No. 835,897.

PATENTED NOV. 13, 1906.

H. A. BAKER.

COTTON PRESS.

APPLICATION FILED APR. 30, 1906.

5 SHEETS—SHEET 1.

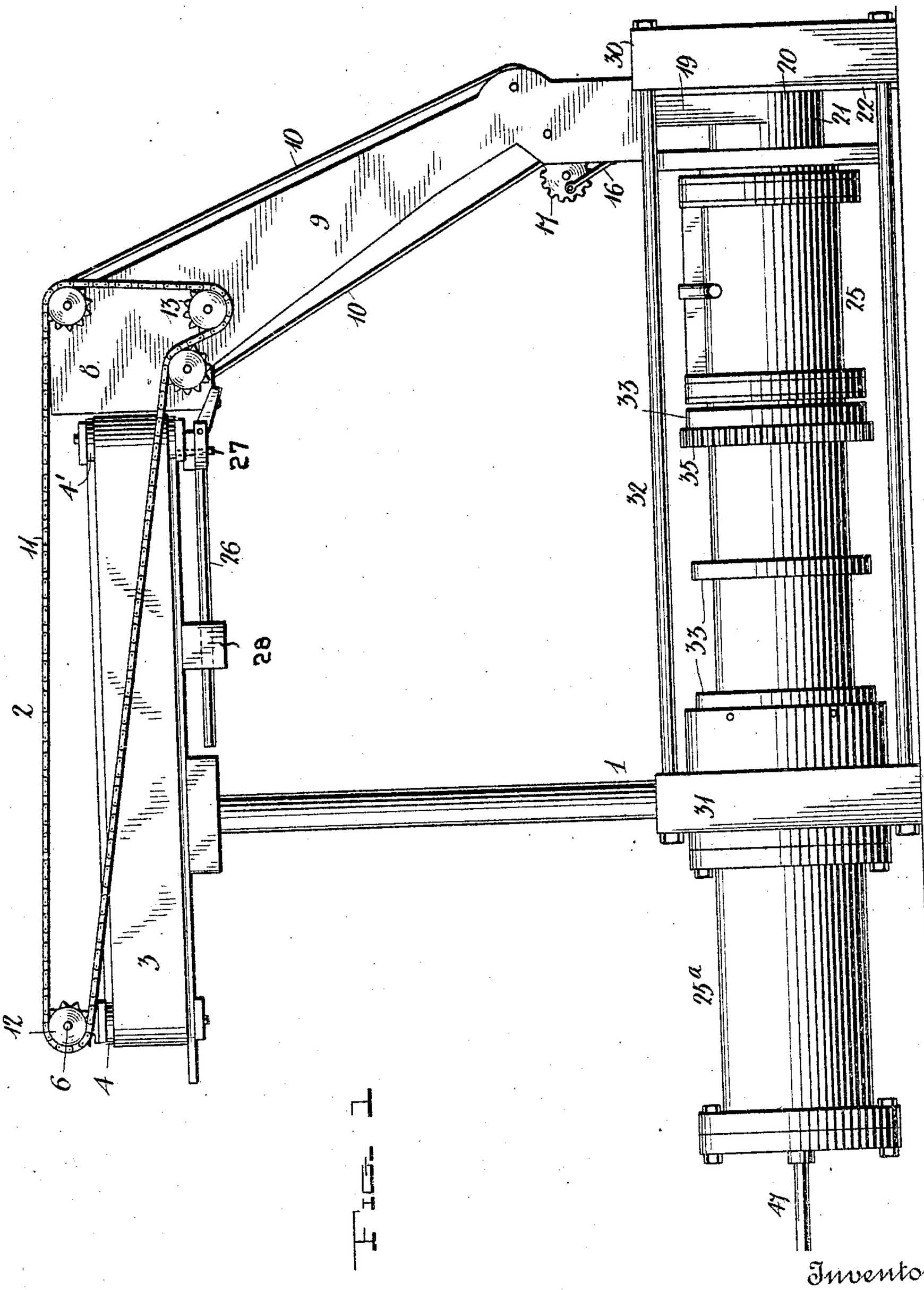


FIG. 1.

Witnesses
J. L. Bates
C. H. Griesbauer

Inventor
Horace A. Baker
By H. B. Williamson & Co
Attorneys

No. 835,897. PATENTED NOV. 13, 1906.

H. A. BAKER.

COTTON PRESS.

APPLICATION FILED APR. 30, 1906.

