

No. 701,487.

Patented June 3, 1902.

H. KEMP.

FEEDING MECHANISM FOR CARDING MACHINES.

(Application filed Jan. 2, 1902.)

(No Model.)

3 Sheets—Sheet 1.

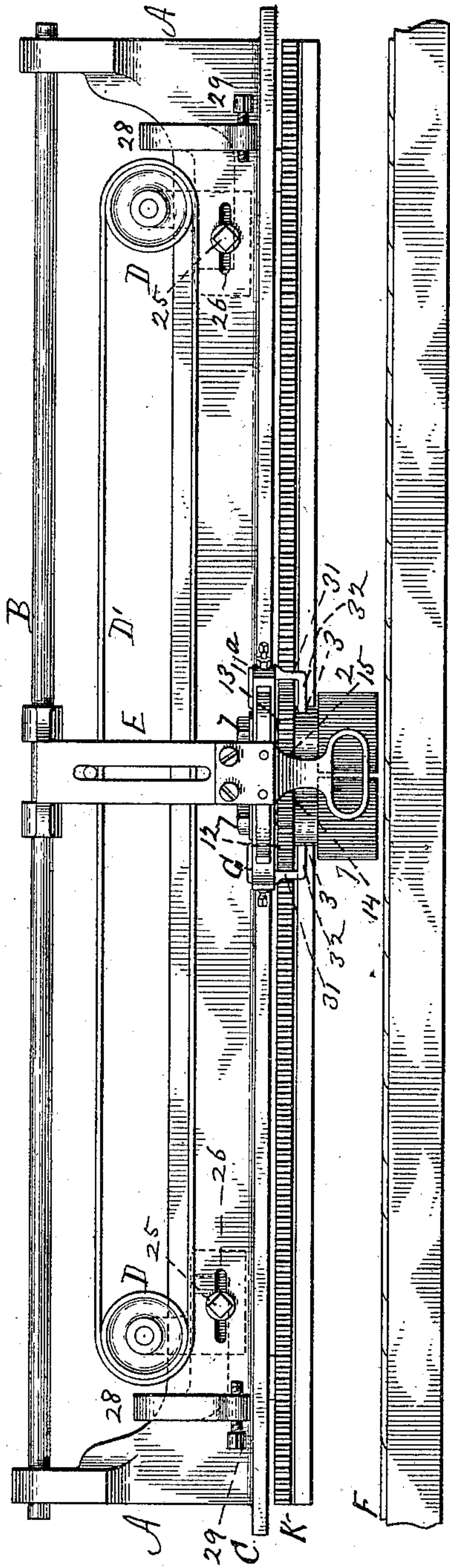


Fig. 1.

WITNESSES:

A. A. Bonney.
A. K. Hood.

INVENTOR:

