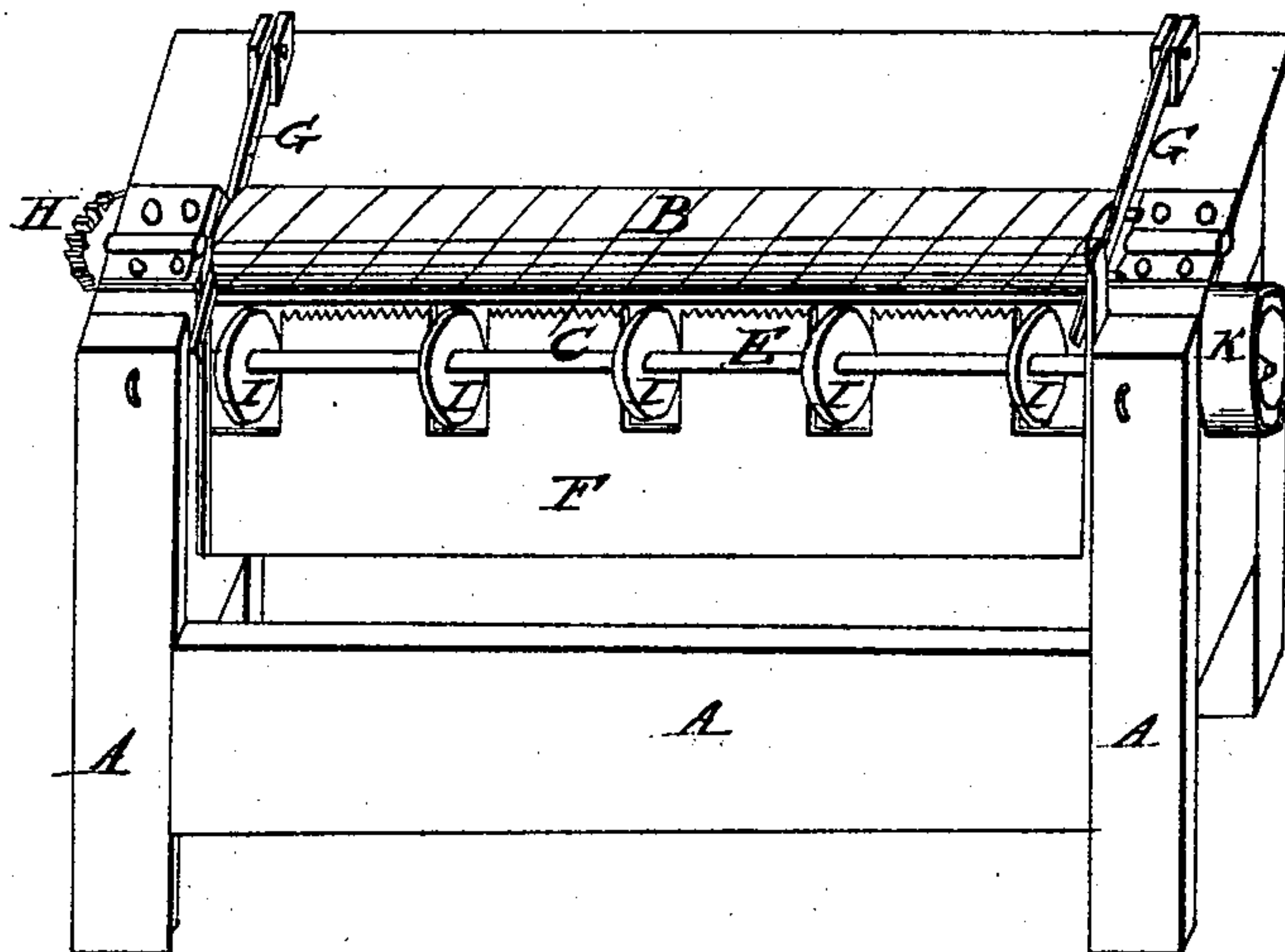


H. CLARK.  
