

No. 778,774.

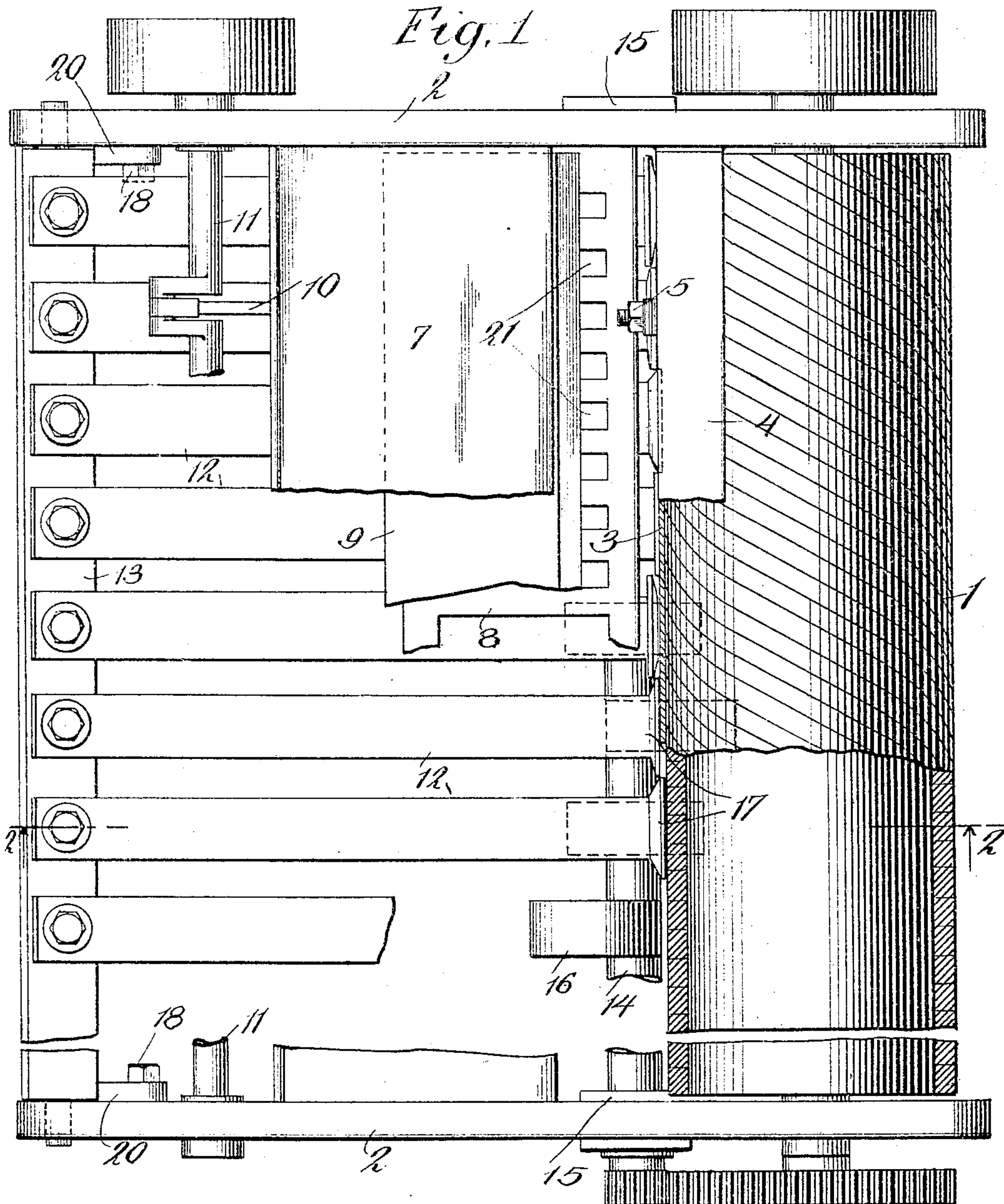
PATENTED DEC. 27, 1904.

J. E. CHEESMAN.

COTTON GIN.

APPLICATION FILED APR. 9, 1904.

