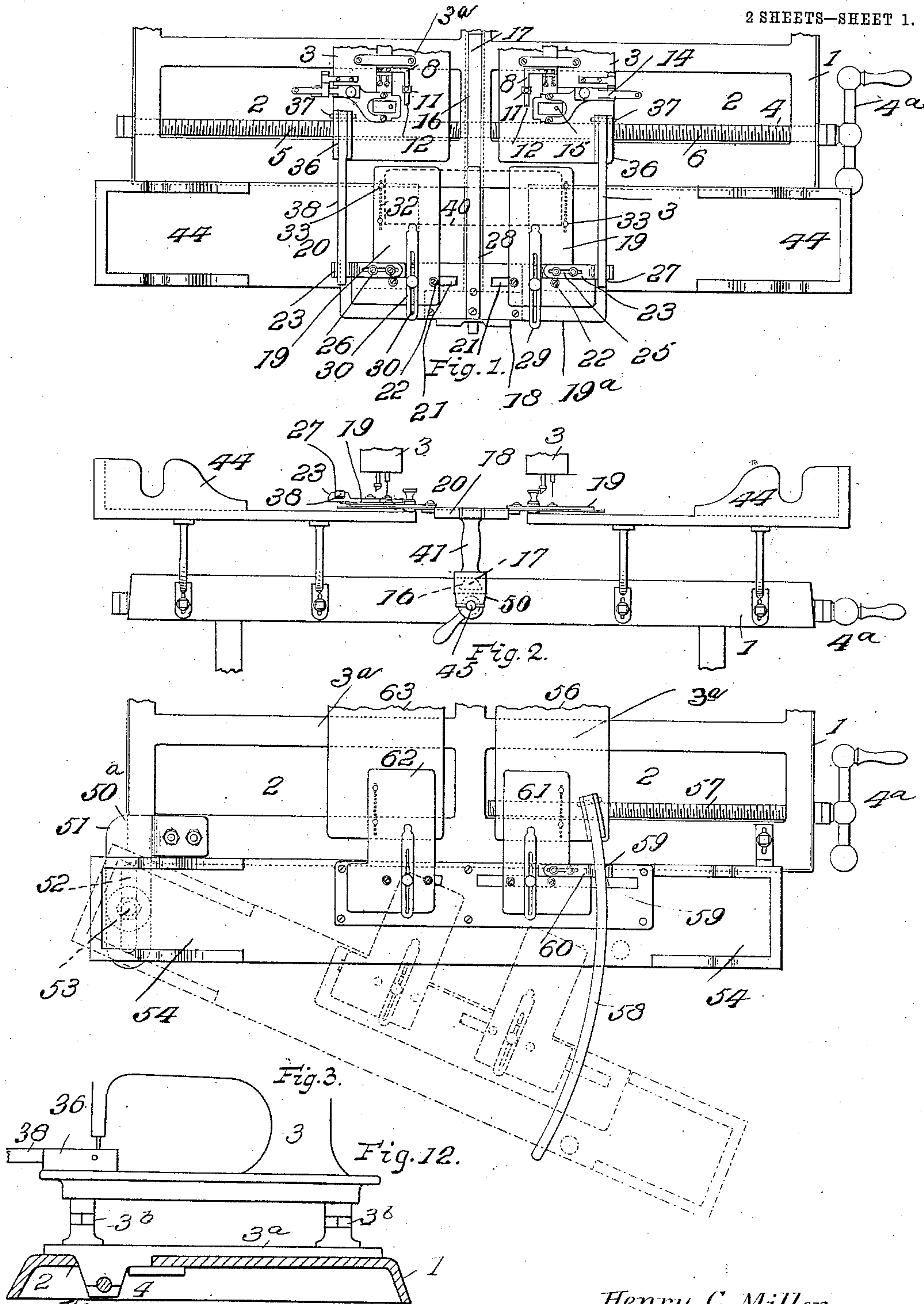


H. C. MILLER.  
 BUTTONHOLE MACHINE.  
 APPLICATION FILED APR. 25, 1905.  
 940,042. Patented Nov. 16, 1909.  
 2 SHEETS—SHEET 1.



Witnesses  
*W. H. Pason.*  
*Louis H. Schmidt*

Henry C. Miller,  
 Inventor.  
 by *J. M. Moore*  
 his Attorney.

