

2 Sheets—Sheet 1.

Patented Dec. 1, 1891.

Fig 1.

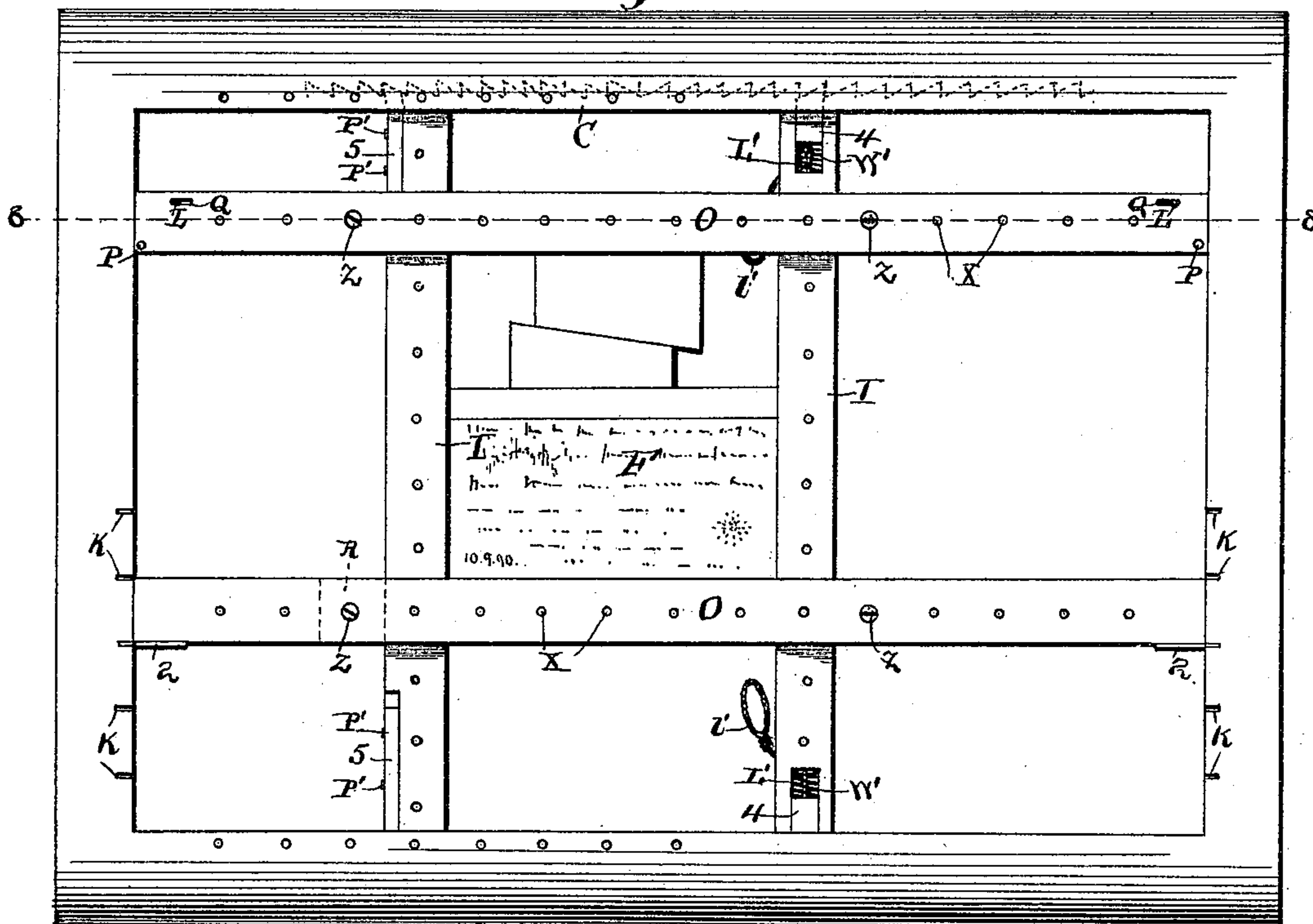
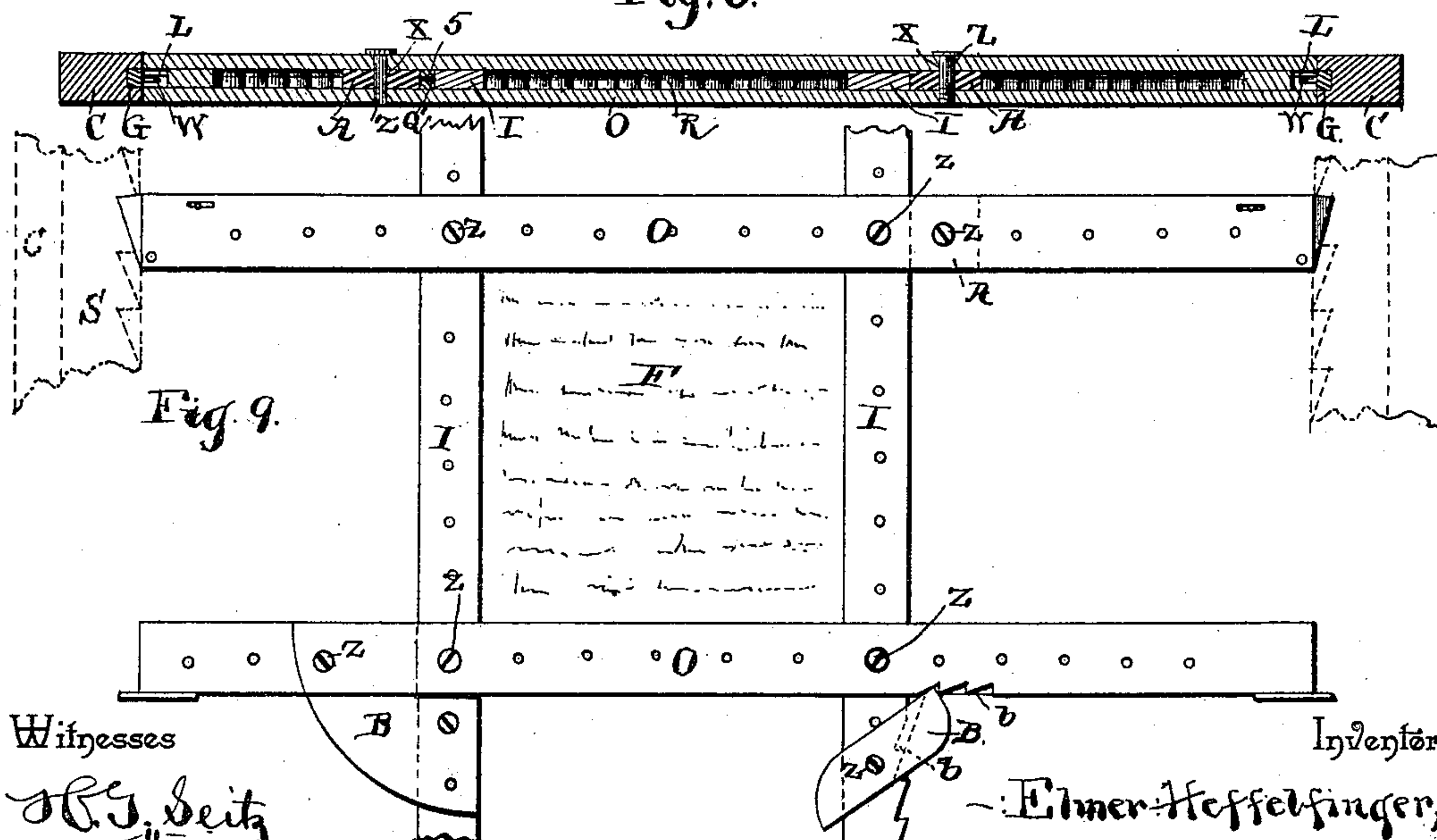


