerably increased by the use of this machine, as compared with methods employed heretofore.

And a last object to be mentioned specifically is to provide a tobacco harvester which is relatively inexpensive and practicable to manufacture, which is safe, simple and convenient to use under varying conditions, and which will give generally efficient and durable service.

With these objects definitely in view, this invention resides in certain novel features of construction, combination and arrangement of ele-

2

ments and portions as will be hereinafter described in detail in the specification, particularly pointed out in the appended claims, illustrated in the accompanying drawings which form a material part of this application, and in which:

Figure 1 is a top plan view of the assembled machine;

Figure 2 is a right hand side elevational view of the machine;

Figure 3 is a front end elevational view of the assembled machine;

Figure 4 is a horizontal sectional view, taken substantially upon the line 4—4 in Figure 2;

Figure 5 is an enlarged fragmentary view of the front end portion of the machine, the view being three dimensional in character;

Figure 6 is an enlarged fragmentary detailed view showing the construction of a part of the braking mechanism used in connection with the rear wheels of the machine;

Figure 7 is an enlarged fragmentary vertical sectional view, taken on the line 7—7 of Figure 1;

Figure 8 is a similar view taken on the line 8—8 in Figure 4;

Figures 9 and 10 are vertical sectional views taken substantially upon the lines 9—9 and 10—10 in Figures 1 and 4, respectively.

Similar characters of reference designate similar or identical elements and portions throughout the specification and throughout the different views of the drawings.

Referring now to the drawings in detail, this harvester includes a horizontal metal frame 10, preferably constructed of tubular stock and having a recessed portion at the front right hand corner thereof, the frame being generally rectangular. A platform 12, preferably constructed of wood, has the same general shape as the frame 10 and is rigidly secured thereto. The frame 10 is extended forwardly at the center front portion thereof to provide support for the front steering wheels 14 and 14' which are rotatably mounted in a double fork having a cross member 16 and a vertical pivot shaft 18 mounted within a vertically elongated sleeve bearing 20, which is in turn supported upon a lower forwardly projecting bracket 22 and an upper forwardly projecting bracket 24. An engine, generally represented by the numeral 26 is rigidly mounted upon the lower bracket 22 and a pair of rigid uprights 28 provide the main support means for the upper bracket 24.

A horizontal shaft 30, preferably including a universal joint 32 is rotatably mounted upon the bracket 24 and encased reduction gears indicated

at 34 are operatively connected with a steering wheel 36 and the rear end of the shaft 30. Bevel gears 38 are rigidly secured to the front end of the shaft 30 and to the upper end of the vertical pivot shaft 18, thus enabling an operator to steer the front wheels 14 by turning the steering wheel 36. It will be understood that this operator will ordinarily stand as to the left of the steering wheel 36.

The engine 26 drives a pulley 40 which is connected by a belt 42 with a pulley 44 suitably mounted upon the frame 10 to turn with another pulley 46 which drives a cross belt 48 leading to one portion of a double pulley 50, the other portion of which drives a belt 52. The double pulley is mounted upon a shaft 54 which is substantially vertical and the belt 52 drives a pulley 56 mounted on the vertical shaft 58 of the rotary peripherally toothed cutter disc 60.

The cutter disc 60 is mounted so as to be vertically adjustable, the means for this adjustable mounting including an arm, generally indicated by the numeral 62 carried on a horizontally disposed elongated sleeve bearing 64 rotatably mounted on a portion 66 of the frame 10, at one side of the recessed portion of the frame already referred to above. A laterally extensible arm member 68 carries the bearing 70 wherein the shaft 58 is mounted, and a suitable brace 72 will be provided to join an intermediate portion of the extensible arm member 68 and the forward portion of the sleeve bearing 64.

A cross head 73 is vertically slidably mounted within a rigid upstanding cross head guide 74 mounted upon a portion of the frame 10, and a screw 76 coacts with this cross head 73 and a steering wheel 78 to raise and to lower one end of an inflexible link 80. The link 80 has its one end 81 pivotally carried on the pin 85 journaled between the pair of ears 89. The other end of the link 80 is pivoted upon the pin 91 journaled between the ears 93 on the brace 72, so that the cutter disc 60 may be raised and lowered at the will of an operator of the machine.

A cutter shield of curved plate character indicated at 82 is carried by the brace supports 83 indicated in Figure 5, and this shield has a pair of forwardly and downwardly extending fingers 84 secured thereto, these fingers being adapted to lift the lower leaves of the tobacco plants as the machine is propelled along a row.

An important and novel feature of this invention resides in the provision of a pair of laterally flanged rollers 86 rotatably mounted on the upper ends of a U-shaped member 87 secured to the sleeve bearing 64, as best illustrated in Figure 10. These rollers 86 are thus horizontally spaced and individually engage intermediate portions of the belt 48, and since the double pulley 50 pivots about the portion 66 of the frame when the cutter 60 is raised and lowered, these rollers 86 maintain a proper tensioning and positioning of the belt 48 with reference to the upper part of the double pulley 50, and it may be here noted that the pulley 46, referred to above and in the claims as another pulley, is rotatably mounted upon a horizontal axis later referred to as the shaft 102.

