

H. B. JOHNSTON.
BUTTON SEWING ATTACHMENT.
APPLICATION FILED JAN. 30, 1911.

1,024,202.

Patented Apr. 23, 1912.

2 SHEETS—SHEET 1.

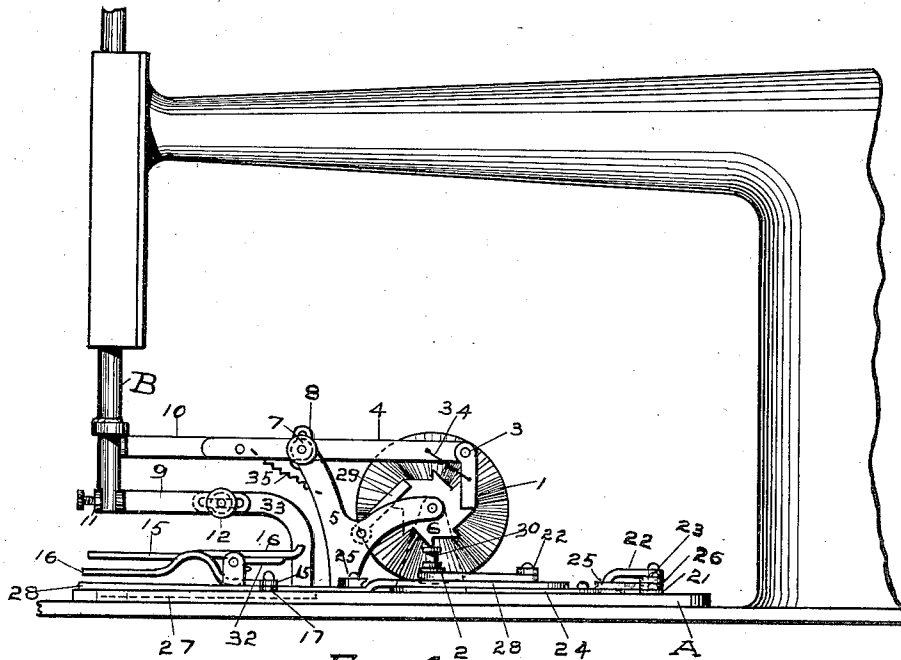


Fig 1

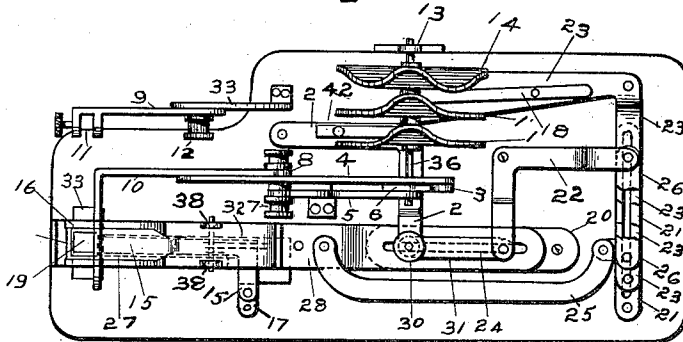


Fig 2

WITNESSES
F. L. Horspool
A. H. Outright

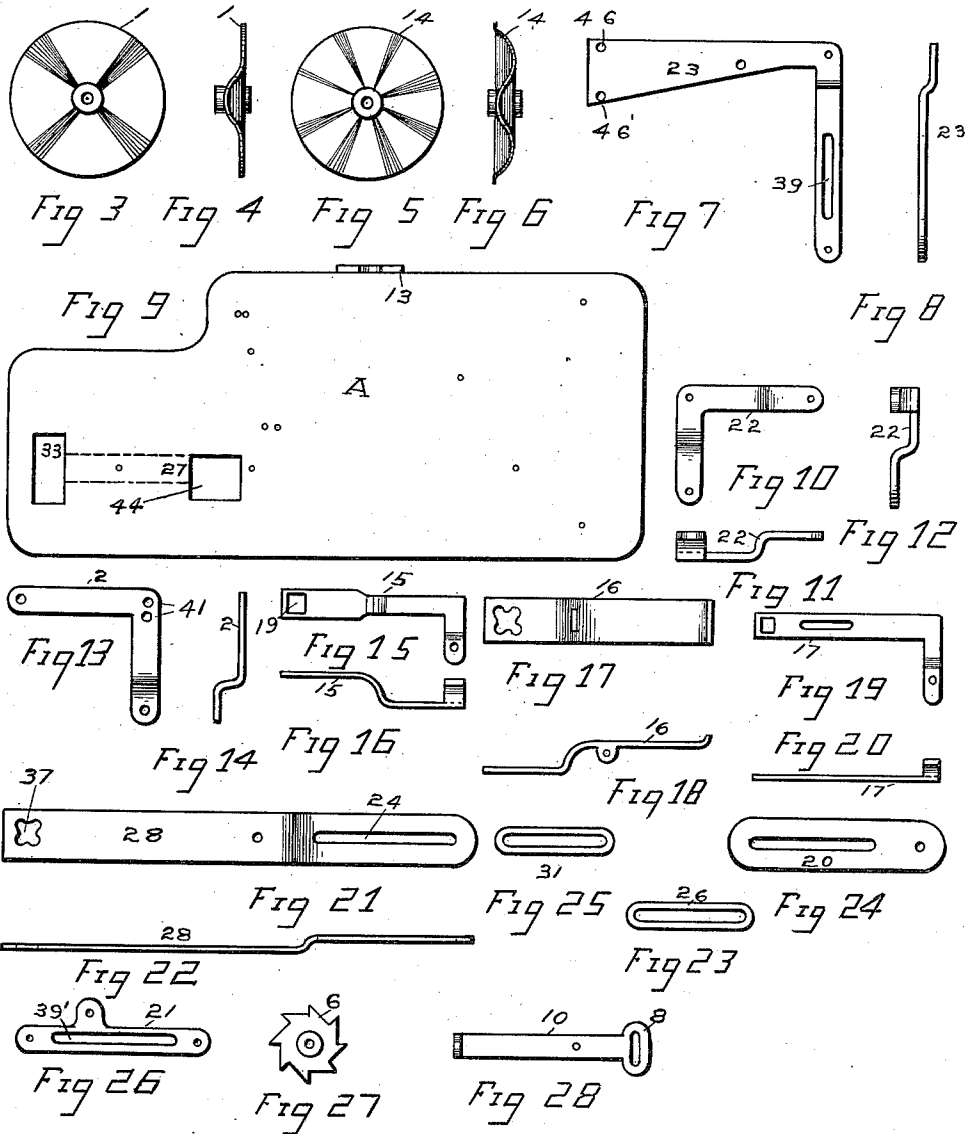
Harry B Johnston
INVENTOR
by J M Thomas
ATTORNEY

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A. H. Cutting

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ATTORNEY

UNITED STATES PATENT OFFICE.

HARRY B. JOHNSTON, OF SALT LAKE CITY, UTAH, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MODEL MANUFACTURING COMPANY, A CORPORATION OF UTAH.

BUTTON-SEWING ATTACHMENT.

1,024,202.

Specification of Letters Patent.

Patented Apr. 23, 1912.

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To all whom it may concern:

Be it known that I, HARRY B. JOHNSTON, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Button-Sewing Attachments, of which the following is a specification.

The purpose of my invention is to provide a device to attach to any sewing machine with which to sew on buttons, and which may be adjusted to sew a two-hole button or a four-hole button with an X stitch, a square stitch or a double two-hole stitch and on any size button.