5 SHEETS—SHEET 2.

FIG. 2

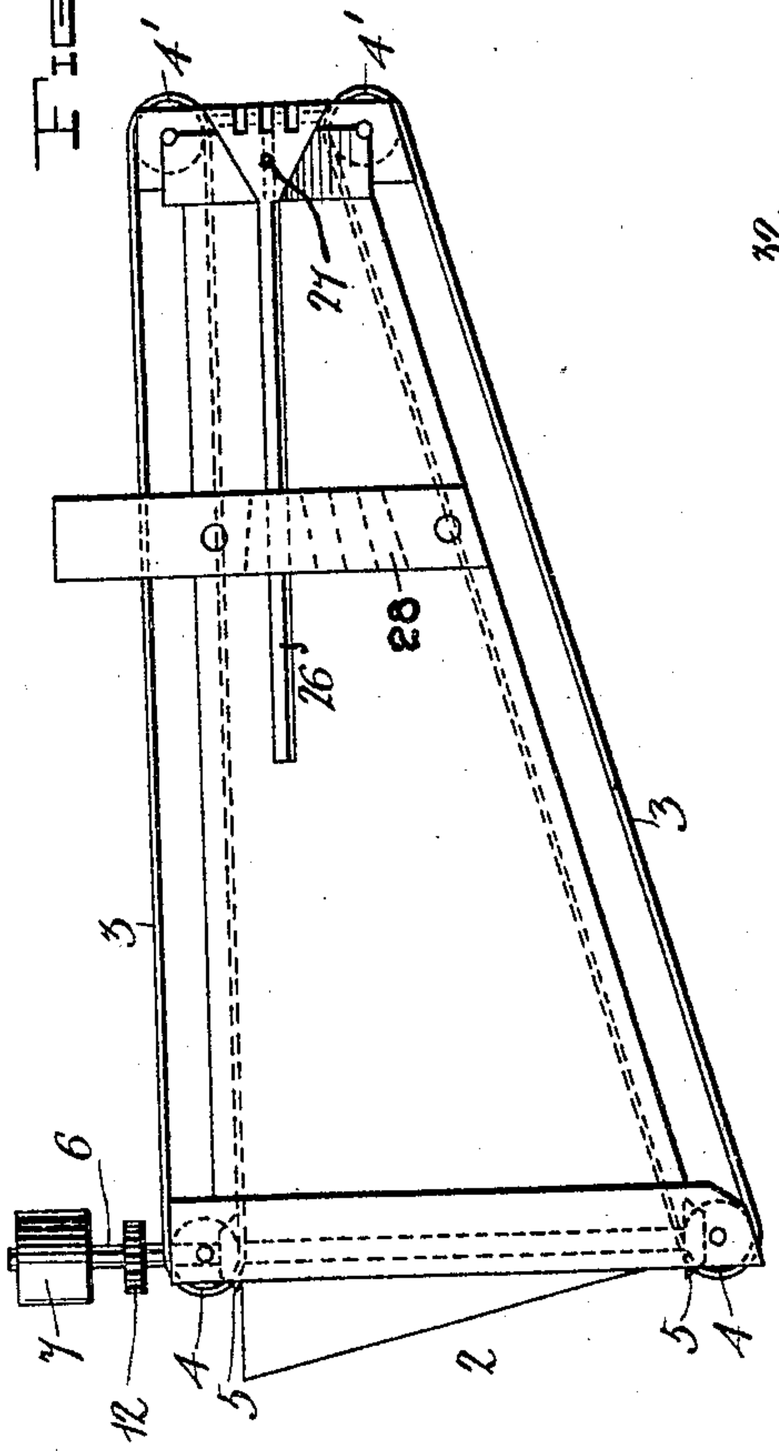
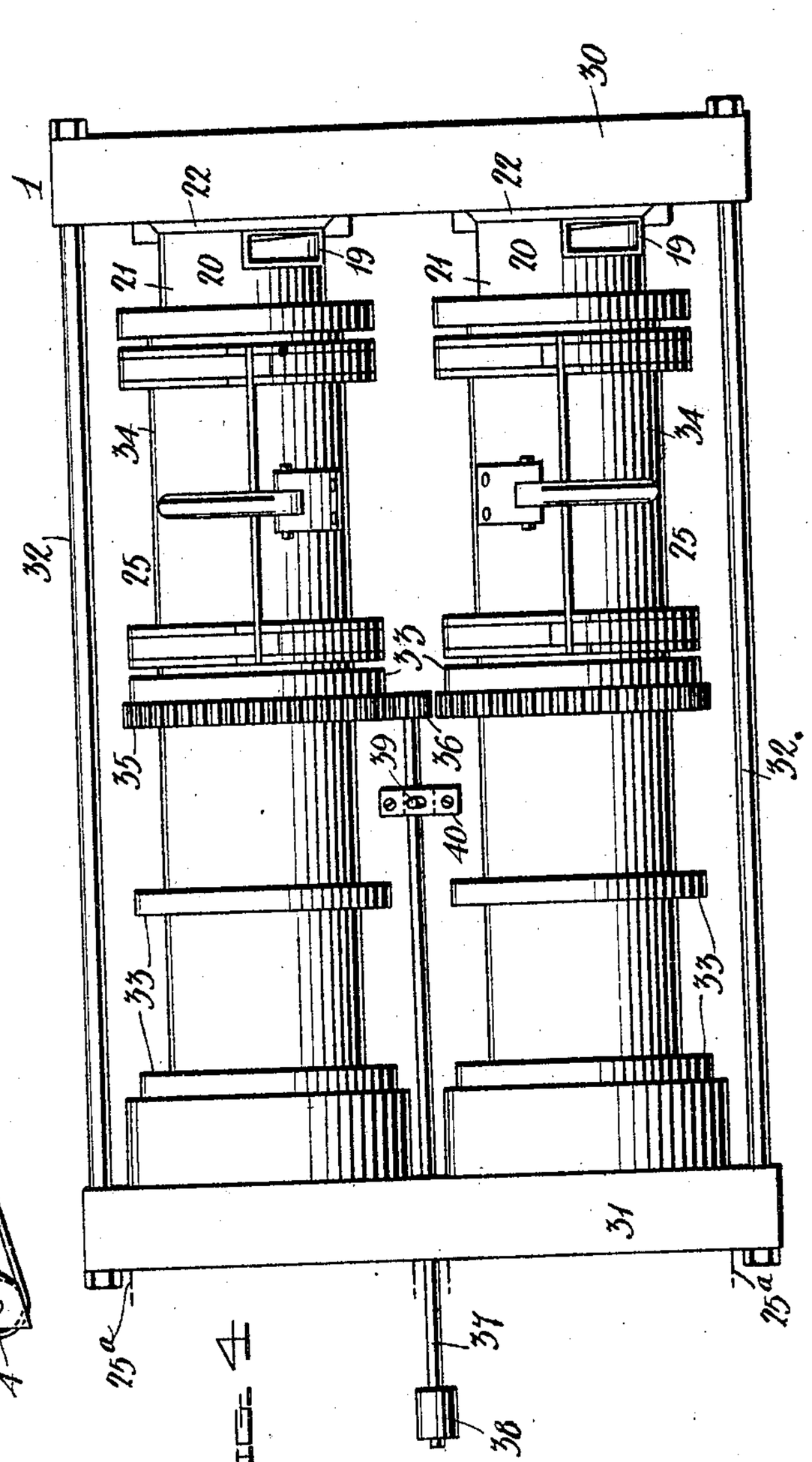


