

C. C. FORSTER.
DOBBY.
APPLICATION FILED JUNE 8, 1909.

947,574.

Patented Jan. 25, 1910.
3 SHEETS—SHEET 1.

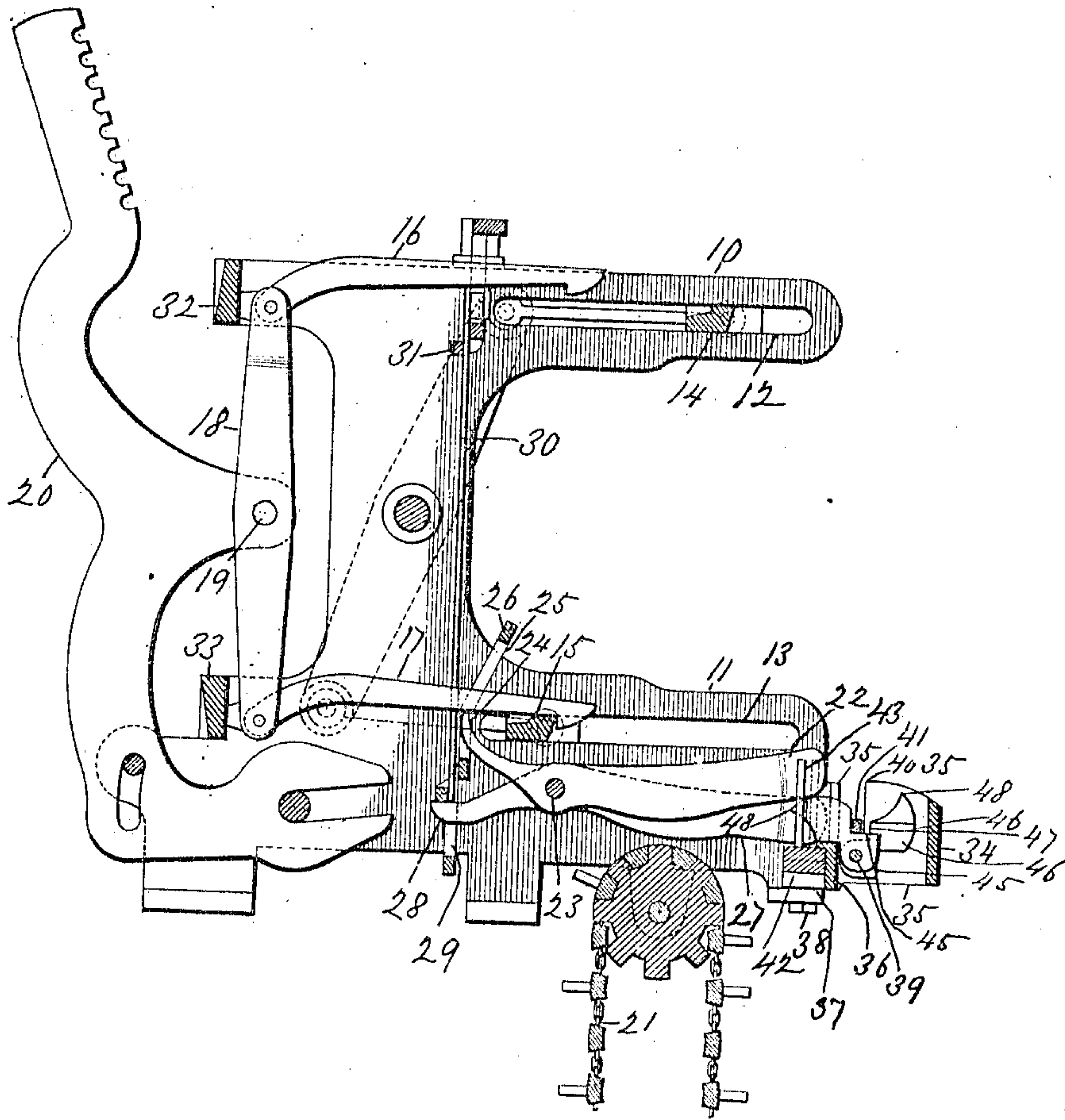


FIG. 1.

WITNESSES:
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Frank H. Parker.

INVENTOR=
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By *Henry Williams*
Att'y.

