

(Model.)

J. S. LAKE.

BROOM CORN SIZING MACHINE.

No. 348,677.

Patented Sept. 7, 1886

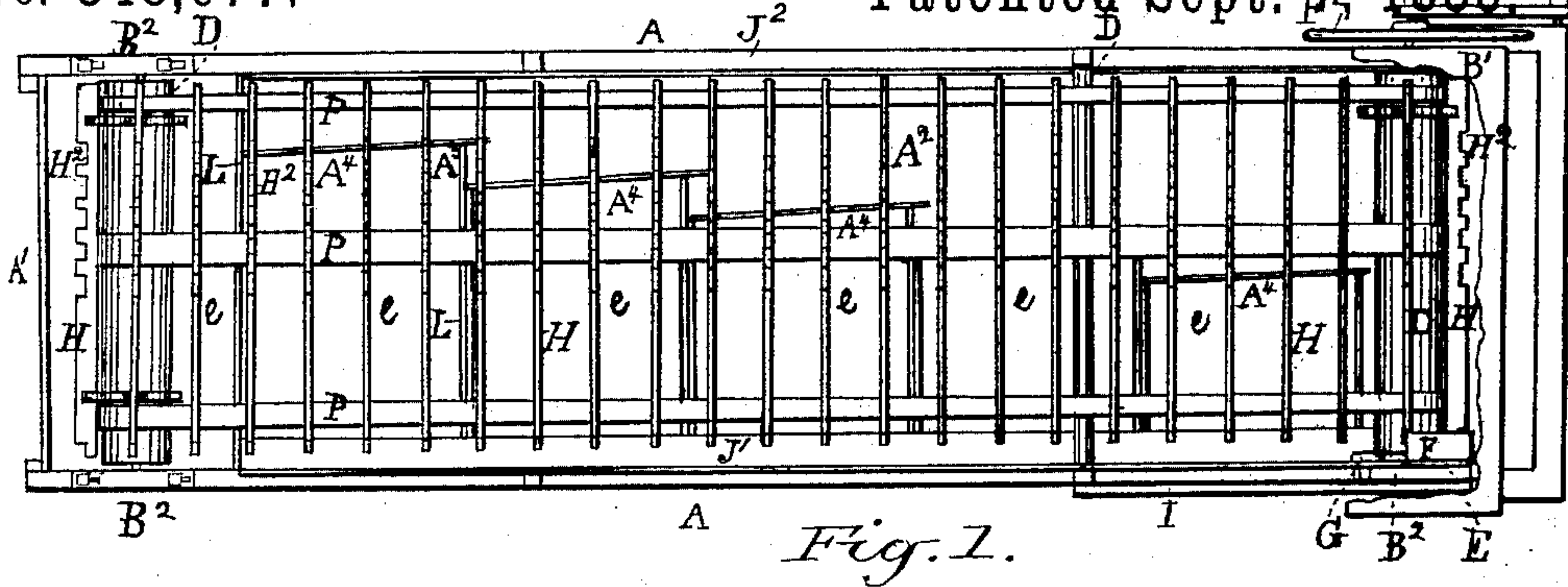


Fig. 2.

