

J.F. Sargent,
Pegging Machine,
No. 44,049,
Patented Aug. 30, 1864.

Fig. 1;

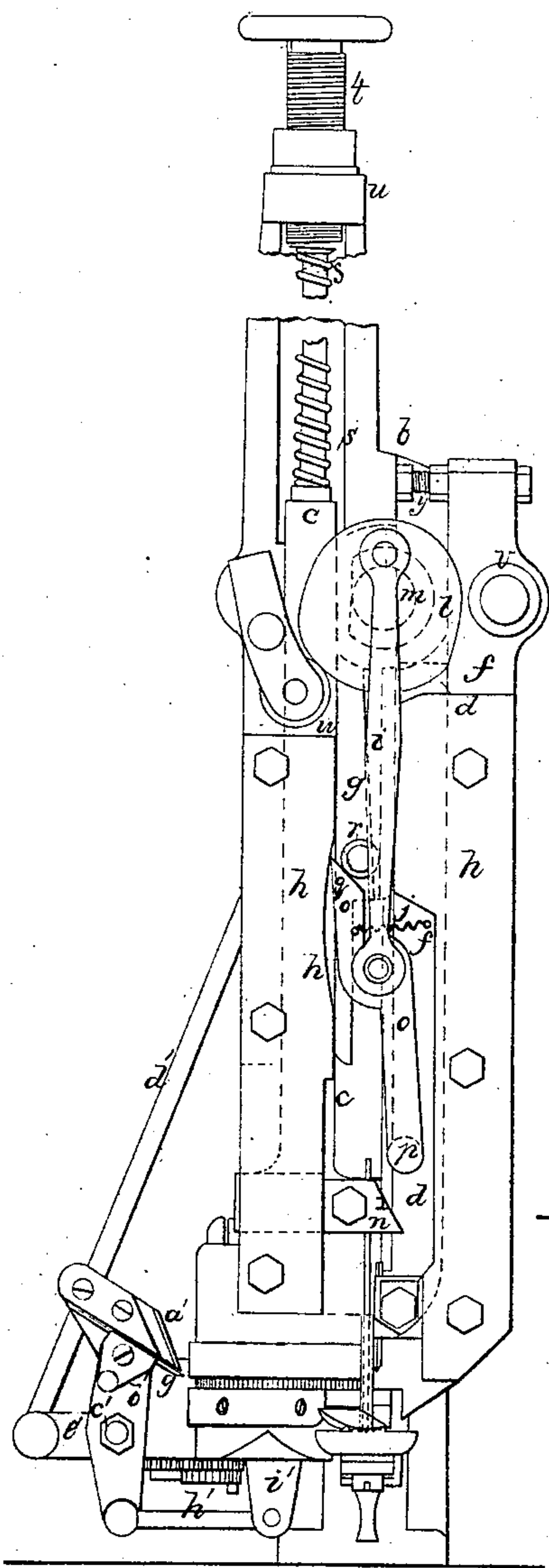


Fig. 2;

