

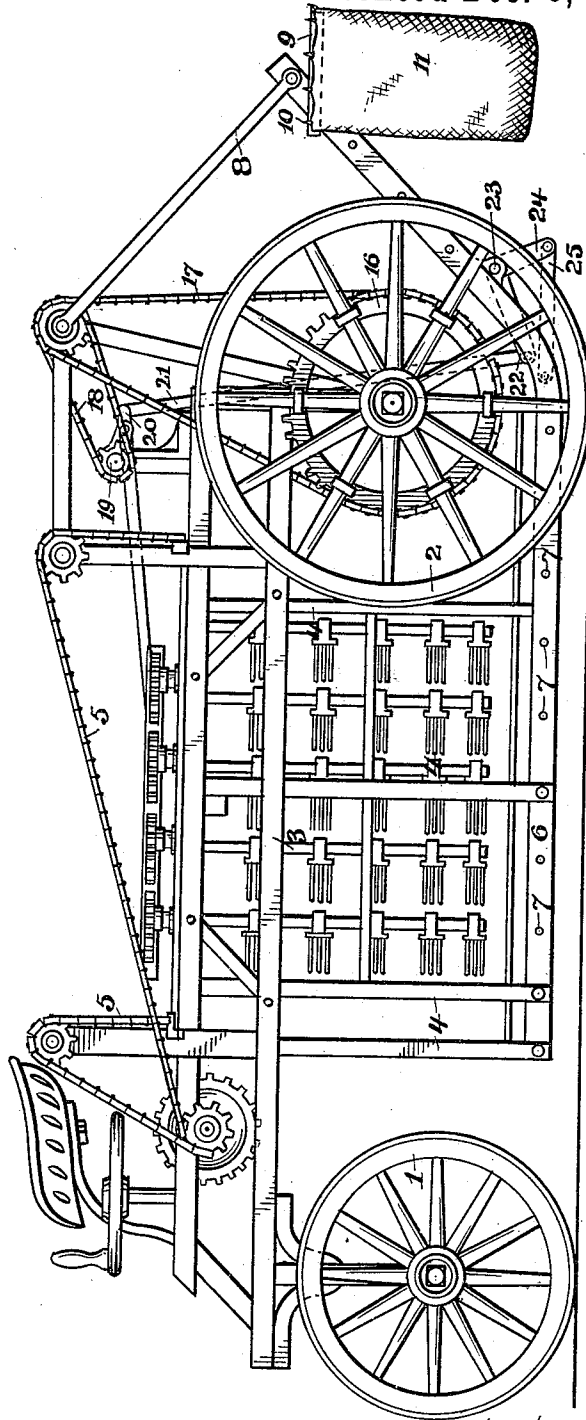
(No Model.)

3 Sheets—Sheet 1.

J. A. HOUSE.
COTTON HARVESTER.

No. 464,742.

Patented Dec. 8, 1891.



WITNESSES
C. M. Newman,
A. J. Tanner.

Inventor
James Alford House
by his attorney
D. H. Hubbard.

