

(No Model.)

W. R. WHITE.
FENCE.

No. 577,093.

Patented Feb. 16, 1897.

Fig. 1.

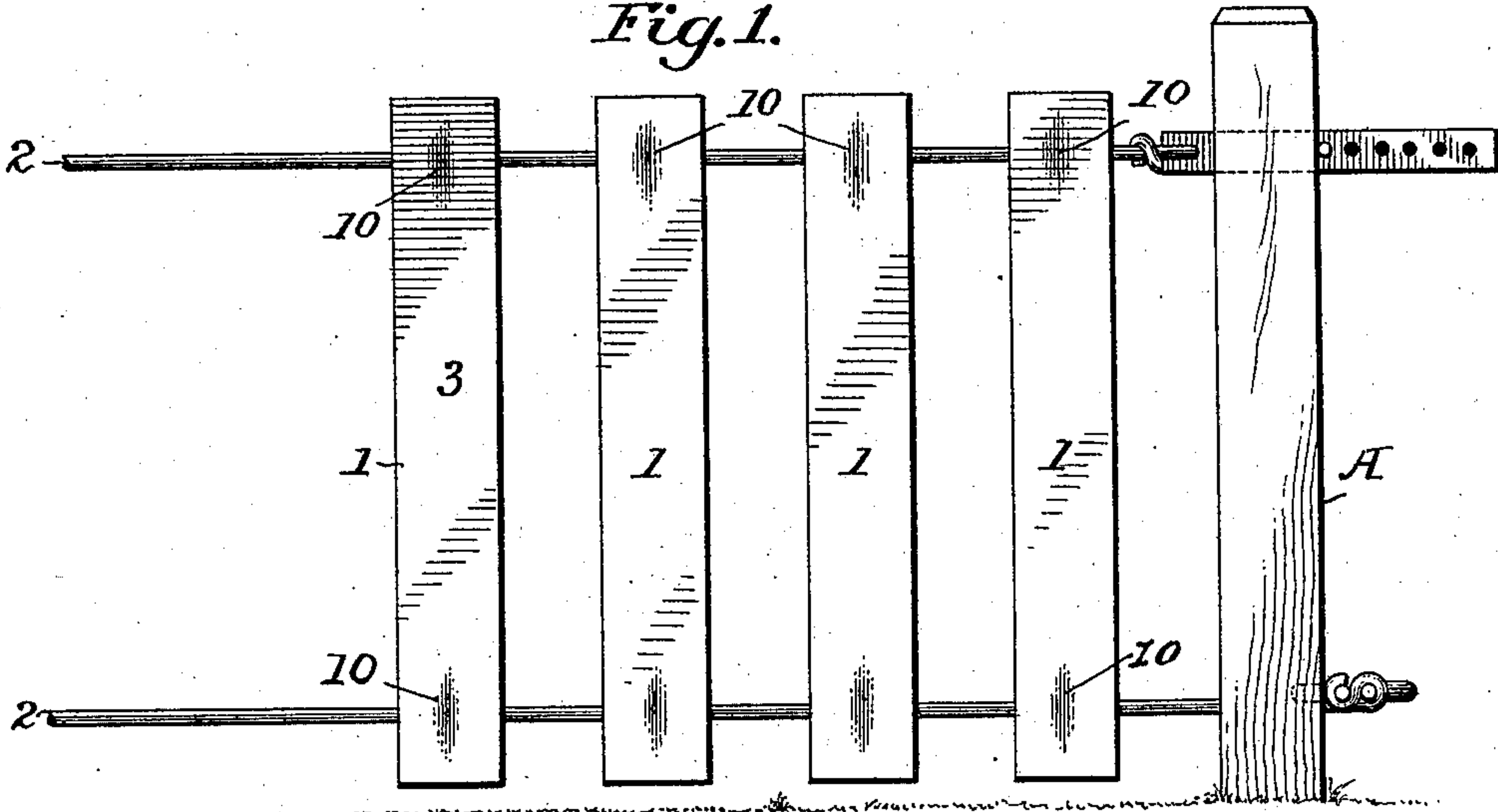


Fig. 2.