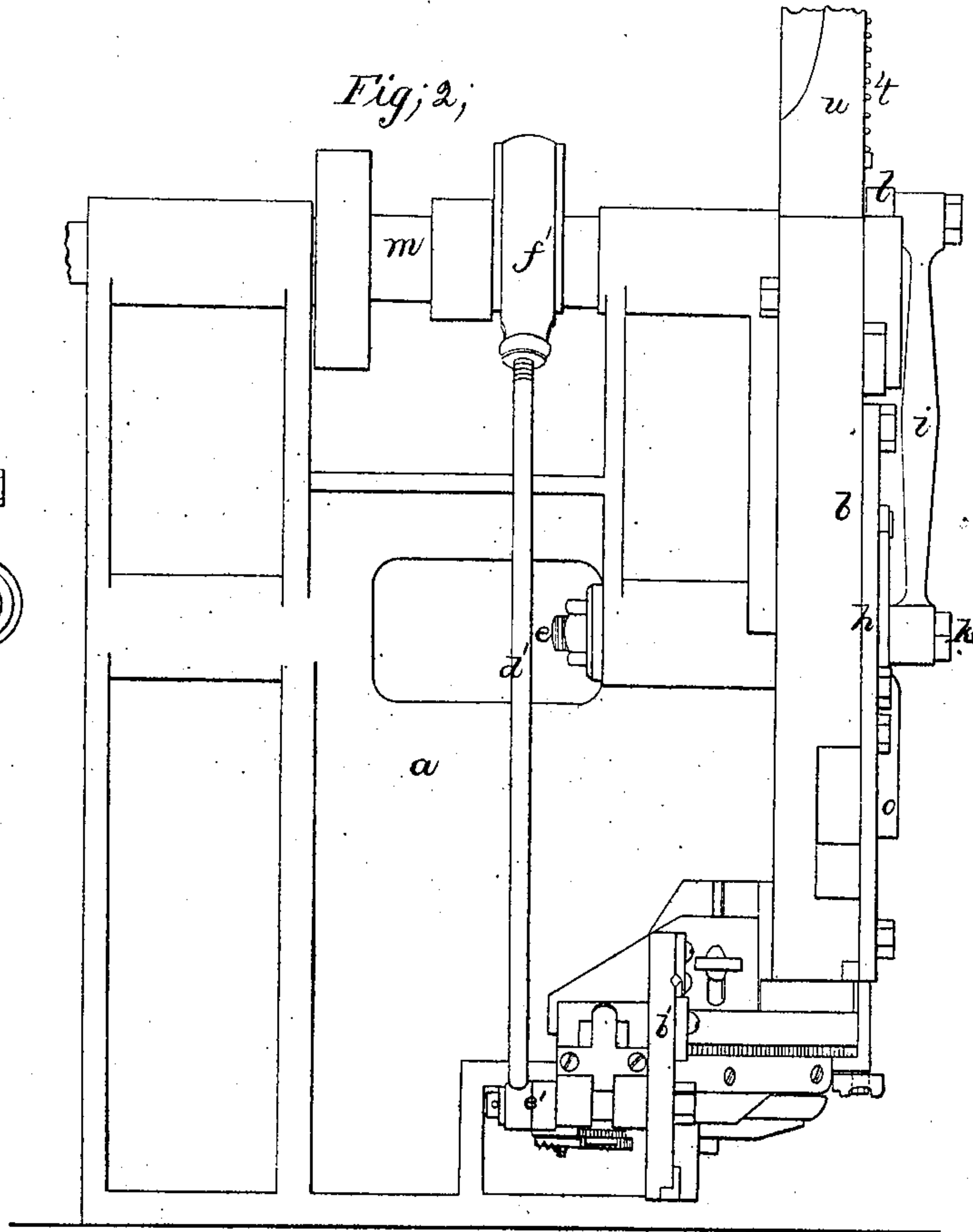


Fig. 3;