These objects I accomplish with the device illustrated in the accompanying drawings, in which similar letters of reference indicate like parts throughout the several figures.

Figure 1 is a side elevation of the device in place on an ordinary sewing machine. Fig. 2 is a plan of the device. Fig. 3 is an elevation of one of the two-movement cams. Fig. 4 is an edge elevation of the same. Fig. 5 is a side elevation of one of the four-movement cams. Fig. 6 is an edge elevation of the same. Fig. 7 is a plan of the four-movement cam lever. Fig. 8 is an elevation of the same. Fig. 9 is a plan of the base plate. Fig. 10 is a plan of the adjustment lever. Fig. 11 is a side elevation of the same. Fig. 12 is another side elevation of the same. Fig. 13 is a plan of the two-movement cam lever. Fig. 14 is an elevation of the same. Fig. 15 is a plan of the thread cutter. Fig. 16 is a side elevation of the same. Fig. 17 is a plan of the upper button clasp. Fig. 18 is a side elevation of the same. Fig. 19 is a plan of the thread lever. Fig. 20 is a side elevation of the same. Fig. 21 is a plan of the lower button clasp. Fig. 22 is a side elevation of the same. Figs. 23, 24, 25 and 26 are plans of the adjustment links. Fig. 27 is a plan of the ratchet wheel. Fig. 28 is a plan of one portion of the walking lever.