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3 SHEETS—SHEET 2.

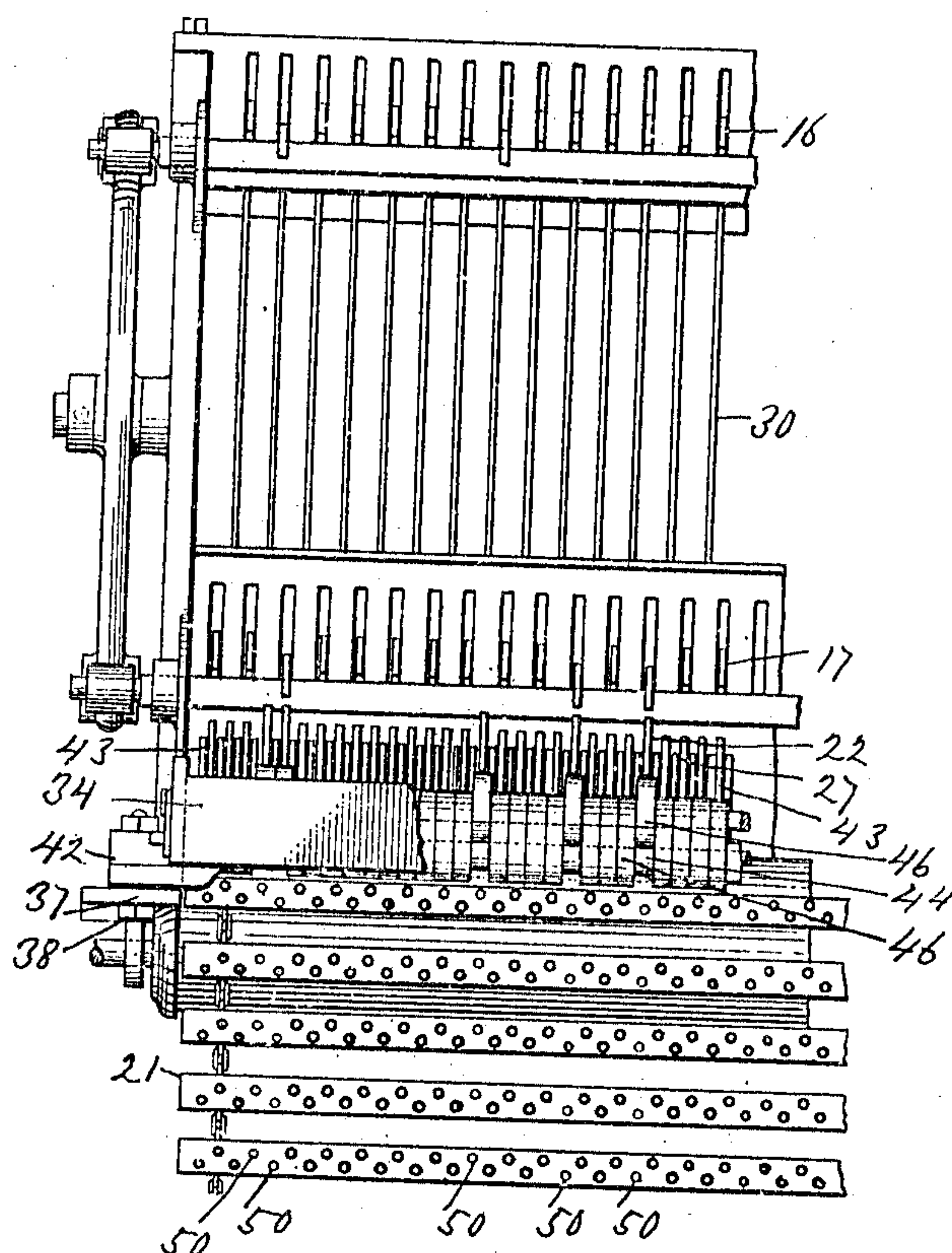


Fig. 2.

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3 SHEETS—SHEET 3.

