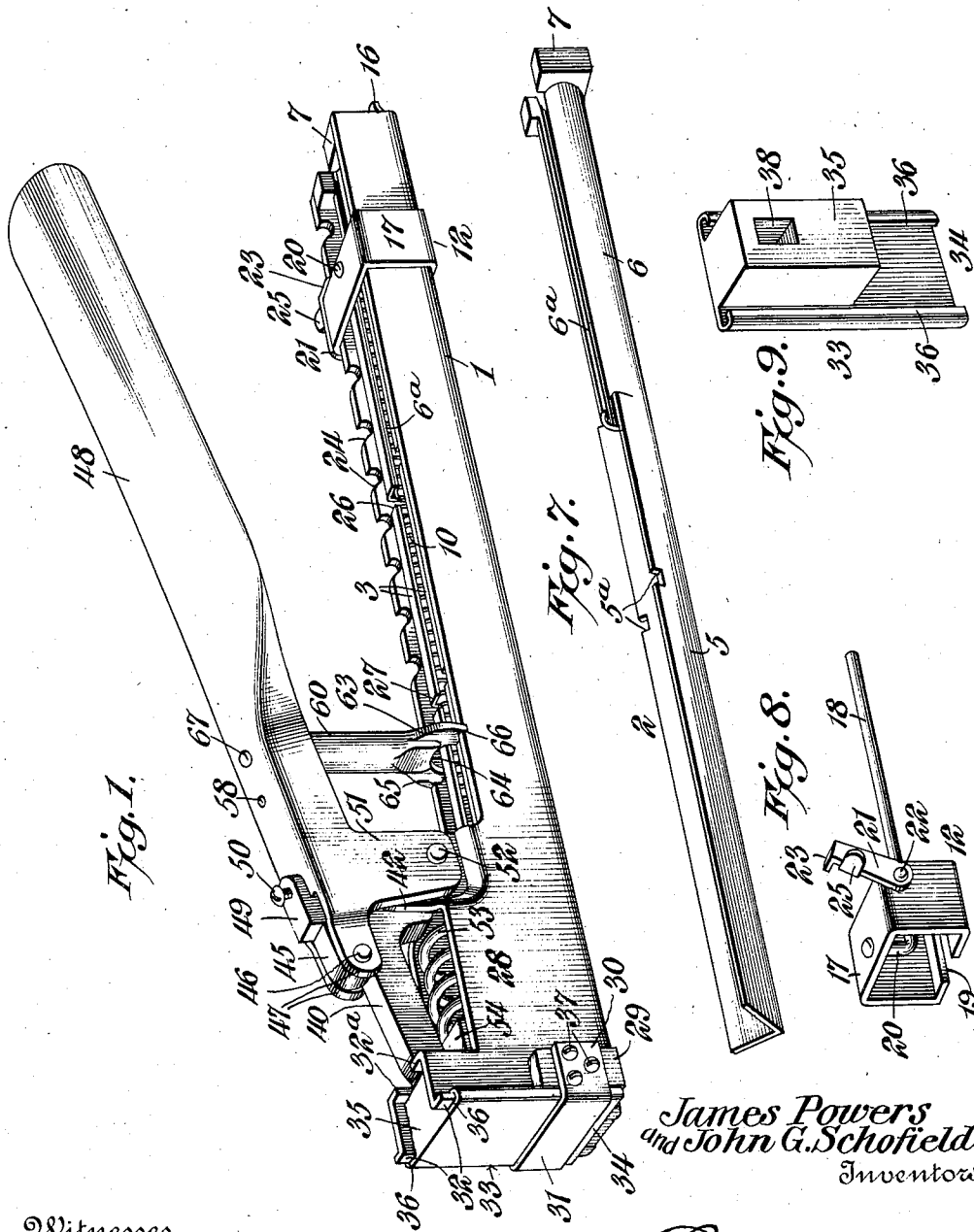


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 TOOL FOR APPLYING GLAZIERS' POINTS.
 APPLICATION FILED APR. 24, 1911.

