

(No Model.)

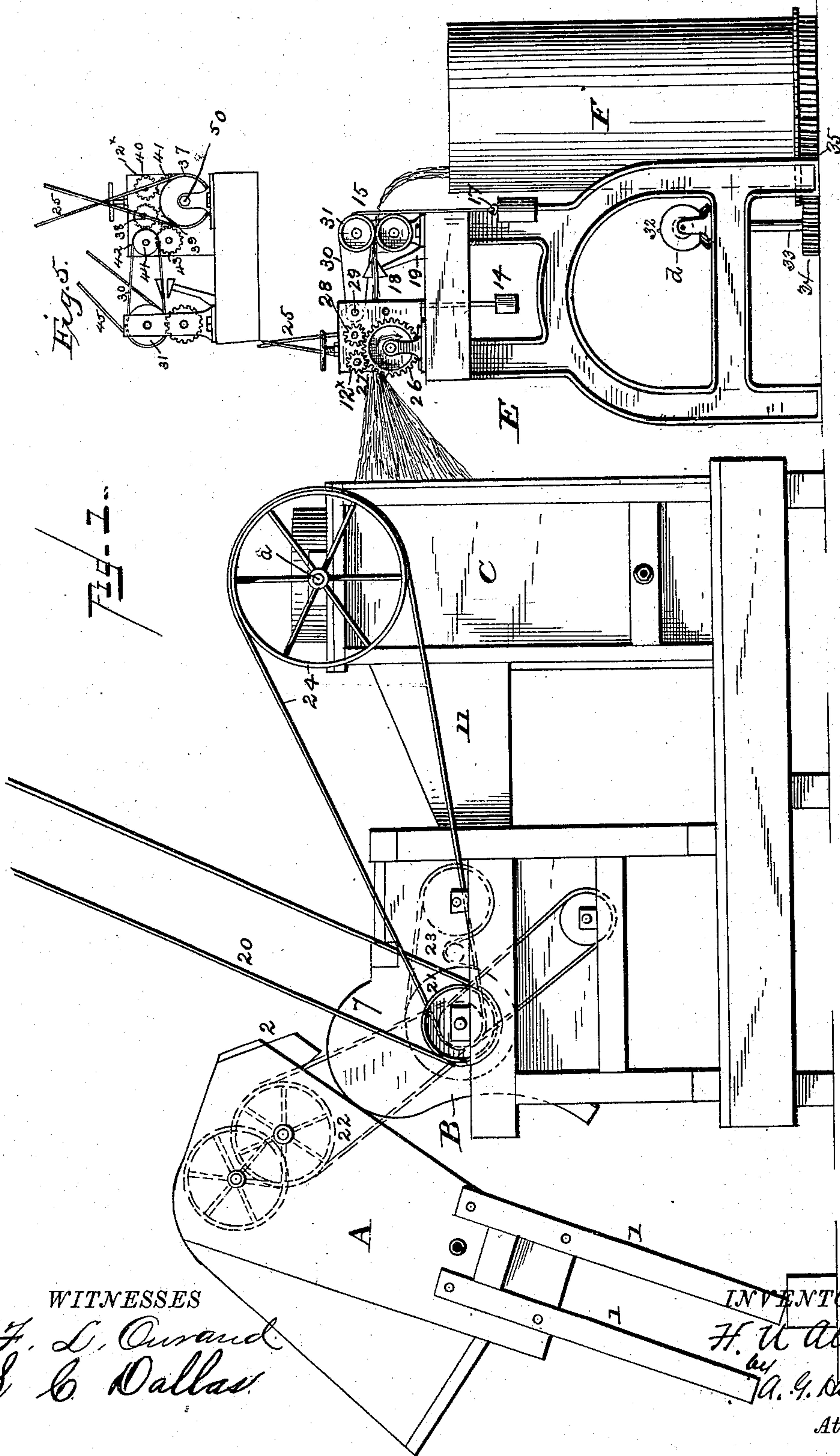
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H. U. ALLEN.

MACHINERY FOR GINNING COTTON AND PREPARING IT FOR SPINNING, &c.

No. 416,886.

Patented Dec. 10, 1889.