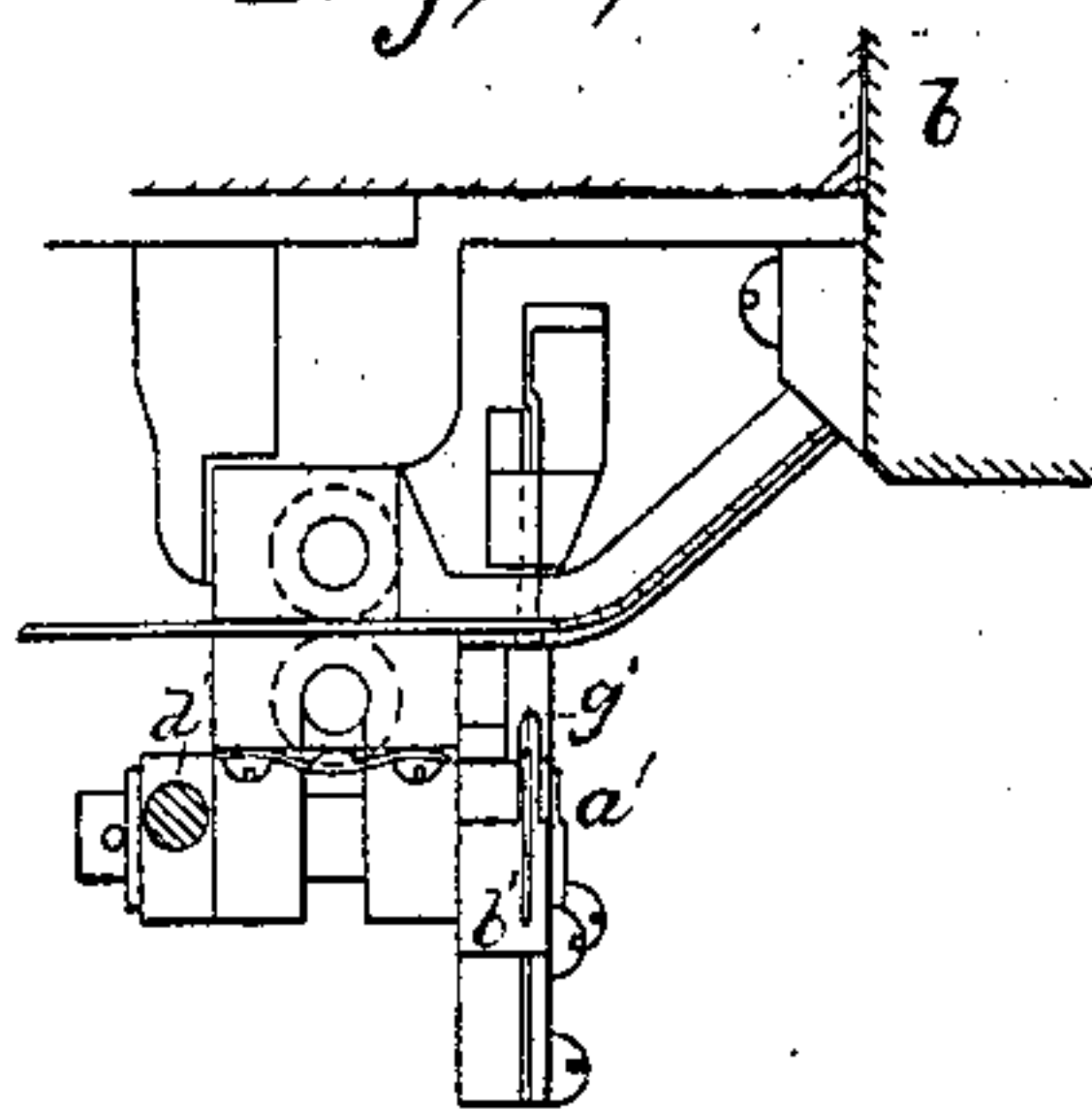
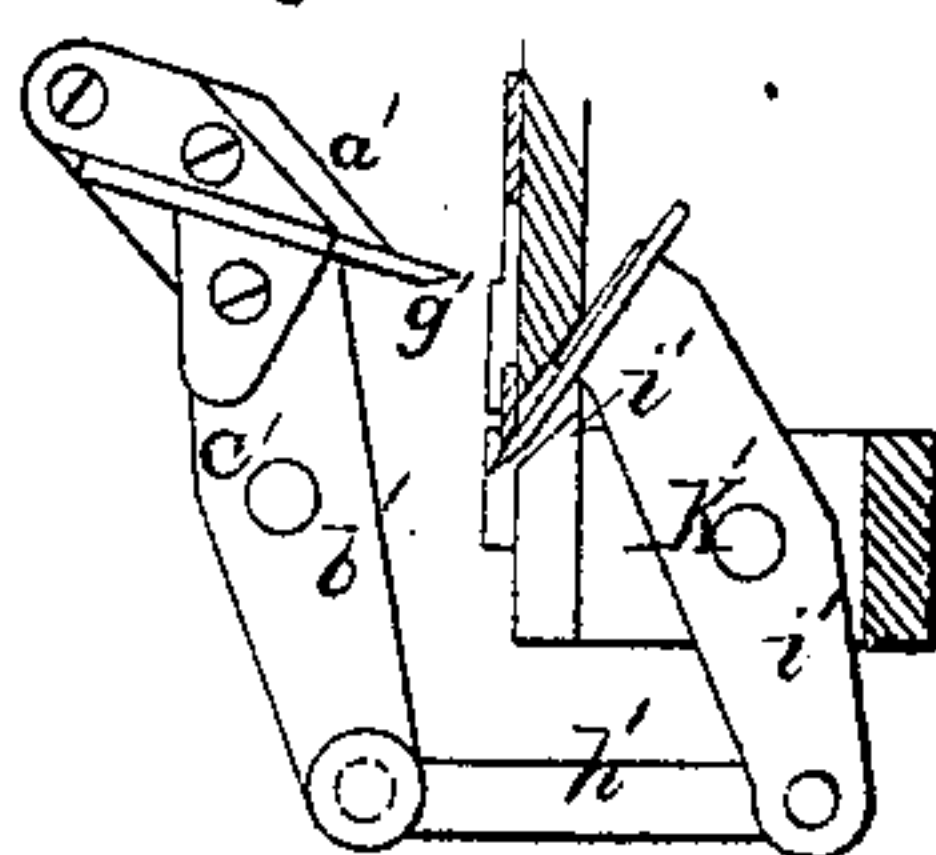


Fig. 4;



Witnesses;

