

Feb. 16, 1926.

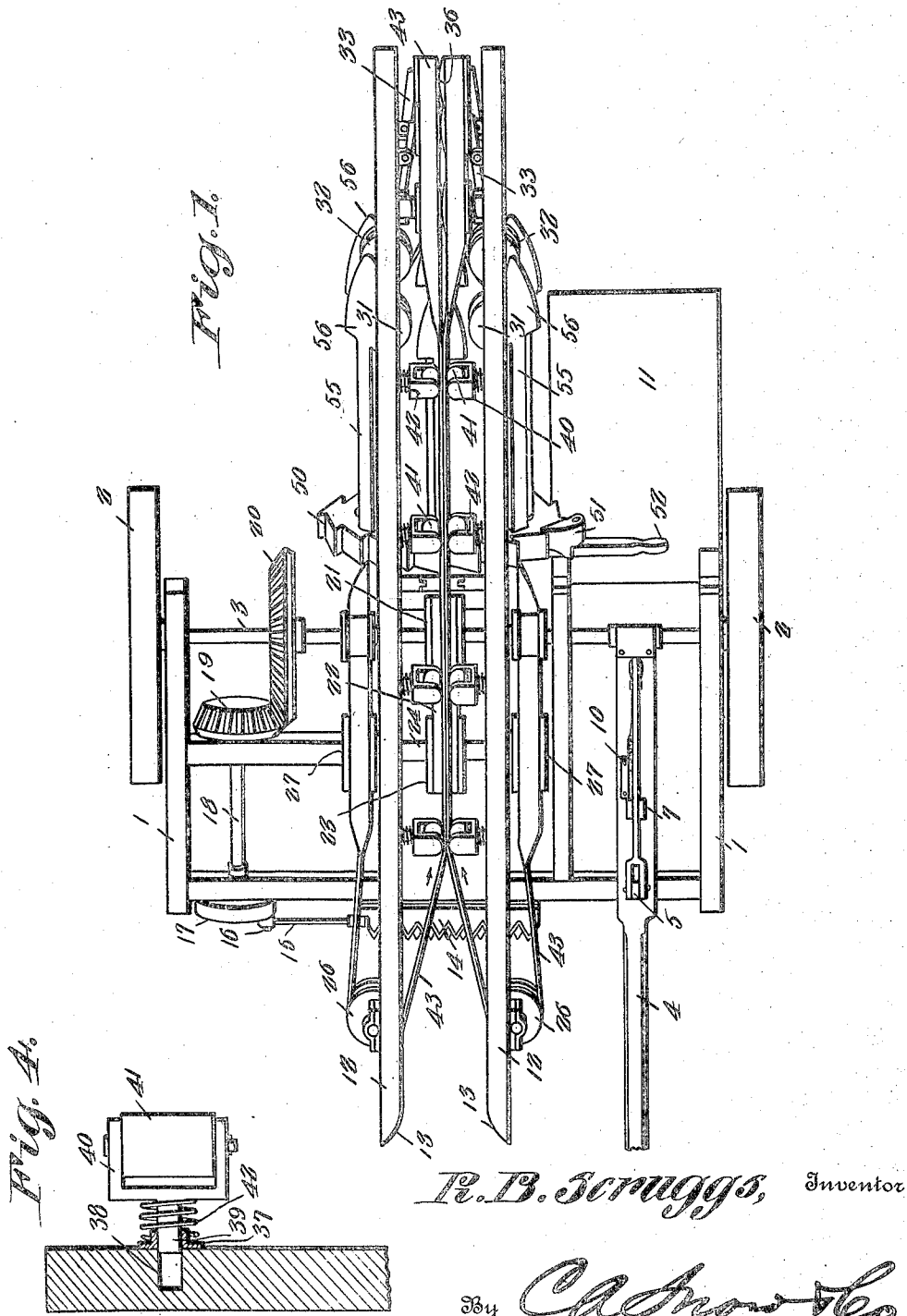
1,573,020

R. B. SCRUGGS

TOBACCO HARVESTER

Filed Sept. 12, 1924

3 Sheets-Sheet 1