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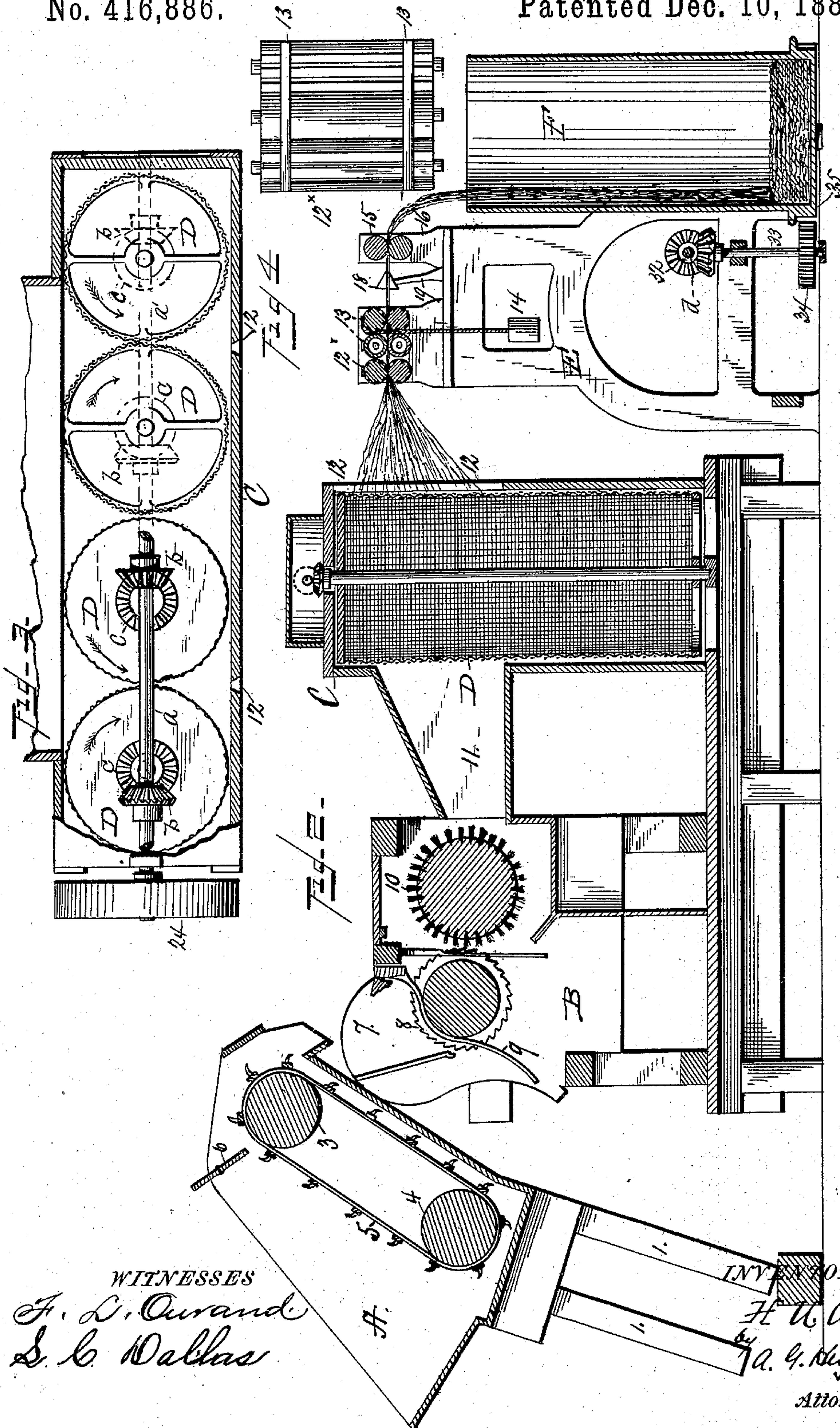
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WITNESSES

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MACHINERY FOR GINNING COTTON AND PREPARING IT FOR SPINNING, &c.

SPECIFICATION forming part of Letters Patent No. 416,886, dated December 10, 1889.

Application filed July 9, 1888. Serial No. 279,438. (No model.)

To all whom it may concern:

Be it known that I, HASSAN U. ALLEN, a citizen of the United States of America, residing at Eutaw, in the county of Greene and State of Alabama, have invented a new and useful Improvement in Machinery for Ginning Cotton and Preparing it for Spinning, &c., of which the following is a specification.

My invention relates to means for making slivers from the raw cotton by a continuous mechanical treatment eventuating in the formed sliver; and the object is to provide a machine whereby the cleaning of the cotton in the gin shall be followed immediately and in sequence by a continuation of treatment until the cotton is formed into bats, wadding, or slivers.

I accomplish the objects of my invention by the means illustrated in the accompanying drawings, wherein—

Figure 1 is a side view in elevation of the machine. Fig. 2 is a central longitudinal vertical section. Fig. 3 is a broken top view of the condensers, and Fig. 4 is a top view of the drawing-rolls. Fig. 5 is a side view of the gearing which drives the evening-rolls, taken on the reverse side from that shown in Fig. 1.

Reference being had to the drawings, A designates the feeder, mounted on legs or supports 1, and having the usual hopper conformation, substantially as shown, and having a spout 2 opening over the hopper of the gin. In the hopper of the feeder are journaled two rollers 3 4, on which is arranged an endless belt 5, provided with carrying-hooks to carry the cotton up to the spout of the feeder and deliver it to the gin. At the upper end of the feeder-box is mounted a flutter board or knocker 6, to strike back the surplus cotton carried up the endless belt, in order that the supply to the gin may be regularly and evenly delivered.