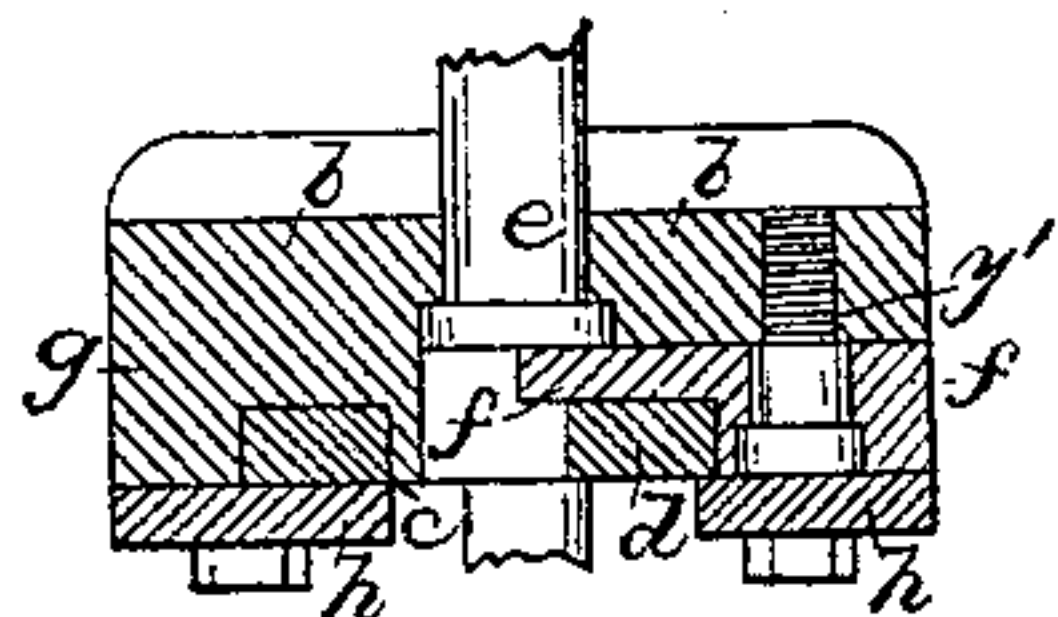
W. Gould
S. M. McIntire.

Inventor;

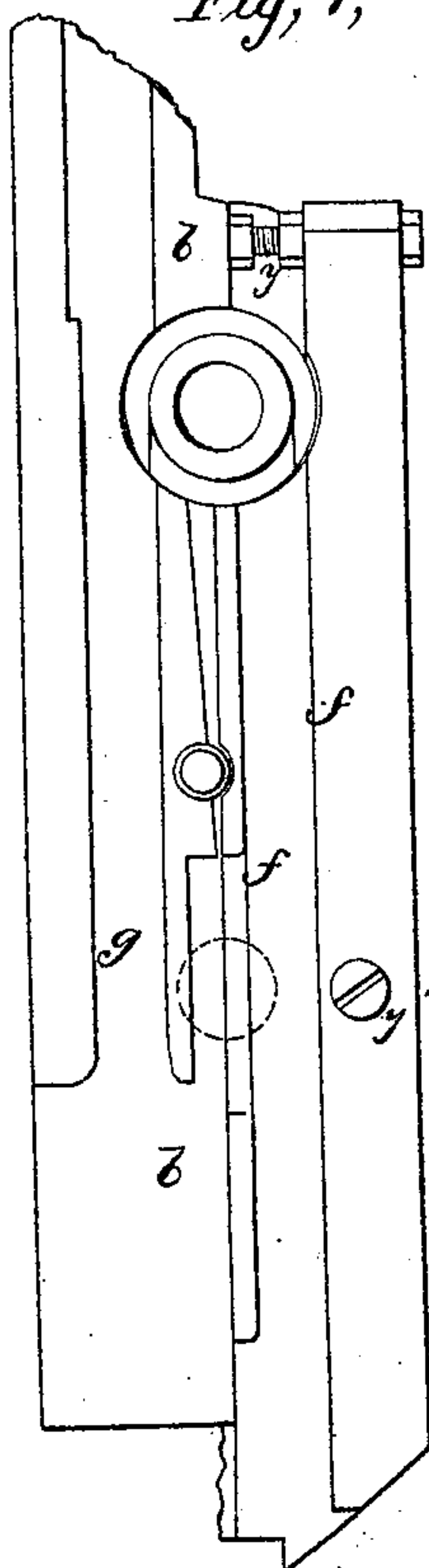
Joseph F. Sargent
By his Atty
W. B. Crosby