Fig. 8.



Witnesses

Stg. Seitz

Inventor

- Elmer Heffelfinger,

By his Attorneys,

W. L. Collamer.

CA Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

E. HEFFELFINGER.
PRINTER'S CHASE.

No. 464,070.

Patented Dec. 1, 1891.

Fig. 2.

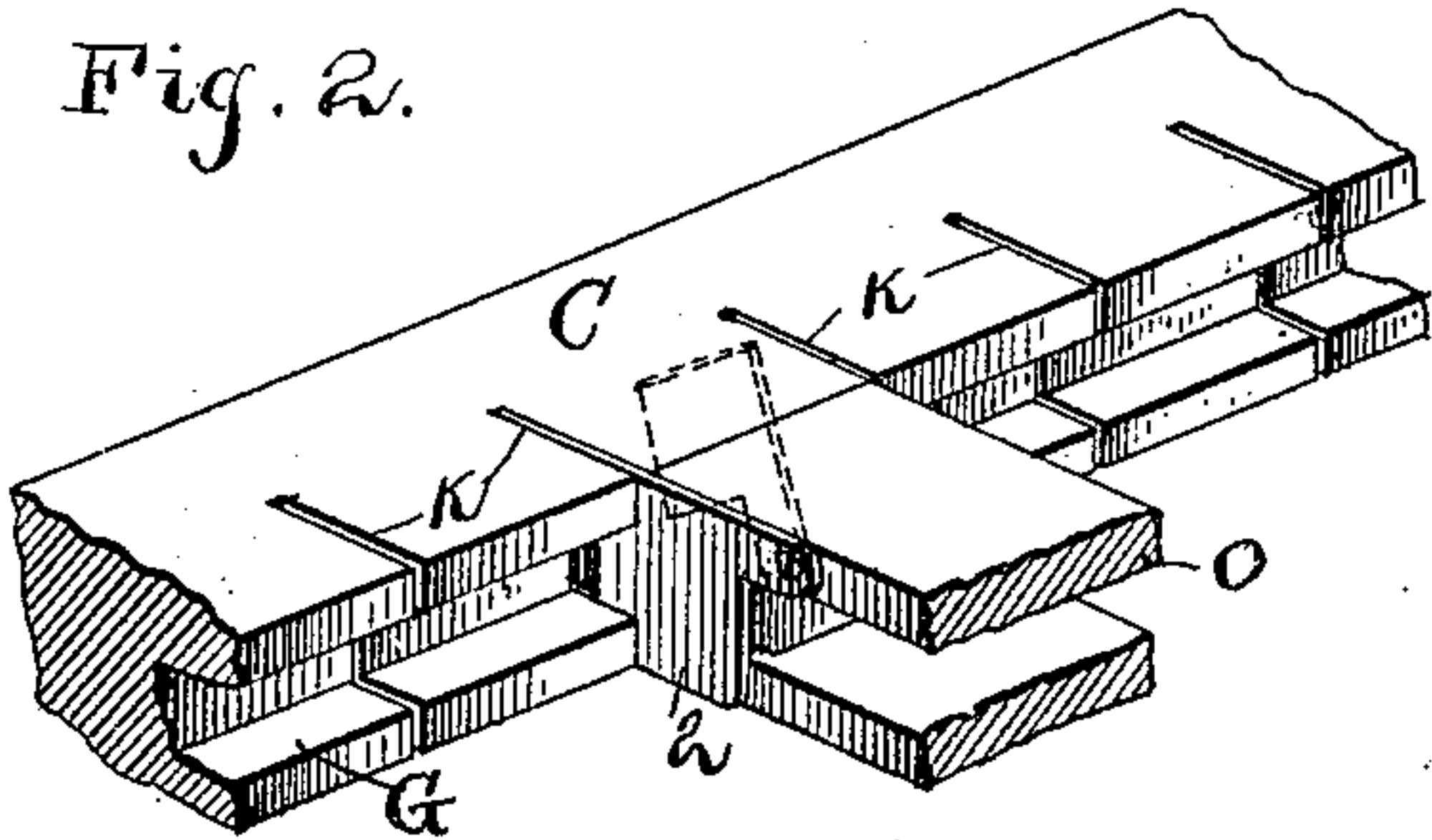


Fig. 3.

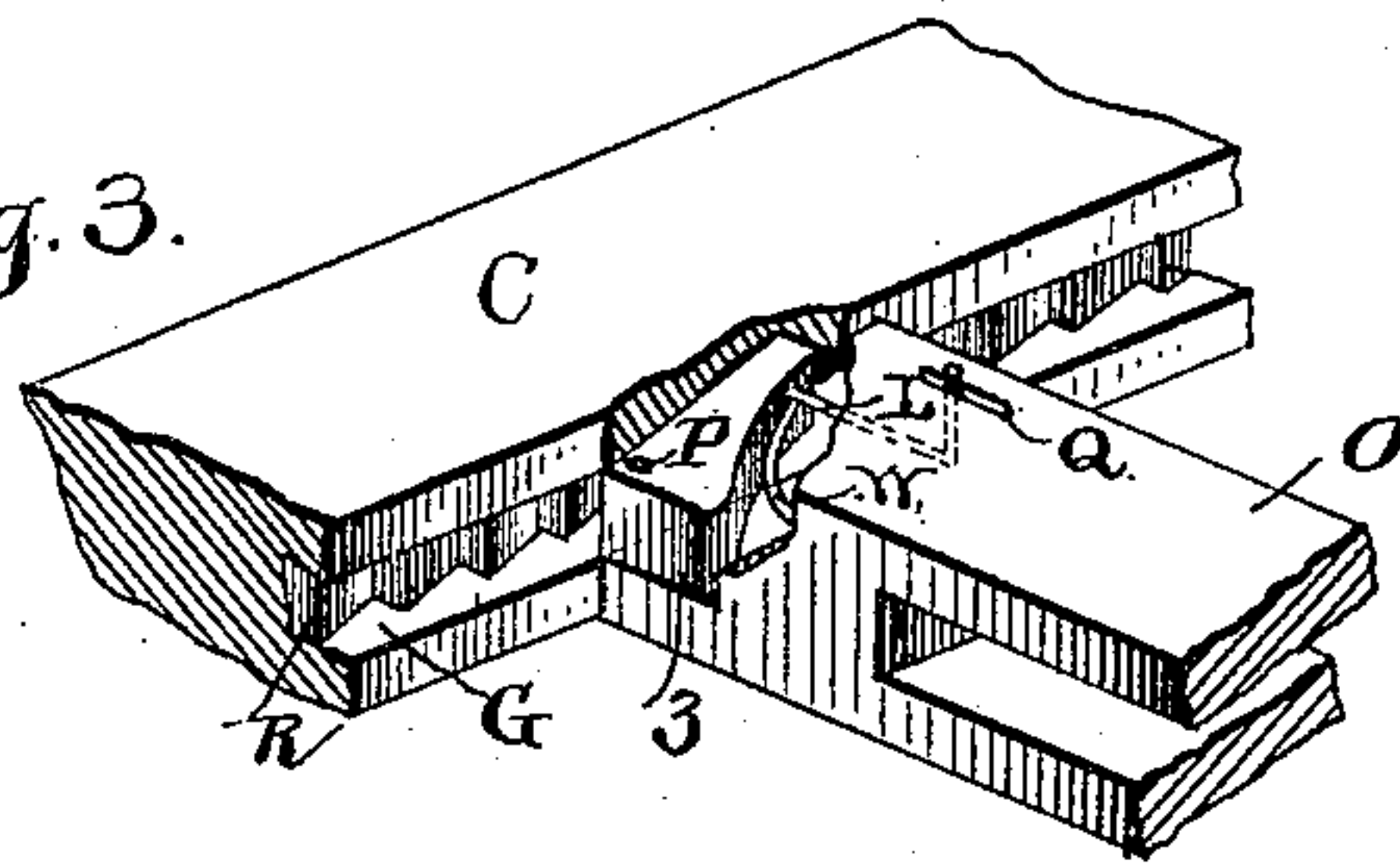


Fig. 4.