1,028,778.

Patented June 4, 1912.

2 SHEETS—SHEET 1.



James Powers
 and John G. Schofield,
 Inventors,

Witnesses
 Howard D. Ott.
 H. F. Riley.

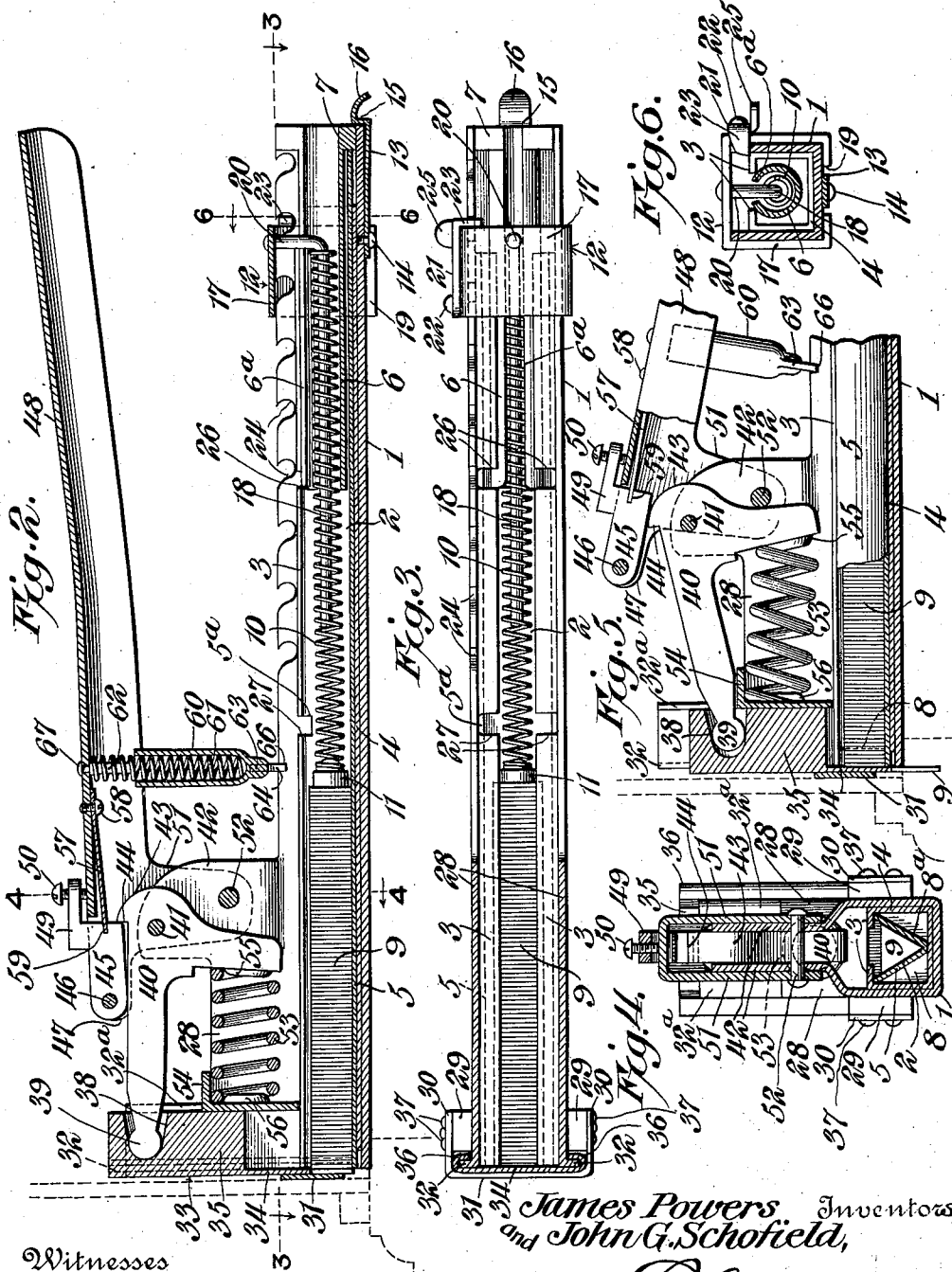
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UNITED STATES PATENT OFFICE.

