(No Model.)

N. CORNISH.

ATTACHMENT FOR STRAW STACKERS.

No. 561,093. Patented June 2, 1896.

Fig. 1.

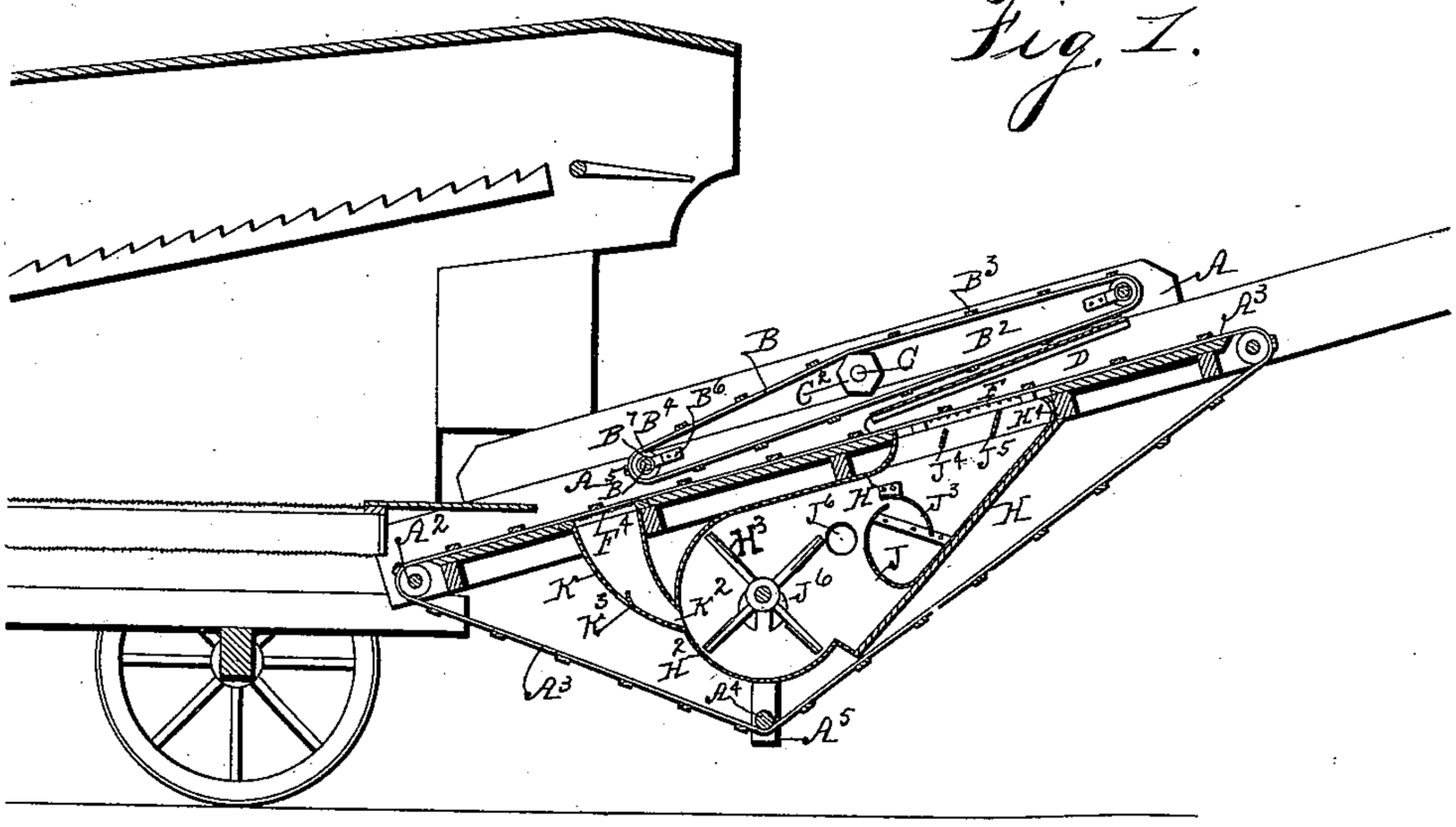


Fig. 2.