FIG. 4



Witnesses
J. L. Boykin
C. H. Griesbauer.

Inventor
Horace A. Baker
by A. Bowerson & Co
Attorneys

No. 835,897. PATENTED NOV. 13, 1906.

H. A. BAKER.

COTTON PRESS.

APPLICATION FILED APR. 30, 1906.

5 SHEETS—SHEET 3.

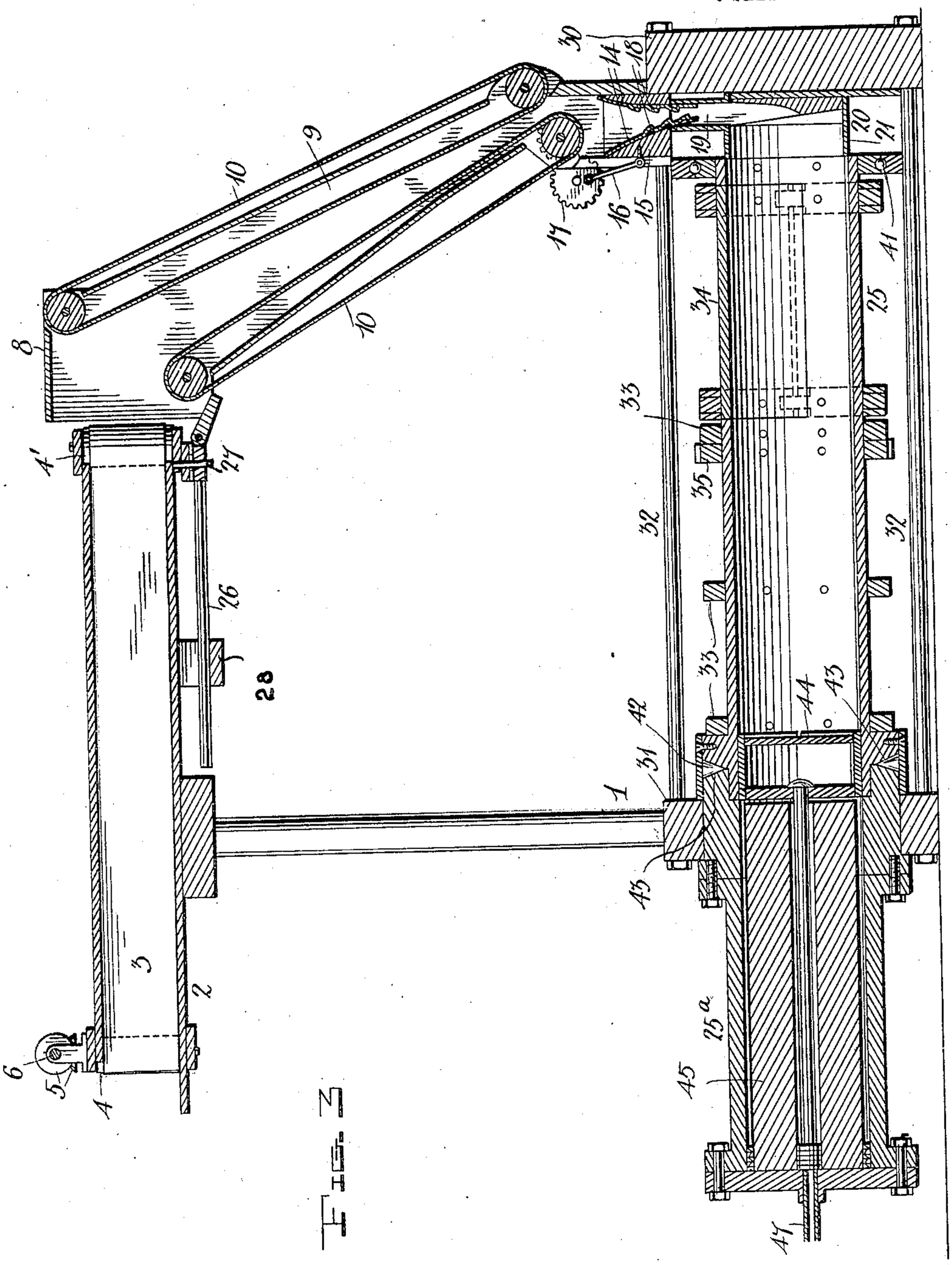


FIG. 3.

Witnesses
