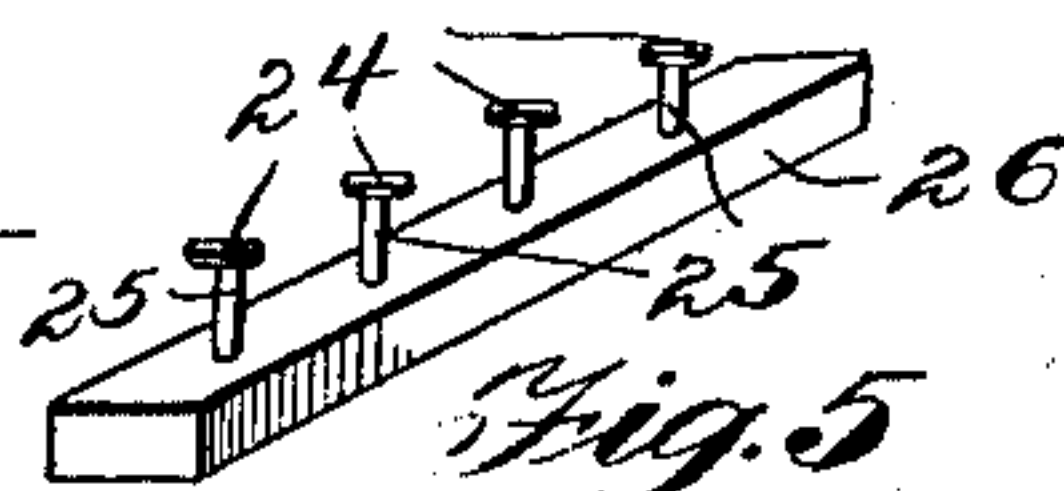
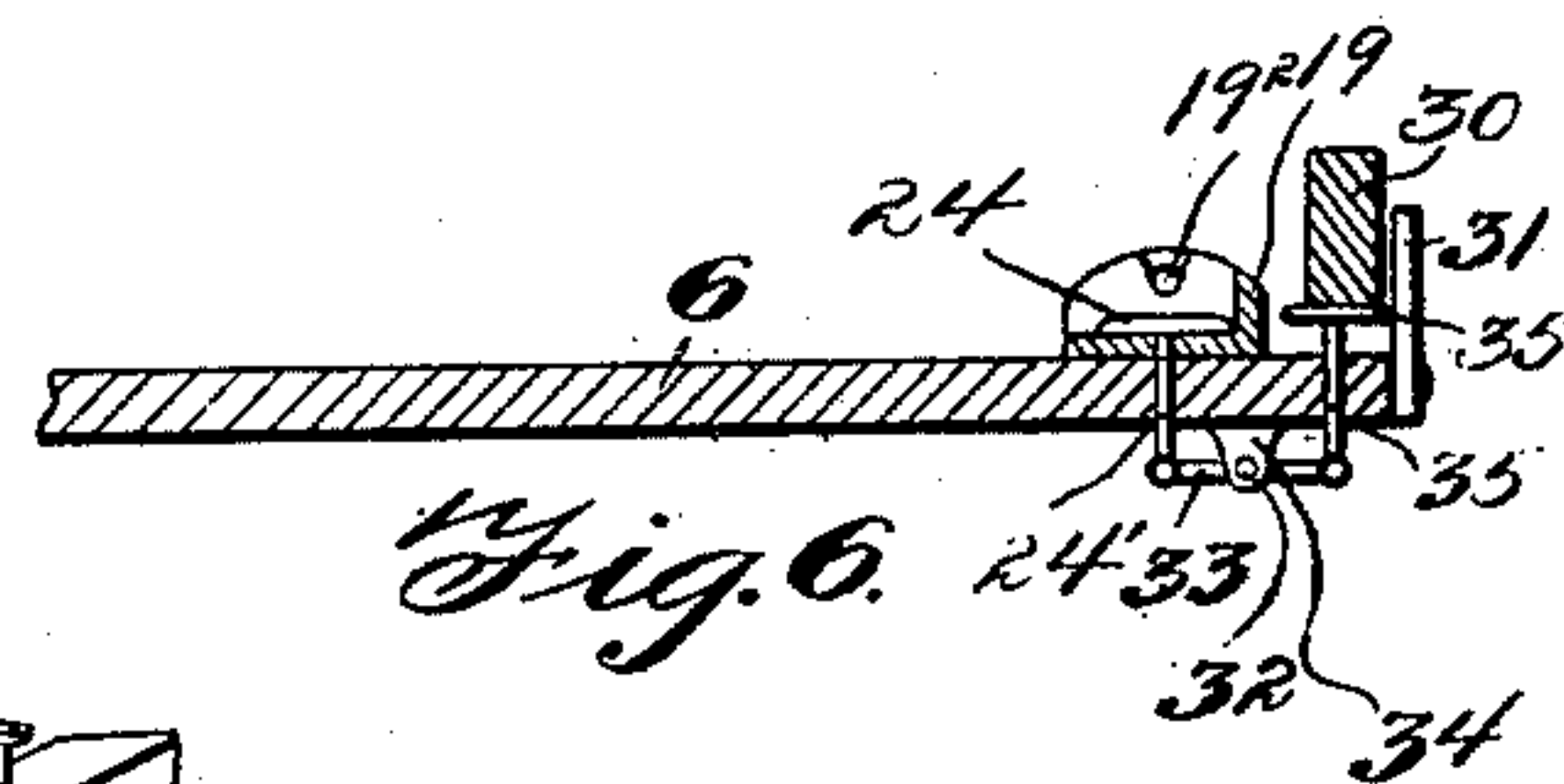