JAMES POWERS, OF NEWARK, NEW JERSEY, AND JOHN G. SCHOFIELD, OF WASHINGTON,
DISTRICT OF COLUMBIA.

TOOL FOR APPLYING GLAZIERS' POINTS.

1,028,778.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed April 24, 1911. Serial No. 623,067.

To all whom it may concern:

Be it known that we, JAMES POWERS and JOHN G. SCHOFIELD, citizens of the United States, residing, respectively, at Newark, in the county of Essex and State of New Jersey, and at Washington, District of Columbia, have invented a new and useful Tool for Applying Glaziers' Points, of which the following is a specification.

10 The invention relates to improvements in tools for applying glaziers' points.

15 The object of the present invention is to improve the construction of tools for applying glaziers' points, and to provide a simple and comparatively inexpensive hand tool, designed principally for use in putting in glass in the sashes without removing the latter from a window, and adapted to be conveniently used in any position, and capable of rapidly and accurately driving glaziers' points without danger of breaking the glass.

25 With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

35 In the drawings:—Figure 1 is a perspective view of a glazier's tool, constructed in accordance with this invention. Fig. 2 is a central longitudinal sectional view of the same. Fig. 3 is a longitudinal sectional view on the line 3—3 of Fig. 2. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 2. Fig. 5 is a longitudinal sectional view of a portion of the tool, illustrating the manner of tripping the operating lever to release the spring actuated driving plunger. Fig. 6 is a detail sectional view on the line 6—6 of Fig. 2. Fig. 7 is a detail perspective view of the magazine. Fig. 8 is a detail perspective view of the adjustable tension controlling device. Fig. 9 is a detail perspective view of the driving plunger.

55 Like numerals of reference designate corresponding parts in all the figures of the drawings.

In the accompanying drawings in which is illustrated the preferred embodiment of the invention, 1 designates a hollow bar, constituting one member of the device and constructed of stout sheet metal, or other suitable material and composed of spaced parallel sides and a connecting back portion. The hollow bar 1, which forms a casing for a magazine 2, is provided at the inner faces of its sides with inwardly extending longitudinal flanges 3, constituting a guide for the magazine 2 and adapted to maintain the same in proper position and preferably formed by a metallic shell 4, constructed of relatively thin sheet metal and composed of spaced sides and a connecting back or bottom portion to conform to the configuration of the hollow bar 1, and having the longitudinal edges of its sides bent inward at right angles to form the said flanges 3. The interiorly arranged sheet metal shell is secured by rivets, or other suitable fastening means to the hollow bar. The interiorly arranged flanges may be formed by angle strips or any other suitable means.

The magazine 2, which is constructed of sheet metal, or other suitable material, consists of a front V-shaped portion 5 and a rear tubular portion 6, and it is provided at its rear end with a rectangular head 7 to fit the interior of the hollow bar. The V-shaped portion 5, which extends to the front or outer end of the hollow bar, is adapted to receive the glaziers' points and is supported at its outer end by a block or piece 8, soldered or otherwise secured within the outer end of the bar 1 and having a V-shaped recess or opening 8^a to fit the V-shaped portion of the magazine. The V-shaped front portion 5 is of sufficient size to receive the various sizes of glaziers' points 9, which are arranged in a stack within the V-shaped portion 5, as clearly illustrated in Figs. 2 and 3 of the drawings, and the points 9 are automatically fed forwardly or outwardly by means of a coiled spring 10, arranged within the inner or rear portion of the magazine and equipped at its front or outer end with a follower or head 11 and engaged at its inner or rear end by an adjustable tension controlling device 12. The head or follower 11 may be of any preferred construction and is secured to the spring 10 in any preferred

manner. The magazine is locked in the hollow bar 1 by means of a spring catch 13, consisting of a piece of spring metal, arranged exteriorly of the back or connecting portion of the bar 1 and secured at its inner end by a screw 14, or other suitable fastening device and having its outer terminal portion angularly bent to form an engaging shoulder 15 and extended to provide a projecting finger piece 16 by means of which the catch is pressed outwardly to release the magazine when it is desired to remove the same from the hollow bar 1.