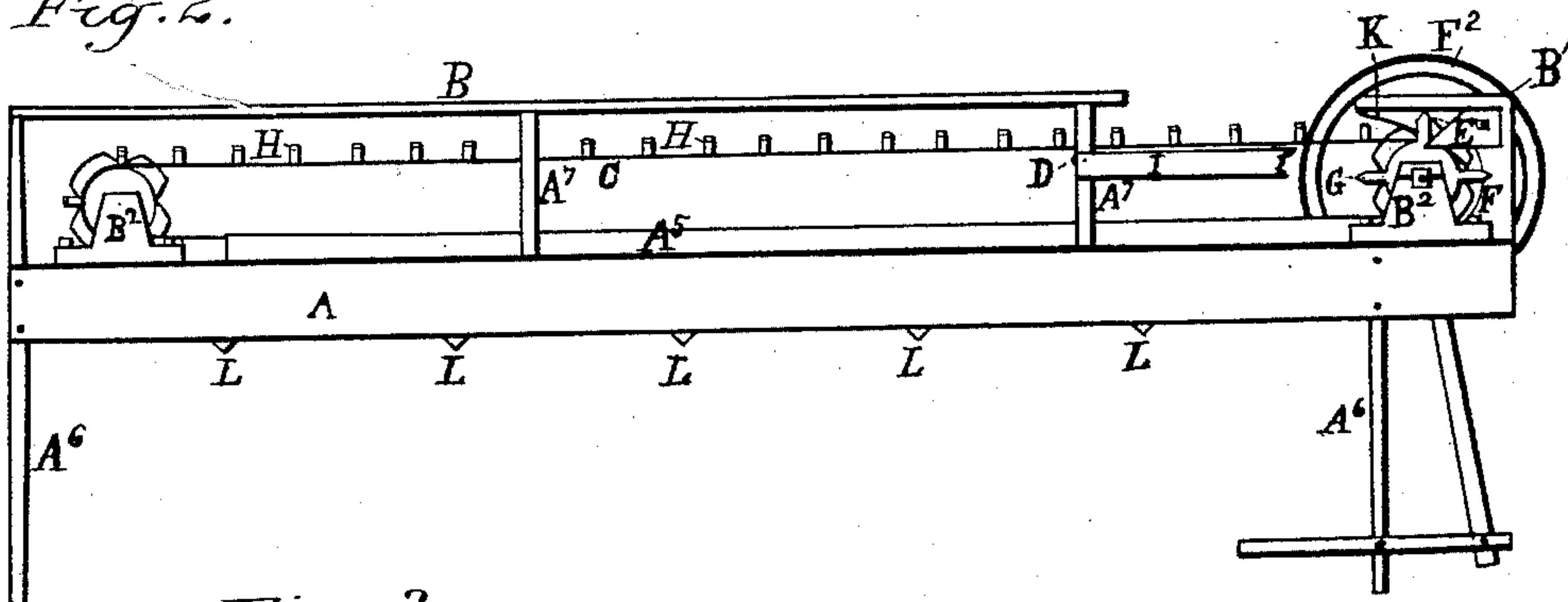


Fig. 3.