In my device all of the parts are secured to the base plate A. Said plate has rectangular openings 33 and 44 cut therethrough, and a longitudinal channel 27 cut therein on the under side and from each of said rectangular openings. Also on one edge of said plate A is attached or formed integral therewith a bearing standard 13. This bearing

standard and one portion of another bearing standard 5 form the bearings within which is mounted the cam shaft 36. To hold my device in place on the sewing machine I provide an adjustable staff 33, the lower end of said staff is riveted to the base plate A. To adjust my device so that it may be used on different makes of sewing machines I provide a slot in the other end portion of said staff 33, and with a clamp-screw 12 made to engage within a slotted opening in one end of a clamp bar 9, I clamp the two together. On one end of the clamp bar 9 is a set screw 11, adapted to engage the presser foot bar of the sewing machine. In another portion of the said bearing standard 5 is pivoted the walking lever, and for purposes of adjustment this is made in two parts 4 and 10 which are pivoted together; and in one end of the part 10 is provided a transverse slot. A clamp screw 7, engaging the upper end portion of the said bearing standard 5, and pivoting in the part 4 of said walking lever, and working in the slot in the portion 10 of said lever holds the said walking lever in position to receive the action of the needle bar B, of the sewing machine when moved vertically as in sewing. To so engage said needle bar B when it is being raised, the end of the said walking lever marked 10, has a lug thereon laterally extended to the front, which lug engages the lower end of said needle bar B. When the needle bar is raised that end of the said walking lever is raised. A spring 35 returns it to its lower position. A detent 3 is pivoted to the other end of said walking lever, which detent engages the teeth of a ratchet wheel 6, that is fastened on the cam shaft 36. The dog 29 also engages the teeth of said ratchet wheel to prevent backward motion of the said cam shaft 36. Secured on said cam shaft 36 is a four-movement waving cam 14 and two two-movement cams 1 and 1'. Pivoted to said base plate A, is the bell-crank lever 23, in one arm of which is the slot 39; and on the other arm are two vertically extended pins 46 and 46'. The pin 46 is placed on the outside at the edge of the four-movement cam 14, and the pin 46' is placed on the inside at the edge of the two-movement cam 1'. A set lever 18 pivoted to said bell-crank lever 23, forms the other engaging pin of these two cams. When said lever is thrown with

the engaging end in contact with the four-movement cam 14, the said bell-crank lever 23 will receive that cam's motion; and when it is thrown into engagement with the two-movement cam 1' the said bell crank lever will receive that cam's motion. A link 21 is pivoted at one end to said base plate A, and has provided therein a slot 39' within which a rivet-pin in the end of said bell-crank lever 23 is slidably operated. This arm of said bell-crank lever has an upward bend therein to allow it to move on the upper side of said link 21. (Fig. 8.) On one side of said link 21 is an extended portion to which is pivoted one end of the crooked link 25, the other end of which is in turn pivoted to the medial portion of the lower button clasp 28. In one end of said clasp is the slot 24, within which the adjustment mechanism is operated; and in the other end is cut the irregular shaped needle opening 37. To that end portion of said clasp 28 is riveted the upper button clasp 16, having an opening therethrough within which the thread cutter 15 is slidably operated. In one end of said thread cutter 15 is provided an opening 19, the edges of which are sharpened. A thread puller 17 is slidably secured within the said channel 27, one end of which extends upward through the opening 44, and has an upwardly extended movement pin secured thereto.

The said button clasps 28 and 16 are made to hold the button therebetween by the spring 32 which is fastened to the clasp standards 38, and between which standards the button clasps are pivoted. A bell-crank lever 2, has one arm pivoted to said base plate A, and its other arm is held by the adjustment clamp-screw 30 in engagement with link 20. Said link 20 is pivoted at one end to said base plate A and has a slot therein, similar to the slot 24 in the said lower button clasp 28, within which slots the said clamp screw 30 is made to operate as a pivot between the said link 20 and the lower button clasp 28. Said bell-crank lever 2 is moved by the said waving cam 1 engaging the pin 41 on one side, and the end of the set lever 42, which is pivoted to said bell-crank lever 2, on the other side. As will be readily observed when the said set lever 42 and said pin 41 are in engagement with said cam 1, any rotation of the cam will move the said bell-crank lever 2; which movement of the bell-crank lever 2, will move the said link 20, and this movement of the said link 20 will move the button clasps and the button held there between back and forth under the needle with the holes in a two-hole button in alinement with the needle. It will also be observed that when the set lever 18 and the pin 46 are in engagement with the edge of the cam 14 any rotation of said cam will move the said bell-crank lever 23, and

it in turn will move the said link 21 on its pivot. This movement will move the crooked link 25 longitudinally, and this will move the said button clasps and the button held there between under the needle. If the said bell-crank lever 2 is out of engagement with the cam 1, a two-holed button may be sewed on by running the sewing machine, and the button will be moved longitudinally by the like movement of the button clasps, so that the holes of the button are alternately under the needle. This longitudinal movement of the said clasps is caused by the cam 14 and its engaged members. If the two cams 14 and 1 are in engagement at the same time, the movement of the button held in said clasps,—which in that case must be a four-hole button—will be first a longitudinal movement, then a lateral movement, then another longitudinal movement and then another lateral movement; making a perimeter or square stitch, for a four-holed button.

