

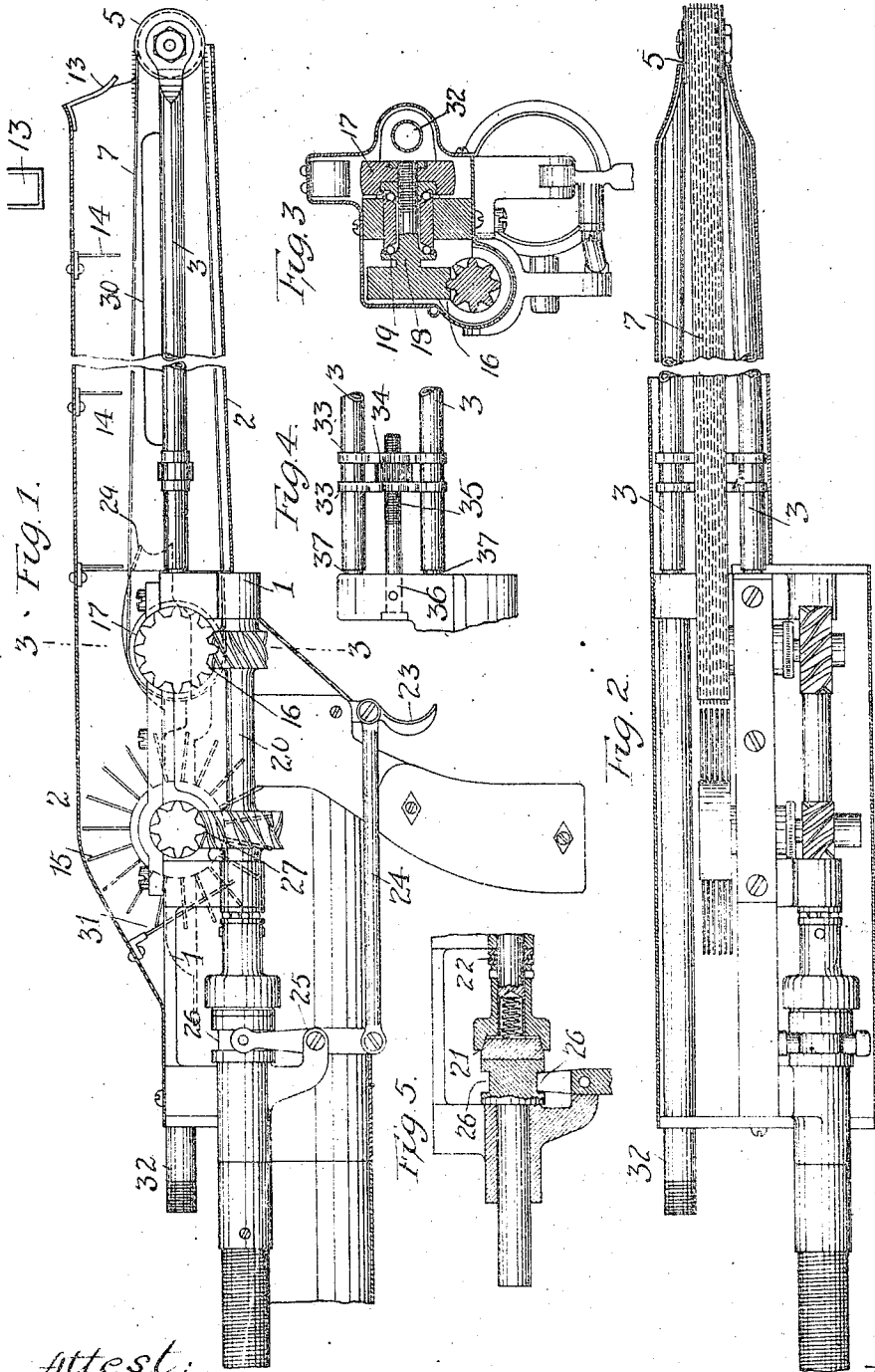
R. S. WHEELER.
COTTON PICKER.

APPLICATION FILED FEB. 3, 1910.

Patented Aug. 29, 1911.