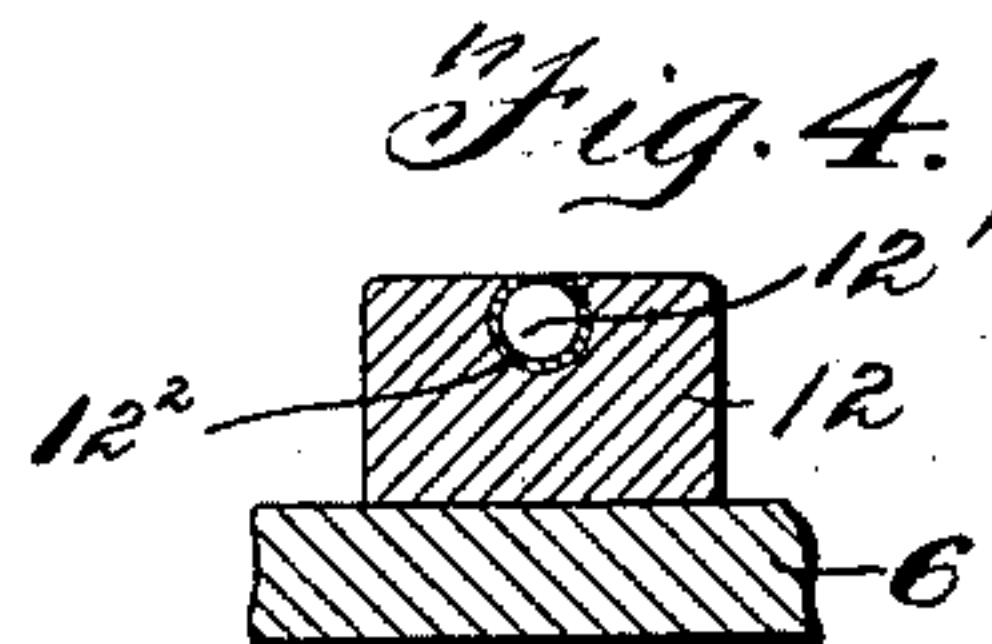