Harry Kemp
By His Atty.
Sherry Williams

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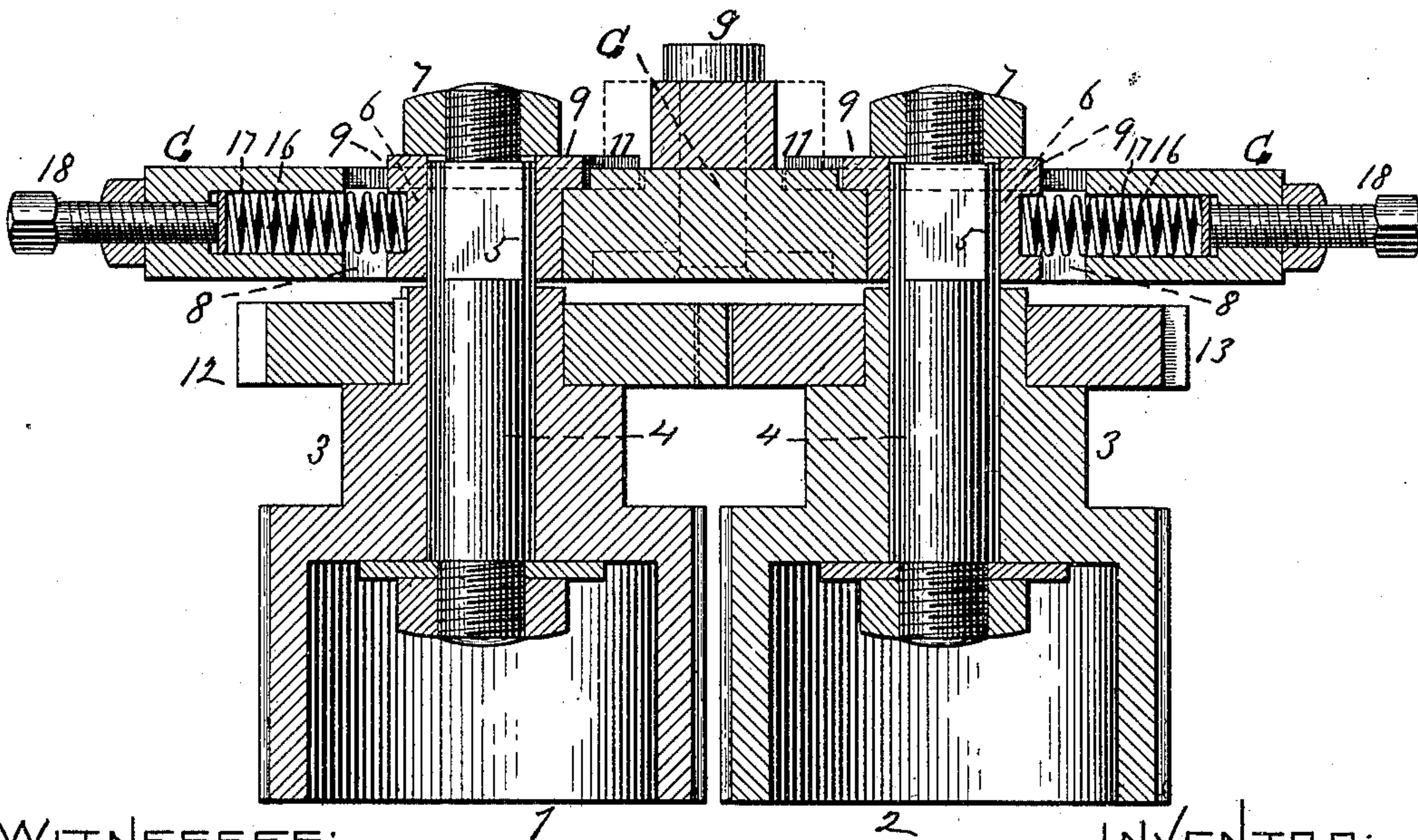
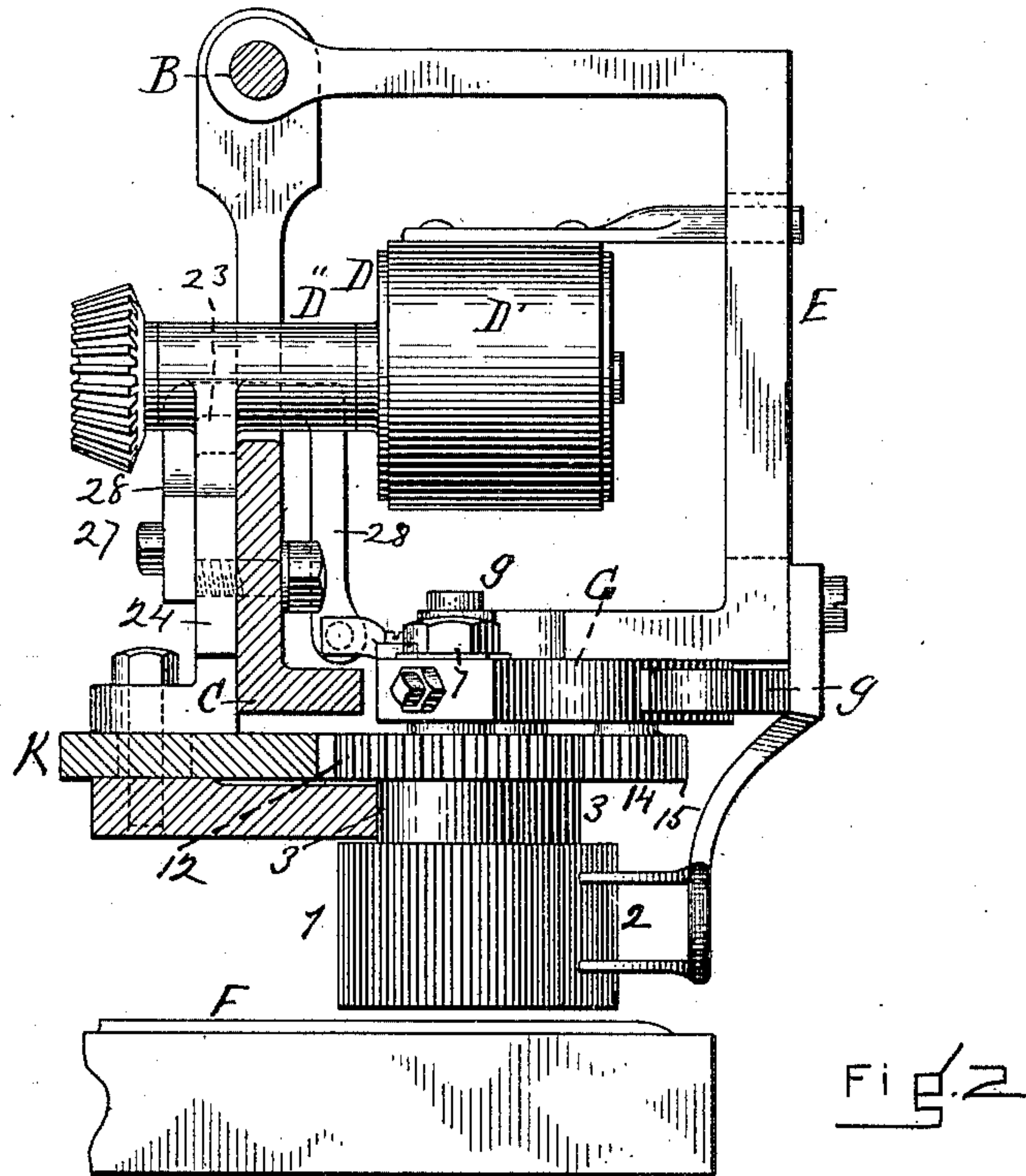
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3 Sheets—Sheet 2.