3 SHEETS—SHEET 1.

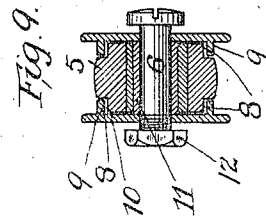
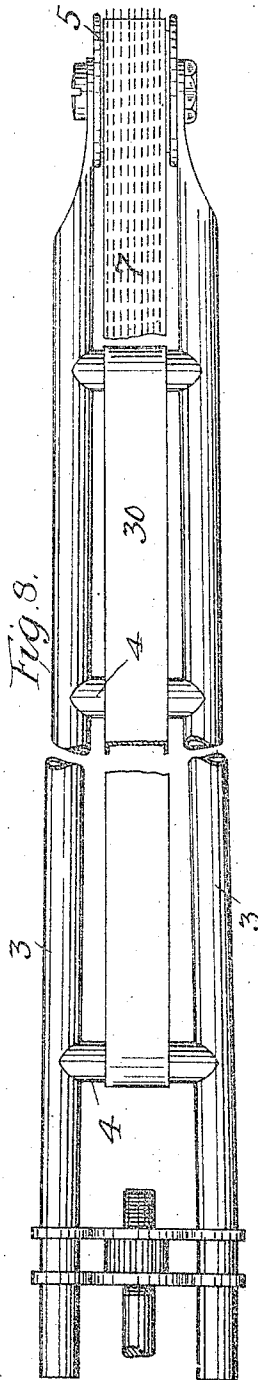
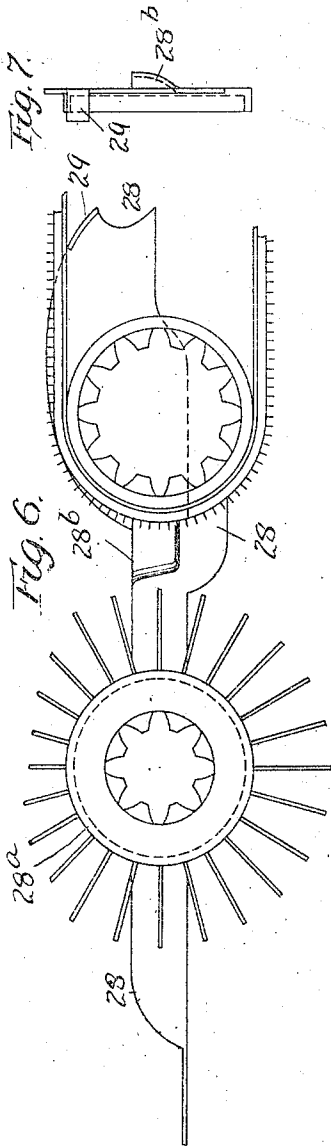
1,001,720.



Attest:
Edw. L. Tolson.
Benj. M. Stahl.

Inventor
Robert S. Wheeler
by Spear, Middleton, & Macomber, Attys.

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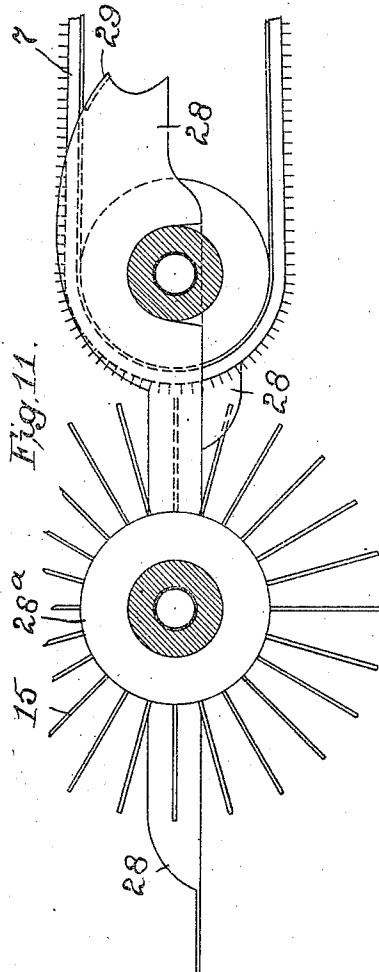
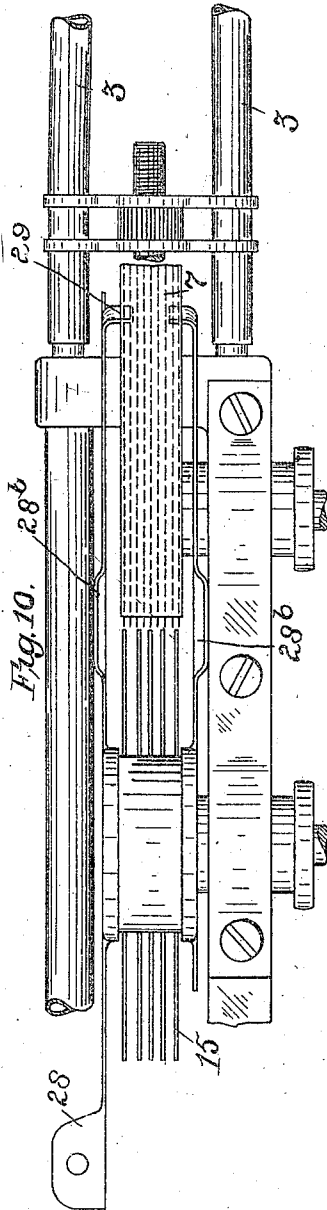


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Bent M. Stahl.