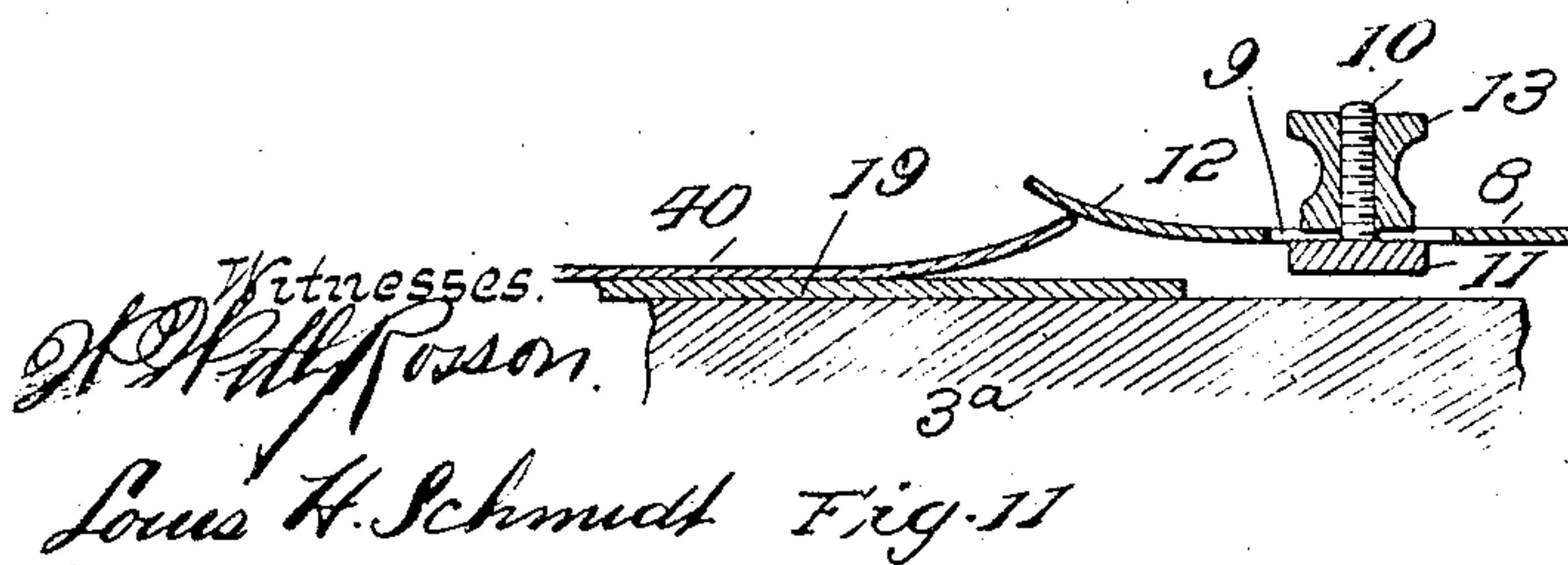
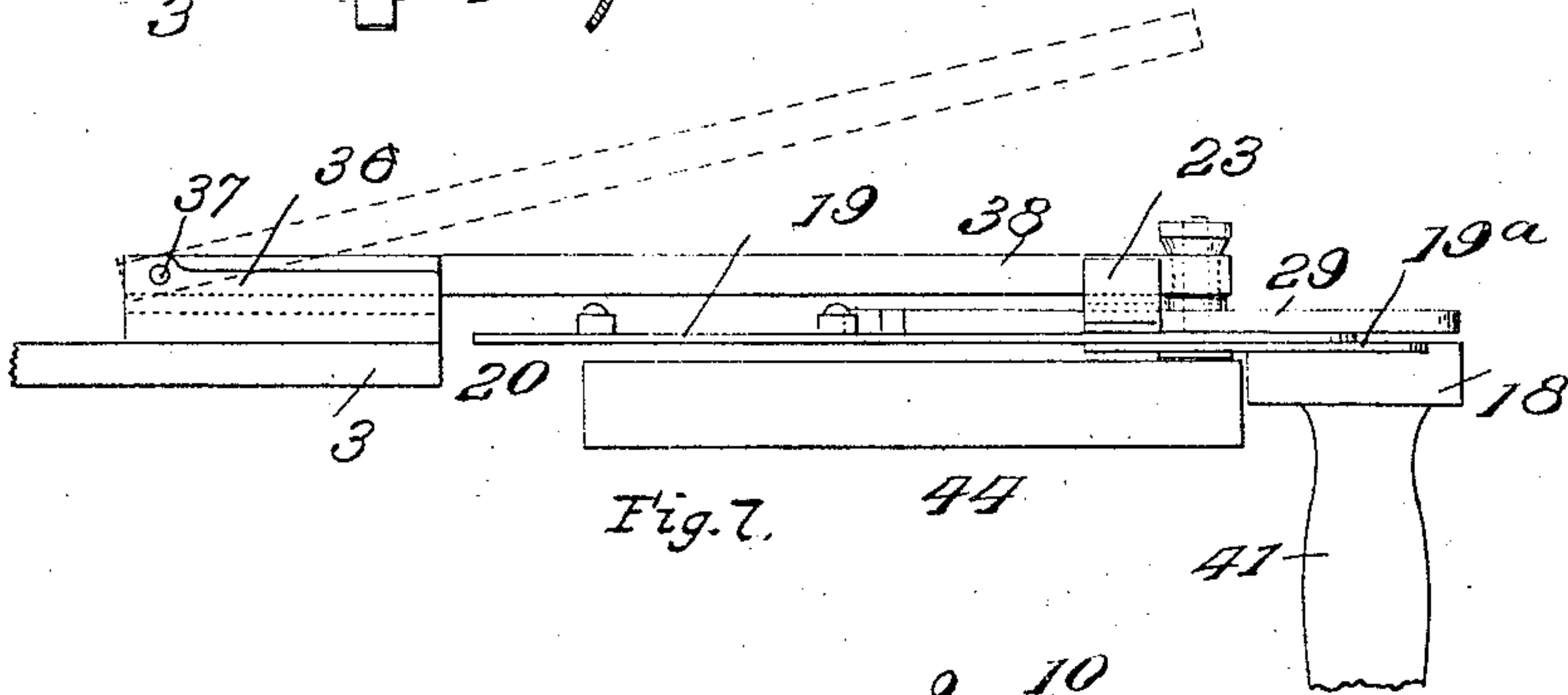
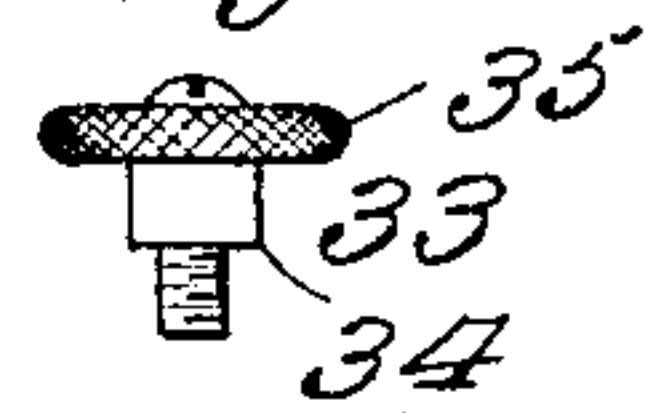