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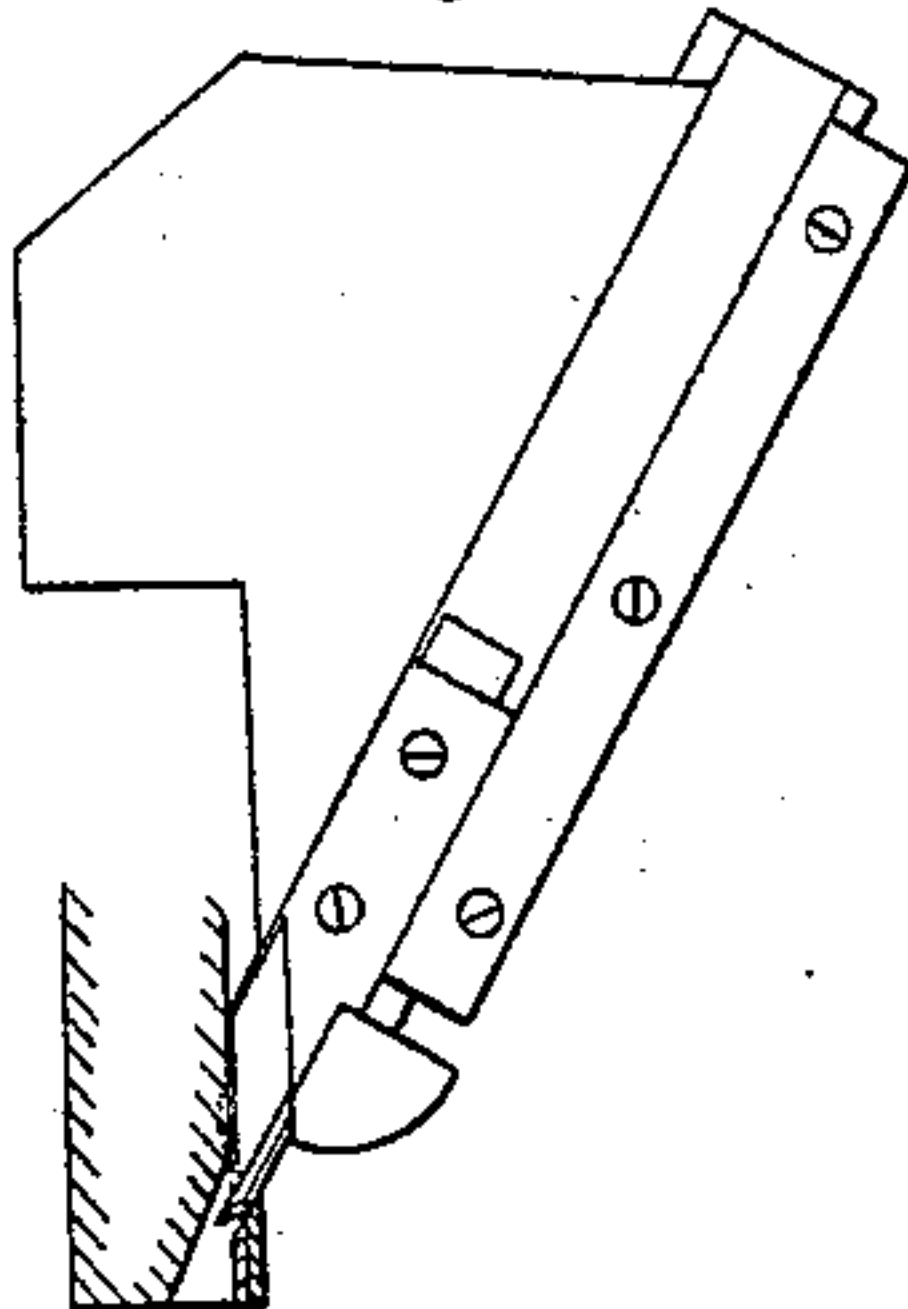
Fig; 5;



Fig; 9;