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Robert S. Wheeler
by Spear, Middleton, Donaldson & Spear
Attys

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3 SHEETS-SHEET 3.



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Bert. M. Stahl.

Inventor
Robert S. Wheeler
by Spear, Middleton, Donnell & Spear
ATTYS.

UNITED STATES PATENT OFFICE.

ROBERT S. WHEELER, OF NORRISTOWN, PENNSYLVANIA.

COTTON-PICKER.

1,001,720.

Specification of Letters Patent. Patented Aug. 29, 1911.

Application filed February 3, 1910. Serial No. 541,852.

To all whom it may concern:

Be it known that I, ROBERT S. WHEELER, citizen of the United States, residing at Norristown, Pennsylvania, have invented certain new and useful Improvements in Cotton-Pickers, of which the following is a specification.

My present invention is an improvement upon the form of apparatus disclosed in Letters Patent of the United States granted to me the 25th day of May, 1909, #922647, and it consists in the features and combination and arrangement of parts hereinafter described and particularly set forth in the appended claims.

In the accompanying drawings:—Figure 1 is an elevation of the main portion of the apparatus, a part of the casing being shown in section, this view including also a detailed front view of a trash arrester; Fig. 2 is a plan view of the main portion of the apparatus with a part of the casing in section; Fig. 3 is a transverse sectional view substantially along the line 3—3 of Fig. 1; Fig. 4 is a detail plan view of a means for adjusting the picker belt; Fig. 5 is a detail view in section of a driving clutch; Fig. 6 is a detail view of a portion of the picker belt, the brush and a guard or shield for these parts; Fig. 7 is a detail view of the guard shown in Fig. 6; Fig. 8 is a plan view of a portion of the frame with a supporting bridge for the belt; Fig. 9 is a detail sectional view of a non-fouling pulley at the end of the picker arm. Fig. 10 is a detail plan view; Fig. 11 is a side view of the guard in place.

In these drawings, 1 indicates a main frame of any suitable form contained within a casing 2, the said main frame having projecting at the front thereof arms or bars 3 arranged in pairs and converging slightly toward the front end and braced by cross pieces 4. These arms, at their front ends, afford bearings for a pulley 5 mounted upon a bolt or axle and having a slightly convex surface adapted to receive the picker belt 7. This picker belt has points thereon of any suitable form to engage the cotton and detach it from the plant, and convey it rearwardly into the casing of the apparatus. The pulley 5 is provided with recesses 8 which receive flanges 9 of side plates or shields 10, which are mounted upon the axle or bolt 6, and bear upon the ends of a bush-

ing 11 arranged within the pulley, the arrangement being such that when the nut 12 is turned to tighten the parts in the bearings, the shields or guard plates 10 will be forced against the end of the bushing so that they will be held stationary while the pulley will be free to rotate between them. The function of these guard or shield plates is to prevent the fouling of this pulley by fibers of the cotton getting in between the said pulley and the sides of the frame, and wrapping around, thus preventing the pulley from having free movement and causing a jam at this point. The guard plates have their peripheries extending above the periphery of the pulley, and in the space thus formed the belt 7 moves.

In rear of the pulley 5 I arrange upon the casing a trash arrester 13 consisting of a finger depending from the casing to a point slightly above the belt and curving slightly toward the front at its lower end. This serves to stop all large trash such as pieces of broken bolls, which, if carried in, would clog the interior parts and stop the working of the apparatus. It also serves to spread the cotton on the belt and assists the action of the arresters 14, which consist of fingers or arms depending at separated points from the casing toward the belt, each one toward the rear projecting nearer the belt than the preceding arrester. These arresters engage the large locks of the cotton and pull them apart, and spread the cotton along the belt. These arresters prepare the cotton for a better action of the brush 15 than would otherwise be possible, enabling the brush to remove the cotton from the picker belt without being strained or clogged by locks or knotted cotton or by a full boll coming through all in one piece. The belt is driven, as in the patent above referred to, through gearing at 16 connected with a rear pulley 17 mounted in the frame, as shown in Figs. 1 and 3. The shaft carrying this pulley and one of the gear members, as shown at 18, is mounted in non-fouling ball bearings 19. The gearing is driven from a suitable shaft 20 through a clutch 21, suitable anti-friction thrust bearings being employed at 22. The clutch is operated from a finger piece 23 through a rod 24 connected with a lever 25 engaging a groove 26 in one of the clutch members by means of a roller bearing on the clutch fork. The brush 15, which is situ-

ated within the casing in rear of the inner end of the belt, is driven through gearing 27 from the said shaft 20.