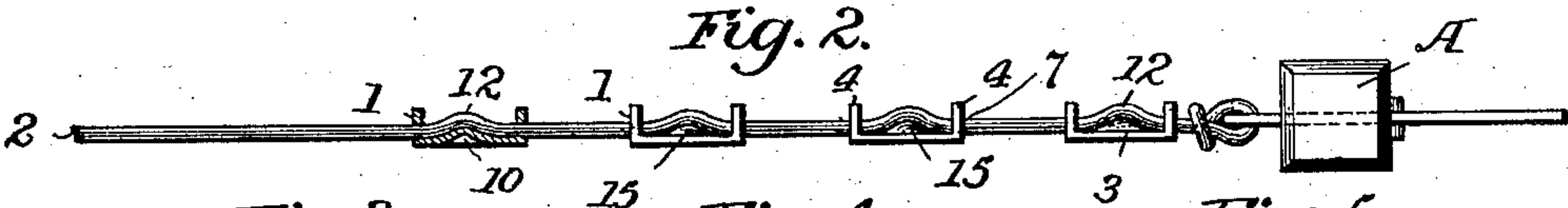


Fig. 3.

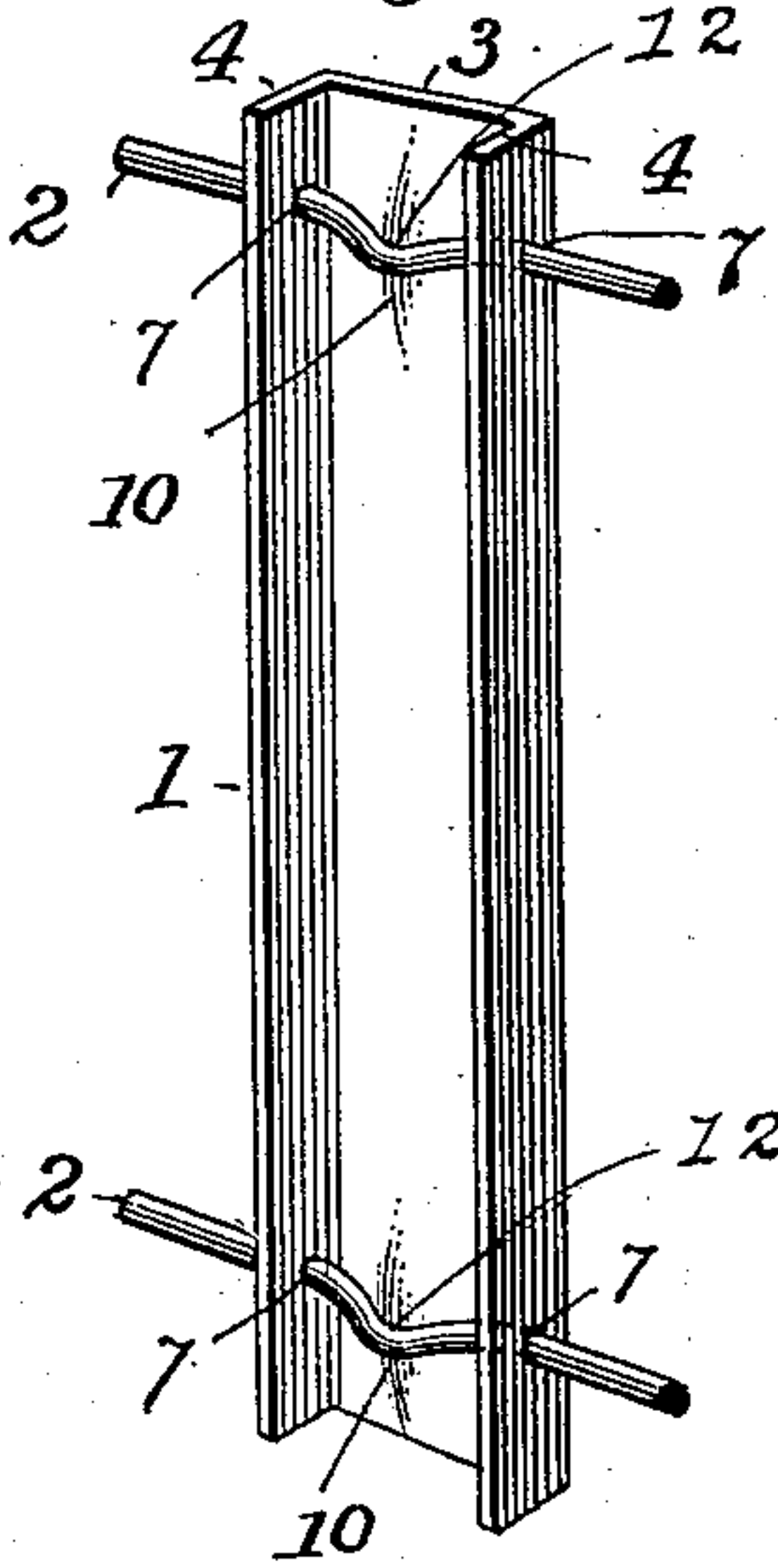


Fig. 4.