The tension controlling device consists of a rectangular sleeve 17 to slidably embrace the hollow bar, and a rod 18 extending into the inner or rear portion of the coiled spring and supporting the same. The sleeve 17 is provided at the bottom or outer portion with a slot 19 of a width to receive the spring catch to permit the said sleeve to be placed on and removed from the bar 1. The rod 18 is provided at its rear end with an angular bend forming an arm 20, secured to the top or inner transverse portion of the sleeve and forming a stop for the inner or rear end of the coiled spring and operating in a longitudinal slot 6^a in the inner tubular portion 6 of the magazine. The slidable sleeve 17 is equipped with a pawl 21, pivoted at one end by a rivet 22, or other suitable fastening device to the outer face of one side of the sleeve and provided at its free end with a laterally extending flange or tooth 23, adapted to engage notches 24 formed in the longitudinal edge of one of the sides of the hollow bar 1. The pawl is provided at an intermediate point with an outwardly extending lip or flange 25, adapted to be engaged by the finger to enable the pawl to be readily swung into and out of the notches of the hollow bar 1. The slidable sleeve is adapted to be advanced as the glaziers' points are consumed, so as to maintain the spring at the proper tension for positively feeding the points 9. The magazine may be removed for filling the same, or the points may be supplied to the magazine through notches 26 and 27, formed in the longitudinal flanges 3 of the hollow bar. The V-shaped portion 5 of the magazine is provided at opposite sides with notches 5^a, which register with the notches 27 of the longitudinal flanges 3.

The sides of the hollow bar are enlarged at the outer ends thereof at 28, and they are preferably provided at their outer faces with blocks or pieces 29, adapted to space the sides or ends 30 of a combined guard and stop 31 from transverse guide flanges 32 of the enlarged portions 28 of the sides of the hollow bar 1. The enlarged outer portions 28 have their front transverse edges bent laterally to form the guide

flanges 32, which slidably receive a driving plunger 33. The driving plunger 33 consists of a thin driving portion 34 and a relatively heavy body portion 35. The thin driving portion has its side edges bent inwardly to form grooves 36, extending the entire length of the driving plunger and slidably interlocked with the guide flanges 32. The enlarged portion of the bar 1 is also provided with inwardly extending guide flanges 32^a, which fit against the inner or rear face of the relatively heavy portion 35 of the driving plunger. The combined guard and stop 31 is approximately U-shaped, and its side or end portions 30 are secured by screws 37, or other suitable fastening devices to the outer faces of the spacing blocks or pieces 29, but they may be mounted on the bar 1 in any other desired manner. The transverse portion of the combined guard and stop is located opposite the triangular opening or recess 8^a of the end piece 8, and it forms a stop for the outermost glazier point 9, and it also serves as a guard to prevent the driving plunger from coming in contact with the glass.

The solid relatively heavy portion 35 of the driving plunger is provided with a socket 38, which receives a rounded head 39 of a plunger actuating bell crank lever 40, composed of longitudinal and transversely disposed arms and pivoted at the junction of the arms by a rivet 41, or other suitable fastening device, which passes through a pair of spaced ears 42, formed integral with the sides of the hollow bar and bent inwardly adjacent to the same to arrange the ears relatively close together. The bell crank lever 40 is provided at the junction of the arms with a rounded outer edge 43, and it has a shoulder 44 located at the inner end of the longitudinal arm at the outer side edge thereof and at one end of the rounded edge 43. The shoulder 44 is arranged to be engaged by a dog 45, pivoted at its front end by a rivet 46, or other suitable fastening device between spaced projecting portions 47 of an operating lever 48, and provided at the inner or rear end with an approximately L-shaped arm 49, extending longitudinally of the operating lever and provided with a set screw 50. The inner end of the dog 45 engages with the shoulder 44 of the bell crank lever, and the set screw is adjustable to regulate this engagement and to control the tripping of the operating lever. The operating lever, which is constructed of stout sheet metal or other suitable material, is provided at its outer end with transversely disposed inwardly extending arms 51, spaced apart and pivoted by a transverse pin 52, or other suitable fastening device to the ears 42 of the bar 1. The operating lever and the bar 1 are adapted to be grasped with one hand and operated in a manner similar to an ordinary