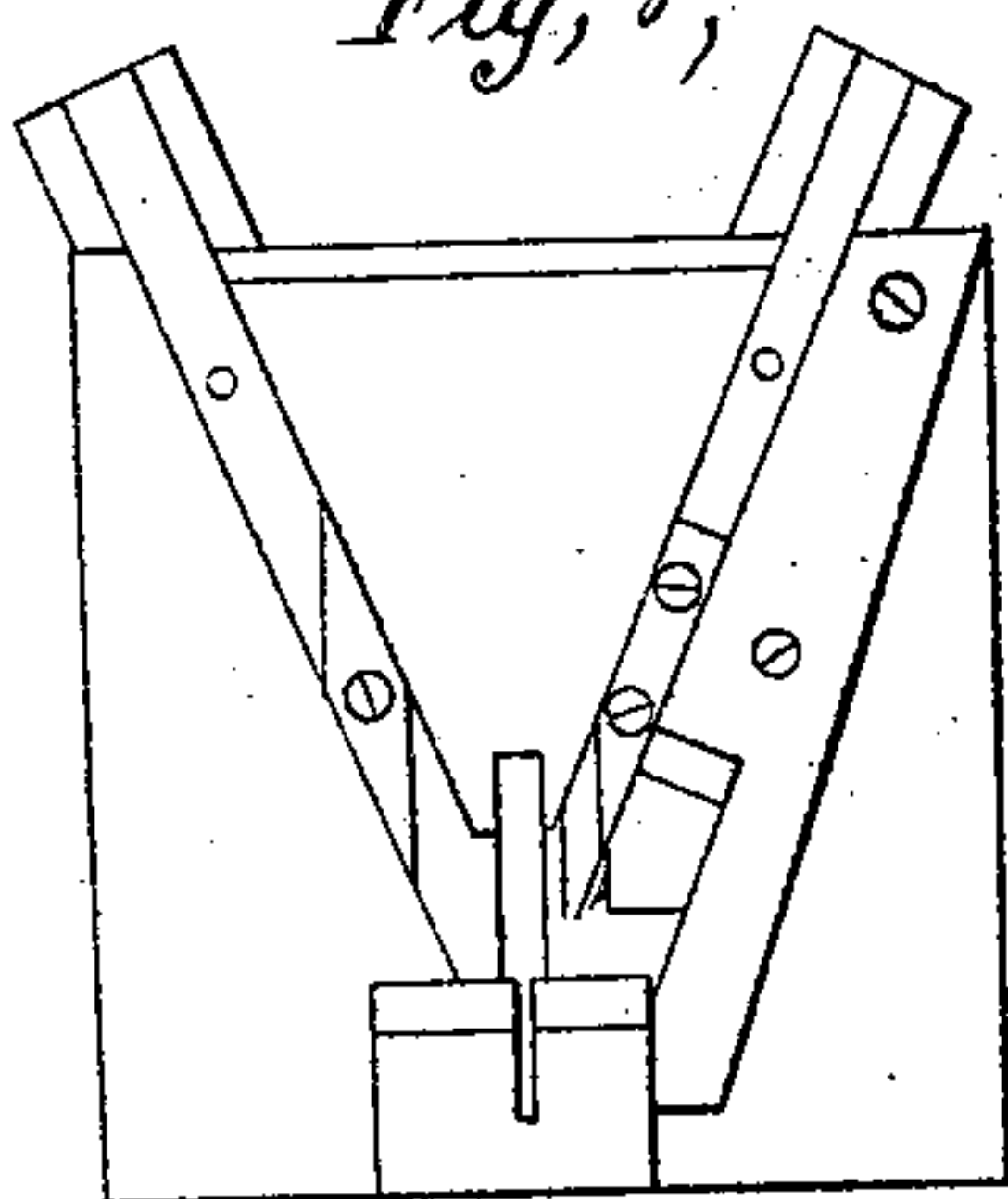
Fig; 6;



Fig; 7;



Fig; 8;



Witnesses;
H. Gould
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Inventor;
Joseph F. Sargent.
By his Atty.
W. D. Crosby -

UNITED STATES PATENT OFFICE.

JOSEPH F. SARGENT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO ELMER TOWNSEND, OF SAME PLACE.

IMPROVEMENT IN PEGGING-MACHINES.

Specification forming part of Letters Patent No. 44,049, dated August 30, 1834.

To all whom it may concern:

Be it known that I, JOSEPH F. SARGENT, of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Pegging-Machines; and I do hereby declare that the following, taken in connection with the drawings which accompany and form a part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

This invention relates to the well-known class of pegging-machines in which the work is fed by the lateral movement of the awl; and my improvement consists in giving to the peg-driver, in combination with a positive upward movement simultaneously with the awl, and with the positive downward movement of the awl, a downward spring-movement to drive the peg. Also, in the manner of adjusting the throw of the awl, and the space between it and the peg-driver, to variably space the pegs. Also, in combining with the knife which cuts the pegs from the strip of peg-wood a pointing knife or instrument operating in the same plane with the cutting-off knife. Also, in the mechanism for lifting and tripping the peg-driver bar.