2 SHEETS—SHEET 1.



WITNESSES:

*Harry Goss.*

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INVENTOR

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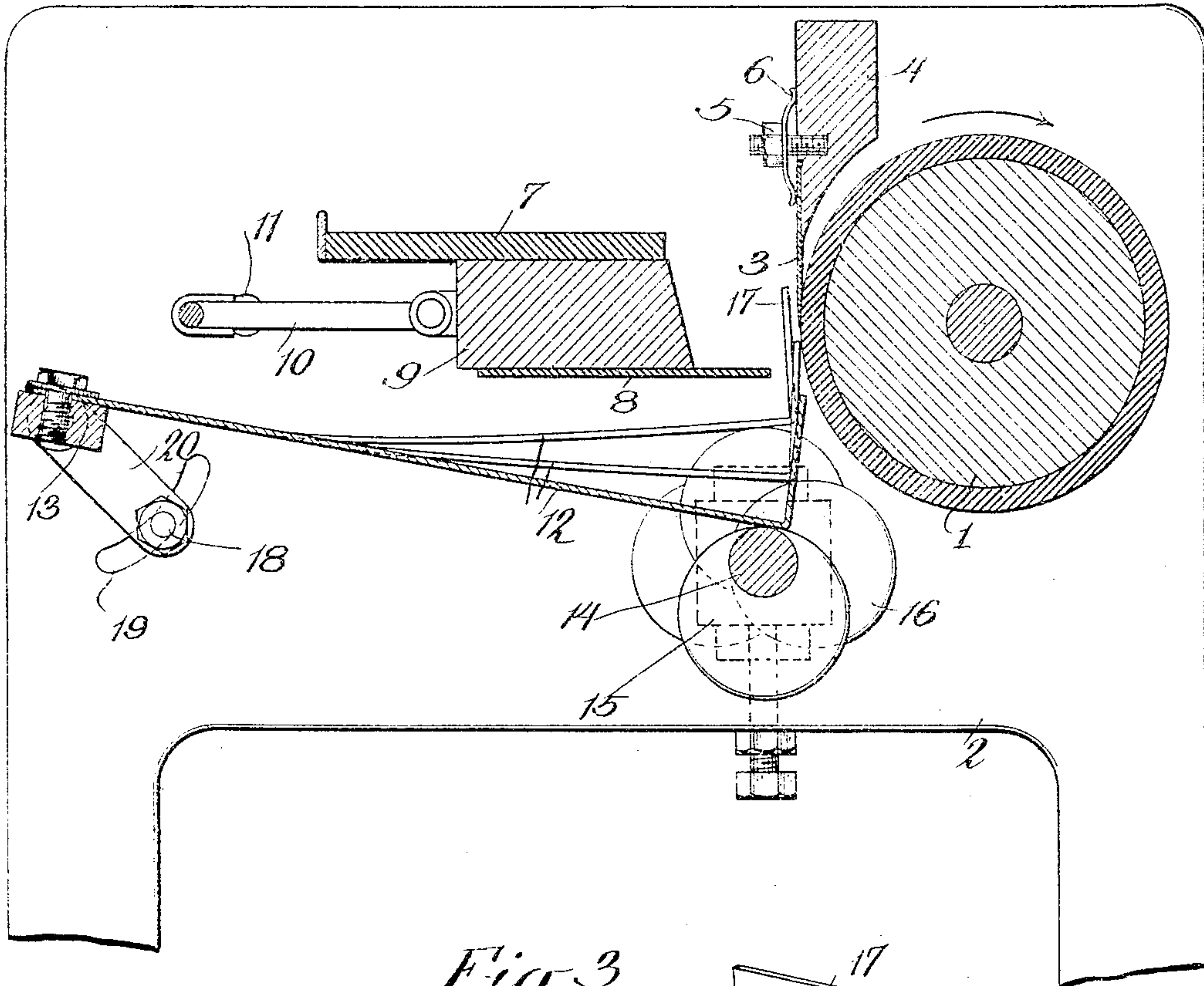