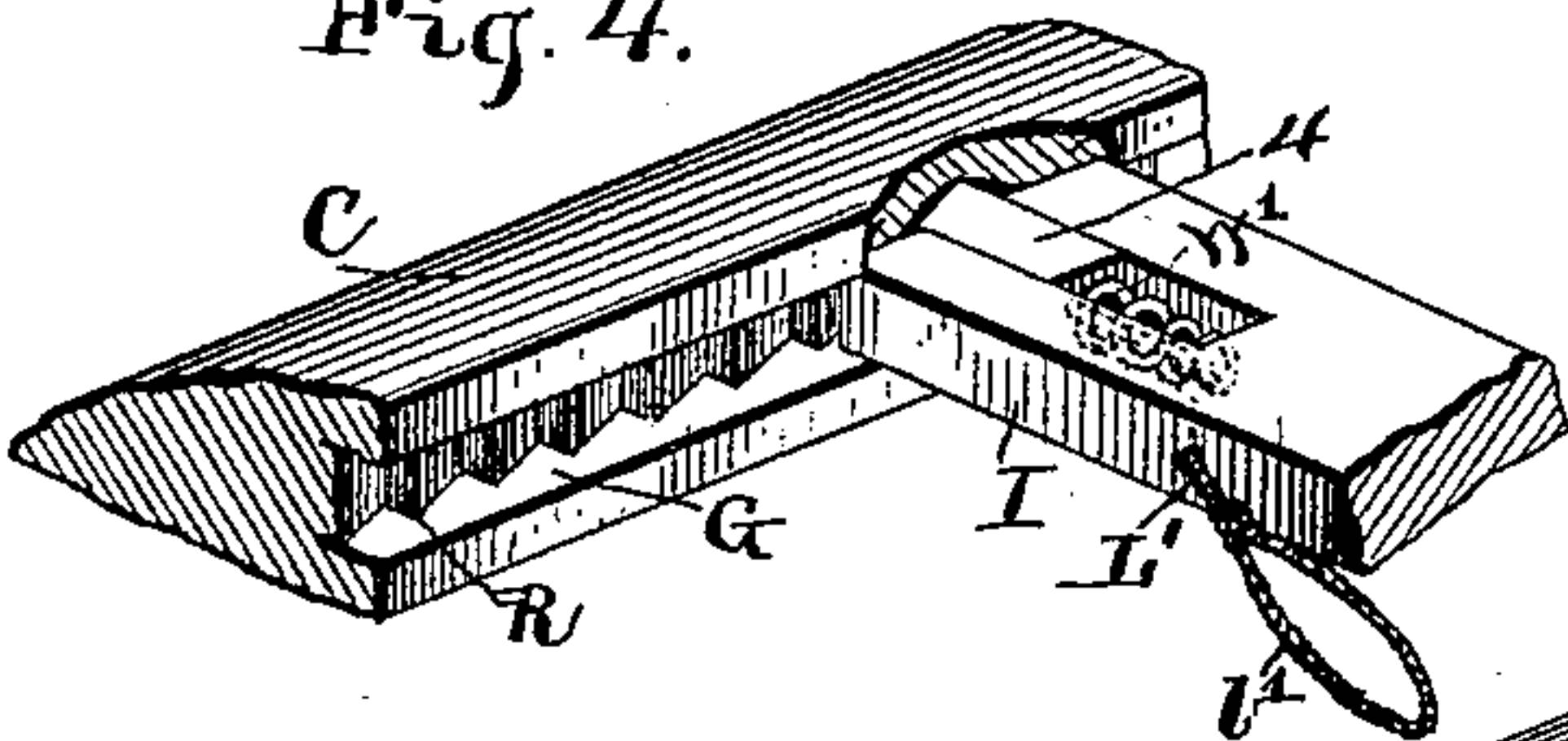


Fig. 5.