Cotton Gin.

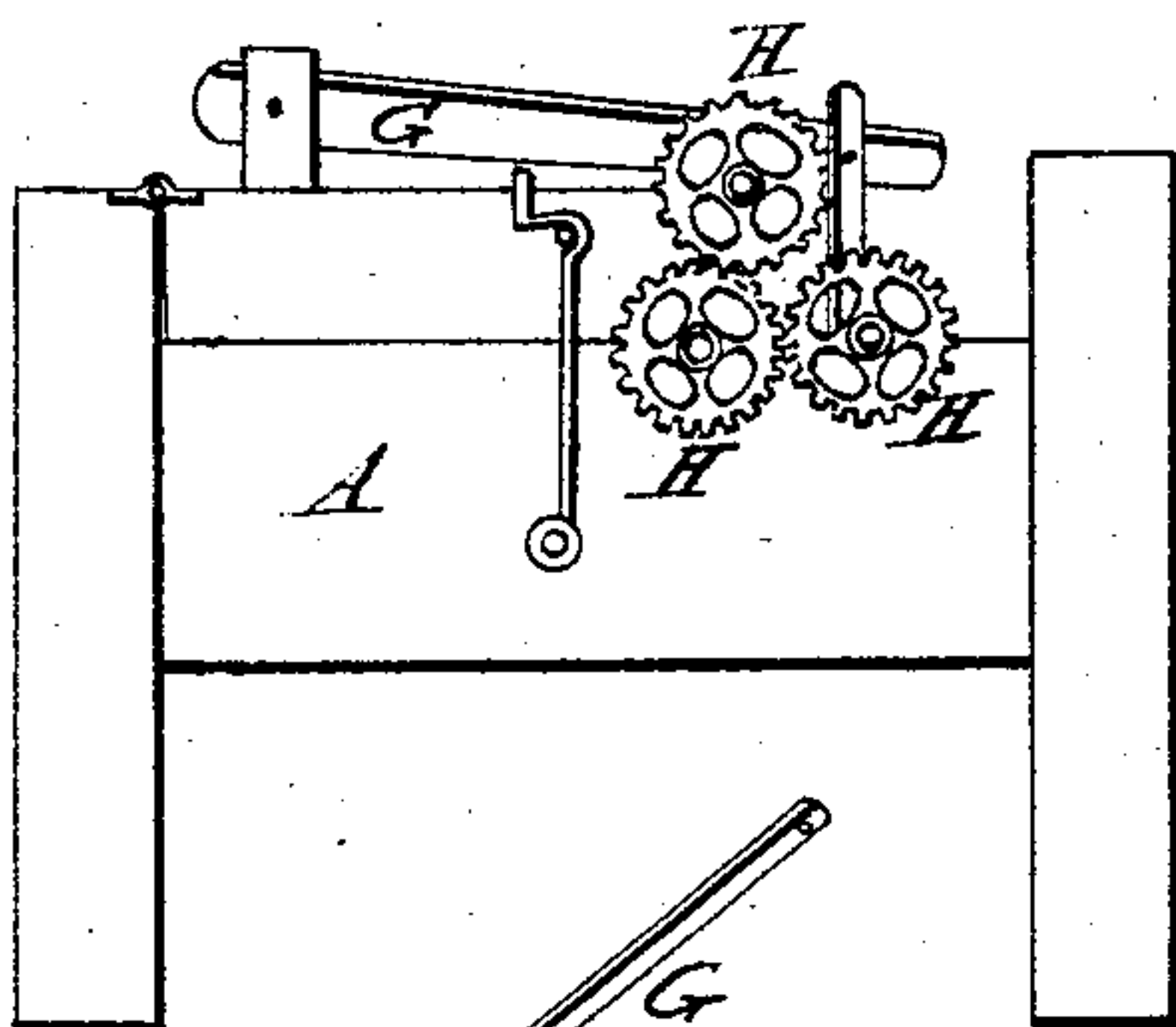
No. 12,376.