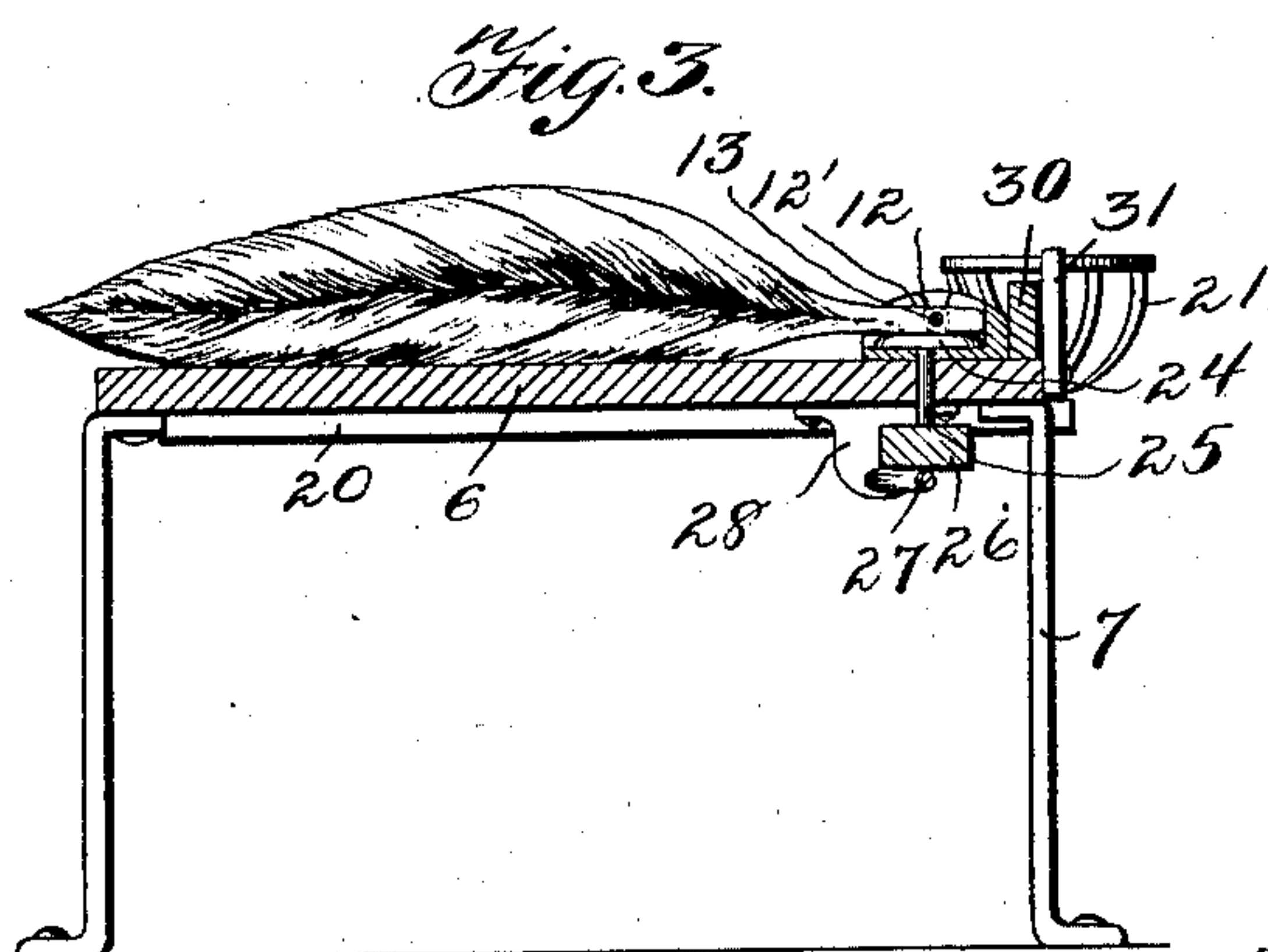
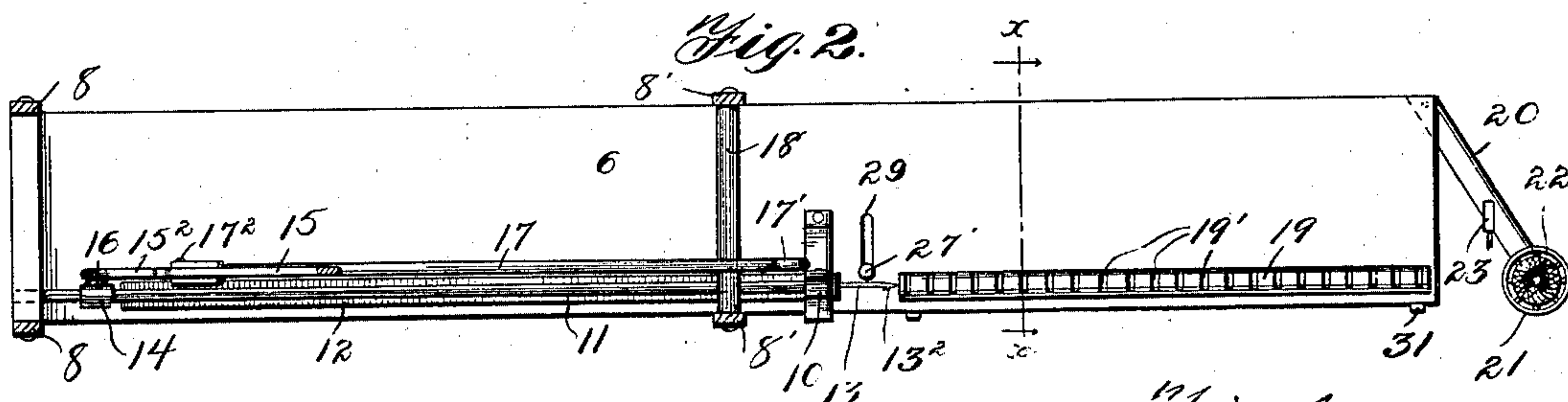