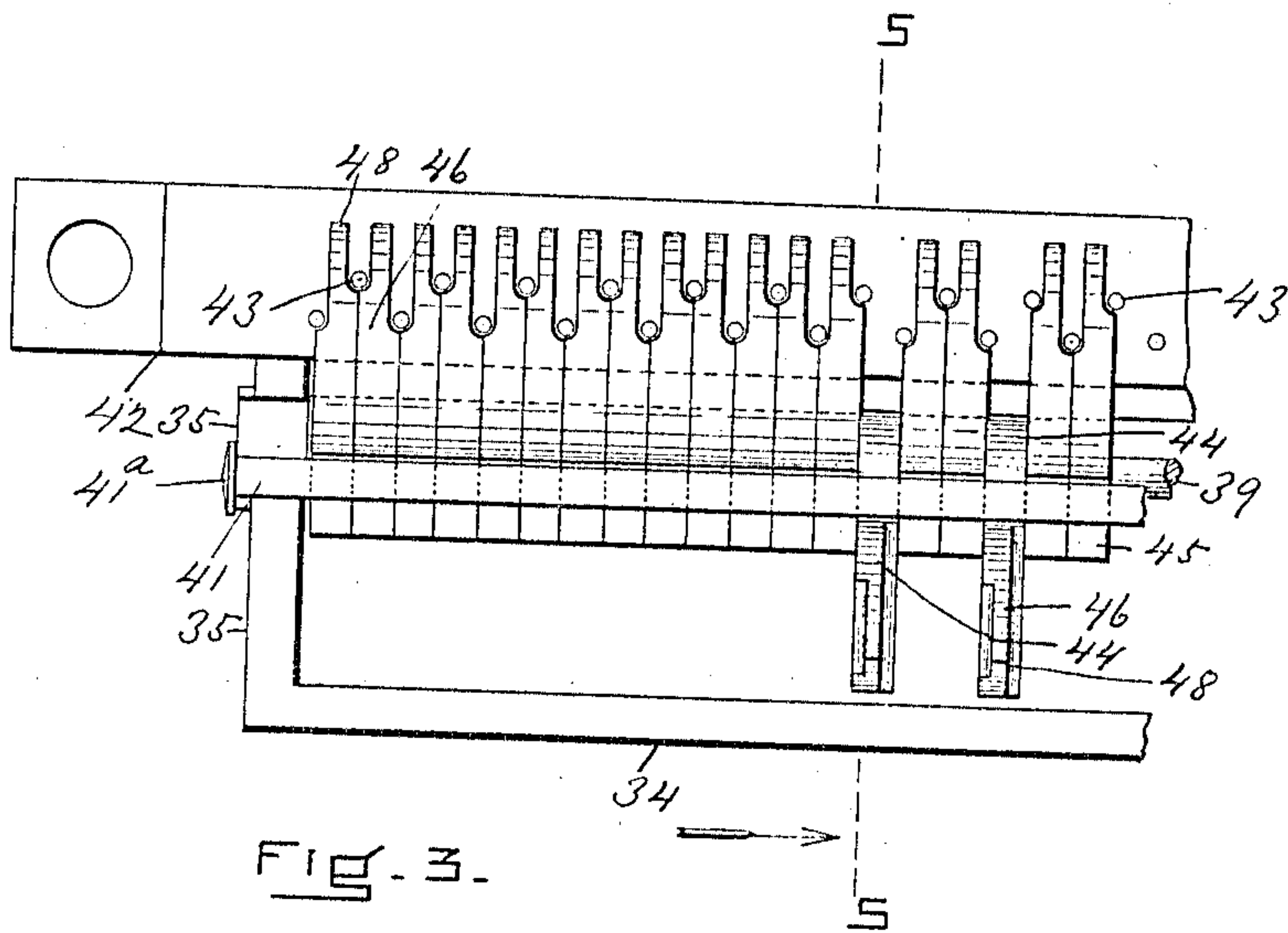


FIG. 3.