C. F. Bonnio
C. H. Griesbauer.

Inventor
Horace A. Baker
by A. Plowilson & Co
Attorneys

No. 835,897. PATENTED NOV. 13, 1906.

H. A. BAKER.

COTTON PRESS.

APPLICATION FILED APR. 30, 1906.

6 SHEETS—SHEET 4.

FIG. 6

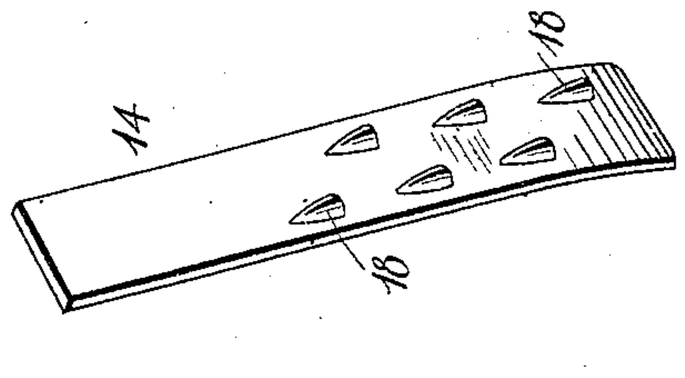
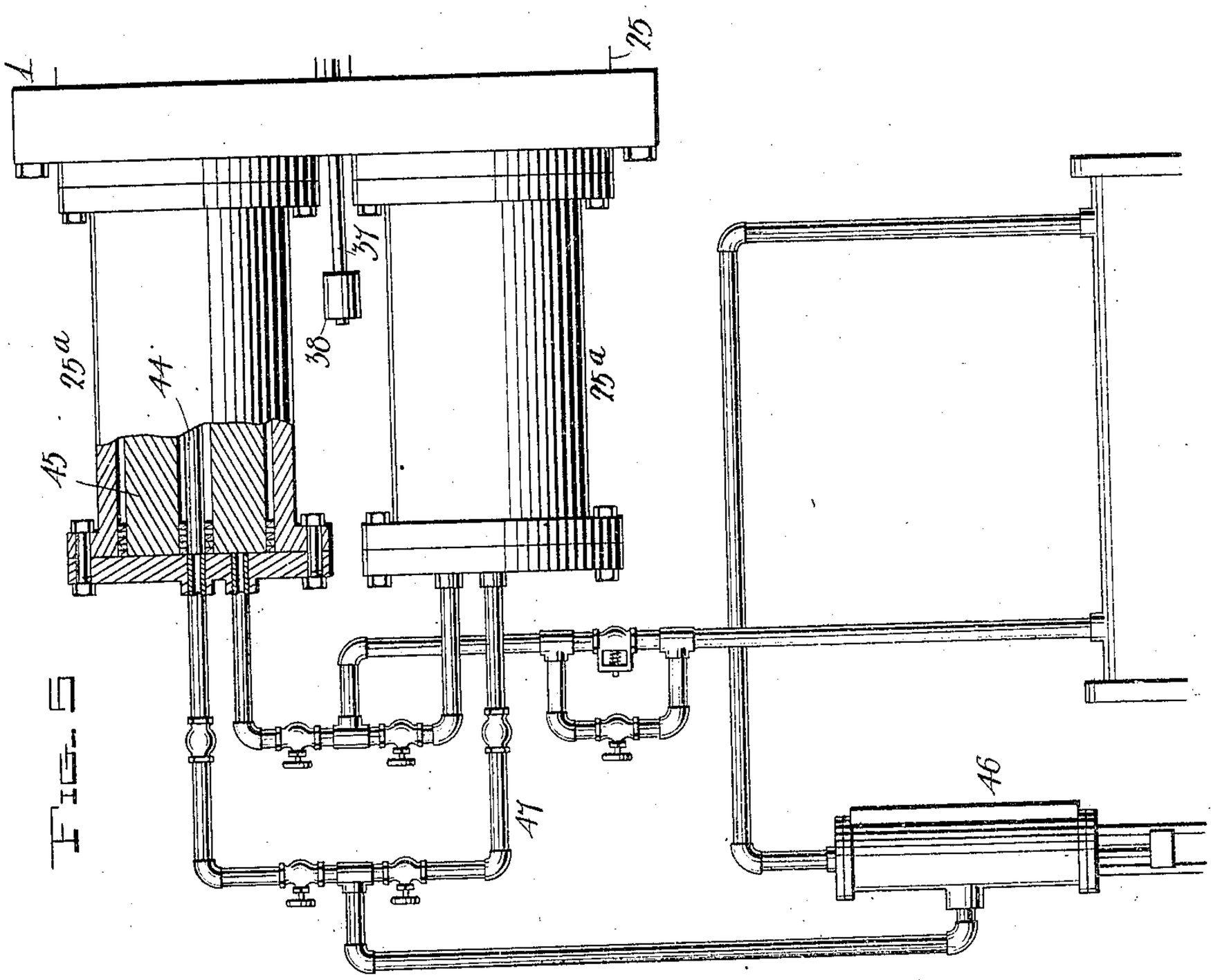