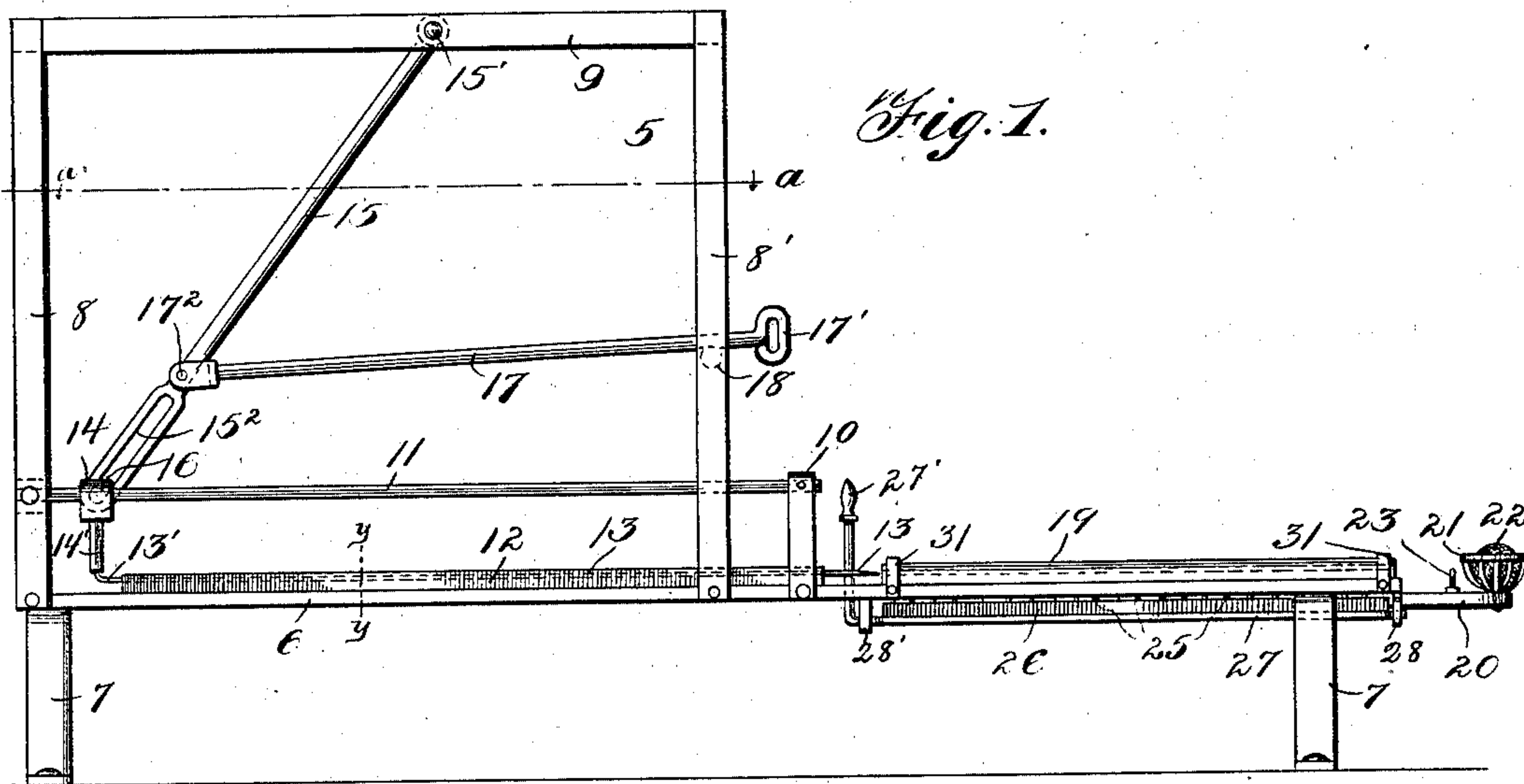