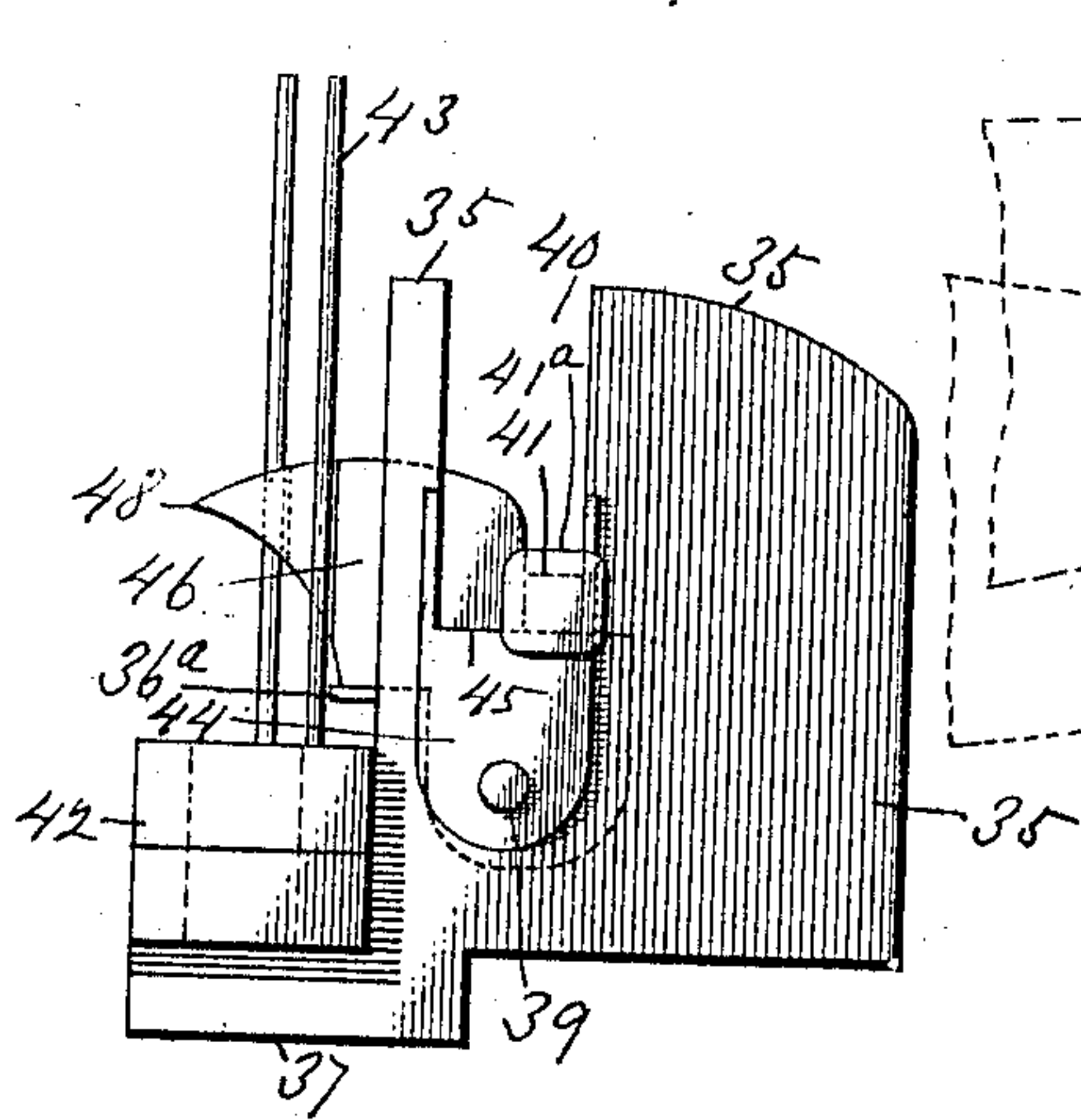


FIG. 4.