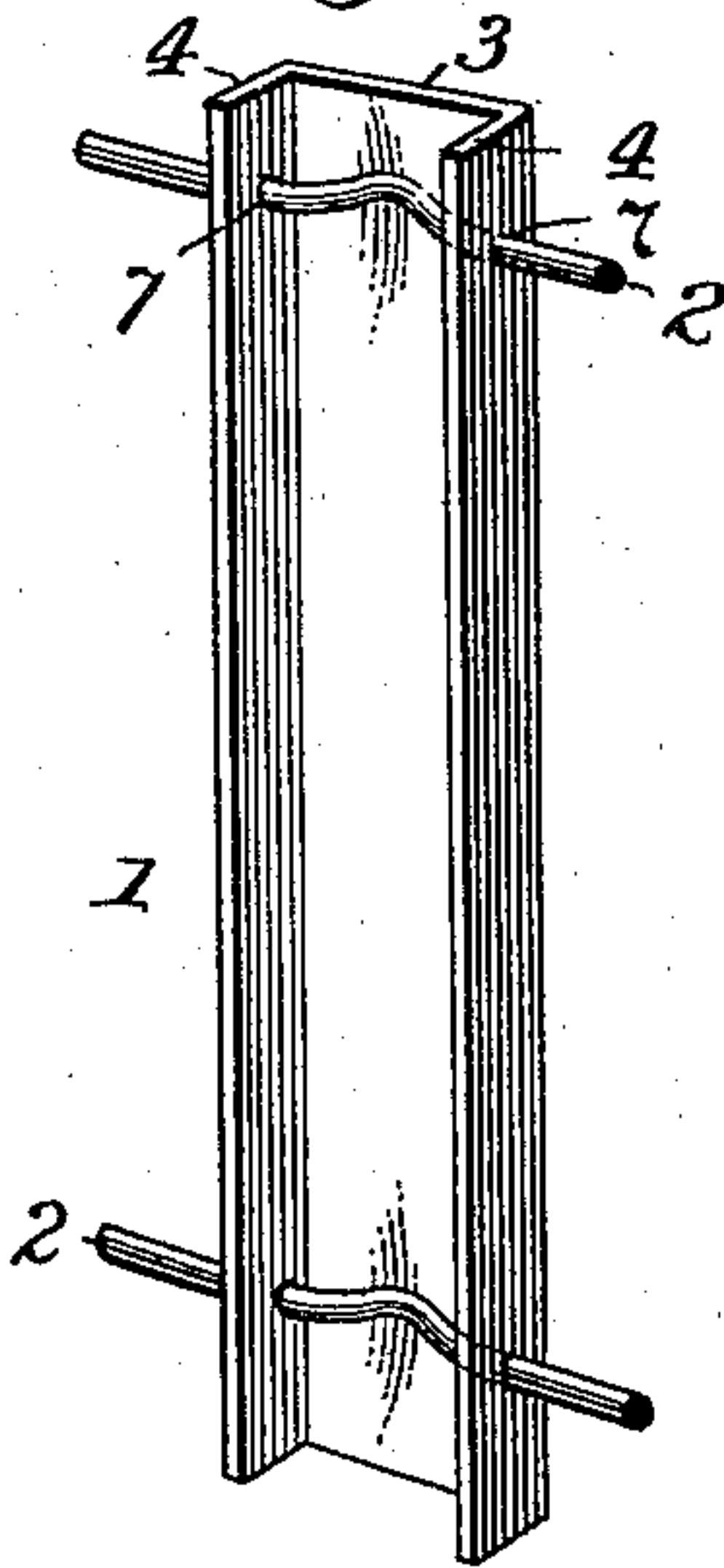


Fig. 5.