In the drawings, Figure 1 represents a front elevation, and Fig. 2 a side elevation, of a machine embodying my invention. Fig. 3 is a top view of the peg-box, feed, and cutters, the top plate of the peg-box being removed. Fig. 4 is a cross-section of the peg-box, showing in elevation the knife and pointers. Fig. 5 is a horizontal section on the line *x x* of Fig. 1. Figs. 6, 7, and 8 show modifications of the peg-cutting mechanism. Fig. 9 is a front view of the swing-plate with the awl and peg-driver bars removed therefrom.

a denotes the frame-work or standard, upon which is hung the main swing or rocking plate *b*, carrying the peg-driver bar *c* and the awl-bar *d*. This plate swings on a center-pin, *e*, projecting through the frame *a*, and it is composed of two parts, one of which, *f*, is made movable or adjustable upon the main plate, and with reference to the opposite part, *g*, while both swing together or as one plate on the pin *e*. The plate *g* is grooved or has a vertical slideway cut into it for the reception of the peg-driver bar *c*, while the plate *f* is similarly formed for the reception of

the awl-bar *d*, each bar fitting accurately into the plate, and so as to slide vertically therein, and each being covered by a separate face-plate, *h*, projecting over and keeping its bar in place. A pin, *k*, projects from the awl-bar *d*, and a connecting rod, *i*, extends from this pin and connects the bar with a crank-pin on a cam, *l*, placed on the end of the driving-shaft *m*, rotation of the cam thereby communicating a positive up-and-down movement to the awl. The peg-driver bar *c* has a lateral extension, *n*, at its foot, to which the peg-driver is fastened. A swing-lifter, *o*, hung upon the pin *k*, has a projection or a roller, *p*, at its lower end. When the bars *c d* are rising, this roller is under the bottom surface of the bar and lifts the bar, the awl and peg-driver rising together. When they approach their highest position, the inclined top face, *q*, of the lifter strikes a stationary projection or roller, *r*, and swings the lifter laterally, carrying it into the position seen in Fig. 1 and throwing the roll or projection *p* from under the foot of the peg-driver bar, when a spring, *s*, on the top of the bar, and bearing at one end against the bar or a shoulder thereon, and at the other against the end of an adjusting-screw, *t*, forces down the bar and its peg-driver and gives the blow to the peg. By feeding the screw *t* up or down through the post *u* the pressure of the spring upon the bar may be diminished or increased at pleasure to regulate the force of the blow of the driver upon the peg. When the awl-bar descends, the roller *p* on the lifter strikes the incline *z* on the inner face of the extension *n*, which swings the lifter-bar on the pin *k* until the roll has descended below the foot of the peg-driver bar, when a spring, *j*, swings the lifter in the opposite direction, carrying the roll under the foot of the bar *c*, so that as the awl-bar next rises the peg-driver bar shall be carried up with it, as will be readily understood. Thus it will be seen that while the upward movements of the two bars are produced simultaneously and by the operation of the crank-pin on the cam *l*, the same as if they were one bar, the blow of the driver is effected by the action of the spring *s*.

It is well known that in the operation of pegging the peg has to be driven into the sole by a quick blow, and cannot be practi-

cally effected by slow pressure. Now, when the machine is driven by power and the movement imparted to the peg-driver is positive, (as well as that given to the awl,) the blows are given so rapidly that they are practically like the quick blows of a hammer; but in a machine driven by foot-power, where the mechanism is sometimes driven slowly, if the movement of the driver is positive it has the effect to press and not to drive the peg into its place, and the result is that the pegs are not always properly driven in. I therefore combine with a mechanism which lifts the two bars as one bar the tripping and spring mechanism for automatically releasing the peg-lifter bar and allowing it to be driven down by the spring. As before remarked, the awl-bar plate *f* is made adjustable with respect to the peg-driver plate *g*, such adjustability being for the purpose of varying the throw of the awl and the consequent space between the pegs.

In another pegging-machine invented by me the peg-driver bar and a vl-bar were made adjustable for this purpose, but in such machine the space between the awl and peg-driver had first to be arranged, and then a cam of suitable size and throw to fit the space made by such arrangement, between two rolls, placed one on the top of the peg-driver plate and the other on the awl-plate, was fixed on a shaft between these rolls, (this cam having to be changed for every change of spacing,) and, finally, a face plate, covering both bars had to be fastened upon the other plates to maintain the position of the bars. Now, such an arrangement with a machine constructed as was that machine, to be run by power, it being intended to vary the space between the pegs but very seldom, had some advantages in such construction with reference to the manner of operating it; but in this machine I have so arranged and combined the mechanism that the peg space, or distance between awl and peg-driver, is effected by one adjustment of a screw without change of cam or removal or adjustment of the face-plates. The lateral movement of the swing-plate *b* to produce the feed motion of the awl is imparted by a cam, *l*, on the end of the driving-shaft *m*, working against two rolls, *v w*, (one on the plate *f* and the other on the plate *g*,) the rotation of the cam causing it to impinge first against the roll *v*, and swinging the plate in one direction to feed the shoe, and then against the opposite roll, swinging the plate back to its first position. Now, by turning the screw *y* the bar *d* is swung laterally with respect to the plate *b*, moving the roll *v* away from or toward the cam, and producing a consequent and corresponding change in the throw of the awl and in the spacing or the distance between the awl and peg driver, the plate *f* being confined to the main plate by a screw-pin, *y'*, on which it turns with relation to the plate *g*. The transfer of contact in this machine, the attachment of the peg-tube and peg-box to and so as to swing with