I show at 28 in Fig. 1 and in detail in Fig. 6 a guard or shield for protecting the rear end of the belt and the brush. It has a flange 28^a which fits over the end of the brush hub and the axle, providing at this point a stationary face which reaches out to the base of the bristles or wires of the brush. It is also provided at 28^b with a deflector or funnel-shaped portion formed by flaring upwardly and outwardly the wall of the guard immediately in rear of the belt, the upper outer end of the said flared portion contacting with the inside of the casing, so that, as the cotton is caused to move downwardly over the rear or inner pulley, this deflector or funnel-shaped portion will direct it to the face of the brush to be engaged thereby. At the front end of this guard plate I provide a finger 29 reaching in under the belt and serving to lift up any cotton hanging from the belt and place it on top thereof, so as to be in line with the brush to be engaged thereby. This finger will prevent the cotton from collecting under the belt or around the rear pulley, and clogging the same. I prefer to form this guard having the three portions described of one piece, though I do not limit myself in this respect. The main body of the guard, as well as the portions above particularly referred to, also serve to guide the cotton.

In order to properly support the belt at its upper side, I provide a bridge 30 supported on the forwardly extending frame portion and lying closely beneath the upper branch of the belt, the purpose being to prevent the belt from sagging at this point when the arresters 14 engage large or closely locked bolls of cotton. This bridge serves to make the arresters perform their work in a satisfactory manner, and with it the belt does not have to be tight, and thus there is less strain and less power required to drive the machine. I show at 31 a relieving comb for the brush, the function being particularly to clean the brush of damp cotton. At 32 I show an air conduit which also forms one side of the picker frame, and thus dispenses with extra tubing at this point. In order to tighten or loosen the belt, I provide cross arms 33 connected with the bars or tubes 3, and between these cross arms is arranged a nut 34 engaging a screw-threaded portion 35 of a stem 36 fixed in the main frame, so that by turning this nut the tubular bars 3 may be made to move in either one direction or the other upon the fixed guides 37 to thus tighten or loosen the belt.

I claim as my invention:—

1. In combination in a cotton picker a traveling picker belt, a pulley for the belt

having on each side an annular recess, guard plates fixed relatively to the pulley and having annular flanges entering the said annular recess with their outer faces in the same plane substantially with the periphery of the pulley and having peripheral flanges extending out beyond the annular flanges to receive the belt between them, substantially as described.

2. In combination, a picker belt, a pulley having a bushing slightly longer than the width of the pulley, and having recesses at its peripheral edge, a bolt passing through the bushing, frame parts engaging the bolt and guard plates at the sides of the pulley bearing upon the ends of the bushing and held in fixed position by the bolt, said guard plates having inwardly extending flanges substantially flush with the periphery of the pulley and entering the recesses at the edges of the pulley and having peripheral flanges extending out beyond the annular flanges to receive the belt between them.

3. In combination with the picker belt and pulleys and brush, an inclined deflector between the discharge end of the belt and the brush, said deflector inclining upwardly and outwardly to direct cotton from the sides of the apparatus into the working plane of the brush, substantially as described.

4. In combination with the picker belt and supporting pulleys, a guard having a finger under the belt and inclining upwardly in the direction of movement of the belt for lifting the cotton onto the upper side of said belt, substantially as described.

5. In combination with a main frame the picker belt and front and rear pulleys, the latter pulley being supported on the main frame, a frame supporting the front pulley having cross bars 33, a threaded stem fixed to the main frame and extending through said cross bars, and a nut engaging the said threaded stem between the cross bars to adjust the position of the pulley carrying frame for tightening the belt, substantially as described.

6. In combination with a picker belt, a pulley with means for driving the same, a supporting bridge arranged under the belt and extending only part way of the length of the belt, said bridge being arranged to support the belt but to leave a free portion between its rear end and the adjacent pulley, and a series of arresters arranged over the belt, one of said arresters being arranged over the free portion of the belt beyond the end of the bridge, substantially as described.

7. In combination in a cotton picker, a traveling picker belt, a pulley for the belt having a recess formed at each side thereof, and guard plates fixed in relation to the pulley and having flanges extending across the crevice between the guard plate and the end of the pulley, and into the said recess,

the outer face of the flanges being substantially in the same plane with the periphery of the pulley, substantially as described.

8. In combination with the picker belt and pulleys and brush, a deflector between the discharge end of the belt and the brush, said deflector consisting of a plate having on its inner side a recess the wall of which inclines upwardly and outwardly, and directly adjacent the belt as it passes around the

pulley to direct cotton from the sides of the apparatus into the working plane of the brush, substantially as described.

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

ROBERT S. WHEELER.

Witnesses:

KATHRYN E. O'NEILL,
JOHN M. DETTIO.