Patented Feb. 13, 1855.

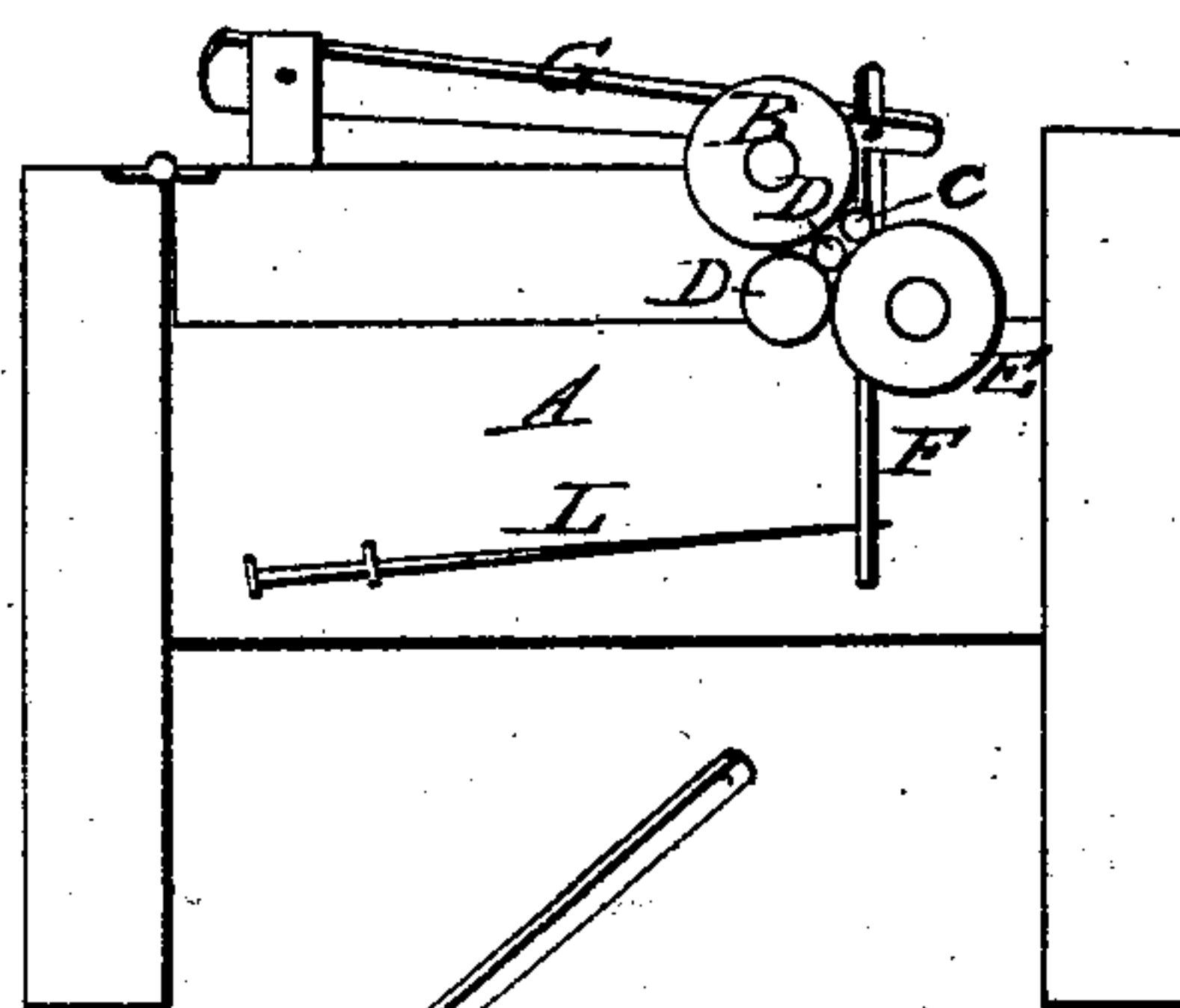
*Fig. 1.*



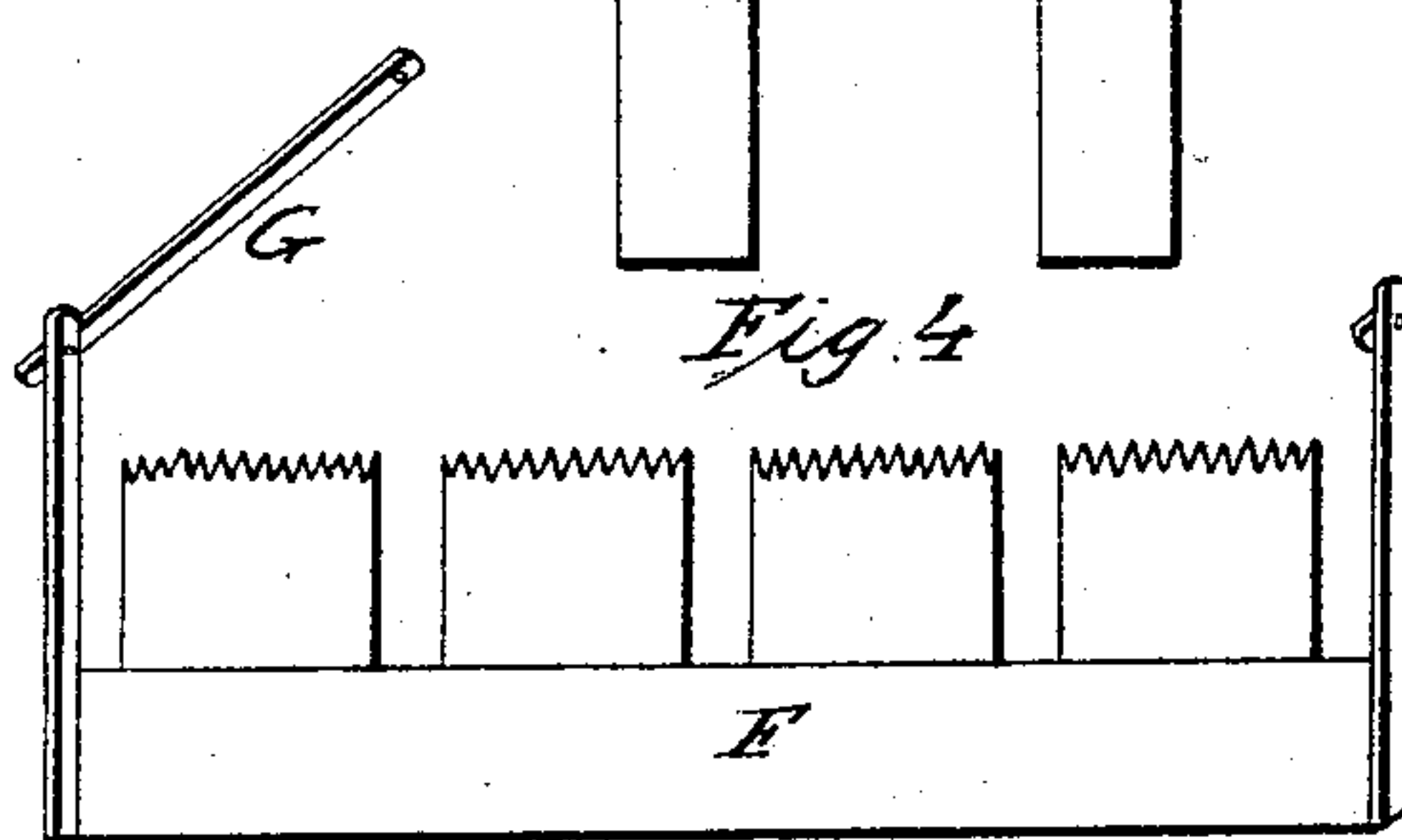
*Fig. 2.*



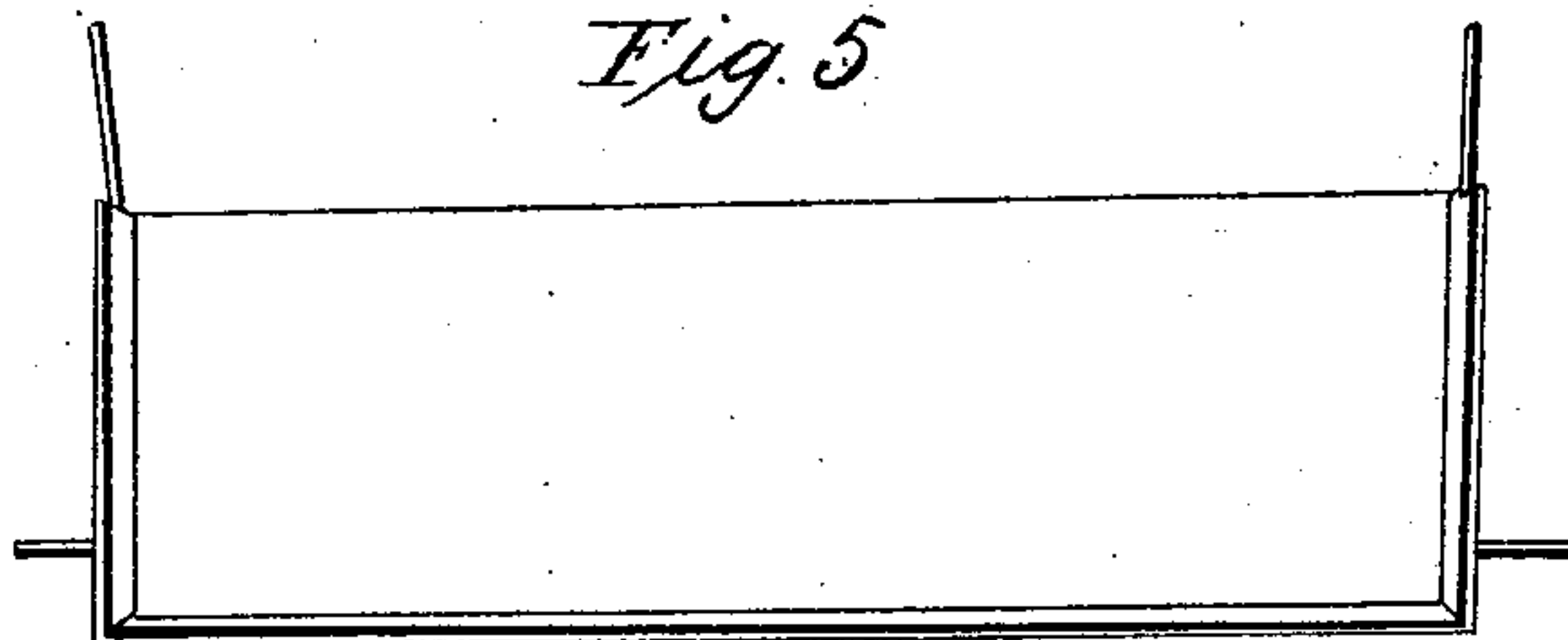
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



# UNITED STATES PATENT OFFICE.

HENRY CLARK, OF NEWPORT, FLORIDA.

## IMPROVEMENT IN COTTON-GINS.

Specification forming part of Letters Patent No. 12,376, dated February 13, 1855.

*To all whom it may concern:*

Be it known that I, HENRY CLARK, of the town of Newport, in the county of Wakulla and State of Florida, have invented a new and useful improvement in the roller cotton-gin, for the more perfect and expeditious removal of the cotton-seed from the fiber without injury to the latter; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, an end view; Fig. 3, an end vertical sectional view, Fig. 4 a view of the comb and the levers by which it is operated, the same letters representing the same parts in each view.