pair of pincers. When the operating lever is pressed in the direction of the bar 1, the dog 45 engages the shoulder 44, and the bell crank lever is oscillated against the action of a relatively heavy coiled spring 53. As the bell crank and the operating levers have different centers of oscillation, the swinging movement of the operating lever actuates the bell crank lever until the dog is carried automatically beyond and out of engagement with the shoulder 44. The bell crank lever is then tripped and released, and is oscillated by the heavy coiled spring 53, which is compressed by the action of the operating lever. The initial movement of the bell crank lever slides the driving plunger outward, and the heavy coiled spring 53 moves the same inwardly with sufficient force to drive the glaziers' points into the wood of the sash to the desired depth. The heavy coiled spring is interposed between the transverse arm of the bell crank lever and an approximately L-shaped plate or piece 54, secured between the enlarged portions 28 of the sides of the hollow bar, as clearly shown in Fig. 2 of the drawings. The transverse arm of the bell crank lever and the plate 54 are preferably provided with bosses 55 and 56 to extend into and engage the end coils of the springs 53 to prevent displacement of the latter. The dog 45 is moved inwardly by a flat spring 57, secured at one end by a screw 58, or other suitable fastening device to the inner face of the operating lever and having its other end engaged in a notch 59 of the inner end of the dog 45. As soon as the operating lever is moved outwardly, the spring 57 reengages the dog 45 with the shoulder 44.

The operating lever is limited in its inward movement and is automatically opened and moved outwardly by means of a spring device, consisting of a tubular member 60, a coiled spring 61 and a rod 62. The tubular member, which receives the inner portion of the coiled spring 61, is provided at its inner end with a transverse head or flange 63 cut away at the center at 64 to clear the magazine, and provided at opposite sides with recesses 65, which engage with notches 66 in the side edges of the bar 1, whereby the tubular member is seated thereon and is interlocked therewith. The outer end 67 of the pin 62 pierces the operating lever and is headed, as clearly shown in Fig. 2 of the drawings. The pin 62 extends into and supports the adjacent end of the spring 61. When the operating lever is actuated by the operator, the spring 61 is compressed and its inward movement is limited by the tubular member, which prevents the operating lever from pinching the hand of the operator. As soon as the hand of the operator releases the operating lever, the spring 61 automatically swings the same outward and reengages the

dog with the bell crank lever. When the driving plunger moves outwardly a sufficient distance to uncover the said recess or opening 8^a of the end piece 8, the spring actuated follower of the magazine automatically feeds the glaziers' points outwardly and the outermost point is carried beneath or in front of the thin driving portion of the plunger, and is in position to be actuated by the same when the bell crank lever is tripped through the continued inward movement of the operating lever. The spring through the adjustable tension controlling device is adapted to maintain and hold the points firmly in position for driving, when the tool is in any position, whereby the tool is adapted for applying glaziers' points to a sash without removing the same from the window.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. A tool for applying glaziers' points comprising a hollow bar adapted to contain the points, means for feeding the points forwardly or outwardly, a driving plunger slidably mounted on the bar and movable transversely thereof, a pivoted bell crank lever having one of its arms connected with the plunger, an actuating spring bearing against the other arm of the lever and arranged to be compressed by the same, and a pivotally mounted operating lever extending longitudinally of the bar and provided with means for engaging and tripping the bell crank lever.