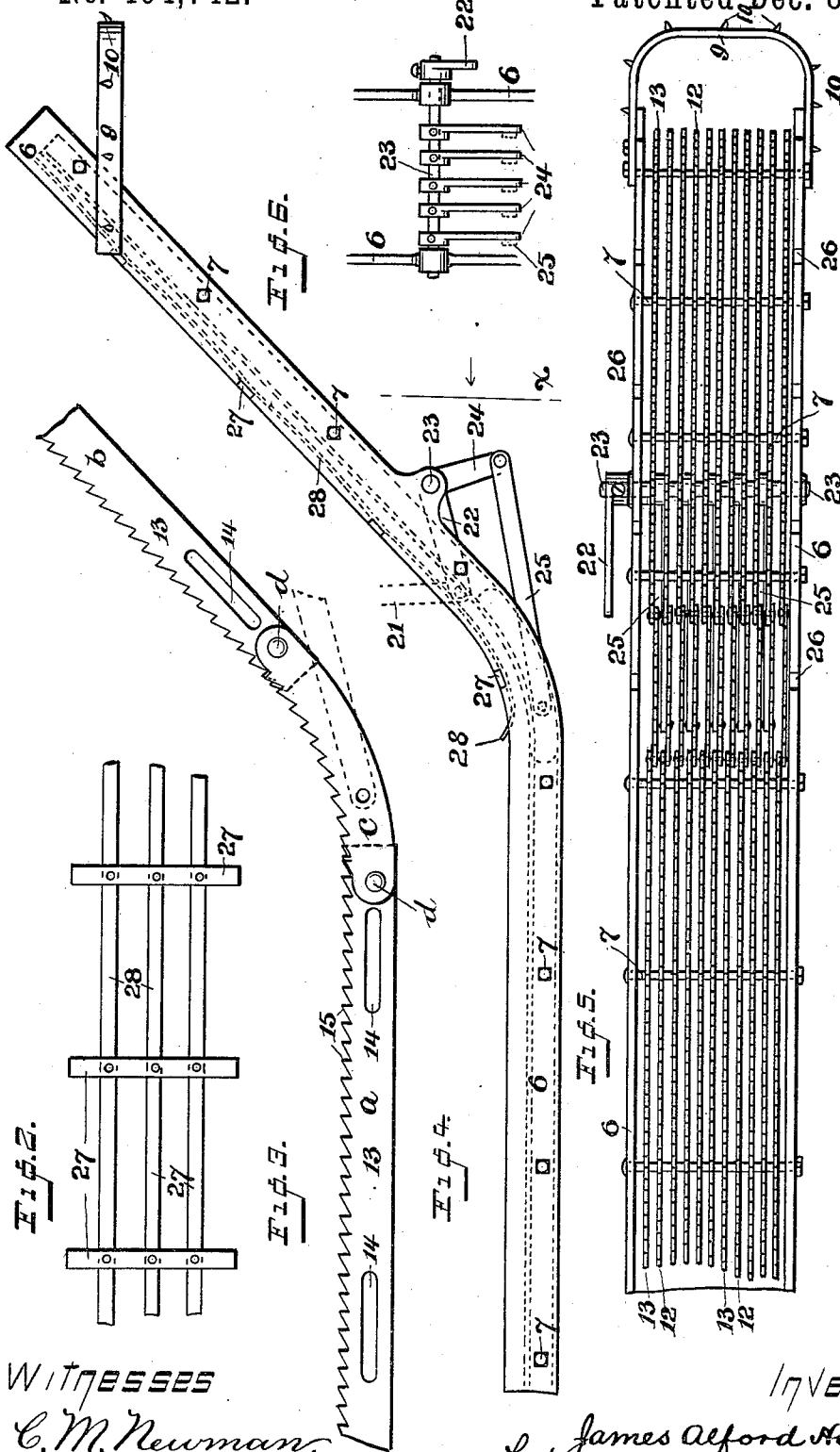
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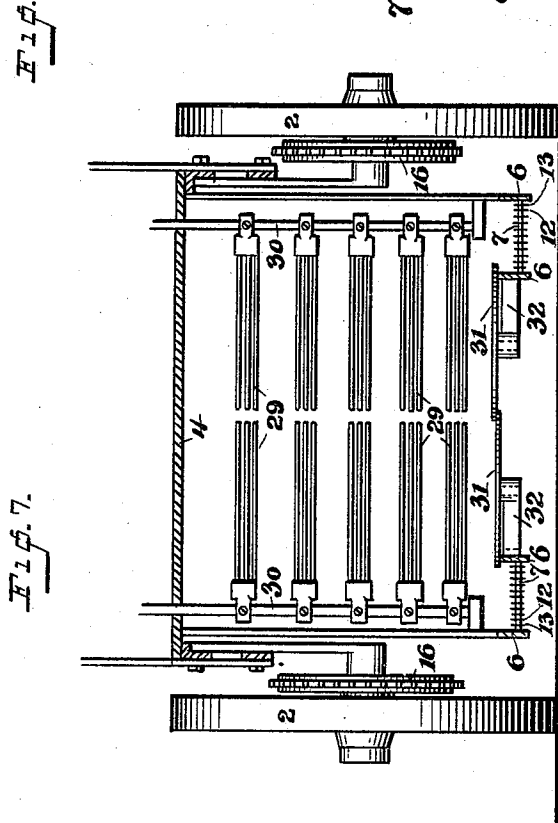
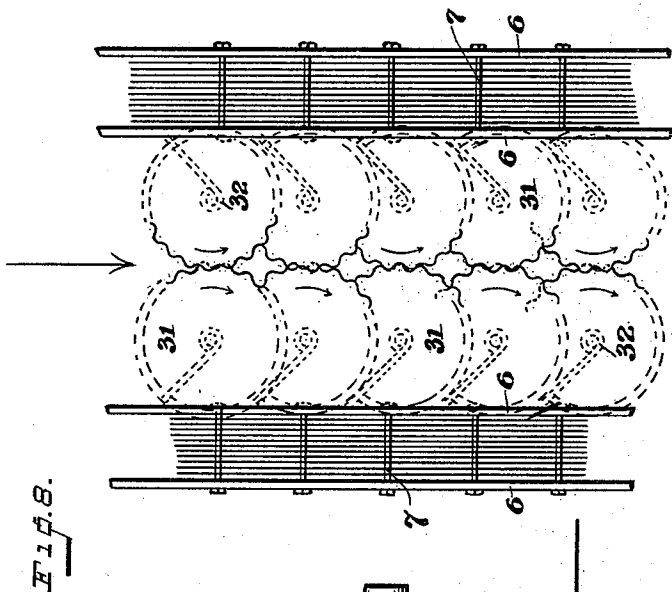
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UNITED STATES PATENT OFFICE.