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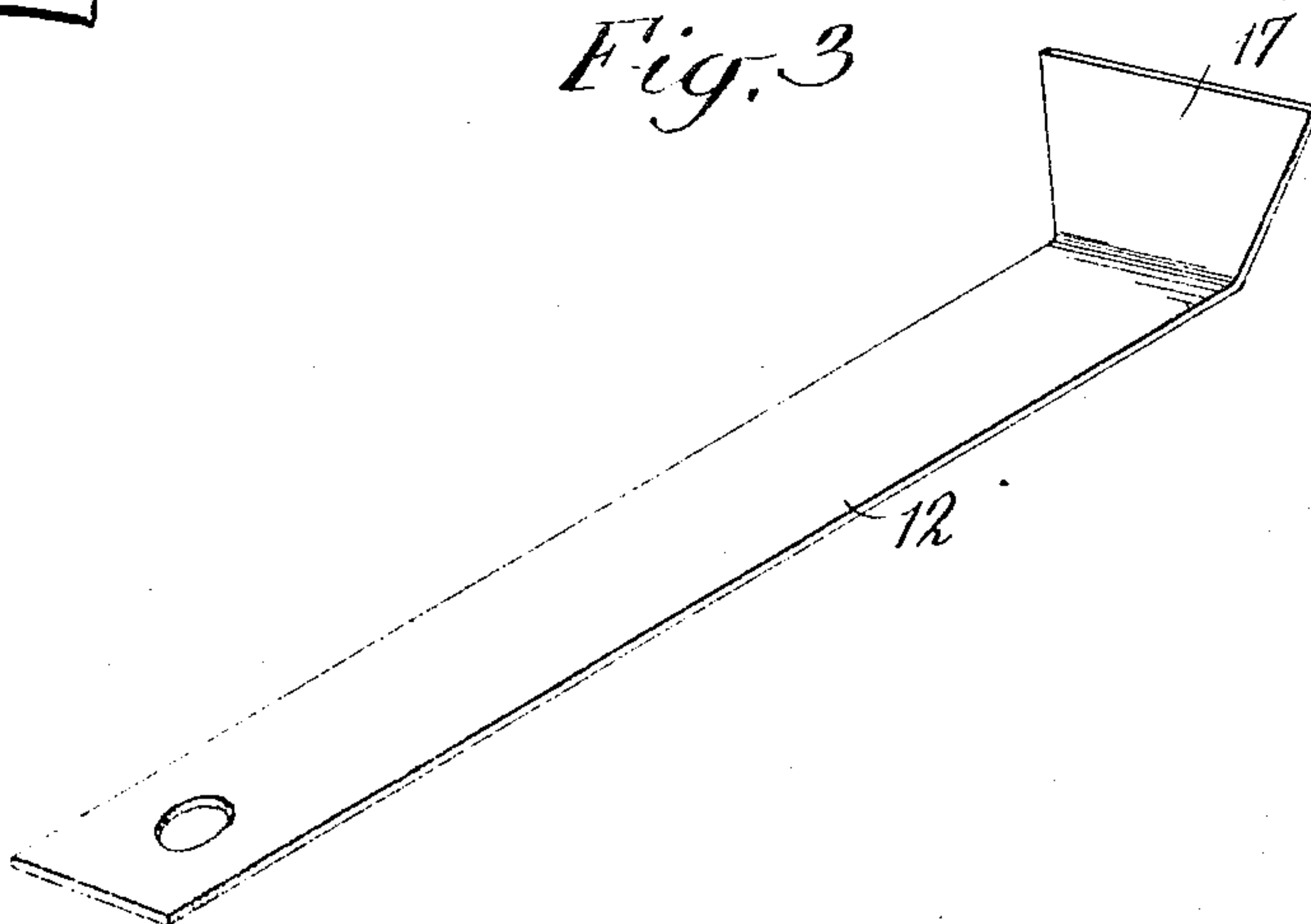
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2 SHEETS—SHEET 2.