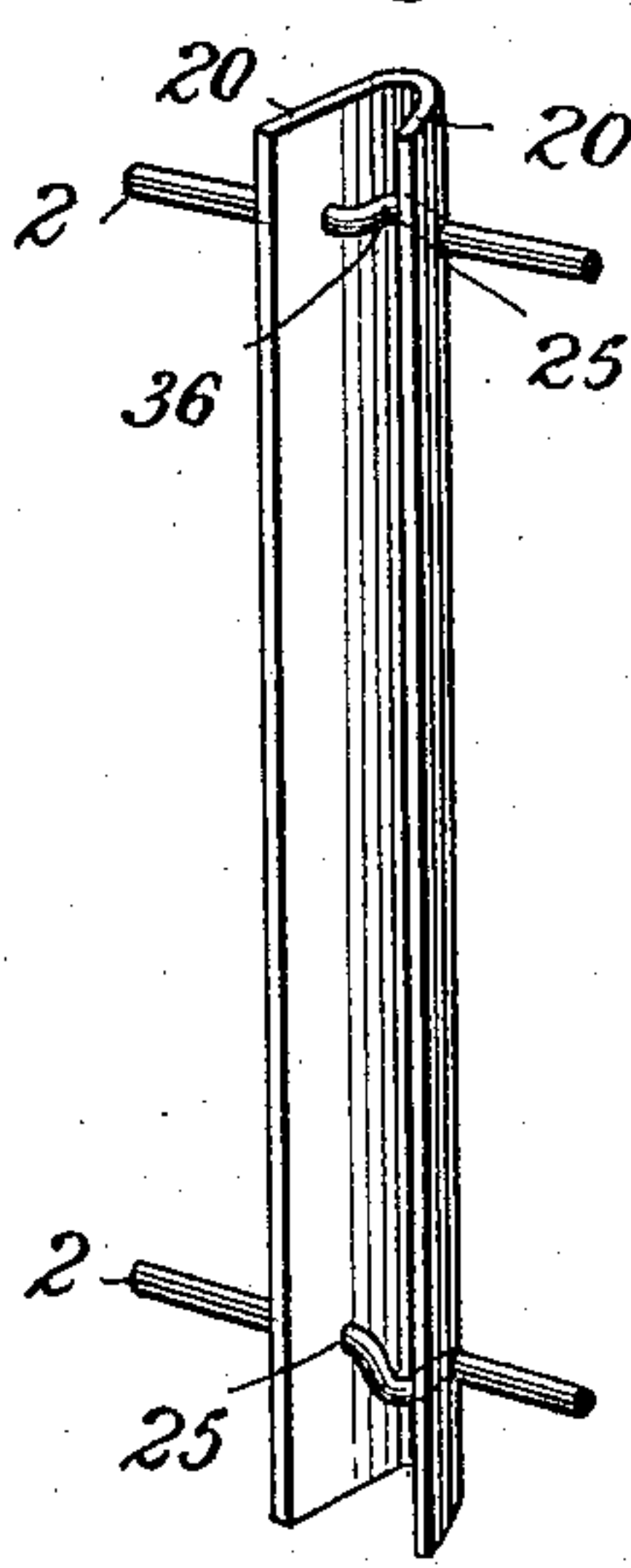


Fig. 6.