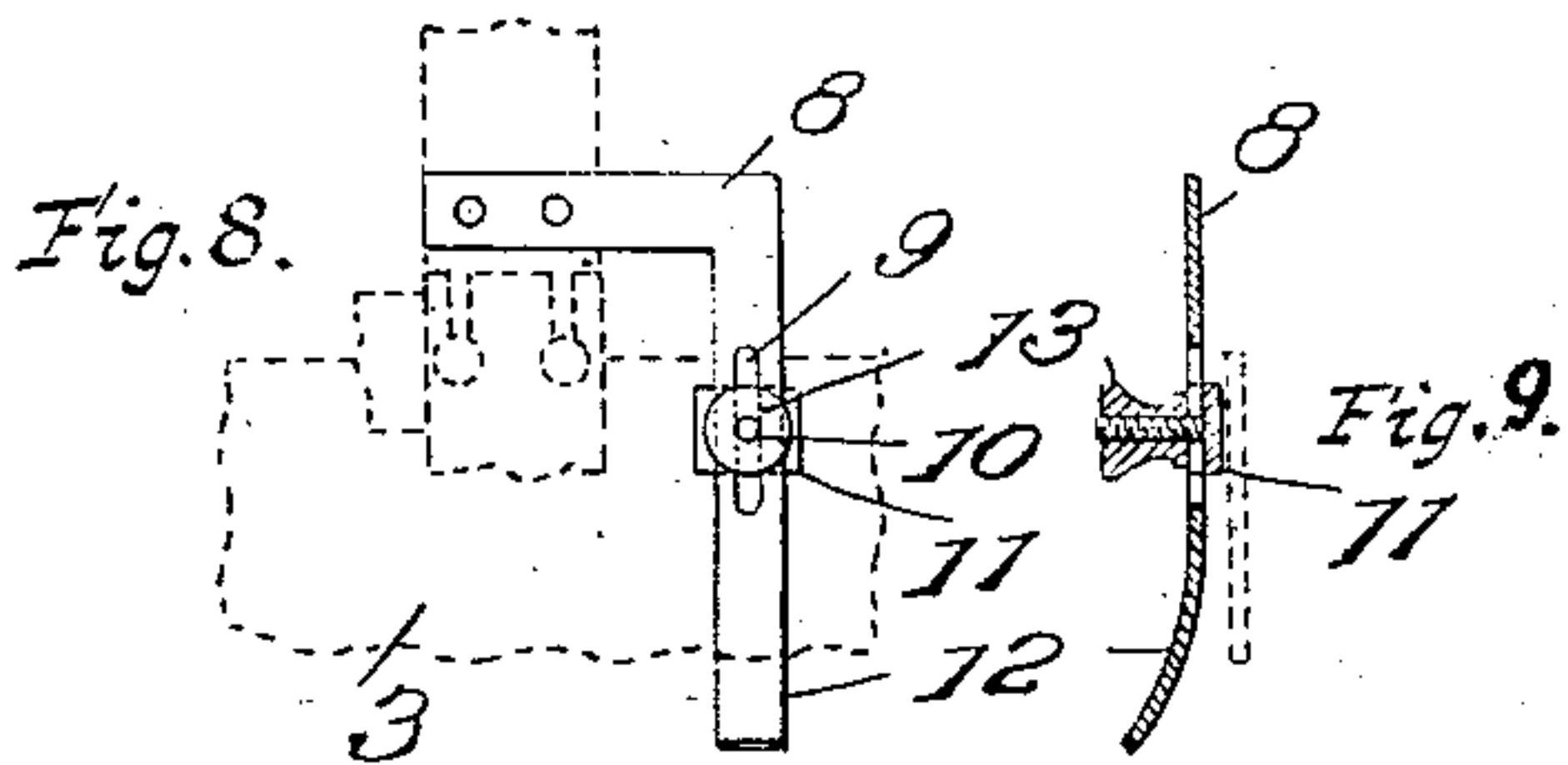
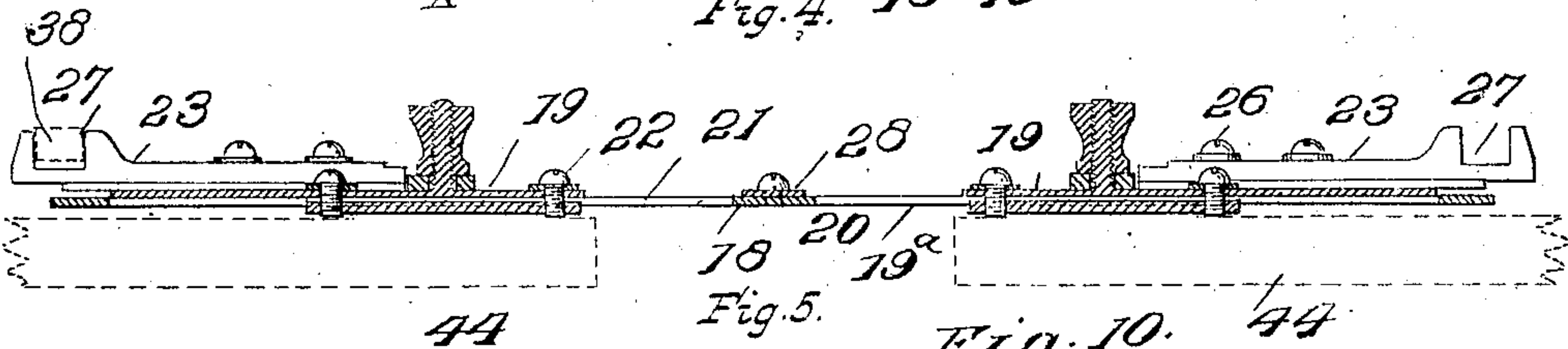