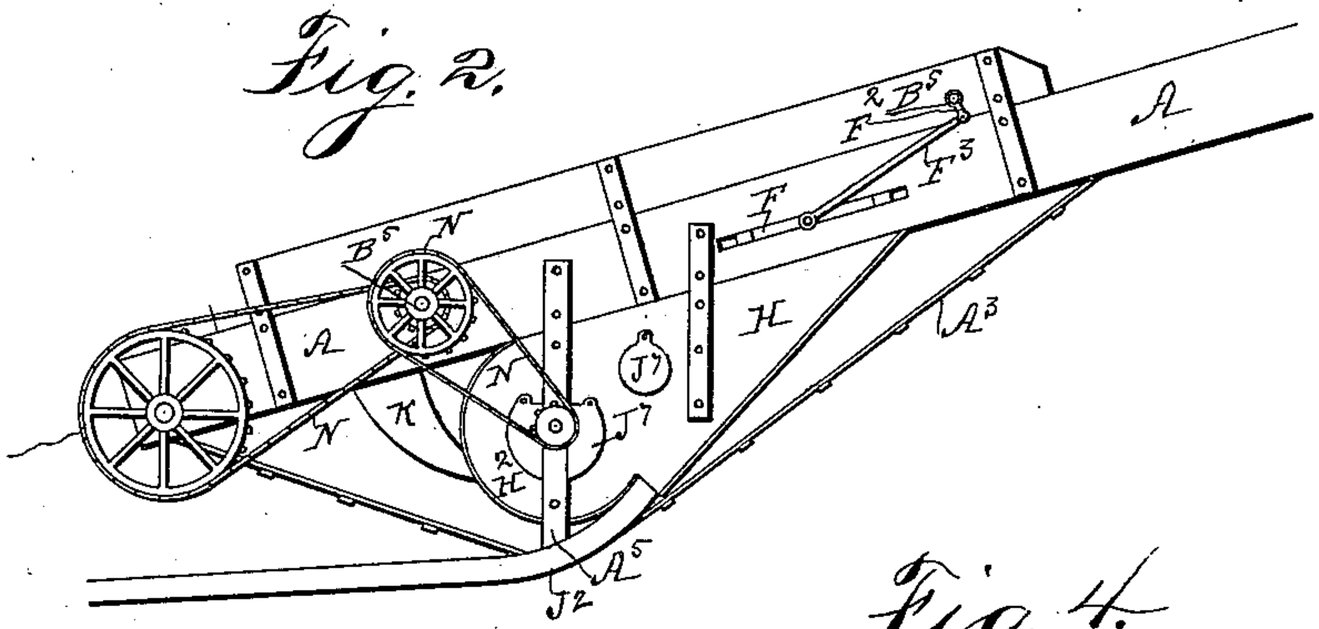


Fig. 5.

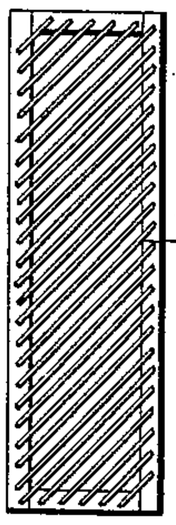
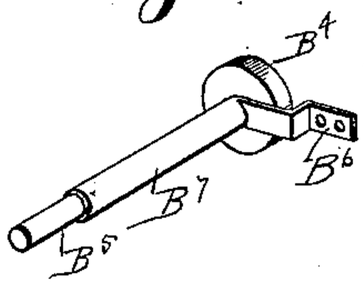
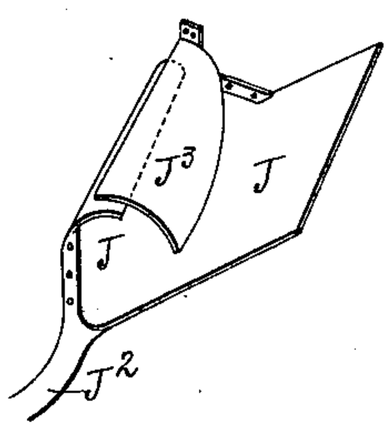


Fig. 4.