the plate *b*, and the feed of the pegs by the swinging action of the plate are the same in this machine as in the other machine I have referred to, and for which I have applied for Letters Patent. In this machine, however, I combine with the knife which cuts off the pegs from the peg-wood a cutter or cutters operating to point or chamfer the pegs, as follows: *a'* shows the knife fastened on top of a rocking lever, *b'*, which turns on a shaft, *c'*, and has motion imparted to it by a connecting-rod, *d'*, crank *e'*, and eccentric *f'*, (on the main shaft,) as will be readily understood from Figs. 1, 2, and 4. At the bottom of the knife *a'*, and with its point just in advance of the lower point of the knife, is a cutter or pointer, *g'*, having a triangular-shaped point, which cuts a V-shape in the lower edge of the peg-strip. A connecting-rod, *h'*, connects the lower end of the lever *b'* to another rocking lever, *i'*, turning on a fulcrum, *k'*, and having a pointing-knife, *l'*, fastened in its upper end. As the plate *b'* and the peg-box swing back toward the frame *a* the peg-wood is fed forward by the feed rolls, and just as or after the box stops, the connecting-rod *h'* turning the lever *i'*, brings the pointer *l'* into contact with the lower edge of the peg-strip, the point of it at the distance from the front end of the strip equal to the width of the peg cutting out a piece on one side of the wood, making a quarter of the point for the forward peg and a quarter for the next peg. As the pointer *l'* recedes the other pointer, *g'*, advances in the same plane and cuts a corresponding niche in the opposite side of the strip, while the knife follows in the same plane and severs the peg with a finished point, half of the point having been made by the next preceding movements of the cutters.

In some previous pegging-machines pointers or pointing-knives have been employed in connection with a cutting-off knife, but they have operated in different planes, and the consequence has been that the feed of the strip taking place between the cutting operation of the knife and the action of the pointing tool or tools, irregularity was produced in the position of the points from the imperfection of the feed, the points not bearing a perfectly similar position in different pegs in relation to the bodies of the pegs. But, by having the knives and pointers co-operate in the same plane and while the peg-strip is stationary perfect uniformity is obtained in the pegs and no bad points are made.

Modifications of this improvement are shown in Figs. 6, 7, and 8. In Fig. 8 a knife and pointer on one side of the strip and a pointer on the other side are shown as fixed in the stocks, having sliding movements instead of swing movements, as shown in Fig. 4, and in Fig. 6 a knife and pointer are shown only on one side of the strip, a stationary knife being fixed in the path of the strip on the other side (see Fig. 7) to chamfer the lower edge by the feed of the wood against it. Or, instead of

using a triangular or angular cutting pointer or pointers, a pointer or pointers may be made with chisel-edges cutting at right angles to the plane of the knife and chamfering the lower edge of the strip either on one or both sides, and in connection with a stationary chamfering-knife, or without such stationary knife, all such modifications embodying the same invention, namely, the use of a pointing tool or tools to co operate with a cutting knife in the same plane.

I claim—

1. The arrangement of the awl and peg-driver of an awl-feed pegging-machine, to move upward together by a positive movement, while the peg-driver is driven downward by a spring and the awl by a positive movement, substantially as set forth.

2. Imparting the upward movement to the peg driver bar and awl-bar by the eccentric *l*,

connecting-rod *k*, and lifter *o* in the manner substantially as described.

3. The combination of the tripping-lifter *o* and spring *s*, for actuating the peg-driver bar, substantially as described.

4. The manner of effecting the change of spacing and throw of the awl by means of the adjusting-screw *t*, cam *l*, and rolls *v w*, operating together substantially as set forth.

5. The combination of a pointing tool or tools and a cutting-off knife, so arranged as to operate in the same plane, to point the pegs in the strip and sever them therefrom, substantially as above described.

Executed by me this 1st day of July, 1864.

JOS. F. SARGENT.

Witnesses:

J. B. CROSBY,
FRANCIS GOULD.