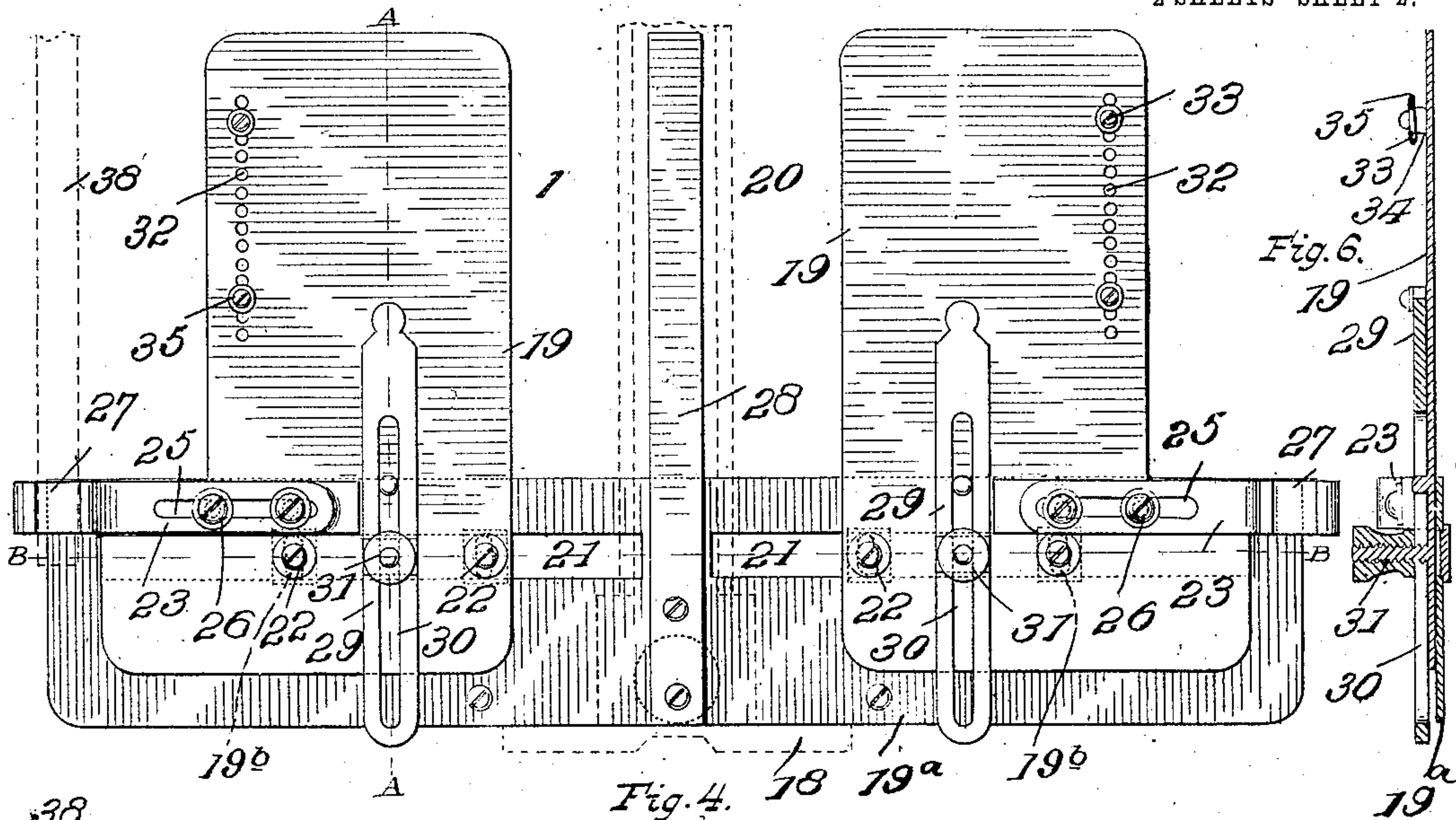
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2 SHEETS—SHEET 2.