B designates the gin, which may be of any approved construction, either of the saw-gin or roller-gin variety.

I have illustrated in the present instance a saw-gin arranged in combination with the feeder to receive the cotton from the delivery-spout, and having a hopper 7, saws 8, ribs 9, and brush 10. To the rear of the gin is attached a chute 11, leading from the gin-box

and opening into the condenser chamber or box C.

The cotton, as is well known, is brushed from the saws and thrown by the brushes through the chute against the faces of the revolving screens D, which, as the cotton accumulates, press it into sheets and deliver the slivers through the vertically-arranged slots 12, in the rear of the screen-box, substantially as shown in Fig. 2 of the drawings.

At the rear end of the condenser-box is what is usually termed a "railroad-head" E, which has a substantial frame of any suitable construction. On this frame are mounted the drawing and evening rolls 12^x, the top series of which are mounted in yielding bearings and held in downward position by means of the saddle 13, having a weight 14. At the opposite end of the roller-frame are the calender-rolls 15, mounted in bearings in uprights 16 on the frame, the upper one having yielding bearings and held in proper tension or contact with its mate by means of a cord and weight 17, as usual.

Between the drawing and evening rolls and the calender-rolls is arranged a trumpet-shaped tube 18, which is supported on a standard 19. The trumpet 18 is arranged with its mouth or larger end in the direction of the approaching sliver, and the tube is arranged to direct the traveling sliver through the calender-rolls, from where it is delivered in slivers into the revolving can or receptacle F in condition for the usual treatment given such slivers to prepare them for spinning.

Motion is communicated to the apparatus by means of a driving-belt 20, having connection with a power-pulley, (not shown,) and arranged on pulley 21 on the shaft which supports the saws, from which shaft, through belts and pulleys 22 23 24, motion is communicated, respectively, to the feeder, brush, and condenser mechanisms. The pulley 24 is mounted on a shaft *a*, arranged as shown in Fig. 3, and this shaft is provided with gears *b*, which mesh with gears *c* on the spindles of the condensers and communicate motion to them. The belt 25, leading from a driver, (not shown,) passes about a pulley 37 on a shaft 50, on the opposite end of which shaft is a gear-wheel 26, which meshes with gears 27

28 on the first and second upper rolls. On the opposite ends of the drawing and evening rolls are gears 38 39 and 40 41, meshing respectively. On the third pair of drawing and evening rolls are gears 42 43, meshing together, and on one of the shafts of this pair of rolls is a pulley 44, on which is a belt 30, arranged about a pulley 31 on one of the calender-rolls, and from this pulley is a belt 45, extending to the power, the calender-rolls being geared together, substantially as shown. In the frame of the railroad-head is a shaft *d*, carrying a gear 32, meshing with a gear on a vertical shaft 33, having a gear 34 on its lower end, which in turn meshes with the gear 35 on the receptacle F. Motion may be transmitted to the shaft, gears, and receptacle by means of any well-known connection to a power.

The capacity of the apparatus may be increased by increasing the number of pairs of rotating screens in the condenser, and accordingly bringing the other elements of the apparatus to satisfy the delivery of the condenser.

It will be perceived from the foregoing description of the parts or mechanism grouped in operative sequence to constitute the apparatus that taken independently they are all of well-known approved construction, and I do not make any claim to these separate mechanisms; but I believe that I am the first in the art to combine in operative sequence a feeder, cotton-gin, a condenser, a drawing and evening mechanism, and a receptacle to take the slivers. It will be further perceived that by the arrangement of the mechanism and the treatment of the cotton I dispense with these essentials in the prior art of preparing cotton for its manufacture—first, baling; second, the

compress; third, the opener; fourth, the lap-per; fifth, the carding-machine.

By my improved mechanism I prepare cotton ready for the usual attenuating processes in three sequential treatments, instead of the greater number of usual treatments.

What I claim is—

1. The combination, with a cotton-ginning mechanism and a cotton-condenser mechanism, of the drawing and evening rolls, a trumpet-tube arranged at the rear of the said rolls, and calender-rolls to draw the cotton from the trumpet-tube, and means for imparting motion to the respective mechanisms, substantially as described.

2. The combination, with a cotton-ginning mechanism and a cotton-condenser mechanism, of drawing and evening rolls to draw the cotton from the condenser, a trumpet-tube to receive the cotton from the drawing and evening rolls, calender-rolls to draw the cotton through the trumpet-tube, a rotary receptacle to receive the sliver of cotton from the calender-rolls, and means for imparting motion to the respective mechanisms, as specified.

3. The combination, with a cotton-condenser mechanism, of drawing and evening rolls, a trumpet at the rear of the said rolls, calender-rolls to draw the cotton through the trumpet, a rotary receptacle to receive the formed cotton, and means for imparting motion to the respective mechanisms, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two attesting witnesses.

HASSAN U. ALLEN.

Attest:

A. G. HEYLMAN,
L. C. DALLAS.