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*Fig. 2.*

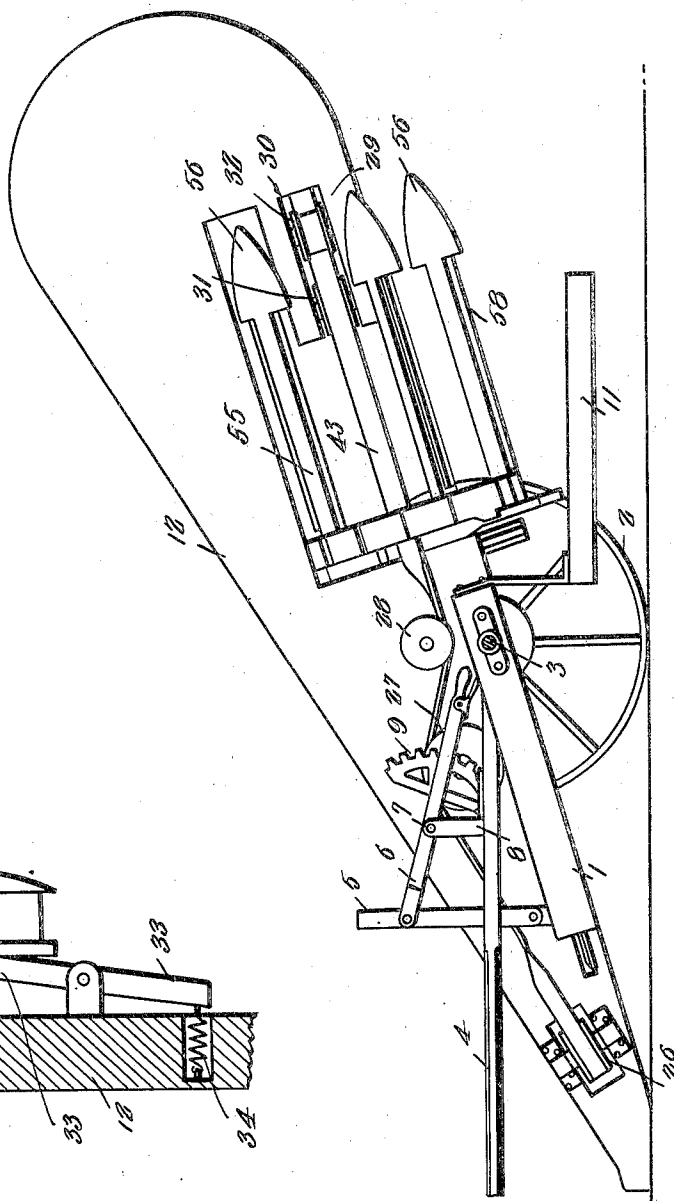
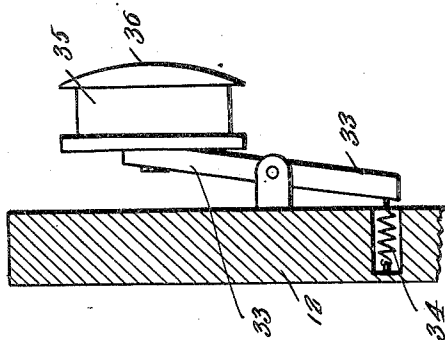