*Fig. 2,*



*Fig. 3*



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# UNITED STATES PATENT OFFICE.

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## COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 778,774, dated December 27, 1904.

Application filed April 9, 1904. Serial No. 202,299.

*To all whom it may concern:*

Be it known that I, JAMES E. CHEESMAN, a citizen of the United States of America, and a resident of East Orange, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Cotton-Gins, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention consists in the combination, with a ginning-roller, of a stripper comprising a plurality of spring-actuated members suitably supported at their rear ends, and provided at their front ends with stripping portions adapted to reciprocate in proximity to the periphery of the ginning-roller, and means engaging the front ends of the stripper-blades to successively reciprocate them.

The main object of my invention is to so construct a roller-gin that it may be run at very high speeds. To this end it is essential, in order to avoid shock due to the rapid reciprocation of heavy and cumbersome parts, to rotate instead of reciprocate as many of the parts as is possible. In my present construction I do away with the reciprocating elements usually employed between the driving mechanism and the stripper, thereby largely decreasing the inertia and momentum of the vibrating parts. The only portion of the stripping mechanism herein which is reciprocated is the actual stripping portion of the stripper members, and these portions are arranged to be reciprocated successively instead of simultaneously, so that the machine is more or less balanced as to shock in the movements of these parts. The machine is thereby capable of very high speeds without undue wear or shock, and the efficiency thereof greatly increased.

My invention further consists in certain novel details of construction and combination of parts, as will be hereinafter more fully pointed out.

I will now proceed to describe a cotton-gin embodying my invention and will then point out the novel features in claims.

In the drawings, Figure 1 is a top view of

a cotton-gin embodying my invention with certain parts broken away and other parts shown in section. Fig. 2 is a view in vertical transverse section of the same, the plane of section being taken substantially upon the line 2 2 of Fig. 1. Fig. 3 is a detail view in perspective of one of the stripper-blades employed.

In the cotton-gin illustrated herein the usual ginning-roller 1 is provided, supported in suitable bearings in the framework 2. The ginning-roller may be covered with walrus-hide, as is usual, or may have its surface otherwise roughened, so that it may properly cooperate with the stripping devices to gin the cotton. A vertically-arranged plate 3 is secured to a cross-bar 4, preferably by means of bolts and nuts 5 and spring-washers 6, so that it is yieldingly supported, such plate constituting the guard or stationary stripping-knife usually employed in roller cotton-gins.

A horizontal feed-table 7 is arranged transverse of the machine and supported by the side frames, and a seed-board 8, also arranged in a horizontal position, is supported by the side frames beneath the seed-table and parallel therewith. A feed-plunger 9 is arranged to reciprocate between the under side of the feed-table 7 and the upper side of the seed-board 8, connecting-rods 10, connecting with cranked portions of a suitably-driven shaft 11, constituting means for imparting reciprocating motion thereto.

The stripper comprises a plurality of stripping members 12, bolted or otherwise secured at their ends to a cross-bar 13 and arranged at their other ends to be actuated by suitable actuating mechanism. They may conveniently be slotted at the ends at which they are bolted to the cross-bar 13, so that slight adjustment will be permitted. The actuating mechanism consists of a suitably-driven shaft 14, journaled in bearings 15, vertically adjustable in the side frames of the machine, and a plurality of cams or eccentrics 16. In the present arrangement there is a separate cam or eccentric 16 for each one of the strip-



per blades or members employed, and the said cams or eccentrics are arranged progressively around the shaft 14, as will be readily understood by reference to the drawings.

5 The stripper-blades 12 are constructed of spring material and are arranged to rest upon their respective cams or eccentrics in all positions of the same. The cross-bar 13 is arranged to be rotatively adjusted, so as to adjust the tension of the spring-actuated members, and locked in its adjusted position by bolts 18, which pass through slotted portions 19 of the side frames and engage arms 20, projecting from the bar 13. As the shaft 14 revolves, the stripper-blades 12 will be progressively lifted against their own spring resistance and permitted to return by their own resilience, according as the cams or eccentrics are arranged upon the shaft. In the present instance the cams or eccentrics are arranged ninety degrees in advance of each other, so that successive stripper-blades will operate ninety degrees in advance of the blades preceding them. Each stripper-blade comprises a spring-shank and an upwardly-turned stripper portion 17, flaring in width, so that the upper edges of the contiguous stripping portions will substantially meet. The shank portions of the stripper-blades being narrower, there will be spaces left between them through which seeds may pass. The seed-board 8 is also provided with open slots 21, through which seeds may pass, and the front edge of the seed-board is set at such a distance from the periphery of the ginning-roller and from the upwardly-turned stripping portions of the stripping-blades as also to leave room for seeds to drop through.