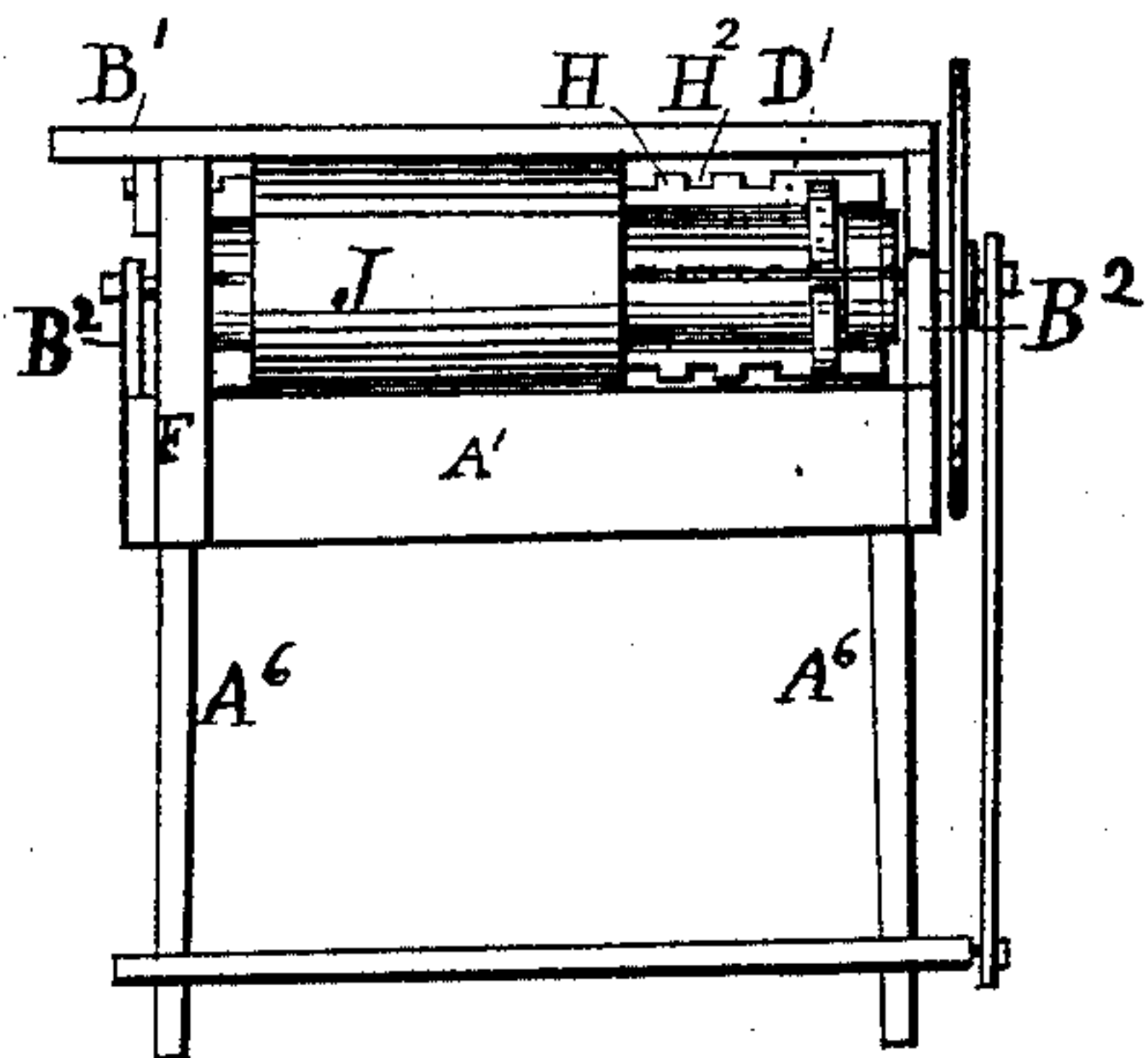


Fig. 5.

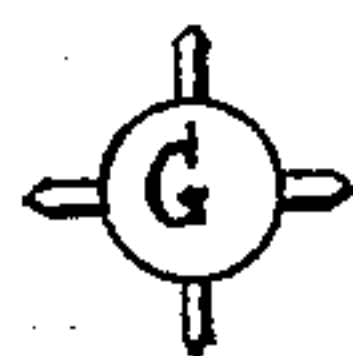


Fig. 4.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

JESSE S. LAKE, OF PLEASANTVILLE, NEW JERSEY.

BROOM-CORN-SIZING MACHINE.

SPECIFICATION forming part of Letters Patent No. 348,677, dated September 7, 1886.

Application filed July 6, 1885. Serial No. 170,833. (Model.)

To all whom it may concern:

Be it known that I, JESSE S. LAKE, a citizen of the United States residing at Pleasantville, in the county of Atlantic and State of New Jersey, have invented a new and useful Broom-Corn-Sizing Machine, of which the following is a specification.

The object of my invention is to produce a broom-corn-sizing machine that will occupy a small space, that will permit of one, two, or more operators feeding at the same time, that will do its work more correctly than has heretofore been accomplished, and at the same time require but a small amount of power to run it. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top view with feeding-table B removed and feeding-table B', partly broken away. Fig. 2 is a side view of the machine. Fig. 3 is a front view of the machine. Fig. 4 is a plan view of the standard F. Fig. 5 is a plan view of the knife G.

Similar letters refer to similar parts throughout the several views.

A A are side pieces of the machine.

A' A' are the end pieces.

A² is the top. This top has an open space on one side, which is narrower at the front end of the machine and widening out by a series of step-like notches, A³, to the rear end of the machine. Each different width of space *e* thus formed is cut so that its front end is about one-half inch wider than its rear end, and the space on the notched sides of the open spaces *e* have preferably metal strips A⁴ fast to their edges, extending the length of each different width space *e* and rises about three-eighths of an inch above the top of table A², and forms a slideway for the brush ends of the corn, and as the spaces *e* are narrower at their rear ends the cut end of the corn is gently forced against the guide-piece A⁵, and thus kept even, which is of great importance.

Heretofore broom-corn-sizing machines have had no guide-pieces for the cut ends of the corn, and some of the ends will get too far out and some too far in, and as the brush ends are the first to drop through openings, they drop in the wrong boxes and are unevenly "sized," which cannot be the case with my machine.

A⁶ are the legs of the machine, and the two

rear ones extend above the top of the distributing-table A² and form standards, which, in connection with the standards A¹, form a support for the feed-table B.

B' is a feed-table above the front end of the machine. Thus I have my feed-tables above the machine, which does not take up any floor-space, thus making it very convenient when space is limited.

D D D' are cylinders extending across the machine and may be of any desired number or size. C is an endless apron passing around the said cylinders D D D'. Said apron C is composed of belts P, (which may be made of chain, leather, or any other known suitable material; said belts P being of any desired width or number,) and cross-slats marked H. Said slats H have notches (marked H²) cut in their outer edges, so as to pass over the short metal strips A⁴ and over the slideway J', and rest and slide on the level top or table A² when the machine is in motion. Said slideway J' is raised above table-top A² as much as the metal strips A⁴, and is for the cut ends of the corn to slide along. Said slideway J' extends from the knives E and G to the rear open space *e*, partly shown in Fig. 1.