*Fig. 5.*



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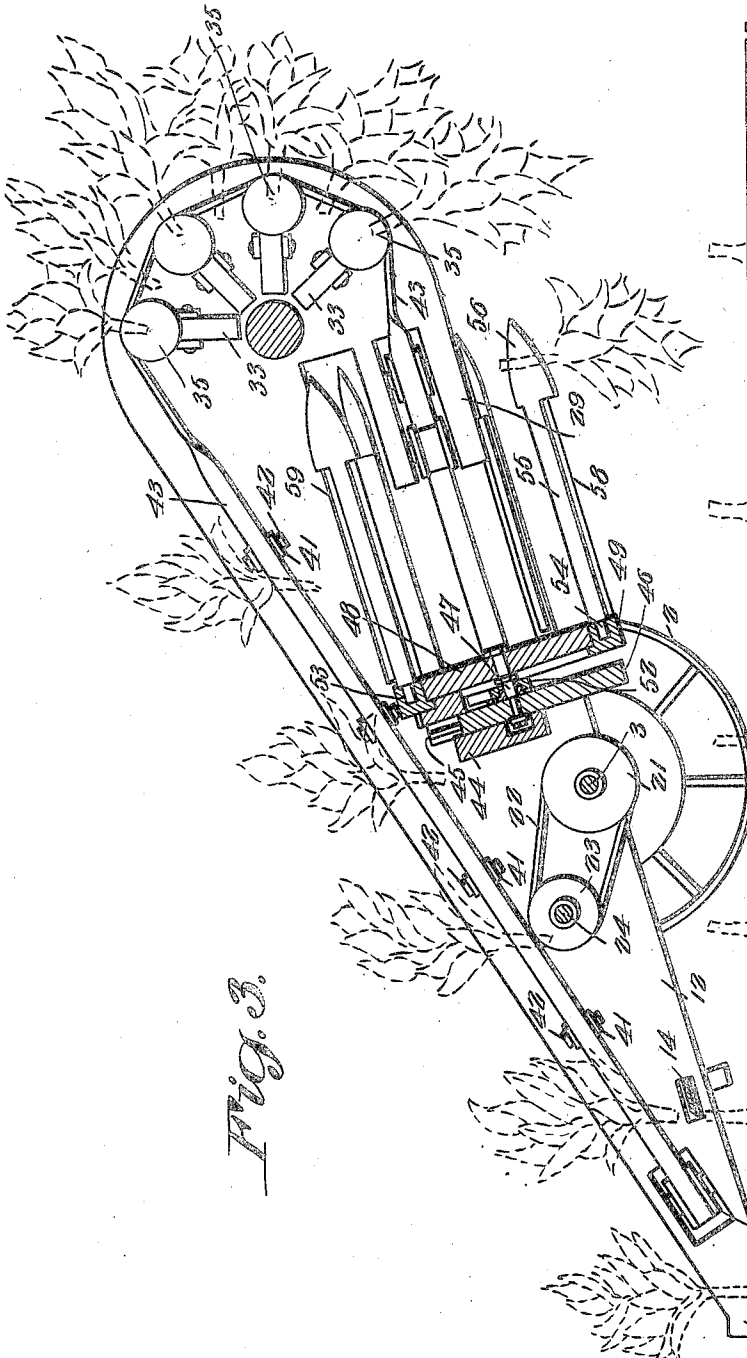


Fig. 3.

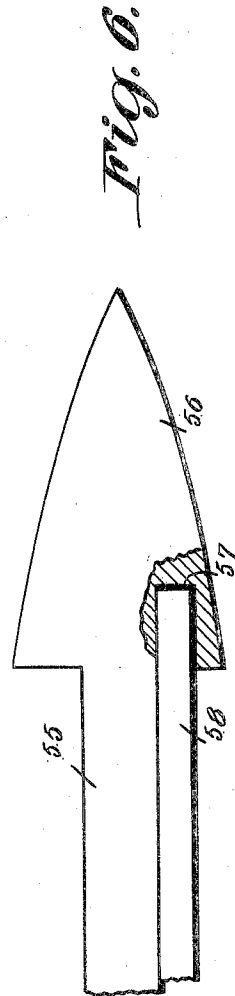


Fig. 6.

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Patented Feb. 16, 1926.

1,573,020

# UNITED STATES PATENT OFFICE.

RICHARD B. SCRUGGS, OF WILLSBURG, KENTUCKY.

TOBACCO HARVESTER.

Application filed September 12, 1924. Serial No. 737,398.

*To all whom it may concern:*

Be it known that I, RICHARD B. SCRUGGS, a citizen of the United States, residing at Willsburg, in the county of Washington and State of Kentucky, have invented a new and useful Tobacco Harvester, of which the following is a specification.

This invention relates to a machine for harvesting tobacco, one of the objects being to provide, in a single structure, a machine which will cut the stalks, invert them, and direct them onto a stick or spear such as commonly employed.

A further object is to provide a machine of this character, the sticks or spears of which can be readily placed in and removed from position so that the tobacco, thus accumulated in bunches can be properly hung up to dry.

A further object is to provide a machine which will travel along the rows of plants in the field, said machine straddling the row and receiving its power by the rotation of the supporting wheels during the forward movement of the machine.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings—

Figure 1 is a plan view of the machine.

Fig. 2 is a side elevation thereof.

Fig. 3 is a vertical longitudinal section.

Fig. 4 is a front view of one of the gripping rolls, and adjacent parts.

Fig. 5 is a section showing one of the yielding restrained belt supporting wheels.