FIG. 5



Witnesses
J. L. Norris
C. H. Griesbauer.

Inventor
Horace A. Baker
by H. Wilkinson & Co
Attorneys.

No. 835,897.

PATENTED NOV. 13, 1906.

H. A. BAKER.

COTTON PRESS.

APPLICATION FILED APR. 30, 1906.

5 SHEETS—SHEET 5.

FIG. 5

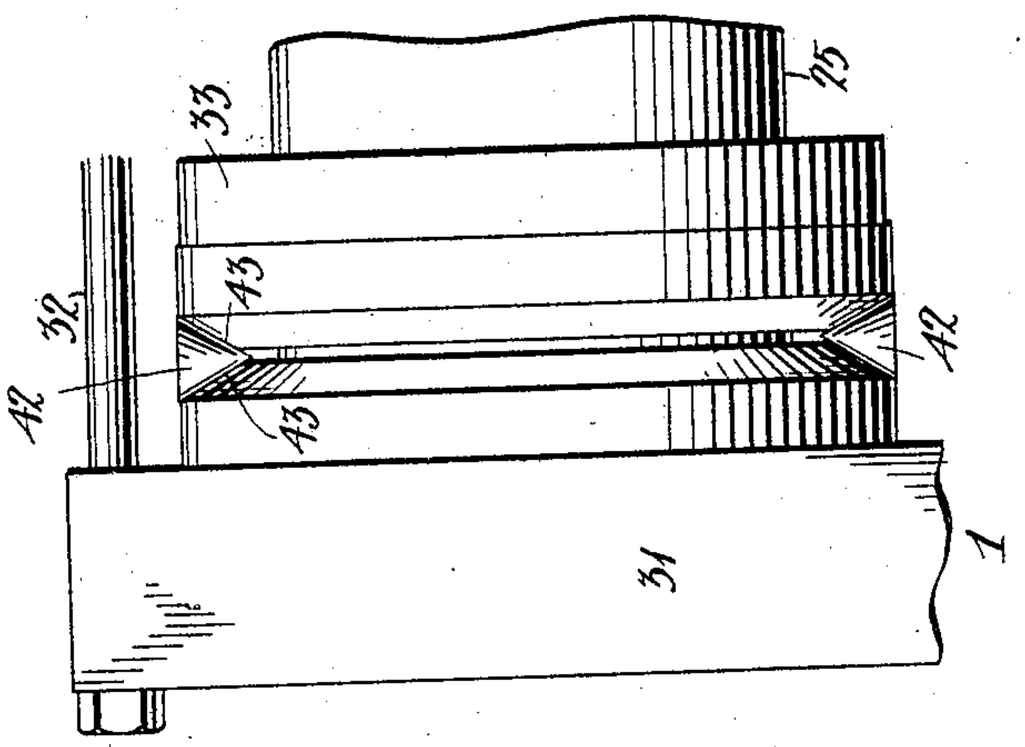


FIG. 8

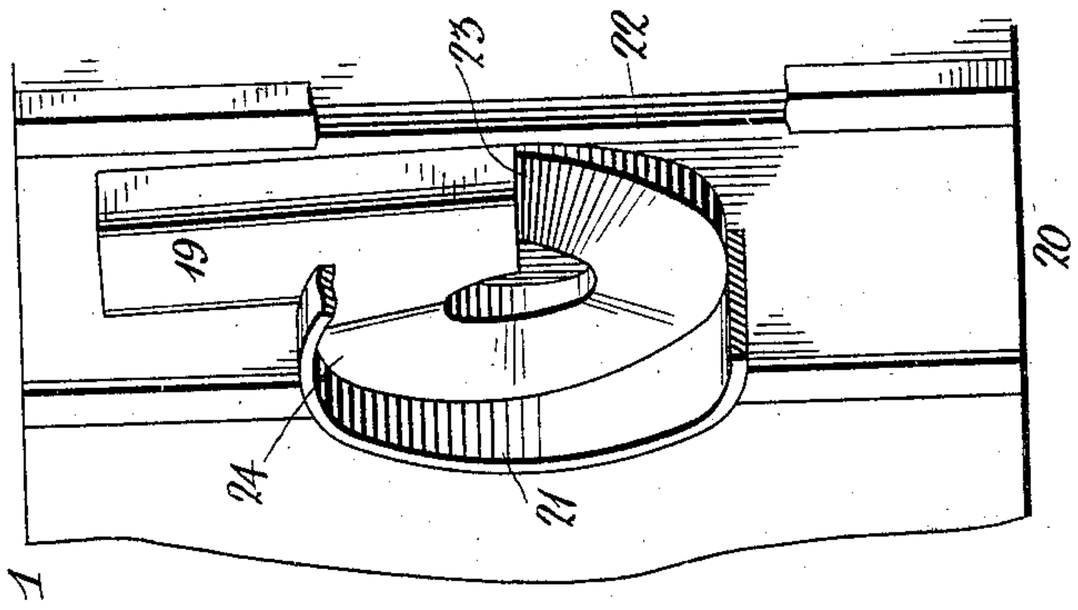
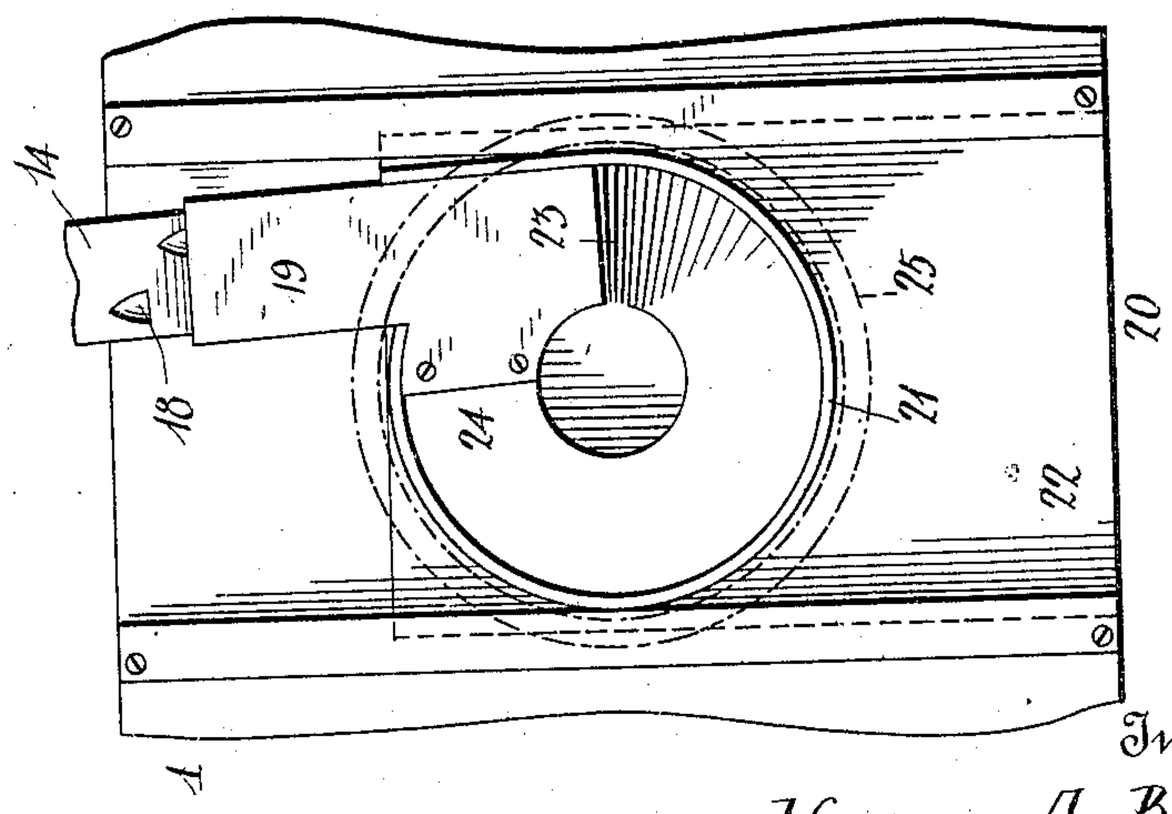


FIG. 7



Witnesses
J. L. Barbour
C. A. Griesbauer

Inventor
Horace A. Baker
by A. B. Williamson & Co
Attorneys

UNITED STATES PATENT OFFICE.