F is a standard firmly fastened to the side piece, A. Said standard F has a semicircular piece cut out of its rear edge large enough to form a space for the cylinder D and endless apron C to revolve in. Said semicircle forms the continuation of the slideway J'. Said standard F has a steel plate, F', firmly set in flush, or nearly so, with its outer face. Said knife E is firmly fastened to the standard F near its upper end, as shown in Figs. 2 and 3, with its cutting-edge over and abreast of the plate F', and is just far enough out from the plate F' to allow the outer end of the projecting blades of the knife G to pass between them, thus preventing the knife E and the projecting blades of the knife G getting apart when cutting. The point of said knife E extends onto the circular part of the knife G, and thus prevents its catching.

It is plain that the knives E and G form a cutting device something like a pair of scissors, and will cut with a very slow motion, thus saving the power it would require to get up speed. The knife G is firmly fastened to one end of the cylinder D', and is revolved

with it. Said knife G may have any number of blades. The slats H on endless apron C have to be just far enough apart to allow one of said slats H to be just abreast one of the blades of knife G as it revolves.

F² is a fly-wheel fast on the shaft of the cylinder D'.

I is a supporting-strip, fastened one end to the standard F and the other to the standard A⁷, just high enough to be even with the upper side of the feeding belt or apron C, and is for the purpose of keeping the corn from tipping off the apron C as it is being carried under or to the knives E and G.

J is a piece (or it may be several strips) of cloth, leather, or any other known suitable material, one end of which is fast to the top A² at its front end under the cylinder D', or nearly so, and the other end is fast to the under side of the feed-table B', and is just tight enough to cause it to have a slight pressure against the cross-slats H.

L L L L L are cross-pieces fastened on the under side of the side pieces, A A, exactly between each different-sized space. Said pieces are made square, and are so fastened that one corner is up. (Shown in Figs. 1 and 2.)

B² B² B² B² are bearings for the end cylinders, D D'.

J³ is a guide-strip to keep the slats H in place.

K is a spring (or it may be a weight) fastened to the rear edge of the feed-table B', and passes under the said table B' between the knives E and G and the end of the slats H, and presses slightly on the corn and prevents its jumping from said knives E and G as it is cut.

The operation of my machine is: Put the cylinder D' in motion, which would carry with it the endless apron C, (said motion may be by foot or other power,) and place the corn on the apron C between the slats H, which may be done by one or more operatives at a time. Said corn will be carried to the knives E and G, and the piece J will keep it in place between the slats H until it passes onto the table-top A², and is swept over the distrib-

uting-spaces into boxes or baskets set to receive it.

I am aware that prior to my invention sizing-tables were well known and long used for sorting apples, oranges, potatoes, and other things. I therefore do not claim such a combination, broadly; but

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

1. A broom-corn-sizing table provided with distributing-apertures of different widths, each of which gradually narrows toward its rear end, the raised strips A⁴ at the inner edges of said apertures, and the guide-strip A⁵, for keeping the cut ends of the corn even as it passes over the distributing-apertures, substantially as described and shown.

2. In a broom-corn-sizing machine, a rotary cutter having projecting or radial blades, in combination with a stationary knife or cutter, and a stationary plate, between which latter and the stationary knife the radial blades pass, and are thus prevented from springing out of line of action as the corn is being cut, said stationary knife having its lower spring extending onto the circular or unbroken portion of the rotating cutter, whereby contact with the radial blades is avoided, substantially as described and shown.

3. The knives E and G, in combination with the standard F, plate F', and cylinder D', substantially as described, and for the purpose set forth.

4. In combination, the endless apron C, the notched slats H, and raised metallic strips A⁴, whereby the cut corn is held a little above the top of the table A², and is thus more surely carried over the distributing-apertures without being ridden over by said cross-slats H, substantially as shown.

In testimony that I claim the foregoing I have hereto set my hand this 23d day of June, 1885.

JESSE S. LAKE.

Witnesses:

DANIEL L. RISLEY,
ANNIE T. RISLEY.

It is hereby certified that in Letters Patent No. 348,677, granted September 7, 1886, upon the application of Jesse S. Lake, of Pleasantville, New Jersey, for an improvement in "Broom-Corn Sizing-Machines," an error appears in the printed specification requiring the following correction: In line 73, page 2, the word "spring" should be stricken out and the word *point* inserted instead; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 21st day of September, A. D. 1886.

[SEAL.]

D. L. HAWKINS,
Acting Secretary of the Interior.

Countersigned:

R. B. VANCE,
Acting Commissioner of Patents.