Fig. 6 is a side elevation of a portion of one of the spears, a portion of a tobacco stick being shown in engagement therewith.

Referring to the figures by characters of reference 1 designates a frame of any suitable construction having supporting wheels 2 which drive a transverse rotatable shaft 3 constituting the axle of the wheels. A draft tongue 4 is extended from the axle and is adapted to shift angularly relative thereto, this tongue having a pivoted bar 5 ex-

tending loosely through it. To the bar is suitably connected a lever 6 fulcrumed as at 7 upon a bracket on the tongue or bowl 4. A toothed segment 9 is also mounted on said tongue and is adapted to engage a dog 10 carried by the lever so as to hold said lever at any angle relative to the tongue. Obviously by angularly adjusting the lever the tongue 4 and the frame 1 will shift relative to each other, thereby to change the angle of the frame relative to the ground and raise or lower the forward end thereof. A platform 11 is suitably supported back of and to one side of the center of the frame 1 and is designed to support an operator.

Included in the construction of the frame 1 are centrally disposed parallel guides 12 extending forwardly and rearwardly beyond the frame and upwardly and rearwardly. The cross beams of the frame 1 do not extend across the space between the guides 12. Instead, the guides are suitably connected at proper points and at the same time leave a clear path extending from front to rear of the machine for the material being harvested. The front ends of the guides are flared as shown at 13 to provide gathering fingers.

A sickle bar 14 is mounted to reciprocate transversely within the guides 12 back from the gathering fingers 13 as has been shown. One end of this sickle bar is connected by a pitman 15 to the wrist pin 16 of a disk 17 and said disk rotates with a longitudinal shaft 18 journaled in the frame 1. A gear 19 is secured to the shaft and receives motion through a gear 20 from the axle or shaft 3.

Secured to the axle or shaft 3 at a point between the guides 12 is a guide pulley 21 which transmits motion through a belt 22 to a pulley 23 secured to a transverse shaft 24. Pulleys 27 are secured to the ends of this shaft and are located outside of the passage between the guides 12.

Journaled within the front portion of each guide 12 is a pulley 26 and side pulleys 27 and 28 are journaled on the outer side of each guide 12 at points adjacent the axle 3 but above the frame 1. On the lower rear portion of each guide 12 is provided a downwardly and forwardly extending pan 29 slotted as shown at 30, and in this slot are journaled spaced guide rolls 31 and 32.

Mounted on the inner surfaces of the rear portions of the guides are levers 33, there

being a spring 34 connected to one end of each lever so as to draw it normally toward the guides 12 as shown in Fig. 5. The other end of each lever has a grooved wheel or roller 35 journaled thereon, the free or exposed face of the wheel or roller being preferably rounded as shown at 36.

The levers 33 and the wheels or rollers 35 are disposed in pairs, the rollers of each pair being located on the respective guides and being directly opposite to them so that the rounded faces 36 thereof come together normally. An arcuate series of pairs of rollers located between the rear portions of the guides 12 are shown particularly in Fig. 3.

Mounted on the inner faces of the guides 12 back of the sickle bar 14 but in front of the rollers or grooved wheels 35 are guides 37 registering with sockets 38. In each guide and socket are mounted stems 39 projecting from the yoke 40. The yoke carries a roller 41 and a spring 42 mounted on each stem serves to hold the roller normally pressed toward the corresponding roller carried by the opposed guide. This arrangement is indicated clearly in Fig. 1.

A pair of endless belts 43 are carried by the respective guides 12, each belt being extended into engagement with the roller 26 of one of the guides. One portion of the belt is extended rearwardly along the outer side of the guide over the pulley 27 and under the pulley 28 and thence between the grooved wheels of pulleys 21 and 32 into the rear portion of the passage between the guides 12 and into engagement with the series of grooved wheels 35 carried by the guides. The belt is then extended forwardly between the rolls 41. Each of the belts 43 is mounted in the manner described, the forward portions of the belts between the guides 12 diverging forwardly from the forward rollers 41 to the wheels or rollers 26 as shown in Fig. 1. Thus these belts cooperate to provide a flared stock receiving space between them.

A cross bar 44 connects the guides 12 at points back of but above the axle 3 and carries a guide 45 in which is mounted a slide 46. To this slide is connected a stud 47 carrying a centering wheel 48.