2. A tool for applying glaziers' points comprising a hollow bar adapted to receive the points, means contained within the bar for feeding the points forwardly or outwardly, a driving plunger slidably mounted on and movable transversely of the bar, a pivotally mounted bell crank lever having longitudinal and transverse arms and provided at the junction of the arms with a shoulder, the longitudinal arm being connected with the plunger, a coiled spring arranged to be compressed by the transverse arm, and a pivoted operating lever extending longitudinally of the bar and provided with a dog arranged to engage the shoulder of the bell crank lever for actuating the same during a portion of the movement of the operating lever and carried out of engagement with the shoulder through a continued movement of the operating lever.

3. A tool for applying glaziers' points comprising a hollow bar adapted to receive the points, means contained within the bar for feeding the points forwardly or outwardly, a driving plunger slidably mounted on the bar, a pivoted spring-actuated lever connected with the plunger and provided with a shoulder, a pivotally mounted operating lever, and a dog movably mounted on

the operating lever and arranged to engage the shoulder of the spring-actuated lever for moving the same during a portion of the movement of the operating lever and adapted to be carried out of engagement with the shoulder to trip the spring actuated lever.

4. A tool for applying glaziers' points comprising a hollow bar adapted to receive the points, means contained within the bar for feeding the points forwardly or outwardly, a driving plunger slidably mounted on the bar, a pivoted spring-actuated lever connected with the plunger and provided with a shoulder, a pivotally mounted operating lever, a dog pivoted at its outer end and having its inner end arranged to engage the shoulder of the spring-actuated lever, a spring for moving the dog inwardly, and means for adjusting the dog to vary the engagement of the same with the shoulder.

5. A tool for applying glaziers' points comprising a hollow bar adapted to receive the points, means contained within the bar for feeding the points forwardly or outwardly, a driving plunger slidably mounted on the bar and movable transversely thereof, a pivotally mounted spring-actuated lever provided with a shoulder and connected with the plunger, a pivoted operating lever, a dog pivotally connected at one end with the operating lever and having its other end arranged to engage the shoulder of the spring-actuated lever, said dog being provided with an exterior arm, a spring mounted on the operating lever and connected with the dog for moving the same inwardly, and a set screw carried by the arm of the dog and arranged to engage the operating lever for adjusting the dog.

6. A tool for applying glaziers' points comprising a hollow bar adapted to receive the points, means for feeding the points forwardly or outwardly, a spring-actuated driving plunger, a pivoted operating lever, means operated by the lever for actuating the plunger and for tripping the same, and a spring device interposed between the lever and the bar for automatically moving the lever outwardly, said device also forming a stop for limiting the inward movement of the lever.

7. A tool for applying glaziers' points comprising a hollow bar adapted to receive the points, means for feeding the points forwardly or outwardly, a spring-actuated driving plunger, a pivoted operating lever, means operated by the lever for actuating the plunger and for tripping the same, a transversely disposed tubular member fulcrumed on the bar and arranged to form a stop for limiting the closing movement of the lever, and a spring mounted in the tubular member and connected with the lever.

8. A tool for applying glaziers' points comprising a hollow bar adapted to receive

the points, means for feeding the points forwardly or outwardly, a spring-actuated driving plunger, a pivoted operating lever, means operated by the lever for actuating the plunger and for tripping the same, a tubular member fulcrumed on the bar, a pin carried by the lever, and a coiled spring mounted within the tubular member and extending beyond the same and receiving the pin.

9. A tool for applying glaziers' points comprising a hollow bar adapted to receive the points and having spaced sides provided with notches, means for feeding the points forwardly or outwardly, a spring-actuated driving plunger, a pivoted operating lever, mechanism operated by the lever for actuating the plunger and for tripping the same, a transversely disposed member engaged with the notches of the bar and arranged to form a stop for limiting the closing movement of the lever, and a spring connected with the transverse member and with the lever for moving the latter outwardly.