JAMES ALFORD HOUSE, OF BRIDGEPORT, CONNECTICUT.

COTTON-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 464,742, dated December 8, 1891.

Application filed April 21, 1891. Serial No. 389,769. (No model.)

To all whom it may concern:

Be it known that I, JAMES ALFORD HOUSE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Cotton-Harvesters; 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.

This invention relates to certain novel and useful improvements in cotton-harvesting machines; but more particularly does it appertain to the construction and method of operation of the conveyers, whereby after the cotton has been removed from the bushes it is carried to and deposited in bags or other convenient receptacles.

It is the object of my invention to provide a novel form of conveyer simple in construction and easy of operation, and to combine the same with the picking mechanism of the cotton-harvester; and with these ends in view my invention consists in the construction and combination of elements hereinafter to be fully explained and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand its construction and method of operation, I will describe the same in detail, reference being had to the accompanying drawings and the numerals and letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation of a machine embodying my invention; Fig. 2, a detail plan view of a portion of the grating; Fig. 3, a detail side elevation of the mid-section of one of the movable carrier-strips; Fig. 4, a detail side elevation of the conveyer detached from the machine; Fig. 5, a plan view of Fig. 4; Fig. 6, a detail elevation, looking from the line X in the direction of the arrow, Fig. 4; Fig. 7, a transverse vertical section through the completed machine, and Fig. 8 a detail plan view showing the conveyers and the means whereby cotton is deposited thereon.

Two pairs of wheels 1 and 2 serve to support a rigid frame 3, within which is contained a vertically-movable frame 4. This frame is connected to the frame 3 by means

of chains 5, whereby it may be raised and lowered. The movable frame is equipped with competent picking apparatus, which I show in the drawings as consisting of a series of vibratory whips 29, mounted upon and operated by means of vertical shafts 30; but as this picking mechanism forms no part of my present invention, and as any other devices may be substituted for this purpose, I deem it unnecessary to describe it in detail. The bottom of the movable frame is provided with a sectional floor, shown in detail at Fig. 8 as consisting of a considerable number of circular, toothed, and overlapping sheet-metal plates 31, arranged in a double row, each being journaled upon the end of a spring-arm 32, so that each plate may not only rotate, but may yield laterally to admit of the passage of the stems of the plants to be operated upon. I do not, however, wish to be limited to this means for catching the cotton when dislodged by the picking apparatus, and it is included merely for illustration.

6 represents two pairs of bars, one pair secured at the bottom of the movable frame upon each side. Said bars are shown in side elevation and plan view at Figs. 4 and 5, and they are bolted together and firmly held in place by means of tie-rods 7. Toward their rear ends the bars 6 are bent and thence extend obliquely upward, as appear at Figs. 1 and 4, their outer ends being supported in any convenient manner—as, for instance, by hangers 8. Upon the end of each pair of bars is a curved bag-holder 9, provided with hooks or points 10 for the support of a cotton-sack 11. Between these bars 6 and extending parallel therewith throughout their length, both as to the horizontal portion and the oblique portion, are two sets of narrow metal strips. It is my preferred construction that one set, whose members are designated by the numeral 12, shall be stationary and firmly supported by means of the tie-rods 7, and that the members of the other set, which are denoted by the numeral 13, shall be mounted upon the tie-rods by means of elongated slots 14, so as to permit to said last-named strips a reciprocatory movement in the direction of their length and parallel with the stationary strips. I have used the numerals 12 and 13 to designate these strips as a whole; but in de-