Letter A represents the frame; B, the main ginning-roller; C, the small ginning-roller; D D, the stripping-rollers; E, the shaft of the friction-rollers; F, the comb; G G, the levers which operate the comb; H H H, gear-wheels—one on the roller B, one on the roller E, and the other to connect the two; I, the friction-rollers; J, the cotton-box; K, the driving-whirl, and L the comb-springs. In all of the views the cotton-box is left off in order to show the arrangements of other essential parts of the machine. This box is simply a board with a narrow rim, and placed in a horizontal position in front of and near to the rollers.

To enable others skilled in the art to make and use my invention, I proceed to describe its construction and operation.

On the top of a suitable frame I secure in journal-boxes the shaft of the main ginning-roller B. The bars of the frame to which this roller is attached are hinged, so as to lift up with the roller. This roller should be about three and a half inches in diameter, more or less, and the length of the inside of the frame, say, from three to four feet. This roller may be made all of metal, or of wood covered with sheet metal, the surface turned perfectly true and smooth. When the roller is made of metal, there must be a spiral groove cut in its surface from end to end, about one-eighth of an inch deep and wide. When made of wood and covered with sheet metal, the sheet should be cut in strips of about two inches wide and wound spirally on the wood, leaving a space of one-eighth of an inch between the edges of

the strips, thus forming the groove required. Forward and below this roller, at an angle of about forty-five degrees to stationary bar of the frame, is secured as above, in journal-boxes, the shaft E, on which are firmly secured the friction-rollers, eight or nine inches apart. These rollers should be about half an inch thick, and the same diameter as the roller B. Each friction-roller must have a groove turned in its surface sufficiently wide and deep to receive a strip of india-rubber or leather, which should project or rise a little, to prevent the slipping of the small rollers C and D D, the roller C being about three-eighths of an inch in diameter, and the first stripping-roller, D, half an inch in diameter, and the second stripping-roller one inch (more or less) in diameter, all of metal, (and of a length to correspond with the rollers B and E,) are secured in adjustable bearings as near each other as they can turn and not touch. They are then pressed between B and E. C and D D touching both, the bearings being secured, the machine is put in motion, and all revolve together, B and E by the gear attaching them together, C and D D by the pressure of B and E. The comb F operates from below upward, and forward of and close to the roller C at the point where the cotton enters. Motion is given to the comb F by two short levers, one end of each being attached by a pin to the frame, and the other to the comb. These levers are made to rise by pins on the ends of roller B, and to fall by springs. For convenience the driving-pulley is attached to the friction-roller shaft. The cotton is fed to the gin from a feed-box, which has a slight motion given to it to facilitate the feeding.

Operation: The gin being put in motion by any convenient power, the cotton is thrown into the cotton-box. The rollers B and C seize the fiber, while the comb F opens the cotton, and the rollers force the seed back and out of the way, while the cotton passes between the rollers B and E, and with the aid of the stripping-rollers is thrown back on a board prepared to receive it.

The advantages of this gin over all others used for the long-staple cotton are, first, the rollers being composed of metal or metal surfaces, are not liable to take fire from friction; secondly, the use of the very small roller avoids all liability to mash the seed; third, the ma-



chine is durable, easily kept in order, and will gin faster than any other roller-gin in use.

I do not claim as my invention simply rollers for ginning cotton; nor do I claim as my invention the spiral-grooved roller for that purpose, as it is contemplated to use the large roller without any groove; nor do I claim the comb simply; but,

What I do claim as my invention, and desire to secure by Letters Patent, is—

The combination of a large ginning-roller,

either smooth or grooved with a very small one, the latter driven and supported, as described, by the friction-rollers and the large ginning-roller, together with one or more stripping-rollers and comb, for the purpose of removing cotton-seed from the fiber, substantially as arranged and described.

HENRY CLARK.

Witnesses:

THOMAS C. MCKAIN,  
PETER K. BUILBIT.