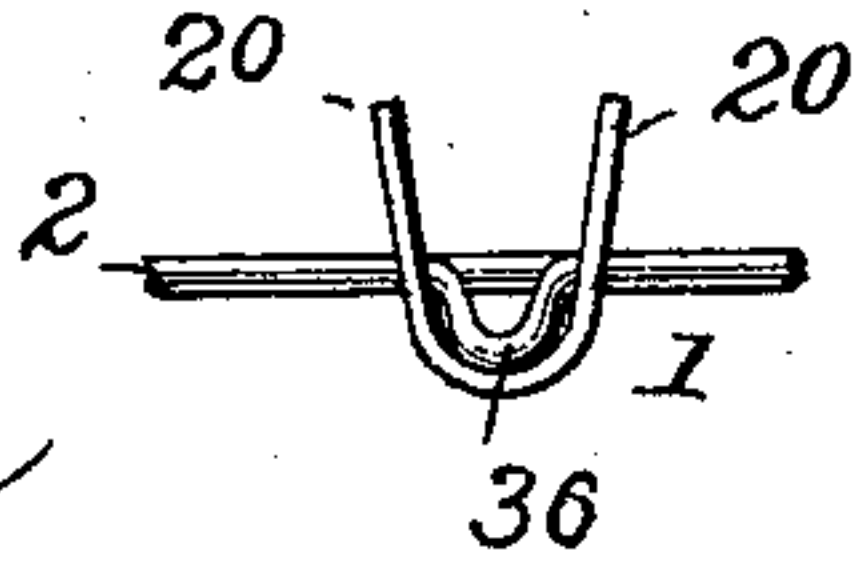
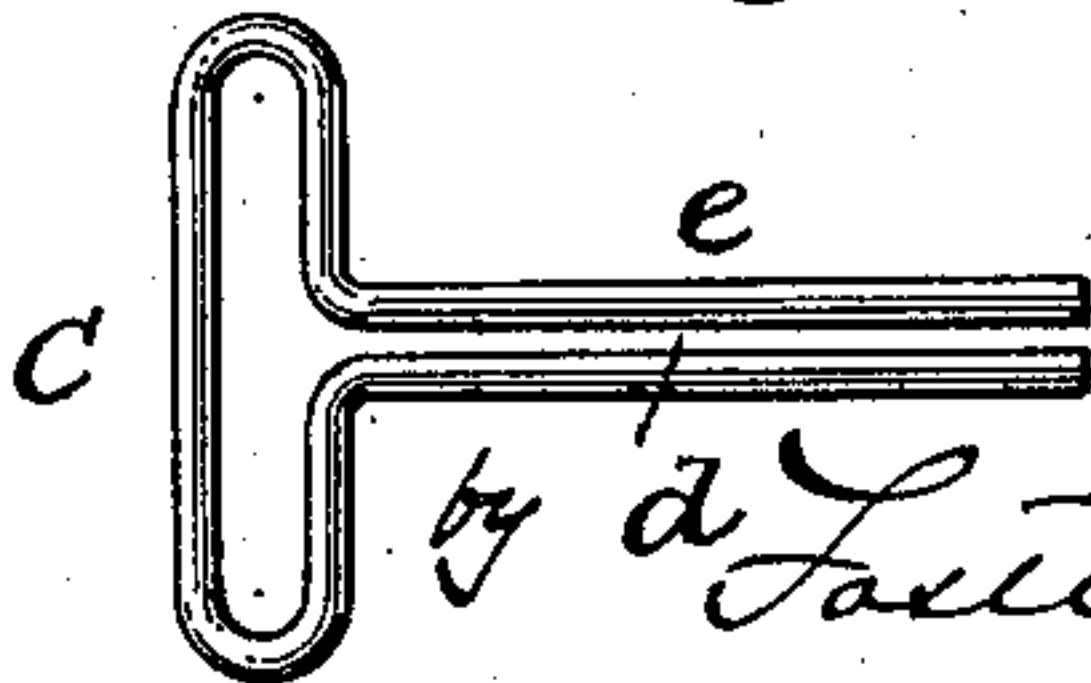