Henry C. Miller  
Inventor.

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His Attorney.

Witnesses:  
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*Louis H. Schmidt*



# UNITED STATES PATENT OFFICE.

HENRY C. MILLER, OF WATERFORD, NEW YORK.

BUTTONHOLE-MACHINE.

940,042.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed April 25, 1905. Serial No. 257,375.

To all whom it may concern:

Be it known that I, HENRY C. MILLER, citizen of the United States, residing at Waterford, in the county of Saratoga and State of New York, have invented new and useful Improvements in Buttonhole-Machines, of which the following is a specification.

This invention relates to improvements in machines for making button holes in cuffs, collars and the like articles.

The object of the invention is to provide a pair of sewing machines, a movable platform operable toward and from said machines, and means connecting the sewing machines and the platform, so that a simultaneous adjustment for various length articles can be made.

A further object of the invention is to provide adjustable gages and guides for properly presenting the article to the sewing machines.

Other objects and advantages will be hereinafter referred to and particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view of my invention. Fig. 2 is a front view of the same. Fig. 3 is a plan view of a different form of the invention. Fig. 4 is an enlarged plan view of the platform. Fig. 5 is a transverse section of the same on the line B—B, Fig. 4. Fig. 6 is a vertical section on the line A—A, Fig. 4. Fig. 7 is an enlarged side elevation of the platform. Fig. 8 is a detail plan view of a combined gage and guide. Fig. 9 is a section of the same. Fig. 10 is a detail view of an end gage. Fig. 11 is a section illustrating a cuff being introduced to the platform, and against the combined gage and guide. Fig. 12 is a detail view of a sewing machine to illustrate the hinge connection.

In an application filed by me on the 8th day of February, 1904, No. 192,518, patented June 20, 1905, No. 793,010, is shown a platform and sewing mechanism, the latter being adjustable independent of the former, when changing the size of the cuff or collar to be operated upon. But I have found better and far quicker results can be accomplished by forming the platform in sections, and connecting said sections to the sewing machines in such manner that they are simultaneously adjusted for cuffs or collars of different sizes.

The numeral 1 indicates a frame formed

with ways 2, in which operate two button-hole sewing machines 3—3. A rod 4 provided with a handle, and right and left hand threads 5 and 6, is mounted in frame 1, the threads engaging suitable threaded portions depending from the base plates 3<sup>a</sup> of the machines 3. Obviously by turning the crank 4<sup>a</sup>, the sewing machines can be moved toward or from each other for adjustment.

On each machine 3, is an arm 8, slotted at 9, to receive a screw 10 of a rear edge gage 11. The arms are extended beyond the gages, and turned upwardly to form guides 12. The slots 9 and screws 10, permit of the gages being adjusted, the gages being fixed in the desired position by nuts 13.

14 indicates the usual clamps for holding the work, and 15 the needles, operating through the clamps.