Fig. 3.





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UNITED STATES PATENT OFFICE.

NATHAN CORNISH, OF GARNER, IOWA.

ATTACHMENT FOR STRAW-STACKERS.

SPECIFICATION forming part of Letters Patent No. 561,093, dated June 2, 1896.

Application filed May 13, 1895. Serial No. 549,210. (No model.)

To all whom it may concern:

Be it known that I, NATHAN CORNISH, a citizen of the United States of America, residing at Garner, in the county of Hancock and State of Iowa, have invented a new and useful Attachment for Straw-Stackers, of which the following is a specification.

The object of this invention is to provide a simple, cheap, and durable device adapted to be attached to the lower end of the straw stacker or conveyer to separate from the straw, after it has passed through a thresher, any weed-seeds or grain that may have remained with the straw in its passage through the thresher.

My invention consists in the construction, arrangement, and combination of the various parts of the device with a straw-stracker having an endless conveyer therein, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal sectional view of the complete device applied to a straw-stacker and connected with a thresher. Fig. 2 is a side view of the lower end of a stacker having the attachment thereon. Fig. 3 is a detail perspective view of one end of the shaft for supporting the auxiliary conveyer. Fig. 4 is a detail perspective view of the device for directing the air-blast from the fan, and Fig. 5 is a top or plan view of the upper or grain sieve.

Referring to the accompanying drawings, the reference-letter A is used to indicate the frame of the straw-stacker, having a roller A^2 mounted in one end and an endless conveyer A^3 passed over said roller. These parts are all of the ordinary construction, and the under part of said endless conveyer is held downwardly by means of a roller A^4, supported by the brackets A^5, to admit the mechanism hereinafter described between the stacker-frame and the endless conveyer.

B indicates a short endless conveyer mounted in the stacker-frame directly above the lower end portion of the endless conveyer A^3 and composed of belts B^2 and cross-pieces B^3, said belts being passed over the pulleys B^4, which in turn are placed on the end of the shaft B^5. Said shafts are supported by means of brackets B^6, secured to the stacker-frame A, and each pair has a sleeve B^7 formed integral therewith and having one of said shafts passed therethrough to prevent the straw from being wound upon the shafts.

In the central portion of the conveyer B a shaft C is mounted, and on this shaft an irregular-shaped disk C^2 is mounted in engagement with the upper portion of the conveyer-belt, so that as the belt is operated said disk will constantly agitate the conveyer. A like disk is preferably placed on each side. The straw from the threshing-machine falls upon this conveyer, and all of the grain, seeds, &c., are shaken from the straw and pass through the auxiliary conveyer to the main conveyer-frame.

D indicates a platform, mounted in the conveyer-frame between the upper end of the auxiliary conveyer and the conveyer proper, to carry any grain or weed-seeds that may pass through the upper end of the auxiliary conveyer to a point below the grain-sieve in the bottom of the stacker and also to prevent the air-blast through the sieve from blowing the straw upwardly against the auxiliary conveyer.

F indicates a sieve slidingly mounted in an opening in the bottom of the straw-stacker beneath the platform D and adapted to be moved during the operation of the conveyer by means of a crank-arm F^2, secured to one end of the upper shaft B^5 and connected with the sieve by means of a rod F^3.

F^4 is a sieve having a mesh that will not admit grain, (but which will readily pass weed-seeds, &c.,) situated over an opening in the stacker-bottom at a point below the sieve F.