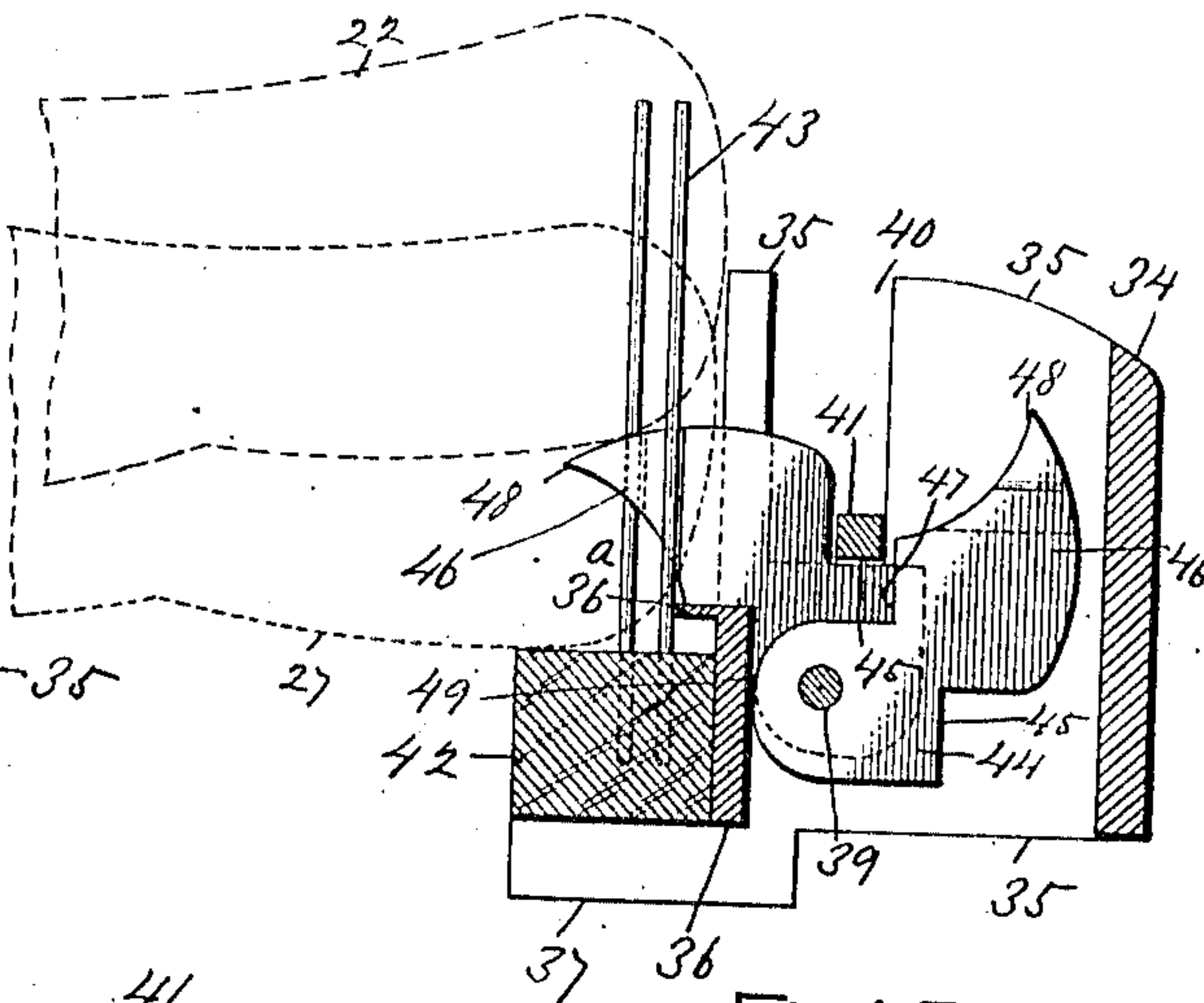


FIG. 5.