Fig. 7.



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UNITED STATES PATENT OFFICE.

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FENCE.

SPECIFICATION forming part of Letters Patent No. 577,093, dated February 16, 1897.

Application filed November 2, 1896. Serial No. 610,888. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RICHARD WHITE, a citizen of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Fences, of which the following is a specification.

This invention relates to certain new and useful improvements in fences; and it consists, substantially, in such features of construction, arrangement, and combinations of parts, as will hereinafter be more particularly described.

The invention has special reference to metallic fences, or fences constructed of wires and metallic pickets; and it has for its object the staying or strengthening of the wires against lateral strains, as well as the facility and security with which the pickets and wires are united or fastened together.

A further object is the provision of greater strength combined with lightness of material, and also increased rigidity of the parts, as well as the ease with which the wires can be drawn up and tightened without in any manner affecting or disturbing the connection between the said wires and the pickets or stays.

The invention also has certain other objects in view, all as will more fully hereinafter appear, when taken in connection with the accompanying drawings, in which—

Figure 1 is a front elevation of a section of fence constructed and arranged in accordance with my invention, suitable means being shown at one end for tightening the wires in place. Fig. 2 is a top or plan view representing the preferred form of picket or fence-stay, as well as the preferred means of fastening or uniting the wires and pickets together. Fig. 3 is a rear perspective view of the preferred form of picket and fastening, showing the construction more clearly. Fig. 4 is a similar view showing a slight modification in the means of uniting or fastening the stay and wires together. Fig. 5 is a rear perspective view representing another form of picket, and also showing a slight change in the manner of fastening the wire therein. Fig. 6 is a top or plan view of Fig. 5. Fig. 7 is a detail view.

Considerable attention has been paid to this class of fences heretofore, the main purpose

in view being to construct the fence of as light material as possible and which is at the same time very secure and strong; but in many instances heretofore the fences have proven inefficient under certain conditions, and they have been found to become very loose both from elementary causes as well as from strain imposed thereon, and which latter effect the fence was supposed to be capable of withstanding. The principal reason for the sagging and loosening of the wires of the fence has been found to be due to the ineffective connections or fastenings for uniting the stays or pickets to the wires, since in many instances the fastenings are entirely broken or loosened merely by the act of tightening the wires in place by the usual means.

It is the purpose of this invention to provide means for fastening or uniting the stays and wires together which shall to a large extent overcome the objections noted and which in point of cheapness and simplicity, as well as strength and durability, has been found to possess great advantage.

My invention is capable of a great many different embodiments, but in practice I prefer the use of either one of the forms substantially such as I have herein illustrated. Thus in Figs. 1, 2, and 3 I have shown the preferred form of picket, as well as the preferred means of uniting the same with the wires of the fence, the said picket being indicated at 1 and the wires at 2. It is unnecessary to employ more than two wires, one being passed through the pickets at a suitable distance from the upper end thereof and the other being passed therethrough in like manner at any preferred or desired distance from the lower end of the pickets. This preferred form of picket is substantially rectangular in cross-section, the front of the picket being indicated at 3 and the wings or right-angled portions thereof at 4 4. By thus constructing the picket or stay I am enabled to obtain any width desired, so that a less number of the pickets or stays will be required in sections of fence of given length, and in addition thereto the broad surface presented to view thereby renders it very easy to be noticed by stock, and in many instances this latter feature alone has proven of advantage. It is of