WITNESSES:

A. H. Bonney
A. K. Hood

INVENTOR:

Harry Kemp
By his Atty.
Henry Williams

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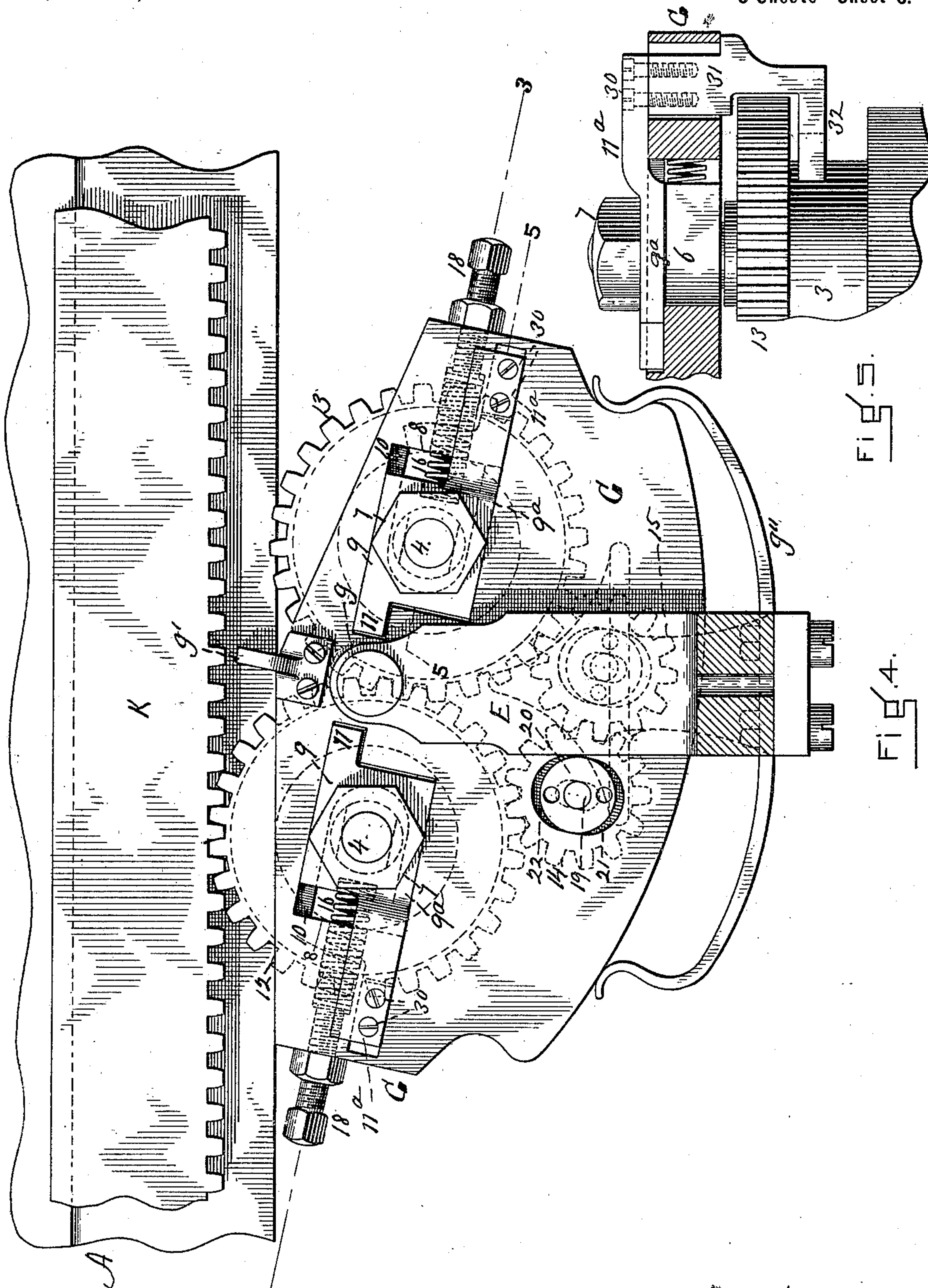
H. KEMP.