Patented June 10, 1902.

(Application filed Feb. 25, 1902.)

(No Model.)



Inventor:

Charles G. Wells,

By his Attorneys.

Blodgett and Peck

UNITED STATES PATENT OFFICE.

CHARLES G. WELLS, OF HARTFORD, CONNECTICUT.

MACHINE FOR STRINGING TOBACCO.

SPECIFICATION forming part of Letters Patent No. 702,267, dated June 10, 1902.

Application filed February 25, 1902. Serial No. 95,583. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GILBERT WELLS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Machines for Stringing Tobacco, of which the following is a specification.

In the recently-adopted method of growing tobacco under cover the leaves as they mature are removed from the stalk and are strung on cords, which are then secured to laths, and these laths are suspended in the curing-house until the tobacco is in readiness for further treatment and manipulation. This stringing operation is carried out by hand, thereby requiring much loss of time, considerable expense, and frequent annoyance, owing to imperfect work.

My invention relates to a machine for stringing the leaves by inserting a cord through a series of stems at one operation; and it has for its object the provision of means for accomplishing this result with rapidity and accuracy.

A further object of the invention is the provision of a machine having a punch or needle for perforating the stems of the leaves and simultaneously threading them upon a cord or string.

A further object of the invention is the provision of a bed having passages or pockets for the reception of the stems of the leaves and a longitudinal bore for guiding the perforating instrument.

A further object of the invention is the provision, in connection with the bed just mentioned, of a stripper or ejector for removing the strung leaves from the passages or pockets of said bed.

Other objects of the invention will be set forth in the detailed description.

In the accompanying drawings, Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a horizontal section upon line *a a* of Fig. 1. Fig. 3 is a transverse vertical section on line *x x* of Fig. 2. Fig. 4 is a transverse vertical section of the punch or needle guide, taken on line *y y* of Fig. 1. Fig. 5 is a perspective view of the stripper, and Fig. 6 is a sectional view of a modification hereinafter described.

Like numerals designate similar parts throughout the several views.