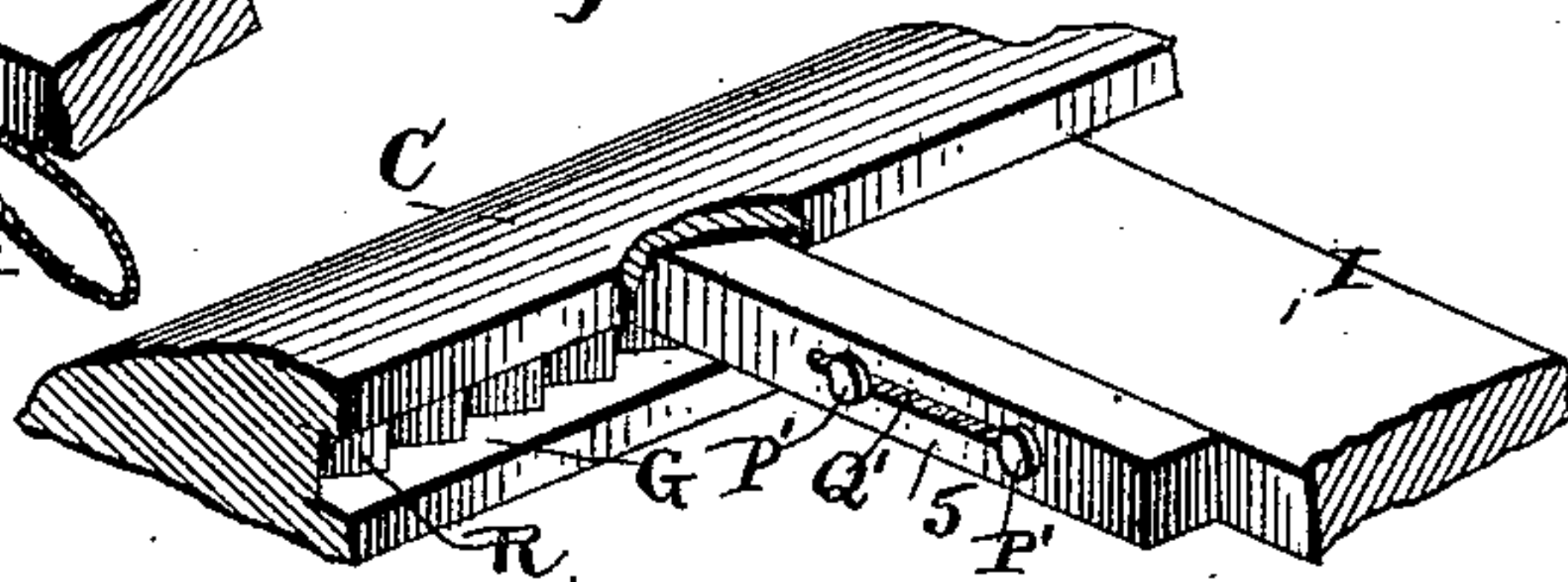


Fig. 6.