10. A tool for applying glaziers' points comprising a hollow bar having spaced sides enlarged at the outer end and provided thereat with outwardly extending transversely disposed guide flanges, the enlarged portions of the sides being also provided with inwardly extending side flanges spaced from the outwardly extending flanges, a driving plunger consisting of a relatively thin portion slidably interlocked with the outwardly extending flanges, and a relatively heavy portion fitting between the spaced sides of the bar and guided by the inwardly extending flanges thereof, an operating lever, and mechanism operated by the lever for actuating the plunger and for tripping the same.

11. A tool for applying glaziers' points comprising a hollow bar adapted to receive the points and provided at the outer end with an outlet and having spaced sides, one of the sides being provided at intervals with notches, a driving plunger mounted at the said outlet, means for operating the driving plunger, a spring arranged within the hollow bar for feeding the points forwardly or outwardly, a tension controlling device slidable on the bar and bearing against the spring and adapted to vary the tension thereof, and an exteriorly arranged pawl pivotally mounted on the tension device and arranged to engage the notches of the hollow bar.

12. A tool for applying glaziers' points comprising a hollow bar adapted to contain the points and provided at its outer end with an outlet, a driving plunger mounted at the said outlet, means for operating the driving plunger, a coiled spring arranged within the hollow bar for feeding the points forwardly or outwardly, a sleeve slidable on

the hollow bar, a rod carried by the sleeve and extending into the spring, and means for securing the sleeve in its adjustment on the hollow bar.

5 13. A tool for applying glaziers' points comprising a hollow bar provided at the outer end with an outlet, a driving plunger mounted at the outlet, means for actuating the driving plunger, a magazine removably
10 mounted within the hollow bar and adapted to contain the points, a catch mounted on the back of the hollow bar and provided at the inner end thereof with an engaging portion for engaging the inner end of the
15 magazine, a spring operating within the magazine for feeding the points forwardly or outwardly, a sleeve slidable on the bar and having a slot at the back of a size to receive the catch, means carried by the slide
20 for engaging the inner end of the spring, and means for securing the slide at different points along the bar to vary the tension of the spring.

14. A tool for applying glaziers' points
25 comprising a hollow bar provided at the outer end with an outlet, a driving plunger mounted at the outlet, means for actuating the driving plunger, a magazine removably arranged within the hollow bar and consisting
30 of a V-shaped front portion, and a tubular rear portion having a longitudinal slot, the V-shaped front portion being adapted to receive the points, a coiled spring extending into the tubular portion
35 of the magazine and adapted to feed the points forwardly or outwardly, and an adjustable tension controlling device movably mounted on the bar and provided with means operating in the slot of the magazine
40 for engaging the inner or rear end of the spring.

15. A tool for applying glaziers' points comprising a hollow bar provided at its

outer end with an outlet and having spaced
sides provided with inwardly extending
longitudinal flanges, a magazine adapted to
receive the points and consisting of a V-
shaped front portion engaged by the said
flanges, and a tubular rear portion pro-
vided at the rear end with a head fitting the
interior of the hollow bar, a coiled spring
extending into the tubular portion of the
magazine and adapted to feed the points
forwardly or outwardly, a catch mounted
on the bar and engaging the head of the
magazine, and mechanism mounted on the
outer bar for driving the points.

16. A tool for applying glaziers' points comprising a hollow bar open at the inner
end and provided at the outer end with an
outlet, a driving plunger mounted at the
outlet, means for actuating the driving
plunger, a magazine removably arranged
within the hollow bar and provided with a
V-shaped portion to receive the points and
having a tubular portion open at the rear
end and provided thereat with an angular
head fitting the interior of the hollow bar,
a spring arranged within the tubular por-
tion of the magazine for feeding the points
upwardly or outwardly, and a catch mount-
ed on the hollow bar and engaging the an-
gular head of the magazine for retaining
the latter within the hollow bar.

In testimony, that we claim the foregoing
as our own, we have hereto affixed our signa-
tures in the presence of two witnesses.

JAMES POWERS.

JOHN G. SCHOFIELD.

Witnesses for Powers:

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JOHN H. SIGGERS,
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