The frame 1 is provided with a guide way 16, which receives a slide 17 of a platform support 18, and attached to the support 18 is a plate 19<sup>a</sup>, which carries the end adjustable sections 19 of a platform 20. The plate 19<sup>a</sup> is formed with slots 21, and adjusting screws 22, pass through slots 19<sup>b</sup> (Fig. 4) in sections 19 and slots 21, to hold the parts in fixed position after they have been adjusted. The slots 19<sup>b</sup> permit of the sections 19 being moved toward or from the sewing machines for minute adjustment, without moving the whole platform. Cleats 23 are adjustably supported by sections 19, the cleats being formed with slots 25, through which pass adjusting screws 26. The outer end of each cleat is provided with a seat 27, the object of which will be explained farther on. A supplemental platform section 28 is carried by the support 18, intermediate the sections 19, on which the center of a cuff rests, the ends of the cuffs being carried by the sections 19.

29 indicates gages mounted on the sections 19, slots 30, and set screws 31 being provided to permit of the proper adjustments, and along the outer edges of the sections 19, a series of openings 32 are formed, and in these openings fit headed screws forming side edge gages 33. Each screw is provided with a gage portion 34, and an overhanging head or flange 35, the head serving to hold the edges of the cuff down and against the gage portion, so as to assist in properly presenting the cuff to the sewing machines.

On the machines 3—3, are ears 36, and pivoted between the ears by pivots 37 are



arms 38, which extend outwardly toward the platform 20, the free ends of the arms fitting in the seats 27, of the cleats 23.

To position the various parts of the machine, the gages 33 are adjusted in the desired openings to accommodate the edges of a cuff, then the sections 19 are released from the plate 19<sup>a</sup>, and the rod 4 is revolved. The revolving of the rod moves the sewing machines toward or from each other, as may be desired, and through the medium of the arms 38, sections 19 are simultaneously moved with the sewing machines. After the proper adjustment is made, the several set screws are tightened and the machine is fixed to accommodate the length of the cuff, as shown in Fig. 1; 40 in said figure indicating the cuff. The length adjustment having been made, the platform carrying the cuff is moved toward the sewing machines until the point where the buttonholes are to be, is reached, then the rear gages 11 are adjusted and fixed, and the set screw 45 working in the flange 50 is adjusted until it contacts with frame 1, and the machine is in condition for operation. The operator places a collar, cuff or the like, preferably a cuff, on the platform, the end edges of the cuff bearing against the gages 33, and the front edge against the gages 29, and by grasping the handle 41, the platform is forced in until the rear edge of the cuff contacts with the gages 11, at which time the clamps 14 are thrown down and the cuff is fixed and the platform is withdrawn, whereupon the sewing machines are started and the two buttonholes are simultaneously formed. While this operation is going on another cuff is positioned for the next operation. The heads of the gages 33 prevent the ends of the cuff from ruffling, and by providing the guides 12, the portions of the cuff passing below the clamps 14 are prevented from jumping up, insuring of the work being perfectly flat and stretched between the end edge gages, which is essential in order to produce buttonholes in a series of cuffs in the same place to make them uniform.

Receptacles 44—44, are arranged each side the platform, to receive the cuffs, which facilitates the operation of the machine, as will be readily understood.

Under certain conditions, I find it expedient to pivot the platform to swing outwardly from the sewing machines and adjust but one of said machines, as shown in Fig. 3. In this figure, 50<sup>a</sup> represents a lug on the frame 1, and 52 a slot in the lug. The platform in this instance is pivoted to the lug by a pin 53, the cuff receptacles 54—54, being formed with the platform.

The sewing machine 56, is adjustable by means of a screw 57, and a curved arm 58, pivoted to the machine fits in a seat 59,

formed in a cleat 60, adjustably mounted on the platform section 61. The curve of the bar is struck from the pivot 53, so as to insure the proper movement when the platform is adjusted in the slot 52.

Platform section 61, is adjustable and provided with gages, etc., as previously described. The complementary section 62, and the sewing machine 63, after they are properly positioned are not intended to be moved, but it is provided with gages the same as described heretofore.

In adjusting the structure, the cuff is placed on the sections 62 and against the edge gages, and the sewing machine 56 is moved the proper distance by the screw 57, then the section 61 is set, and the rear gages adjusted. The platform is turned on its pivot, as shown in dotted lines in Fig. 3, and a cuff is positioned, then the platform carrying the cuff is turned in the opposite direction toward the sewing machines, as shown in full lines in said figure, and the clamps and sewing machines are operated, as will be obvious.

From the foregoing description, it will be understood by those skilled in the art to which the invention appertains that I have provided a quick and convenient means for adjusting the platform and sewing machines simultaneously, and that by so doing considerable time and expense are saved in performing the desired operation. Furthermore by connecting the platform with the sewing machines, the arms can be disengaged therefrom and thrown up out of the way, so that the machines can be tilted for oiling or repairs, and when again turned down in normal position the arms can be swung into their seats, and the same relative adjustment of sewing machines and platform is maintained.

The invention is not limited to collars and cuffs but is adapted for other articles, and in the claims where the term cuff is used, it is to be understood as meaning any article in which button holes are formed.