Referring to the drawings, the numeral 5 designates a frame of any conventional construction suitable to accommodate the various parts of the machine, said frame being composed of a bed-plate 6, supported on legs 7, and of vertical standards 8 8', united by cross-strip 9. Projecting from the bed-plate 6 is a short standard 10, and secured at one end to this standard and at its opposite extremity to a cross-bar of the standards 8 is a guide-rod 11.

Mounted upon the bed-plate 6 is a needle or punch guide 12, having a longitudinal passage 12', preferably lined with metal or bushed, as at 12², said passage and the bushing, if such be employed, being open at the top, and fitted within the passage of the guide is a needle or punch 13, having an angular bend 13' at one end, which bend is secured to an arm 14' of a cross-head 14, mounted to slide upon the guide-rod 11. For reciprocating the cross-head any suitable mechanism may be employed; but I have shown for accomplishing this purpose a lever 15, pivoted at 15' to the cross-bar 9 and having a slotted end 15² fitted over a wrist-pin 16, projecting from the cross-head 14, and for actuating said lever a bar 17, having a handle 17', may be employed, said bar resting upon a cross-pin 18 of the frame and being articulated at 17² to the lever 15.

Secured to the bed-plate 6, in alinement with the guide-block 12, is a bed 19 for receiving the stems of the leaves, and this bed is provided with a series of transverse slots 19', separated from each other, as shown, and each being of a width adapted to receive the stem of a leaf. (See Fig. 3.) To guide the punch or needle 13 to enable it to perforate the stems placed in the recesses 19', the bed 19 is longitudinally perforated at 19², the needle passing through said perforation and the barbed point 13² thereof emerging from the end of the bed upon the completion of its forward stroke.

Secured to the bed-plate 6 is a bracket 20, and on this bracket is supported a receptacle 21 for containing a ball of twine 22, an end of which is engaged with the barb of the needle, which needle upon its return stroke will

pull the cord through the perforations in the stems and will consequently string them thereon. After this operation has been completed the cord may be severed from the ball
 5 by forcing it against a cutter 23, secured to the arm 20, or in any other desired manner. On the completion of this operation the cord will be withdrawn from the barb of the needle, and the tobacco-leaves will all be strung
 10 by their stems upon said cord, the free ends of which are in readiness to be attached to a lath; but the stems of said leaves will still remain seated in the pockets or recesses 19' of bed 19. It is important that these stems now united
 15 by the cord should be simultaneously removed from the bed, and while any desired means may be employed for accomplishing this result I preferably employ a series of ejectors or strippers, each consisting of a plate 24, fitting within the slot for its reception in the
 20 bed and normally resting against the bottom thereof, pins 25 projecting from said plates and bearing against or being attached to a bar 26, as shown in Fig. 3. For elevating
 25 these plates a long crank 27 may be employed, said crank being supported in bearings 28 28' and having a handle 27' projecting through a slot 29 in the bed 6, and by grasping this handle and turning the crank all of the stems
 30 of the leaves will be simultaneously forced from their seats in readiness to have the free ends of their uniting-cord attached to a lath 30, which may be conveniently located upon the bed-plate 6 at the closed side of bed 19,
 35 said lath bearing against a strip 31, as illustrated in Fig. 3.

In the modification illustrated in Fig. 5 the strippers 24 and their rods or pins 25 are the same as the devices illustrated in Figs. 3 and
 40 5; but each pin 25 is connected to a long rod 32, and said rod 32 is carried in the ends of a pair of levers 33, pivoted in brackets 34, depending from the bed-plate. Connected to each of these levers is a push pin or rod 35,
 45 passing through a perforation of the bed 6 and having a head 35', and upon these heads 35' is placed the lath 30, to which it is desired to secure the ends of the cord upon which the leaves are strung. In this modification the
 50 lath is used as a means for depressing the push-pins, and thereby raising the strippers or ejectors to discharge the strung stems from the pockets or recesses of the bed 19, and after this result has been accomplished the ends of
 55 the strung stems are connected in any desired manner to said lath, and the latter may be removed and a new lath, upon which an additional series of leaves is to be carried, inserted in place thereof.