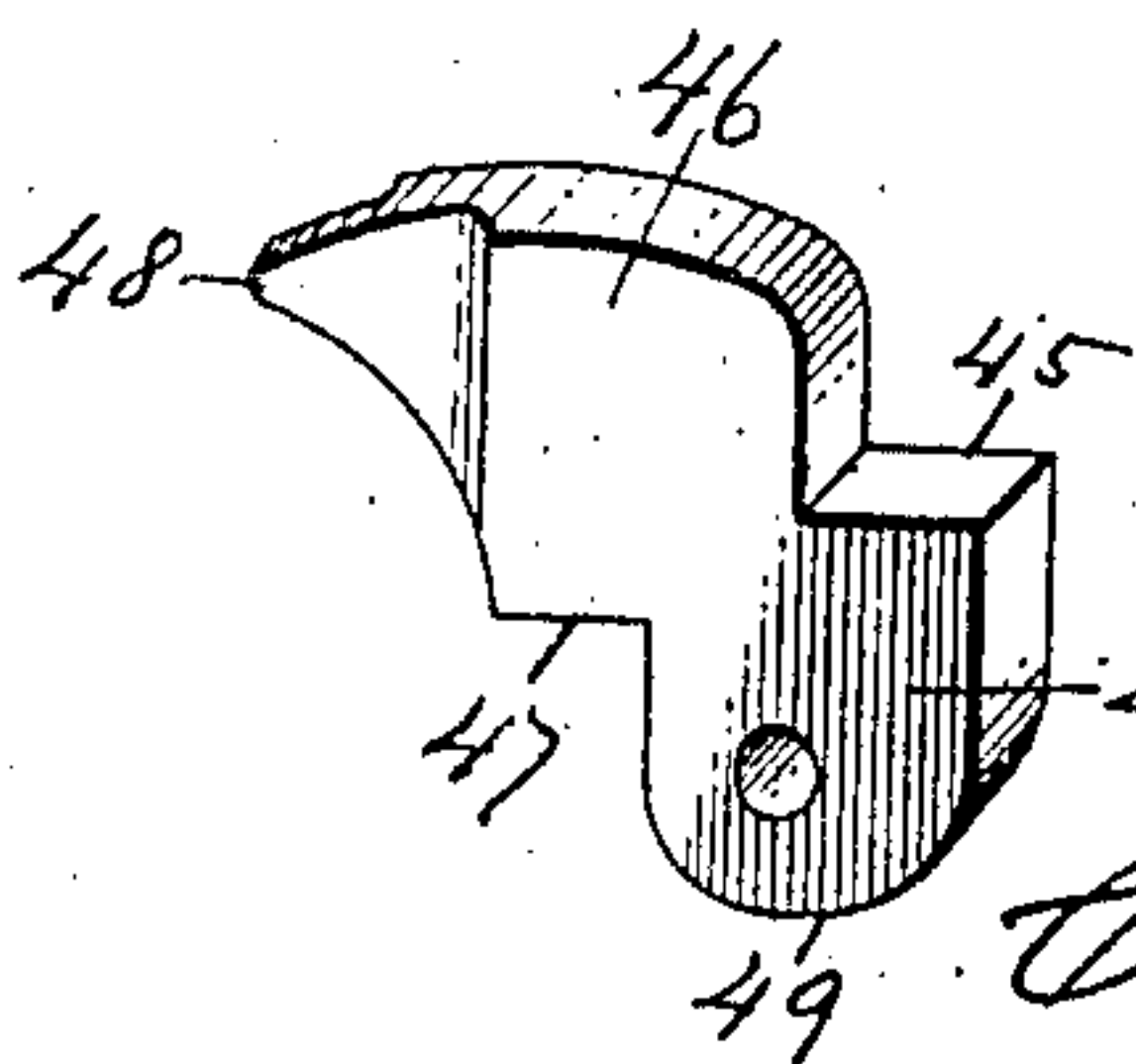


FIG. 6.

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UNITED STATES PATENT OFFICE.

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947,574.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed June 8, 1909. Serial No. 500,933.

To all whom it may concern:

Be it known that I, CARL C. FORSTER, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Dobbies, of which the following is a specification.

This invention relates to a new and useful improvement in the construction of dobbies, more particularly to double-index dobbies.

In dobbies of this class as at present constructed as far as I am aware, it is necessary that the pattern-chain should be provided with an entire complement of pegs, that is, there must be pegs enough to equal the number of times the fingers are to be acted on in weaving a desired pattern. For example, it may be necessary in weaving a certain pattern that a row of pegs should extend entirely around the pattern-chain, the peg being repeated in every bar of the chain. In such a case all the pegs in that circumferential row successively engage the same finger of the dobby and keep it in constant action throughout the weave, so that should the pattern-chain comprise twenty bars that finger will be raised twenty times in a single "repeat" of the chain.

In my present invention or improvement, when the pattern is such that there would ordinarily be a line of pegs to successively raise a particular finger, I do away with that line of pegs, leaving a line of empty sockets or holes, and swing up in advance a block or rest which will hold that finger in a raised position until said line of holes has passed under it, thus operating to weave that portion of the pattern as effectually as if the said finger were raised successively by a row of pegs. If for instance the pattern were such that ordinarily a line of twenty pegs, one in each bar, would twenty times successively raise a given finger, that entire line of pegs by means of my improvement would be omitted or removed from the pattern-chain, and a single rest or block would be swung up under the finger lifting the finger once instead of twenty times. My invention therefore by reducing the number of pegs necessary to the weaving of a given design simplifies the pattern-chain and its operation with relation to the fingers, renders its construction more economical, decreases the liability of mistakes in the weave, minimizes the danger of the pegs splitting the bars of the pattern-chain and of the pegs working

loose and dropping out thereby producing imperfections in the cloth, and prolongs the life of the dobby.