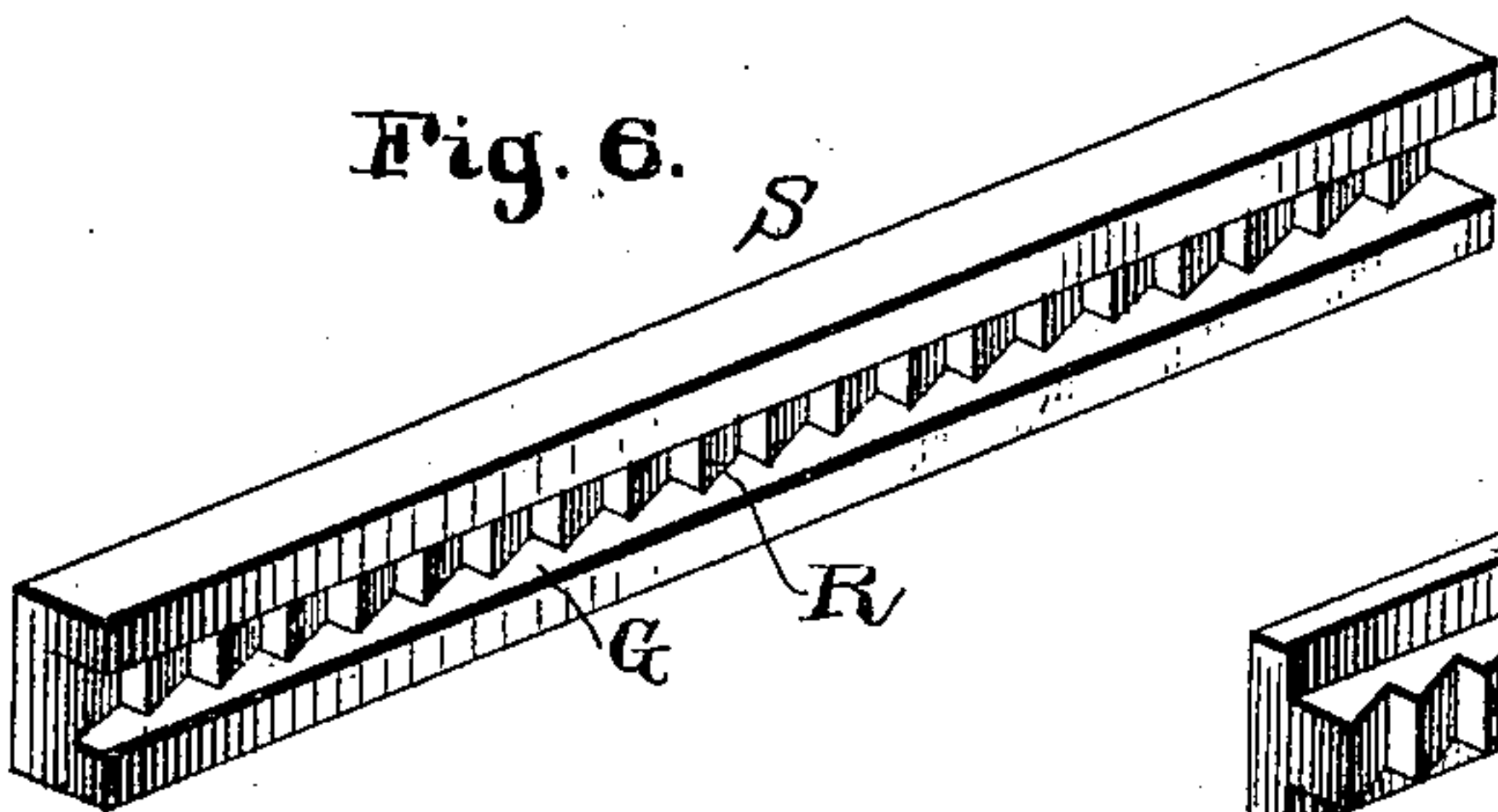
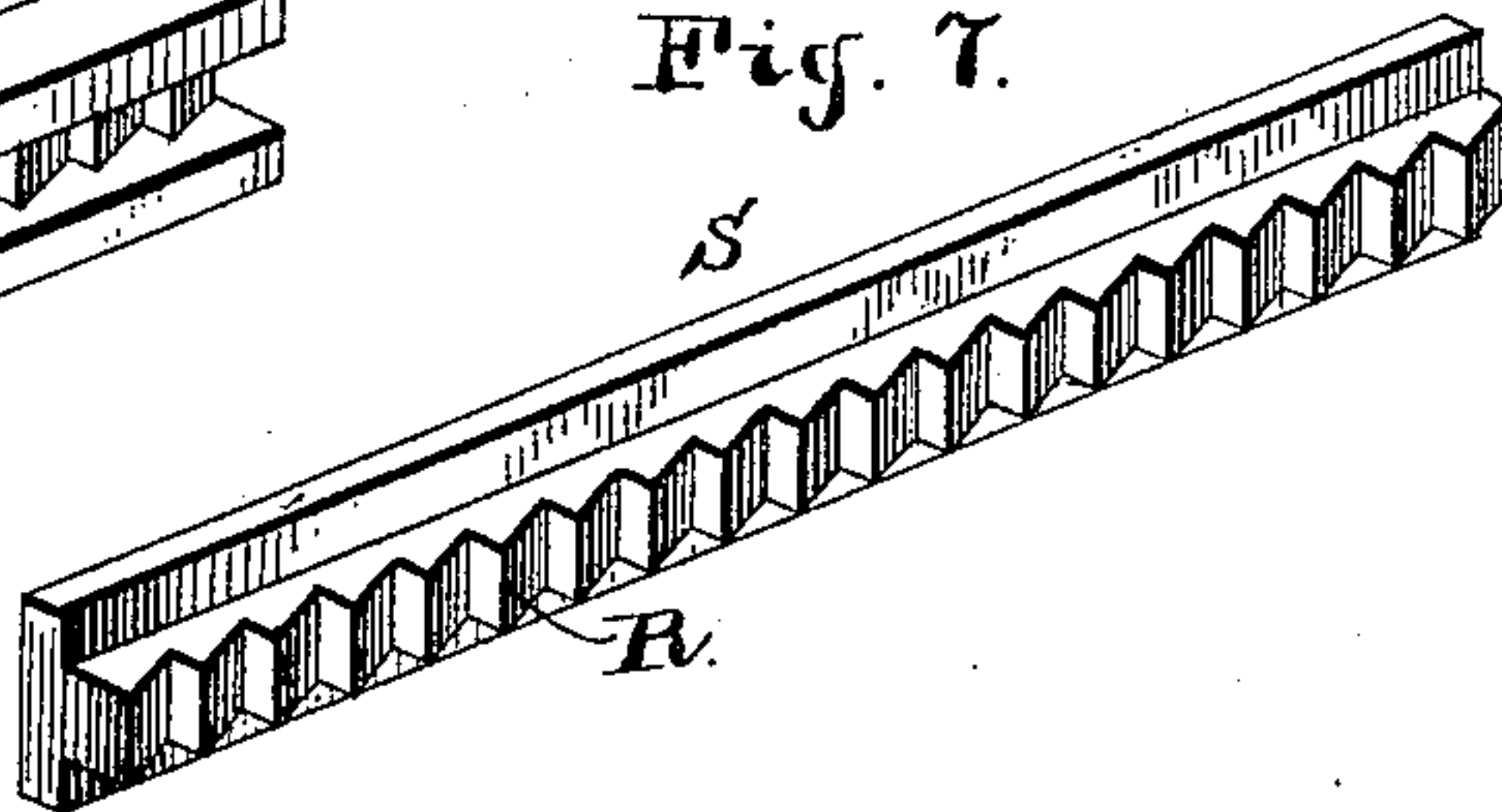


Fig. 7.



Witnesses

H. G. Sutz

A. L. Collamer

Inventor

Elmer Heffelfinger

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ELMER HEFFELFINGER, OF SHAMOKIN, PENNSYLVANIA.

PRINTER'S CHASE.

SPECIFICATION forming part of Letters Patent No. 464,070, dated December 1, 1891.

Application filed October 23, 1890. Serial No. 369,046. (No model.)

To all whom it may concern:

Be it known that I, ELMER HEFFELFINGER, a citizen of the United States, residing at Shamokin, in the county of Northumberland and State of Pennsylvania, have invented a new and useful Printer's Chase, of which the following is a specification.

This invention relates to chases used by printers; and the object of the same is to construct a chase adapted to receive bars extending completely across the same, whereby the space within the chase may be practically decreased without the use of furniture.