course understood that in cross-section the form of this picket could be varied or modified in different ways, but it is desirable that the same shall conform as nearly as practicable with the general features herein shown. The wings or side portions 4 4 of this preferred form of picket or stay 1 could of course be of any depth or width desired, but in order to lessen as much as possible the amount of metal required in the construction of the picket I prefer to make the same as narrow as possible commensurate with the thickness of the wires of the fence, which are passed through the said wings or side portions substantially as shown.

I will first describe the form or construction preferred and will then explain several of the changes or modifications thereof which could be made.

As before stated, it is very desirable that the fastenings between the wires and pickets shall be secure and durable, as well as being capable of resisting both the effects of the elements and the effects produced by tightening the wires in place as each section of fence is erected. In many former instances the fastenings have become loosened on account of the wires straightening out, and in this way the stays or pickets are rendered almost entirely ineffective for the purposes for which they are intended. By my preferred construction of fastening for the wires they are not likely to straighten out from any cause and neither are they likely to turn in their supports in the pickets, and in most respects a fence constructed in accordance with my invention will be found to be very rigid and possess considerable strength.

As shown in Figs. 1 to 3, the side portions or wings of the picket or stay are provided with openings 7 for the passage of the wires, and it will be observed that said openings are arranged to be as close to the front portion of the picket or stay as possible, since in this way after the pickets or stays have been properly placed upon the wires and secured in position the wires will be incapable of turning in the stays or pickets, and in addition to this the full strength and bracing effect of the entire width of the picket or stay is obtained. As a means of uniting or fastening the pickets or stays to the wires I simply indent the front portion of the said stay or picket, as shown at 10, and at the same time a kink or bend is produced in the wire, such as is indicated at 12, and in this way a fastening is had which renders it impossible for the wire to become straightened out at this point without at the same time forcing outward the indented portion of the picket or stay, and inasmuch as the strength of the material of the stay is capable of resisting almost any torsional or tensile strain to which the wire is likely to be subjected it will at once appear that there is no likelihood of the connection or fastening being broken. Since the indented portion of the stay forms a raised surface

at 15 on the inner side of the stay or picket, which conforms exactly to and fits the kink or bend in the wire, or, to state it in a different manner, by reason of the kink in the wire resting closely against a raised portion of the inner surface of the stay, it will be seen that the wire cannot roll or turn in its bearings, and the security of the fastening is assured.

It will of course be understood that the fastening of the stays and wires together is effected before the wires are drawn taut, and no special machinery is required to so form the stays and wires, since a simple die is all that is required to give to the parts the desired shape, as well as to receive the force of the blow necessary to effect the construction explained.

In some instances instead of indenting the picket from the outer face thereof I may indent both the picket and wire from the opposite sides, and thus produce the exact reverse of the construction already explained, as shown, for instance, in Fig. 4. This construction might be desirable under some conditions, and it may perhaps prove entirely effective for its purpose, but in view of the fact that the kinked or sunken portion of the wire is not engaged except on the outer side of the bend thereof there is a possibility that the wire might straighten out under great strain or stress. The wire would, however, be incapable of turning to any material extent, and in this respect the construction is desirable, and it is of course understood that my invention comprehends the same.

In Figs. 5 and 6 I have represented a still further modification, both in the form of the picket as well to a slight extent in the means of uniting the picket and wires together. Thus in this case the picket is semioval in cross-section, which presents a rounded front surface, as well as the wings or side portions, (indicated at 20,) and while in some instances I might also make the said picket practically of a V shape in cross-section I prefer to give to the same the general semioval construction, as will be explained.