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(Application filed Jan. 2, 1902.)

(No Model.)

3 Sheets—Sheet 3.



WITNESSES: 3

A. A. Bonney
C. K. Hood.

A. K. Hood

INVENTORY

INVENTOR:
Harry Kemp
By his Atty.
Henry Williams

By his Atty.

Henry Williams

UNITED STATES PATENT OFFICE.

HARRY KEMP, OF NEWTON, MASSACHUSETTS.

FEEDING MECHANISM FOR CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 701,487, dated June 3, 1902.

Application filed January 2, 1902. Serial No. 88,074. (No model.)

To all whom it may concern:

Be it known that I, HARRY KEMP, a subject of the King of Great Britain, residing in Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Feeding Mechanisms for Carding-Machines, of which the following is a specification.

My invention relates to feeding mechanisms for carding-machines of the general type illustrated and described in Letters Patent of the United States No. 667,708, granted to me February 12, 1901, to which reference is made; and the invention consists in certain improvements on or over the invention described in the said Letters Patent.

My invention has for its principal object to provide means whereby the feed-rolls yield and are self-adjusting to stock or sliver of different thicknesses or of varying thickness, thus doing away with any necessity for compacting-rolls or other devices for preparing the sliver for presentation to the feed-rolls, as it is often deemed necessary by reason of the unyielding character of the mechanism supporting said rolls.

The nature of my invention is fully described in detail below and illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the front of a feeding mechanism for carding-machines embodying my improvements. Fig. 2 is an enlarged view, partly in cross vertical section and partly in side elevation, of the same. Fig. 3 is an enlarged section taken on line 3, Fig. 4. Fig. 4 is an enlarged view, partly in plan and partly in horizontal section. Fig. 5 is a sectional detail on line 5, Fig. 4.

Similar characters of reference indicate corresponding parts.

The frame A, horizontal guide-rod B, rail C, rolls and band D D', slotted carrier E, feed-aprons F, rack K, and actuating mechanism are not novel and are substantially as shown in the Letters Patent above referred to and operate essentially as described therein. This is also substantially true of the plate G, pivoted at *g* to the carrier, provided with the projection *g'* and leaf-spring *g''*.