In operation of the machine cotton fiber is placed upon the table 7 and allowed to fall in front of the plunger 9. The plunger 9 being reciprocated by its mechanism, as described, feeds the cotton toward the ginning-roller 1, the ginning-roller being rapidly revolved in the direction of the arrow, Fig. 2. Rotation of the shaft 14 successively reciprocates the stripper ends of the stripper members 12, which operating in close proximity to the periphery of the rapidly-moving ginning-roller will effect the seeding or ginning operation in a manner such as will be well understood by those skilled in this art.

It will be seen that the machine is one which is exceedingly simple both as to construction and operation and that the vibrating or reciprocating parts are reduced to an absolute minimum. The stripping portions of the stripper are the only parts of the stripping mechanism which reciprocate, and these parts are extremely light, so that inertia and momentum are reduced to a minimum. The vertical adjustment for the bearings of the transverse shaft 14, coupled with the slight adjustment permitted at the point of support between the rear ends of the stripping members and the

cross-bar 13, permits accurate adjustment of the stripping portions with respect to the roller in a very simple manner, while it will be also readily seen that in case any single member becomes worn or damaged it may be very easily replaced.

What I claim is—

1. In a cotton-gin, the combination with a ginning-roller, of a stripper consisting of a plurality of separate and individual members, each member comprising a flexible resilient shank rigidly mounted at one end, and bent upward at substantially right angles at the other end to form a stripping portion, and means for reciprocating the stripping portions of the stripper members.

2. In a cotton-gin, the combination with a ginning-roller, of a stripper comprising a plurality of flexible resilient members rigidly mounted at their rear ends, and means for successively reciprocating the forward ends of the several members.

3. In a cotton-gin, the combination with a ginning-roller, of a stripper comprising a plurality of flexible resilient members rigidly mounted at their rear ends, each member comprising a shank and a stripping portion, the width of the stripping portion being greater than that of the shank, and means for reciprocating the stripper portion of the stripping members.

4. In a cotton-gin, the combination with a ginning-roller, of a stripper comprising a plurality of flexible resilient members rigidly mounted at their rear ends, and a plurality of eccentrics engaging the forward ends of the said members, said eccentrics arranged angularly in advance of each other.

5. In a cotton-gin, the combination with a ginning-roller, of a stripper comprising a plurality of separate and individual members rigidly mounted at their rear ends, each member comprising a flexible resilient shank and a stripping portion bent upwardly therefrom, a shaft mounted transversely beneath the forward ends of the stripping members, and a plurality of eccentrics, one for each stripper member, arranged to engage the said stripper members, and progressively mounted upon the said transverse shaft.

6. In a cotton-gin, the combination with a ginning-roller, of a stripper comprising a plurality of separate and individual spring-actuated members, each member comprising a shank and a stripping portion, said members supported at their rear ends, and means engaging the front ends to reciprocate them against their said spring resistance.

7. In a cotton-gin, the combination with a ginning-roller, of a stripper comprising a plurality of separate and individual spring-actuated members, each member comprising a shank and a stripping portion, said members supported at their rear ends, a shaft mounted transversely beneath the forward ends of the

stripping members, and a plurality of eccen-  
trics, one for each stripper member, arranged  
to directly engage the under side of the strip-  
per members and to reciprocate them against  
5 their said spring resistance, said eccentrics  
arranged upon the said shaft angularly in ad-  
vance of each other.

8. In a cotton-gin, the combination with a  
ginning-roller, of a stripper comprising a plu-

rality of flexible resilient blades, a bar rigidly 10  
supporting the blades at one end, means for  
rotatively adjusting the said bar, and means  
for actuating the other end of the said blades.

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Witnesses:

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