Mounted for rotation on the wheel 48 is a ring 49 provided with peripheral ratchet teeth as indicated at 50. These are adapted to be engaged by pawls 51 carried by a lever 52 which is fulcrumed on the stud 47. Thus it will be seen that, by oscillating the lever, an intermittent rotation will be imparted to the ring 49.

Formed in the rear face of the ring 49 are spaced sockets 53 and each of these sockets is adapted to receive the reduced end 54 of the shank 55 of a spear the head of which has been indicated at 56. The head has a

shoulder adjacent the shank in which is formed a socket 57 adapted to receive one end of a stick 58 which, when projected into the socket, will be supported close to and extend longitudinally along the shank 55. The spears are so proportioned that, when the ring 49 is rotated, they can travel in a circle under the guides 12, the heads of the spears working through the space formed between the tongue 29 and the lower edges of the guides indicated at 59.

Under normal conditions a spear supporting a stick 58 is located with its head close to but under the space formed between the tongues 29 and the two guides. As the machine moves forwardly the sickle bar is reciprocated and will sever the tobacco stalks in the path thereof. During this operation the stalks have been received between the rearwardly converging front portions of the belt 43 so that they are gripped by the belt and supported in upright position after being severed. As the machine continues to move forwardly the inner portions of the two belts move rearwardly as indicated by the arrow in Fig. 1, the gripped stalks being carried between the rollers 41 which are free to yield as the stalks pass between them but are constantly pressed toward each other so as to insure proper gripping of the stalks by the belts. Thus the stalks or cut-off portions of the plants are held in standing position, as indicated by broken lines in Fig. 3 until they reach the rear portions of the guides at which time the stub ends of the stalks are received between the rounded faces 36 of the opposed wheels 35 and are properly gripped between the edge portions as the stalks are gradually swung downwardly to inverted positions. On reaching the inverted positions, the stalks are conveyed backwardly onto the spear head 56 in the path thereof and as these successive stalks are directed onto the spear head the previously deposited stalks are thrust backwardly along the shank 55 and the stick 58. After the spear has been filled with stalks the ring 49 is given a partial rotation by means of lever 52 so as to bring another spear into receiving position and while this second spear is being loaded with stalks, the previously filled spear can be removed, from the ring 49. While the stick 58 is held, the shank 55 of the spear is drawn from the stalks, leaving the stalks mounted on the stick after which the spear can be replaced in the ring and the sticks of tobacco removed to be placed in a drying rack or in any other suitable place.

By providing the slide 46, the centering wheel 48 and the parts carried thereby can be adjusted vertically.

What is claimed is:—

1. In a machine for harvesting tobacco, the combination with stalk severing means,

of opposed endless belts for conveying stalks rearwardly from the severing means, means for normally pressing the belts toward each other, said belts constituting means for gripping severed stalks, means for guiding portions of the belts downwardly and forwardly to invert the gripped stalks and convey them forwardly, and a spear for receiving the inverted stalks from the gripping belts.

2. A tobacco harvester including stalk severing means, opposed belts for gripping the severed stalks and conveying them rearwardly from the severing means, means for guiding portions of the belts downwardly and forwardly to convey the stalks to inverted position and thence toward the severing means, a series of spears, and means for shifting the spears to bring them separately into position for engagement by the inverted stalks.

3. In a machine for harvesting tobacco, the combination with stalk severing means, of opposed belts, means for pressing the belts yieldingly toward each other to grip severed stalks and convey them rearwardly from the severing mechanism, means for

guiding portions of the belts downwardly and forwardly to convey the severed stalks to inverted position and forwardly, a rotatable series of spears, means for shifting said series to bring any one of the spears into stalk receiving position, and a stick removably mounted upon each spear.

4. In a tobacco harvesting machine, the combination with portable stalk severing means, of a rearwardly extending spear, a stick detachably connected thereto, and means for gripping the severed stalks, inverting them, and directing them onto the spear and stick.

5. In a tobacco harvester, the combination with a rearwardly extended spear including a shank and a head, there being a socket in the butt end of the head, of a stick removably mounted in the socket and extended along the shank, a support for the shank, stalk cutting means, and means for inverting the stalks and conveying them forwardly to the spear for engagement with the shank and stick.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

RICHARD B. SCRUGGS.