It will be noticed on reference to the figures referred to that the openings 25 for the passage of the wires are also made as close to the front of the picket or stay as practicable, and instead of indenting the picket I simply form a kink or bend in the wire, which preferably extends either upwardly or downwardly, and this kink or bend rests or abuts closely against the inner concaved side of the picket or stay, so that the wire is prevented from turning or rolling in the openings in the wings or side portions 20, and in virtue of the position of the said kink or bend in the wire it is practically impossible for the wire to straighten out to any material extent, either from elementary causes or from any physical strain imposed thereon. As before stated, the kinks in the wires of this form or embodiment of my invention may be either disposed to rest against the picket in

a downward position, as shown at the lower part of Fig. 5, or else they may be made to extend upwardly, as shown at the upper part of the said figure. In some instances I have found it desirable with alternate stays or pickets to form the kinks in each wire in both ways, since it is apparent that in such a case any strain tending to push the wire outward or to turn it over at a particular picket or stay in the fence would be resisted by the stays and fastenings on each side thereof, due to the kinks in the wires resting against the inner side of the pickets or stays in a reverse or opposite position.

With a fence constructed in either of the ways such as I have shown and described the labor is reduced to a large degree, the fence itself is very strong, and the fastening for the stays and wires extremely secure and reliable. The stays are easily made and cost very little as compared with many forms of stays in use, and the fence in entirety is a marked advantage in the respects already mentioned.

One of the principal advantages is that with a stay or picket having a flat face or front portion I am enabled to secure the desired fastening or interlocking connection between the wires and stays by simply depressing the body of the stay at the points adjacent to the kinks in the wires. This construction does not require that the stay be corrugated its entire length, as is essential with some previous forms hitherto employed, and, moreover, the arrangement of my invention is such that the stay or picket is supported in position by the fence-wires alone and without additional means for effecting a fastening between the two.

While I may resort to any means for drawing the wires taut and securing them in place, I have shown as a simple means a perforated plate attached to the end of each wire, which plate is inserted through a slot formed in the supporting-post A, and after the wires have been drawn up sufficiently tight a peg or key is inserted within the perforation nearest the outer side of the fence-post, and in this way the wires are securely held or supported in position; or, in other instances, I might employ a key substantially such as is shown at C, Fig. 7, and in which case the end of the wire would be inserted in the slit *d*, and then by turning the key so as to twist or wrap the wire around the stem *e* of the key the said wire will be held in place in like manner.

Other means for tightening the wires could be employed, and while I have shown differ-

ent means for this purpose it will be understood that I lay no claim thereto.

Without limiting myself to the precise construction and arrangement of parts shown, I claim as my invention—

1. In a fence, the combination of longitudinal wires having kinks or bends therein, and a picket or stay sunken or depressed at points adjacent to the kinks to form an interlocking engagement with the wires, substantially as described.

2. In a fence, the combination of longitudinal wires having kinks or bends therein, and a picket or stay held or supported in position by said wires alone, and being sunken to interlock or engage with said kinks, substantially as described.

3. In a fence, the combination of longitudinal wires having kinks or bends therein, and a picket or stay having front and side portions and held or supported in position by said wires alone, the said front portion being sunken to be engaged by said kinks or bends, and the side portions being provided with openings through which the wires pass, substantially as described.

4. In a fence, the combination of longitudinal wires, and a stay therefor supported by said wires alone, the wires and the stay being united by sunken or depressed portions in each extending inwardly from the outer face of said stay, substantially as described.

5. In a fence, the combination of longitudinal wires and a picket or stay therefor supported in position by said wires alone, the two being united by corresponding sunken or depressed portions in each, substantially as described.

6. In a fence, the combination of longitudinal wires having kinks or bends therein, and a stay supported by said wires alone and constructed of rectangular cross-section to constitute front and side portions, the said front portion being sunken or depressed at points adjacent to the kinks and engaging therewith, and the said side portions being provided with holes for the passage of the wires arranged close to the inner surface of said front portion, substantially as shown and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM RICHARD WHITE.

Witnesses:

VINCENT HACKETT,
F. L. FREEMAN.