The adjustment of my device for different sized buttons is secured by the bell-crank lever 22 and the links 31 and 26. The link 26 connects one arm of the said bell-crank lever 22 to the bell-crank lever 23, and the link 31 connects the other arm of said lever 22 to the button clasps 28, by means of the said screw 30; which is moved longitudinally in the slot 24, to the position that will secure the throw of the button desired, and then firmly set. In the operation of my device on a sewing machine of any of the well known makes, I remove the presser foot; and to the presser foot bar B, I attach my device. The button is placed between the clasps 16 and 28 by pressing down on the outer end of the upper button clasp 16. If it is a two-holed button, I throw the four movement cam 14 into commission by moving the set lever 18 into engagement with said cam 14. This movement of the said set lever 18 will leave the cam 1' out of engagement. I then throw the other two-movement cam 1 out of commission by throwing the said set lever 42 out of engagement therewith. By allowing the needle in the sewing machine to descend through one hole of the button I place it in position to receive the thread. Then by moving the said adjustment set screw 30 within the slot 24, the distance between the two holes in the button, and setting the said set screw 30 firmly, the button may be sewed on. When the button is secured to the goods, a sliding of the thread cutter 15 by moving it away from the needle track, will cut the thread; and a similar movement of the thread puller 17 will then pull the cut thread to the lower side of the goods.

Having thus described my device I desire to secure by Letters Patent and claim:—

1. In a button sewing attachment for sew-

ing machines the combination of a base plate, a staff secured thereto having a slot therein, a clamp bar adjustably secured to said staff and adapted to be fastened to the
 5 presser foot bar of a sewing machine, a walking lever, a detent pivoted on one end thereof, a horizontally placed shaft mounted in bearings on said base plate, cams carried on said shaft, a ratchet also carried
 10 on said shaft the teeth of which are adapted to be engaged by said detent, bell-crank levers adapted to be engaged by said cams, button clasps adapted to be moved by said levers in a lateral and in a longitudinal di-
 15 rection, and means to adjust said lateral and longitudinal movement.

2. A button sewing attachment for use on a sewing machine consisting of a base plate, bearing standards attached thereto, a shaft
 20 mounted in said standards, cams on said shaft, bell-crank levers pivoted to said base plate and moved by said cams, button clasps adapted to be moved by said levers, means to adjust the length of said movements, a
 25 walking lever pivotally mounted in one of said bearings and in transverse position to said shaft, a detent pivoted on one end of said walking lever, and a ratchet secured on said shaft the teeth of which are in en-
 30 gagement with said detent.

3. A button sewing attachment consisting of a base plate, bearings thereon, a walking lever pivotally mounted in one of said bear-
 35 ings and having one end thereof in engagement with the needle bar of a sewing machine and a detent pivoted on the other end, a horizontally placed shaft mounted in said bearings, cams carried on said shaft, a ratchet wheel secured on said shaft the
 40 teeth of which are engaged by said detent, a bell-crank lever one arm of which is engaged by said cams, links pivoted to said lever, button clasps pivoted to said links, another bell-crank lever pivoted to two of
 45 said links, and another lever adapted to be

moved by one of said cams and having one arm pivoted to one of said links.

4. A button sewing attachment consisting of a base plate, bearing standards thereon, a walking lever pivoted on one of said stand- 50
 ards and having one end in engagement with the needle bar of a sewing machine, a horizontally placed shaft mounted in said bearing standards, cams on said shaft, a detent
 55 pivoted on said walking lever and engaging a ratchet on said shaft, bell-crank levers moved by said cams, links pivoted to said levers and to buttons holding clasps, and means to adjust the point of pivoting said
 60 links and said levers.

5. A button sewing attachment consisting of a base plate, a shaft horizontally mounted thereon, means to intermittently rotate said
 shaft, cams carried on said shaft, bell-crank levers moved by said cams, links pivoted 65
 to said bell-crank levers, button clasps pivoted to said links, means to adjust the pivoting point of said clasps and said links, and means to throw one or more of said cams out of engagement with said bell-crank 70
 levers.

6. A button sewing attachment consisting of a base plate having an opening there-
 through and a longitudinal channel connect-
 75 ed therewith, button clasps pivoted on said base plate, levers pivoted to said clasps adapted to move the said clasps longitudinally and one end thereof laterally, a horizontal shaft mounted above said base plate,
 80 means to intermittently rotate said shaft, and cams carried on said shaft adapted to engage one end of said levers to impart said longitudinal and lateral movements to said clasps.

In testimony whereof I have affixed my 85
 signature in presence of two witnesses.

HARRY B. JOHNSTON.

Witnesses:

A. H. CUTRIGHT,
 BEN L. CORUM.