HORACE A. BAKER, OF PECAN GAP, TEXAS, ASSIGNOR OF ONE-HALF TO JOHN J. CROWSON, OF PECAN GAP, TEXAS.

COTTON-PRESS.

No. 835,897. Specification of Letters Patent. Patented Nov. 13, 1906.

Application filed April 30, 1906. Serial No. 314,513.

To all whom it may concern:

Be it known that I, HORACE A. BAKER, a citizen of the United States, residing at Pecan Gap, in the county of Delta and State of Texas, have invented certain new and useful Improvements in Cotton-Presses; and I do 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 cotton-presses; and one of the principal objects of the same is to provide a machine in which the cotton is first compressed and fed in a continuous bat in a spiral layer to a revolving press of cylindrical formation, where the spiral layers are further compressed and condensed into a bale to be removed therefrom.

Another object is to provide means whereby a continuous strip or layer of compressed cotton may be fed to a revolving hollow cylindrical press-box and to provide means for further compressing the spiral layer into bales to be tied and removed from the machine.

In carrying out my invention I have provided two press-boxes of hollow cylindrical form and have so arranged my feeding and compressing devices that they may be shifted from one press-box to the other, in order that the operation may be made continuous, one of said press-boxes being utilized while the bale is being removed from the other.

The above and other objects are attained by means of the construction illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a cotton-press embodying my invention. Fig. 2 is a side elevation of the feeding-chute. Fig. 3 is a horizontal sectional view of the machine shown in Fig. 1. Fig. 4 is a side elevation of the two cylindrical press-boxes and the means utilized for revolving said boxes. Fig. 5 is a sectional view of the plungers and means for operating the same. Fig. 6 is a perspective view of one of the reciprocating feeder-springs. Fig. 7 is an under side plan view of one of the spiral feed-boxes for conducting the strip or bat into the press-box. Fig. 8 is a perspective and partial sectional view of the same, and Fig. 9 is a detail elevation showing the manner of mounting the press-boxes upon bearing-cones.

Referring to the accompanying drawings for a more particular description of my invention, the numeral 1 designates the frame of the machine, and 2 is a feed-chute into which the cotton is primarily fed. This chute 2 is provided with belts 3, passing over rollers 4 and 4′ inside the chute for carrying the cotton forward. The feed-chute 2 is larger at its inlet end than at the opposite end, and hence the cotton is condensed as its passes between the rollers 4 and 4′. The belts 3 are driven by means of bevel-gearing 5, actuated by a shaft 6, provided with a driving-pulley 7. The bat or layer of cotton as it is discharged from the belts 3 as the latter pass around the rollers 4 is fed into a box or compartment 8, from which extends a tubular casing 9, containing oppositely-arranged belts 10, which converge toward the outlet end of said casing, said belts being driven by means of the sprocket-chains 11, passing around sprocket-wheels 12 and 13. At the outlet end of the casing 9 a pair of oppositely-disposed feeding-springs 14 are mounted in a reciprocating slide 15, said slide being actuated by a crank-shaft 16 and gearing 17. The feed-springs 14 are provided with semiconical depressions or indentations 18 to engage the strip or bat of cotton and push it forward. The depressions 18 are disposed upon the springs 14 with their apexes disposed toward the line of feed. Hence the base of the depression is adapted to engage the bat or strip to feed it forward, while the return stroke of the spring will permit the same to slide without carrying the cotton backward. From the feed-fingers the strip or bat of cotton is fed into an inlet-tube 19, extending tangentially from a spiral feeder 20, said feeder comprising a rim 21 and a head-block 22, said block being comparatively thin at the inlet end 23 and gradually thickening toward the outlet end 24, the result of which construction is that the strip or bat is given an initial spiral disposition for the purpose of feeding it into the press-box, which is revolved to carry the spiral strip and coil it within the cylinder or press-box. The spiral feeder is disposed immediately in line with the opening in the press-box or cyl inder 25.

Upon reference to Fig. 4 it will be seen that there are two cylindrical press-boxes,

and in order that the bale may be compressed in one box while the other is being filled I have arranged my feeding mechanism so that it may be shifted from one press-box to the other, and for this purpose I have mounted a lever 26 upon the feed-chute 2 and connected it to the box 8, so that the outlet end of the casing 9 may be shifted from one press-box to the other, said lever 26 being pivoted at 27 and provided with a rack 28 to hold said lever in adjusted position when the feeding devices have been shifted by one press-box to the other. The cylindrical press-boxes being substantially identical in construction, the description of one will serve for both.