What I claim as new is:

1. In combination, two sewing mechanisms, a movable sectional platform for introducing an article to the sewing mechanisms, means connecting each sewing mechanism with a platform section, gages for gaging an article placed on the platform sections, means for increasing or decreasing the distance between the sewing mechanisms, the platform sections, and the gages in one operation, and means to guide the platform to the sewing mechanisms.

2. In combination, sewing mechanism, gages supported independently of the sewing mechanism, means for supporting an article to be operated upon, means for moving the sewing mechanism and simultaneously varying the distance between the



gages, and means to guide the article supporting means when presenting the article to the sewing mechanism.

3. In combination, means for forming stitches, a movable sectional platform for carrying an article to the means for forming stitches, gages carried by the platform sections, means connecting the platform sections and the means for forming stitches, means for moving the means for forming stitches and simultaneously varying the distance between the gages to accommodate articles of different length, and means for guiding the platform to the means for forming stitches.

4. In combination, sewing mechanism, a movable sectional platform for introducing an article to the sewing mechanism, gages carried by the platform sections, means connecting the sewing mechanism and one of the platform sections, means for moving the sewing mechanism and the platform section in one operation, said movement varying the distance between the gages, and means to guide the platform to the sewing mechanism.

5. In combination, base plates, sewing mechanism having a work support mounted on one of the base plates, gages, a movable sectional platform adapted to receive an article to be operated upon, and adapted to be moved to deliver and position said article on the work support, means for holding the article after it is positioned, means for simultaneously adjusting the base plates and the platform sections to vary the distance between the gages, and means for guiding the platform to the sewing mechanism.

6. In combination, sewing mechanism, a platform adapted to be moved toward and from the sewing mechanism, gages supported independently of the sewing mechanism, a guide extending outwardly and mounted adjacent the sewing mechanism, the movement of the platform causing the article carried thereby to be forced under the guide to position it relative to the sewing mechanism.

7. In combination, a pair of sewing machines having work supports, a platform adapted to receive an article to be operated upon, and adapted to be moved to deliver and deposit said article on the work supports, means for holding the article after it is gaged and deposited and means for simultaneously adjusting the pair of sewing machines and the platform for different length articles.

8. In combination, a pair of sewing machines, gages, a platform adapted to be moved toward the sewing machines, and means for simultaneously adjusting the sewing machines, platform and gages, and means for operating the platform to deliver an article to the sewing machines.

9. In combination, a pair of sewing machines mounted to be moved toward or from each other, a slide, a sectional platform on the slide, a detachable connection between the platform and the sewing machines, and means for simultaneously adjusting the platform and sewing machines independently of the slidable movement which is given the platform.

10. In combination, a pair of adjustably mounted sewing machines, a platform adapted to be adjusted parallel with the sewing machines, means for simultaneously adjusting the platform and the sewing machines, and means for moving the platform toward the machines independently of its adjustable movement with the sewing machines.

11. In combination, a pair of adjustable sewing machines, a platform adapted to be moved toward the sewing machines to carry an article thereto, means by which the platform may be moved toward or from the sewing machines, gages, means for simultaneously increasing or decreasing the distance between the gages and the sewing machines for accommodating articles of different lengths.

12. In combination, a pair of sewing machines, a platform having adjustable sections, gages against which a cuff or the like is placed, means for simultaneously increasing or decreasing the distance between the sewing machines, gages and platform sections to accommodate articles of various lengths, a guide, and means for moving the platform to guide and deliver the article to the sewing machines, and means for holding the article.

13. In combination, sewing mechanism, a movable platform carrying gages, means to increase or decrease the distance between the gages, a connection between the sewing mechanism and the platform, and means for simultaneously adjusting the sewing mechanism and the platform to accommodate articles of varying lengths, the connection between the sewing mechanism and the platform serving as a means to guide the platform in its movement toward the sewing mechanism.

14. In combination, a frame, a pair of sewing machines carried by the frame, a platform having adjustable sections, gages carried by the sections, means extending between the sewing machines and the sections of the platform, means for simultaneously adjusting the platform sections and the sewing machines to accommodate articles of different lengths, and means for guiding the platform toward the sewing machines, the means extending between the sewing machines and the platform sections also serving as a guide.

15. In combination, a pair of sewing machines, a platform movable toward and from



the sewing machines, and article receptacles extending each side of the platform.

16. In combination, a pair of sewing machines, a movable platform having adjustable sections, means extending between the sewing machines and the adjustable platform sections, means for simultaneously adjusting the platform sections and the sewing machines, and article receptacles each side the platform.

17. In combination, two sewing machines, movable end gages, means for simultaneously increasing or decreasing the distance between the gages and the two sewing machines, said means permitting of the elevation of the sewing machines independently of the gages, without destroying the adjustment, and means for fixing the adjustment.

18. In combination, two sewing machines, a movable platform having adjustable sections connected to the sewing machines, gages carried by the sections, means for simultaneously adjusting the sewing machines and the platform sections, said means permitting of the elevation of the sewing machines independently of the gages, and means for fixing the adjustment.