1 and 2 represent the feed-rolls arranged below the plate G on opposite sides of the pivot *g* on vertical hubs 3, turning on station-

ary studs 4, squared at 5 to fit into the boxes 6 and prevent the studs from turning, the studs being held up in position by suitable nuts 7. These boxes are located in horizontal slots or slideways 8, situated in line with each other on opposite sides of the pivot *g*, whereby the boxes may be moved apart by the sliver as it feeds between the rolls 1 and 2. These boxes are furthermore provided at their upper edges with pairs of oppositely-extending flanges 9 9^a, overlapping correspondingly-sunken portions or steps 10 in the plate G, as shown in Figs. 4 and 5, each said flange 9^a being provided with the horizontal extension 11 11^a. Bolted at 30 to the under sides of the outer extensions 11^a are downwardly-extending brackets 31, Fig. 5, from whose lower ends steadying-plates 32 extend inwardly to and fit against the hubs 3. Fast on the hubs 3 are gear-wheels 12 and 13, which intermesh before the sliver is presented, but which when the feed-rolls 1 and 2 are spread apart by the sliver are connected by the intermediate gears 14 and 15, the position of said gears being well indicated by dotted lines in Fig. 4. By means of these gears 14 and 15 inward rotation is communicated from one to the other of the gear-wheels 12 and 13. The studs 4 are prevented from being pressed or spread apart from a vertical or parallel position, and hence from binding, by the plates 9 9^a 11 11^a, above described, which overlap and slide upon the edges 10 as the feed-rolls are pressed apart and the steadying-brackets 31 32, which bear against the hubs 3. The boxes (and hence the feed-rolls) are held normally toward each other by suitable springs 16, located in recesses 17 in the plate G, the tension of said springs being regulated by means of the screws 18. Thus the feed-rolls are rendered automatically adjustable to the inequalities or varying thicknesses of the sliver, and any necessity for preparatory compacting-rolls or analogous mechanism is obviated. In order that gears of different diameters or having a greater or less number of teeth may be substituted for the gears 12 and 13, so that the amount of sliver delivered at each traverse may be regulated, the plate G is formed with elongated openings 21, provided with inwardly-extending flanges or steps 22, and the studs 19, on which are the gears 14 and 15,

extend up through said openings and are provided with nuts 20, overlapping said flanges or steps and adapted to be operated by suitable spanners. Thus the studs may be moved
 5 in the openings toward or from the gear-wheels 12 and 13 and set in any desired position.

Each of the boxes D'', which support the studs sustaining the rolls D, is mounted on
 10 the vertical extension 23, integral with the plate 24, which is adjustable horizontally behind the frame A by means of a bolt 25, which extends through a horizontal slot 26 in said frame. Rigidly secured to this plate 24 by a
 15 bolt 27 is a yoke-shaped stop 28, which extends from behind said frame A over in front of the same. Hence it will be seen that as the stop 28 and plate 24 23 are practically integral the adjustment of the bolt 25 is all that
 20 is necessary to move both the plate and the stop. In case a very fine adjustment is desired a small screw 29 may be used. The adjustments at both ends of the band D' are exactly alike.

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

1. In a feeding mechanism for carding-machines, the combination with the frame, the
 30 rack, the carrier, and the plate pivoted thereon; of a pair of feed-rolls disposed under the plate and provided with gears adapted to engage the rack one at a time, horizontal springs located in said plate and pressing the feed-

rolls normally toward each other, and intermediate gear intermeshing and meshing into
 35 the gear with which the feed-rolls are provided, whereby as the feed-rolls are separated by the sliver, motion is communicated by one to the other by said intermediate gear,
 40 substantially as described.

2. In a feeding mechanism for carding-machines, in combination, the frame; the rack; the carrier; the plate G provided with the
 45 slots 8 formed with the edges or steps 10; the studs 4, and boxes 6, the latter adapted to slide horizontally in said slots, said boxes being provided with the overlapping edges 9; and the feed-rolls on said studs, substantially
 50 as set forth.

3. In a feeding mechanism for carding-machines, in combination, the frame; the rack; the carrier; the plate G provided with the
 55 slots 8; the studs 4; the hubs 3 of the feed-rolls; the boxes 6 adapted to slide horizontally in said plate and provided with the overlapping edges 9, 9^a formed with the extensions 11, 11^a; and the downwardly-extending brackets 31 provided with the inwardly-extending steadying-plates 32, substantially
 60 as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY KEMP.

Witnesses:

HENRY W. WILLIAMS,
 A. N. BONNEY.