The present invention consists of the specific means for carrying out this object, all as hereinafter more fully described and claimed, and as illustrated in the drawings, in which—

Figure 1 is a plan view of my improved chase, showing the various bars as locked therein by different means. Fig. 2 is a perspective view of the so-called "pivoted catch," showing the inner face of the chase as provided with one form of apertures with which the catch engages. Fig. 3 is a similar view showing another form of pivoted catch which is spring-actuated. Fig. 4 is a similar view showing the sliding spring-actuated catch. Fig. 5 is a similar view showing a sliding catch. Fig. 6 is a perspective detail of a section of side-stick provided with apertures of ratchet shape. Fig. 7 is a similar view of another piece of side-stick slightly different in form. Fig. 8 is a section on the line 8 8 of Fig. 1, showing a locking-block in place between the two members of the double bar. Fig. 9 is a plan of my so-called "bar chase," showing in dotted lines how the catches engage the removable side-sticks.

Referring to the said drawings, the letter C designates the chase proper, upon the inner edge of each of the side-sticks or bars of which is formed a groove G, provided with apertures. In some cases these apertures are in the form of kerfs K, sawed in the inner face of the chase, as seen in Fig. 2, while in other cases the apertures are of ratchet shape R, with their teeth inclining inwardly from the corners of the chase to the center of each side-stick.

Figs. 6 and 7 illustrate removable side-sticks S, having apertures of ratchet shape

attached thereto, and these side-sticks are adapted to be used in chases having smooth inner edges, as will be readily understood. In this manner an ordinary chase can be used in connection with the devices described below by simply inserting first one of these removable and apertured side-sticks along each inner edge of the chase.

I and O are respectively inner and outer bars, the former being a single bar extending across the chase and the latter being a double bar extending the length of the chase and inclosing the single bar within it. The chase illustrated in Fig. 1 is provided with two inner and two outer bars, each end of each of which bars is square and is provided with a catch adapted to engage apertures in the inner edge of the side-sticks of the chase, whether such sticks be permanent or removable. In the present instance I have illustrated the outer bars as provided with pivoted catches and the inner bars as provided with sliding catches, because this is the construction I prefer, although I desire it understood that by a slight change in construction any catch here shown can be used on any of the bars.

The pivoted catch 2 (shown in Fig. 2) is merely an L-shaped metallic plate pivoted at one end to the outer face of the bar with its other end projecting slightly beyond the end of the bar when in operative position, and the side-stick of the chase is provided with projections in the form of kerfs K, in which the free end of the catch is seated. The kerfs are preferably arranged at regular intervals apart, which intervals may be graduated either by inches or by the point system, and in this manner the transverse center of the chase can be easily determined and the form there located. To disconnect the catch 2 from the kerf K, it is borne upwardly to the position shown in dotted lines in this figure.

The pivoted catch 3 (shown in Fig. 3) is mounted at one end on a vertical pin P, connecting the two members of the outer bar O, and its other end is pressed normally outward by a small wire spring W, as seen also in Fig. 8. A rod L of L shape, constituting a handle, is connected at one end to the free end of the catch, extends between the two

members of the bar, and turns upwardly at its other end, which moves in a slot Q in the upper member, as shown in Fig. 3. By this means the catch is retracted by drawing inwardly on the projecting inner end of the rod L, and it is pressed normally outward by the spring W. With this catch serrations R of ratchet-shape are used, as shown.

The sliding catch 4 (shown in Fig. 4,) which by the way, may conveniently be used between the two members of an outer bar, is pressed normally outward by a coiled spring W' between the inner end of the catch and the bottom of a notch in the end of the bar, and a rod or wire L', constituting a handle, is connected to the catch, passes through the spring and block, and has a loop l' on its projecting inner end, as shown. The face of the catch is beveled, whereby it is adapted to slip over the ratchet-teeth R, (which are used with all the inner bars,) and it will thus automatically engage the serrations in the side-stick the same as the spring-actuated pivoted catch 3. To disengage this catch, the operator inserts his finger or a tool in the loop l' and draws inwardly on the same, thereby moving the catch against the tension of the coiled spring W', as will be readily understood.

The sliding catch 5 (shown in Fig. 5) is simply a bevel-faced bar sliding against the outer edge of the bar I, or, if preferred, within a recess cut in the edge thereof, as shown in Fig. 1, and held in place by a slot Q' in its body engaging headed pins P', seated in the bar I. This catch is manipulated by hand, as will be understood.

The locking-block A (shown in section in Fig. 8) is merely one of a number of such blocks, of different shapes and forms, which may be, and preferably are, employed for more rigidly connecting the inner and outer bars at their points of crossing. These blocks A may be inserted between the members of each outer bar and pins or screws Z, passed through suitable holes X, which are provided in all the bars at regular intervals, and through the blocks. Of course, if the bars are not adjusted to proper points for employing these blocks, they need not be used; but I consider their employment advisable where possible.