H indicates a sheet-metal casing, cylindrical at H^2 and containing a fan H^3. Its ends extend to the upper and lower ends of the sieve F, and at H^4 it is curved backwardly to direct the blast backwardly and upwardly through the sieve.

J indicates a chute leading from the interior of the fan-casing above the cylindrical part, approximately V-shaped in transverse section and inclined downwardly toward one side of the machine, with a spout J^2 connected therewith. The grain passing through the upper sieve will fall upon the bottom of the chute J and be carried to the said spout J^2.

J^3 indicates a deflector secured to the sides

of the fan-casing and curved forwardly and downwardly from a point a slight distance above the top of the chute to direct a portion of the air-blast from the fan downwardly into the chute J and spout J^2.

J^4 and J^5 indicate deflectors placed beneath the sieve to direct portions of the air-blast upwardly through the sieves at various points, so that the air-blast will be distributed approximately equitably throughout the entire sieve, thus holding the chaff above the sieve and permitting the grain to pass therethrough.

J^6 indicates openings in the side of the fan-casing for the admission of air, and J^7 are hinged covers therefor, whereby the draft may be regulated.

K indicates a chute leading from the sieve F^4 downwardly and forwardly to the fan-casing, having a small opening K^2 communicating with said casing. In the bottom of the chute K is an opening K^3, made by cutting the metal transversely of the stacker and bending the part thus formed upwardly. Thus all of the grain passing into the chute will be directed through said opening and the air-blast be permitted to pass upwardly through the sieve.

The fan and also the auxiliary conveyer are operated from the shaft of the endless conveyer by means of the sprocket-gearing N, as clearly shown in Fig. 2.

In practical operation it will be obvious that as the chaff and straw are discharged from the threshing-machine they will fall upon the auxiliary conveyer, which by being constantly agitated will permit the grain, weed-seeds, &c., to pass through, while the bulk of the straw will be carried upwardly over the conveyer proper. All of the matter passing through the auxiliary conveyer will be carried downwardly below the grain-sieve by the platform above the sieve and be carried up over the sieve by the conveyer proper. Weed-seeds and other small particles will pass through the lower sieve and grain will pass through the upper sieve, the straw and chaff being held from the sieve by the air-blasts from the fan. The blast will be directed by the deflector within the casing downwardly through the chute and spout, thus forcing the grain through the spout, even though it should be wet or clogged by other obstacles.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States therefor, is—

1. The combination with a straw-stacker or the like, having a solid bottom, an endless conveyer arranged to travel over said bottom and a sieve in the bottom, of a fan arranged when operated to produce an air-blast upwardly through said sieve, an apron beneath the sieve having a curved partition to protect it from the air-blast proceeding from the fan, a grain-discharge chute leading from the apron and a deflector above the apron to direct part of the air-blast through said grain-chute, substantially as set forth.

2. The combination with a straw-stacker having a solid bottom and an endless conveyer thereon, of an auxiliary conveyer composed of belts and cross-slats, mounted in said frame above the lower end thereof, irregular-shaped idlers to engage said belts and agitate the conveyer, two sieves in the bottom of the stacker-frame, a platform above the upper one and means for supplying an air-blast upwardly through said sieves, for the purposes stated.

3. An attachment for straw-stackers, comprising an auxiliary conveyer, mounted in the lower end portion of the stacker-frame above the conveyer proper, irregular-shaped idlers under said conveyer, a platform beneath the end of the auxiliary conveyer, a sieve in the stacker-bottom, a second sieve slidingly mounted therein, means for operating said sliding sieve, a fan-casing beneath the stacker-frame, a fan therein and means for operating said fan, a chute therein, a curved deflector above the chute, deflectors beneath the sieve and a chute leading from the fan-casing to the lower sieve and having an upwardly-bent portion in its bottom, substantially as and for the purposes stated.

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Witnesses:
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