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

Figure 1 is a cross sectional view of the dobby with my improvement embodied or attached. Fig. 2 is a partial front view with a part of the pattern-case broken away. Fig. 3 is a partial plan view enlarged of the improvement. Fig. 4 is an end view of the same. Fig. 5 is a section taken on line 5—5, Fig. 3. Fig. 6 is a view in perspective of one of the finger-buttons or rests removed.

Similar numerals of reference indicate corresponding parts.

Reference-numerals 10 and 11 represent the end frames of a dobby provided with slots 12 and 13 in which the lifter-bars 14 and 15 slide for operating the hooked jacks 16 and 17 pivoted at their rear ends to the back or connector 18 which is pivoted at 19 to the harness jack or notched dobby-lever 20. These hooked jacks 16 and 17 are moved back and forth in the well known manner by means of the lifter-bars 14 and 15 when the hooked ends of the jacks drop into their paths.

21 represents the pattern-chain.

22 represents the raised fingers pivoted at 23 to the lower end frame 11 and extending up at 24 into the guide-slots 25 in the grate 26, and into engagement with the lower hooked jacks 17.

27 represents the unraised fingers pivoted at 23 to the end frame 11 and with their rear ends 28 extending into the guide-slots 29 in the lower grate.

30 represents the vertical rods or needles which extend from the lower grate 26 to the upper grate 31.

Thus far the parts and their operation are well known in the art, the working of the dobby being as usual, the stops 32 and 33 being used alternately as pivots for the jacks or connectors 18 when the hooked jacks are actuated.

34 represents the front wall and 35 the end walls of a substantially rectangular frame, preferably metallic, said frame being provided with a rear wall 36 preferably formed with a rearwardly extending lip 36^a, the frame being provided with neither top nor bottom, all said walls being preferably of one integral piece, and the

rear wall being provided with a pair of horizontal brackets 37 which are bolted at 38 to the wood-rack 42 which is supported by the frame and is provided with the ordinary row of guide-pins 43, as illustrated in Figs. 1, 2 and 5. A horizontal rod 39 is supported in this case at its opposite ends in the end walls 35 below vertical slots or notches 40 in which the opposite ends of a somewhat heavy bar or weight 41 are adapted to rest, said bar being preferably provided with heads 41^a at its ends to prevent displacement.

Pivotaly supported on this rod 39 are a series of finger-rests or buttons which are adapted to be swung in a vertical plane and rest by gravity either upon the lip 36^a, in which position they will lie between two of the guide-pins 43 and over the wood-rack 42 as illustrated in Figs. 1, 4 and 5, or to be swung up into the position illustrated at the right in Figs. 1 and 5. Each of these finger-rests or buttons consists of a hub portion or main portion 44 whose edge 45 is flat, and a wing 46 provided with a flat edge 47 and an extension 48. The flat edge 47 is adapted to rest by gravity on the upper edge of the lip 36^a of the rear wall 36 of the case, and the flat edge 45 is adapted to receive the weight or heavy bar 41. The curved portion 49 of the hub 44 is adapted when the button is swung back to bear against the inner surface of the rear wall 36 and hold the finger-rest or button by gravity in such position away from the wall 34, thus preventing it from becoming jammed against said wall and hence not easily moved out of the position shown at the right in Fig. 5.

In operation, if the pattern is such that there would be a straight row or line of pegs across the bars of the chain which in ordinary cases would successively raise a particular finger, that row is left without any pegs in the sockets, and the finger-rest or button which would be in line with said row is swung forward into the position indicated in Fig. 4 between two of the pins 43, such position being also illustrated in Figs. 1, 2, 3 and 5. When the chain is set in motion that finger-rest or button which rests on the lip 36^a holds up the finger which moves in line with the rest or button and takes the place of all the pegs which otherwise would have been in that row. There may be of course, a number of lines of pegs which may be omitted, and a number of finger-rests or buttons which take their places and operate on the weave exactly as the pegs would operate in ordinary dobbies. In practice it is advisable to lay the weight or heavy bar 41 in the position illustrated in the drawings in order that the finger-rests or buttons which extend over the wood-rack may be held firmly in position, and may not be affected by the jar of the ma-