Each pair of bars, whether they are inner or outer bars, is provided with one set of spring-actuated catches. One outer bar has the pivoted catch 2 at each end, while the other has the spring-actuated pivoted catch 3 at each end. One inner bar has the sliding catch 5 at each end, while the other inner bar has the spring-actuated sliding catch 4. The ends of all the bars are square and bear against the plane faces of the side-sticks, as shown. With this construction, when the form F is to be locked in the chase the bars carrying the catches 2 and 5 are first adjusted against one side and one end of the form. The other inner bar is next moved up against the other

end of the form, its sliding spring-catches 4 slipping over the ratchets R in an obvious manner. The other outer bar O is then drawn up against the other side of the form, its pivoted spring-catches 3 slipping over the ratchets R in a similar manner. In moving up these last two bars one end is brought first to place and then the other end, thus using the bar as a lever with the form as the weight and the fastened end as the fulcrum. When the first two bars were adjusted, so as to bring the form approximately to the center of the chase, blocks A or screws Z could very easily be placed in position outside these bars at their point of crossing, and by this means the springing thereof when the form is locked is avoided. The form may be locked without the use of quoins; but if the form is small it would be better to insert a pair of quoins before moving up the last two bars, as shown in Fig. 1, and after these bars have been moved to the nearest possible notch the form is further locked by means of the quoins in the usual manner. In this case blocks A might be used to brace all the bars or screws Z to clamp the outer on the inner bars and prevent their springing when the quoins are tightened.

In Fig. 9 I have shown what I call a "bar chase." This chase is formed of the outer and inner bars with no surrounding chase whatsoever, and is very useful for job-work or for taking proofs. At the intersection of the bars the outer are clamped to the inner by the screws Z, which pass through the registering holes X, as will be understood, or by the insertion of the locking-blocks A, if desired. Outside each point of crossing a bracing-block B is used. These blocks may be of various forms and shapes, and may be connected with ratchet-teeth b on the outer edges of the bars, but are preferably provided with holes X, adapted to register with those in the bars, and through which are passed screws Z, the same as through the bars themselves at the points of intersection or through the locking-blocks A. One end of each block B is also preferably reduced so as to pass between the outer bars O, and the other end slotted so as to embrace the inner bar I, as seen at the left lower corner of Fig. 9. The function of these bracing-blocks, as will be at once obvious, is to brace the so-called "bar chase" against racking, which would destroy the shape of the form and permit the type to drop out. Of course, if no surrounding chase be used, whereby the ends of the bars are held in proper relative position, some such means as this must be employed for this purpose.

The same bars which are used within the chase and which are provided with the catches above described may be employed in making up the bar chase, as the catches do not interfere therewith.

Although I have shown and described an arrangement in which the outer bars carry pivoted catches and the inner bars carry slid-

ing catches, I desire it to be understood that this arrangement might be reversed, if preferred, without departing from the spirit of my invention; also, each catch might have an operating-handle or might be spring-operated, or the arrangement of the catches and bars could be varied to a considerable extent, provided one or more of the catches were used at each end of one or more of the bars. Again, although I have described and claimed the chase as provided on its side bars or sticks with the serrations it is to be understood that the serrations may be made in the inner face of a removable side-stick, which may be inserted within an ordinary chase, the bars being used within the chase thus constructed in substantially the manner above described and shown in dotted lines in Fig. 9.

What is claimed as new is—

1. The combination, with a chase having side-sticks with portions of their inner faces plane and other portions serrated, of a bar extending across the chase and having square ends bearing against said plane faces, catches connected to said bar, and means for projecting them beyond its extremities to engage said serrations and for retracting them, substantially as described.

2. The combination, with a chase, the inner edges of whose side-sticks are provided with ratchet-teeth inclining toward the centers from their ends, of a pair of bars extending across the chase, and catches at the ends of said bars having beveled outer faces detachably engaging said teeth, substantially as described.

3. In a printer's chase, the combination, with the chase having inwardly-facing serrations on its side-sticks, of a bar extending transversely across the chase, catches at the ends of said bar detachably engaging said serrations, the catches being pressed normally outward by springs, and handles connected to said catches and having their inner ends projecting from the bar, so as to be

within reach of the operator, as and for the purpose set forth.

4. In a printer's chase, the combination, with a chase, the inner edges of whose side-sticks are provided with ratchet-teeth, of a pair of bars extending across the chase, sliding catches at the ends of said bars, having beveled outer faces detachably engaging the teeth, the catches at the ends of one bar only of the pair being pressed normally outward by coiled springs, flexible handles connected to said catches and passing through the springs, and loops at the projecting inner ends of said handles, as and for the purpose set forth.

5. In a printer's chase, the combination, with the chase, its side-sticks having grooves along their inner edges and serrations at the bottoms of said grooves, of a bar extending across the chase with its extremities resting in the grooves, said bar being recessed at its ends, a moving catch within each recess, and means for preventing the dislocation of the catches from said recesses in the bar, all as and for the purpose hereinbefore set forth.

6. The herein-described chase, the same composed of two parallel inner bars, two parallel outer bars, each comprising two members embracing the inner bars, and all the bars being provided with holes through their bodies at regular intervals, screws or pins detachably connecting the bars at their points of intersection, and bracing-blocks outside said points, one end of each bracing-block being reduced and the other end slotted to fit, respectively, between the members of the outer bar and astride the inner bar, each and all as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ELMER HEFFELFINGER.

Witnesses:

J. G. MEDLAR,

J. Q. ADAMS.