19. In combination, a pair of sewing machines, a rear edge gage and a guide adjacent each machine, a movable platform having adjustable sections, end edge gages carried by the platform sections, front edge gages, and means for simultaneously increasing the distance between the end edge gages and sewing machines.

20. In combination, a pair of sewing machines, a rear edge gage and a guide adjacent each machine, a movable platform having adjustable sections, end edge gages carried by the platform sections, front edge gages, means for simultaneously increasing and decreasing the distance between the end edge gages and sewing machines, and means permitting the tilting of the sewing machines independently of the gages without destroying the relative adjustment.

21. In combination, two adjustable sewing machines, adjustable means for carrying an article to said sewing machines, means connecting said means and the sewing machines, means for simultaneously adjusting the sewing machines and adjustable means for carrying the article thereto, and means for holding the article after it is carried to the sewing machines.

22. In combination, a pair of sewing machines, means movable toward the sewing machines to deliver an article thereto, means for gaging the article previous to its delivery to the sewing machines, and a guide adjacent each sewing machine and extending outwardly therefrom, said guides positioning the ends of the article relative to the sewing machines.

23. In combination, a pair of sewing ma-

chines, means movable toward the sewing machines to deliver an article thereto, means for gaging the article previous to its delivery to the sewing machines, a guide adjacent each machine and extending outwardly therefrom, said guides positioning the ends of the article relative to the sewing machines, and means for holding the article after it is gaged, and positioned to be operated upon.

24. In combination, a pair of adjustably mounted sewing machines, a bar pivoted to each machine and extending therefrom, a movable platform adapted to carry an article to the sewing machines, said platform having adjustable sections, gages carried by the sections, a seat formed with each section to receive the bars, and means for simultaneously adjusting the sewing machines and the platform sections.

25. In combination, a pair of adjustably mounted sewing machines, a movable platform having adjustable sections, gages carried by the sections, a bar extending between one of the sewing machines and an adjustable section to cause the said sewing machine and the said section to be simultaneously moved, and means for simultaneously moving the sewing machine and the section to accommodate articles of different lengths.

26. In combination, sewing mechanism, a sectional platform for carrying an article to the sewing mechanism, means connecting the sewing mechanism and one of the platform sections, means for moving the sewing mechanism and the section connected thereto for varying the distance between the platform sections, and means to guide the platform to the sewing mechanism.

27. In combination, sewing mechanism, a sectional movable platform for carrying an article to the sewing mechanism, means for regulating the movement of the platform, means for adjusting each platform section toward or from the sewing mechanism, and means for guiding the platform toward and from the sewing mechanism.

28. In combination, sewing mechanism, a sectional platform for carrying an article to the sewing mechanism, mechanism for moving the sewing mechanism and the section connected thereto for varying the distance between the platform sections, means for guiding the platform to the sewing mechanism, and adjustable gages for gaging the article to be operated upon.

29. In combination, sewing mechanism, a sectional platform for carrying an article to the sewing mechanism, common mechanism for adjusting the sewing mechanism, and the platform sections, means for guiding the sectional platform to and from the sewing mechanism, and gages for gaging the article.

30. In combination, two independent buttonhole sewing machines movable toward



and from each other, a platform slidable toward and from the two buttonhole sewing machines and having guideways, gage plates slidably mounted in the guideways, means on the sewing machines for determining the lateral adjustment of the gage plates, and means for holding the gage plates in adjusted position.

31. In combination, two independent buttonhole sewing machines, movable toward and from each other, a platform slidable toward and from the buttonhole sewing machines and having guide-ways, gage plates slidably mounted in the guide-ways, means intermediate the sewing machines and the gages for determining the lateral adjustment of the gage plates, and means for holding the gage plates in adjusted position.

32. In a sewing machine, the combination with sewing mechanism, a movable platform for presenting the material to the sewing mechanism, a fabric smoothing device in the path of movement of the platform and located a substantial distance from the stitching point and having an inclined receiving end and approximately straight portion in rear of the inclined end.

33. In a sewing machine, the combination with a sewing mechanism, a movable platform for presenting the material to the sewing mechanism, a fabric smoothing device in

the path of movement of the platform and having an inclined receiving end and approximately straight portion in the rear of the inclined end, a gage mounted on the latter portion, and means for adjusting said gage.

34. In a sewing machine, the combination with sewing mechanism, a movable platform for presenting the material to the sewing mechanism, a fabric smoothing device in the path of movement of the platform and having an inclined receiving end and approximately straight portion in rear of the inclined end, a gage mounted on the latter portion, the bottom of the gage being out of the path of the movable platform, and means for adjusting the gage.

35. In a sewing machine, the combination with sewing mechanism, a movable platform for presenting the material to the sewing mechanism, a front edge gage mounted on the platform, a fabric smoothing device mounted independent of the movable platform, said device having an inclined receiving end, and an adjustable rear end gage.

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

HENRY C. MILLER.

Witnesses:

F. F. FOLLET,  
ARTHUR D. ZEH.