60 While I have shown a machine especially designed for perforating and stringing the stems of tobacco-leaves, it is distinctly to be understood that my invention is not limited thereto, for with slight modification the recesses or pockets of the bed 19 may be made
 65 to receive the ends of cigars or cigarettes which it may be desired to perforate. On

the market cigars are frequently displayed having perforated ends with a string inserted in the perforation, this string being removed
 70 when it is desired to smoke the cigar. My invention may be readily adapted to the production of such cigars or cigarettes and for inserting the cord or string in the ends thereof, said cord or string being afterward severed
 75 at each side of the tip of the cigar to produce an end which may readily be grasped to withdraw the string when the cigar is to be utilized for its ordinary purpose.

As above stated, it is immaterial what
 80 means may be employed for reciprocating the punch or needle, for other mechanical elements may be substituted for those shown without departure from the invention, if desired. So, too, the recessed bed in which
 85 the stems of the leaves are placed may be variously modified from the form shown, and in some instances the twine receptacle and cutter may be omitted and previously-cut strings or cords of the desired length placed
 90 in position on the bed to be received by the needle and inserted in the stems. It is also immaterial whether the needle be threaded at one end or the other end of its stroke, for
 95 it will work with good results whether the cord be connected to the barb thereof before or after the completion of the perforating operation.

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

1. The combination, with a device having a series of recesses for the reception of articles, and also having a passage, of a punch or needle constructed to retain a cord, said
 105 punch serving to perforate, and insert the cord in, the articles.

2. The combination, with a bed having transverse recesses for the reception of the articles to be connected, and a longitudinal
 110 passage, of a perforating device constructed to receive and carry a cord through the articles.

3. The combination, with a bed having a series of separated recesses and a longitudinal
 115 passage, of a punch having an end shaped to receive a cord; and means for reciprocating said punch.

4. The combination, with a bed having a series of transverse passages and a longitudinal
 120 passage, of a punch having an end shaped to receive a string; and means for reciprocating said punch.

5. The combination, with a bed having a series of transverse passages and a longitudinal
 125 bore, of a punch having a barbed end to receive a cord; and means for reciprocating said punch.

6. The combination, with a bed having a series of transverse passages and a longitudinal
 130 bore, of a punch movable in said bore; ejecting devices; and means for actuating said ejecting devices.

7. The combination, with a bed having a

series of transverse passages and a longitudinal bore, of a punch having a barbed point; means for actuating said punch; a series of ejectors; and means for actuating said ejectors.

5 8. The combination, with a bed having a series of transverse passages and a longitudinal bore, of a punch movable in said bore; a series of individual ejectors, one ejector for
10 each passage; and means for actuating said ejectors.

15 9. The combination, with a bed having a series of transverse passages and a longitudinal bore into which said passages open; of a punch movable in said bore; and means for actuating the punch.

20 10. The combination, with a bed-plate, of a block secured to said bed-plate, said block having a series of transverse passages and a longitudinal bore communicating with said passages; a punch having an end shaped for the attachment of a cord; and means for actuating the punch to cause it to perforate and carry the cord through articles placed in
25 the passages of the block.

11. The combination, with a bed-plate, of a

guide-block; a punch reciprocable in said guide-block and constructed to carry a cord; means for actuating the punch; and a bed having a series of transverse passages, and a longitudinal passage. 30

12. The combination, with a bed-plate of a guide-block; a punch having an end shaped to receive a cord movable in said guide-block; lever mechanism for actuating the punch; 35 and a bed having a series of transverse passages and a longitudinal passage communicating with the transverse passage.

13. The combination, with a bed-plate, of a guide-block; a punch mounted in said guide- 40 block; mechanism for actuating the punch; a bed having a series of separated, transverse passages and a longitudinal passage; a series of ejectors; and means for actuating said ejectors. 45

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES G. WELLS.

Witnesses:

FRANCES E. BLODGETT,
FRANK G. CAMPBELL.