tail each strip of the movable set consists of three parts—namely, the horizontal section *a*, the obliquely-placed section *b*, and the intermediate curved short section *c*, which operates
 5 as a link between the sections *a* and *b* and is connected to each by means of hinged joints *d*. This construction will be at once understood by reference to Fig. 3, and I have omitted the reference-letters for these separate parts
 10 of each strip from the other figures. The purpose of this construction of the movable strips is to permit the end sections to move longitudinally in their bearings, which of course would be impossible if the strips were
 15 made of a single piece of curved metal. From the manner in which they are connected it is obvious that power may be applied to either of the sections and still the appropriate movement of all parts of each strip be obtained.
 20 All the strips of both sets, both fixed and movable, have their upper edges furnished with carrier-teeth 15, inclined toward the rear of the machine.

The movable strips are given the appropriate reciprocatory motion by mechanism now to be described. The wheels 2 each bear a sprocket-wheel 16. This, through sprocket-chains 17 and 18, whose construction and arrangement are obvious from an inspection of
 30 Fig. 1, drives a transverse shaft 19, hung in bearings on top of the machine. Upon each end this shaft carries a projecting crank-arm 20, from which depends a pitman-rod 21, whose lower end is connected to and drives a shaft
 35 23 through and by means of a rock-lever 22. The shaft 23 is journaled in bearings formed on the bars 6. Other rock-levers 24 depend from this shaft, as shown at Fig. 6, and each of these, by a link 25, is connected to one of
 40 the movable strips 13. By means of these devices the movement of the machine imparts a regular and definite movement in its bearings to each of the movable strips.

While it is not absolutely essential, I prefer to furnish the inclined portion of the conveyer with some means for preventing the escape of the cotton and holding the latter against the strips. To this end I provide the edges of the bars 6 toward their rear ends
 50 with notches 26, which form seats for the ends of light cross-bars 27, beneath which are secured light and flexible metallic bands 28, to any desired number and preferably sagging slightly between the cross-bars. These cross-bars and bands form a sort of grating, whose
 55 relation to the bars 6 and the toothed edges of the strips is shown in dotted lines at Fig. 4. The lower ends of the bands 28 are preferably turned upward away from the teeth
 60 (see Fig. 4) to permit the cotton to enter easily beneath them.

The operation of my invention is as follows: As the machine traverses a row of cot-

ton-bushes the latter in succession enter the movable frame between the edges of the ro- 65
 tative spring-actuated plates 31 and come within the field of operation of the pickers or beaters, whereby they are denuded of their cotton. The cotton falls upon the plates, and
 70 as these rotate it gradually finds its way onto the toothed surfaces of the conveyer-strips. During the backward movement of the movable strips the cotton is held by means of the
 75 teeth of the fixed strips; but on the forward travel of the movable strips the cotton is thereby carried along. Therefore at each re-
 80 ciprocation the whole mass of cotton is intermittently advanced toward the receptacle provided for it by a distance equal to the throw of the movable strips, which may be six
 or eight inches, more or less. As fast as cotton arrives at the top of the inclined portion
 of the conveyer it is pushed over the end of the latter and falls by gravity into the sack.

I have shown my improved conveyer as consisting of a set of fixed strips and a set of movable strips, because, as constructed, one set of movable strips will be sufficient to move the cotton as fast as picked and will absorb
 90 only a moderate amount of power. It is perfectly obvious, however, that I may increase the capacity of the conveyer, if it should be found desirable, by making both sets of strips
 95 movable simultaneously, but in opposite directions, whereby the cotton would be moved twice as fast as by a conveyer having but one set of movable strips.

I claim—

1. In a cotton-harvester, the combination, with an open frame adapted to receive the 100
 bush and provided with picking apparatus, of a movable sectional floor closing the bottom of the frame, a conveyer-trough at each side of the floor and extending upward at the rear
 105 of the machine at an angle, each trough containing toothed strips *a* in its horizontal portion, like strips *b* in its inclined portion, curved and toothed links *c*, connected with the strips *a* and *b*, and means, as described,
 110 for imparting movement to the strips, substantially as described.

2. A conveyer for cotton-harvesters, consisting of a pair of parallel bars 6, having their rear ends upwardly inclined and constituting the frame of the conveyer, the carrier-strips 115
 12 and 13, having sections *a*, *b*, and *c* arranged within the frame, and the laterally-extended bolts 7, forming a fastening for one set of strips and a guide for the other set, substantially as described.

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

JAMES ALFORD HOUSE.

Witnesses:

SHERMAN HARTWELL HUBBARD,
 M. C. HINCHCLIFFE.