The two press-boxes are mounted in a frame comprising the cross-heads 30 31 and the spacing-rods 32 at the corners thereof. The press-box consists of a cylindrical body portion provided with encircling steel rings or hoops 33 and is provided with a door or opening 34 to permit the bale to be withdrawn therefrom. Communicating with the press-box 25 is a plunger-casing 25ª, and said casing and the press box are mounted to rotate within the frame by means of a gear-ring 35, surrounding the press-box and engaged by a pinion 36, mounted upon the end of a shaft 37, provided with a drive-pulley 38, said shaft 37 being mounted for lateral movement in a guide-block 40 to shift the pinion 36 into engagement with the ring 35 upon either of the cylindrical press-boxes. A suitable shipper-lever (not here shown) will in practice be provided for shifting the said shaft and pinion. The inlet end of the press-box is mounted upon ball-bearings 41, and the opposite end of the plunger-casing is mounted to rotate upon bearing-cones 42, said cones being held in place by means of a ring, and the ends of the casing and its bearing portion being beveled, as at 43, to conform to the contour of the cones 42, as shown in Fig. 9 of the drawings.

Mounted to reciprocate in the plunger-casings are the compound plungers 44 45, said plungers adapted to be moved together for the purpose of pressing the bale and the plunger 44 being utilized for moving the follower-block up to the head-block 22 to receive and carry the bat around said head-block. Any suitable power may be used for actuating the plungers, the mechanism shown comprising a hydraulic pump 46 and suitable connections 47 to the plunger-casings.

The operation of my invention may be described as follows: As the cotton is fed through the chute 2 and condensed between the belt and the rollers 4′ it is fed in a strip or bat into the box 8 and between the belts 10 until it reaches the spring-fingers 14, where it is pushed by the reciprocation of said fingers into the spiral feeder 20 and from this feeder into one of the rotating press-boxes 25 until a sufficient quantity has been fed for forming a round bale. The feed devices are then shifted to the other press-box, and the plungers are operated for compressing the bale in the first-named press-box, after which the wires are applied thereto for holding the bale in compressed condition, and the bale is then discharged by removing the door 34. In the meantime the feeding devices have filled the other press-box 25 and the feeding devices are shifted back to the first-mentioned press-box and the other box is compressed in a manner similar to the the first, thus rendering the operation practically continuous.

It is to be noted that the forming of the bat into a compressed strip or layer which is arranged spirally in the press-box results in a very much condensed bale of circular form which can be handled with facility and which will occupy comparatively small space for shipping and handling.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined by the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a cotton-press, a feed-chute provided with oppositely-disposed belts for carrying the cotton forward and compressing the same, a feed-casing communicating with said chute, reciprocating spring feed-fingers in the end of said casing, a spiral feeder into which cotton is forced by said fingers, a cylindrical press-box for receiving the compressed strip, said feed-box mounted to be revolved in a frame, and a compound plunger for compressing the bale, substantially as described.

2. In a cotton-press, the combination of reciprocating spring feed-fingers having semi-conical depressions therein and a spiral feeder comprising a rim, a block within the rim having a surface of gradually-increasing thickness, for the purpose described.

3. In a cotton-press, a feed-chute containing oppositely-disposed belts arranged to converge at one end, a feed-casing provided with belts also converging at one end, in combination with reciprocating feed-fingers, a spiral feeder, and a press-box.

4. In a cotton-press, a feed-chute, a connected feed-casing, means for forcing cotton out of said casing, in combination with a pair of press-boxes, and means for shifting the feeding mechanism from one box to the other, substantially as described.

5. In a cotton-press, a feed-chute, a feed-tube communicating therewith, reciprocating feed-fingers at the end of said casing, a spiral feeder, a press-box, a plunger-casing communicating with said press-box, and a compound plunger for compressing the cot-

ton in the box and assisting in the redischarge of the same, substantially as described.

6. In a cotton-press, a pair of cylindrical press-boxes, plunger-casings connected to said boxes, said boxes and casings mounted to revolve in a frame, and means for rotating one of said boxes and casings or the other at will, in combination with means for feeding cotton into one or the other of the press-boxes.

7. In a cotton-press, a pair of cylindrical press-boxes and means to rotate them independently, in combination with means for feeding a spiral strip of compressed cotton into one of said press-boxes, means for shifting the feeding mechanism from one press-box to the other, and means for shifting the means for rotating the press-box, substantially as described.

8. In a press, a spiral feeder comprising a tangential inlet-tube, a block of gradually-increasing thickness, and a rim surrounding said block.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HORACE A. BAKER.

Witnesses:
J. J. CROWSON,
JNO. S. REID.