chine. The other finger-rests or buttons are swung back, as illustrated in the drawings, toward the wall 34 of the case, being held in such position by the contact of the curved edge 49 with the wall 36. An examination of Fig. 2 of the drawings will show that in line with each rest or button which is swung between a pair of guide-pins 43 with its edge 47 resting on the lip 36^a, is a row of empty sockets indicated at 50, the other sockets being represented as being provided with pegs. In Fig. 2 therefore there are five rests or buttons in operative position, and, of course, five rows of empty sockets extending across the bars and circumferentially along the chain for such distance or distances as the requirements of the pattern render necessary. Preferably the portions 48 of the rests or buttons are made smaller in order to extend between a pair of adjacent guide-pins. It will be understood that whichever way the finger-rests or buttons are tilted they rest by gravity, the bar or weight (which may be of any desired shape) simply preventing vertical or end-wise movement by jar.

While the shape of the finger-buttons or rests illustrated is perhaps preferable to any other, I do not confine myself to such shape and may use a tilting or moving support of any shape which will be operative for the purpose and in the connection described.

In the drawings, the dotted lines in Fig. 5 represent quite accurately the position of two of the fingers, the finger 22 being held raised by the rest or button which is tilted forward and supported by the lip 36^a, and the finger 27 being free to be operated by the pegs which pass under it, as the rest or button which is in line with the finger 27 is tilted back and sustained in such position by the curved portion 49 resting against the inner surface of the wall 36.

In Fig. 3 the majority of the rests or buttons are swung into operative position, and held therein by the weight 41, said weight serving not only to hold the operating rests or buttons in position, but also to prevent those which are not operating or acting as rests from swinging over the wood-rack.

In the drawings a considerable space is shown between the front wall 34 and the portions 46 of the rests when they are swung toward said wall. In practice there may be much less space if desired, as it is only necessary that the said rests should not come into actual contact with said wall and rest against it.

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

1. In a dobbie of the character described, a supporting frame secured to the dobbie adjacent to the wood-rack, a series of individually and independently tilting finger-

rests or supporting buttons pivotally sustained by said frame in line with the fingers, and means for holding the finger-rests or supporting buttons in position when they have been tilted under the raised adjacent front ends of the fingers corresponding to the several finger-rests, for the purpose set forth.

2. In a dobby of the character described, a supporting frame secured to the dobby adjacent to the wood-rack, a series of finger-rests or supporting buttons sustained by said frame and each adapted to be individually and independently moved into a position under and in line with the raised adjacent front end of a corresponding finger, and means for holding such finger-rests or supporting buttons as have been moved into said position with relation with the corresponding fingers securely in such position, for the purpose set forth.

3. In a dobby of the character described, a supporting frame secured to the dobby, a series of tilting finger-rests or supporting buttons pivotally sustained by said frame in line with the fingers, and a weight or bar adapted to rest on the finger-rests or supporting buttons when they have been tilted under the raised adjacent ends of the fingers, for the purpose set forth.

4. In a dobby of the character described, a supporting frame secured to the dobby next the wood-rack and comprising a front wall a rear wall and end walls, a rod extending

longitudinally through the frame and supported by the end walls, and tilting finger-rests or supporting buttons pivotally sustained by said rod and adapted to be swung under raised corresponding fingers and support them, and to be sustained in such position on said rear wall, for the purpose set forth.

5. In a dobby of the character described, a supporting frame secured to the dobby next the wood-rack and comprising a front wall a rear wall and end walls, a rod extending longitudinally through the frame and supported by the end walls, tilting finger-rests or supporting buttons pivotally sustained by said rod and adapted to move endwise thereon and to be tilted under raised corresponding fingers and support them in such raised position and to be tilted out of supporting contact with said fingers, and a comparatively heavy bar extending longitudinally in said frame and resting on the finger-rests or supports which are tilted under the fingers and between them and the finger-rests or supports which are tilted away from the fingers thereby preventing endwise or rotative movement, for the purpose set forth.

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

CARL C. FORSTER.

Witnesses:

HENRY W. WILLIAMS,
M. A. ATWOOD.