A seat 88 will be provided immediately to the rear of the rotary cutter 60. The rear traction wheels 90 and 90' are mounted upon an axle 92 within a rear axle housing 94, and a differential 96 incorporated with the axle housing allows differential rotation of the wheels 90 and 90' and the driving of these wheels through the agency of a power transmission rod 98, housed within

a transmission housing 100 and driven by the shaft 102. The shaft 102 is the shaft upon which the pulleys 44 and 46 are mounted and this shaft will be connected by gears, not shown, within a housing 104, this housing being best illustrated in Figure 5, while a set of transmission gears within a gear box indicated at 106 transmits power to the transmission shaft 98, a gear shift lever 108 being provided to allow the machine to be propelled at different speeds, without altering the speed at which the cutter disc 60 is operated. A clutch lever 110, and a complement of clutch mechanism, will be provided to allow control of the transmission of power from the engine 26 to the pulley 40, and in this connection, it should be noted that no attempt has been made in the drawings to represent the detailed construction of the power transmission means used in this invention, the specific form of which may be altered to suit the particular character of the engine 26, and will also be dictated in part by the size and weight of the complete harvester.

A brake pedal 112 is pivoted on a bar 114 rigidly secured to the frame 10, preferably on the left hand side of the engine 26, and the brake pedal 112 is connected by means of an extensible link 116 to a bell crank 118, while this bell crank is operatively linked by means of the member 120 with a brake mechanism in the right rear wheel 90'. A similar brake pedal 122 is connected to a brake mechanism in the left rear wheel by means of an inflexible link 124, and it will be clear how the operator may selectively apply the brakes to the rear wheels.

Finally, the platform 12 is provided with a plurality of horizontally spaced sockets 126 which are adapted to receive the lower end of drying sticks 128 which may be of conventional design. The sockets 126 will have integral attaching plates whereby the sockets are mounted upon the platform 12.

The operation of this invention will be clearly understood from a consideration of the drawings and the above recited objects of this invention. In recapitulation, it may be added that the device may be now clearly understood as being propelled along a row of tobacco plants, the rotary cutter 60 severing the stalks of the plants while the fingers 84 lift the lower leaves of the plants prior to the cutting of the stalks. The severed plants are handed by an operator seated on the seat 88 to other operators who place the plants upon drying sticks 128 replaceably mounted in the sockets 126. Another operator steers the machine and sharp turning of the machine may be accomplished by rotation of the steering wheel 36 and simultaneous application of one or the other of the brakes on the rear wheels.

The other mentioned objects are clearly accomplished by this machine, and further description appears unnecessary.

Considerable variation from the embodiment described and illustrated may be resorted to all within the spirit of this invention, the scope of which should be determined only as limited by a proper interpretation of the sub-joined claims.

Having described the invention, what is claimed as new is:

1. A harvester for tobacco comprising a rigid frame, a platform on said frame for workmen handling cut tobacco, a motor operatively mounted on said platform, a tobacco cutter operatively mounted on said frame and operatively connected with said motor, said frame and platform being similarly recessed at one side and at the front

thereof, said cutter being mounted to operate in the recessed portion, said cutter having adjusting means comprising an arm carrying said cutter and pivoted on said frame, a crosshead and an upstanding crosshead guide on said frame, a link between said crosshead and said arm, and means to raise and lower the crosshead in said guide.

2. A harvester according to claim 1 and wherein said cutter is mounted on an arm pivotable about a horizontal axis, a cutter shield of plate character extending forwardly and downwardly above and adjacent to the front edge of the cutter, and tobacco leaf lifting arms carried on said shield and projecting downwardly and forwardly in front of said cutter.

3. A harvester for tobacco comprising a rigid frame, a platform on said frame for workmen handling cut tobacco, a motor operatively mounted on said platform, a tobacco cutter operatively mounted on said frame and operatively connected with said motor, said frame and platform being similarly recessed at one side and at the front thereof, said cutter being mounted to operate in the recessed portion, said cutter being mounted on an arm pivotable about a horizontal axis, tobacco leaf lifting arms carried on said arm and projecting in front of said cutter, said cutter being connected to said motor by a system of pulleys and belts including a double pulley mounted to pivot with said arm, a belt extending from one portion of said double pulley substantially parallel to said axis for connection to another pulley of said system mounted for rotation about an axis normal to said axis, and a belt guide mounted on the pivoted end of said arm and comprising a pair of flanged guide rollers horizontally spaced and individually engaging portions of the

belt between said double pulley and said other pulley.

MARK D. LYNN.
RUSSELL D. BURKETT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
666,380	Foust	Jan. 22, 1901
881,598	Loxley	Mar. 10, 1908
1,050,686	Pelton	Jan. 14, 1913
1,090,747	Nunnelley	Mar. 17, 1914
1,106,196	England	Aug. 4, 1914
1,134,206	King	Apr. 6, 1915
1,317,212	Montague	Sept. 30, 1919
1,323,404	Motter et al.	Dec. 2, 1919
1,334,345	Bilgere	Mar. 23, 1920
1,397,365	Cook	Nov. 15, 1921
1,573,020	Scruggs	Feb. 16, 1926
1,629,422	Trulove	May 17, 1927
1,710,749	Svendsgaard	Apr. 30, 1929
1,762,915	Davis	June 10, 1930
1,884,461	Willings	Oct. 25, 1932
1,891,526	Dupuis	Dec. 20, 1932
1,967,283	Brown	July 24, 1934
2,097,184	Geffroy	Oct. 26, 1937
2,197,273	Lindeman	Apr. 16, 1940
2,381,488	Coulson	Aug. 7, 1945
2,432,212	Russell	Dec. 9, 1947
2,477,068	La Motte	July 26, 1949
2,481,798	Turner et al.	Sept. 13, 1949
2,483,683	Wells et al.	Oct. 4, 1949
2,497,845	Burkhart	Feb. 21, 1950