No. 611,981. Patented Oct. 4, 1898.

G. P. SMITH.

FENCE.

(Application filed Dec. 16, 1897.)

(No Model.)

Fig. 1.

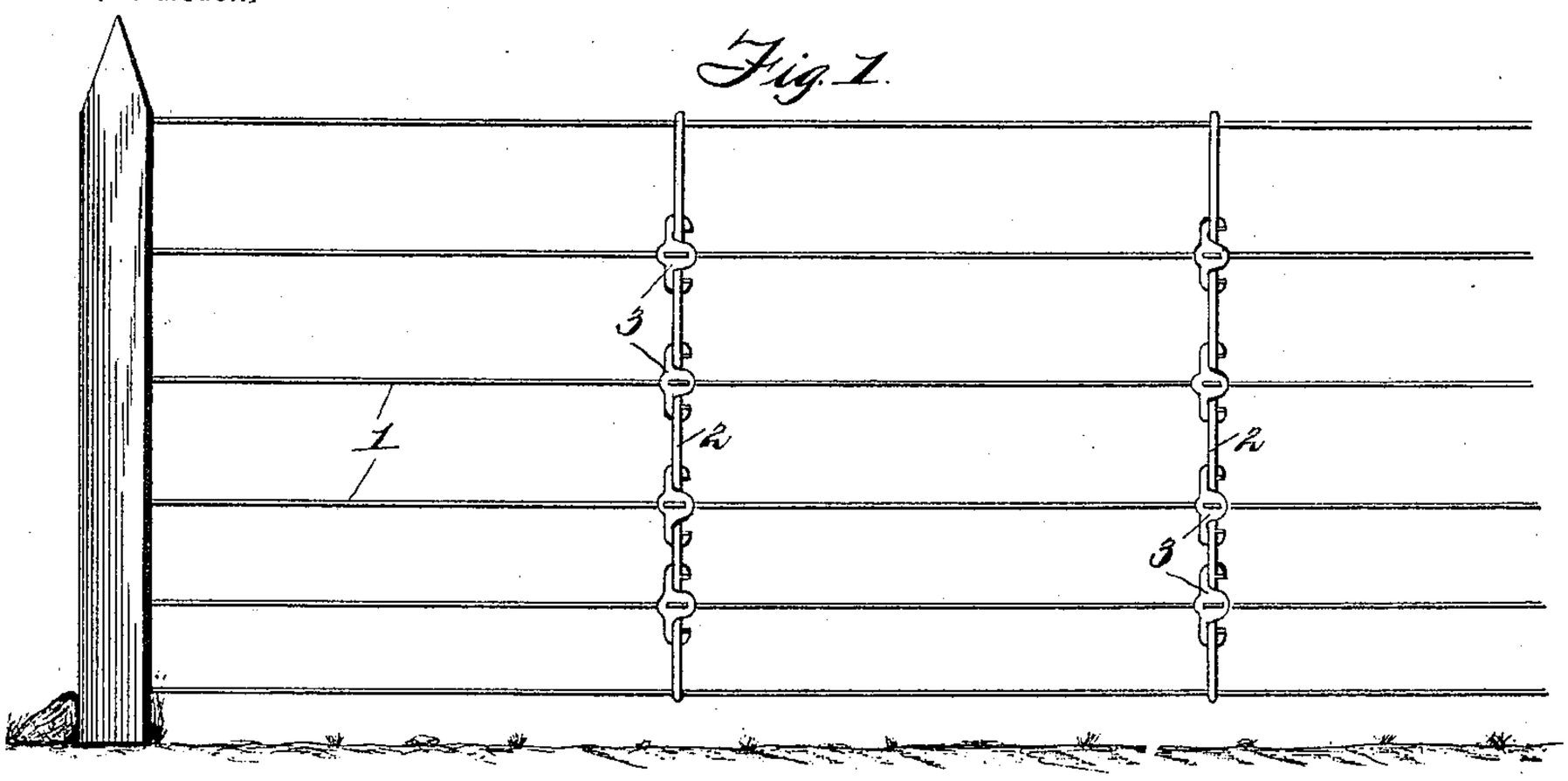


Fig. 2.

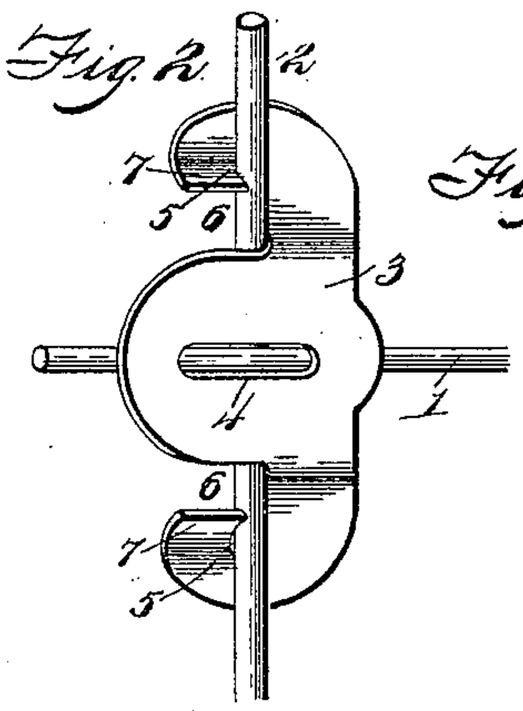


Fig. 3.

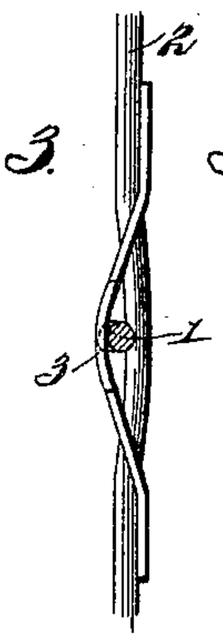


Fig. 4.

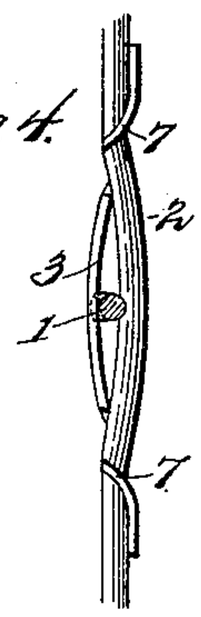


Fig. 5.

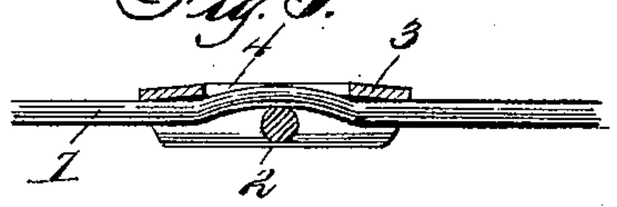


Fig. 6.

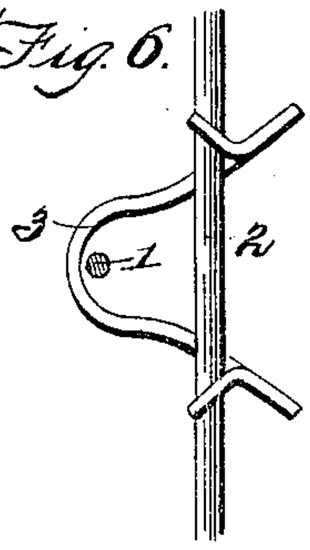


Fig. 7.

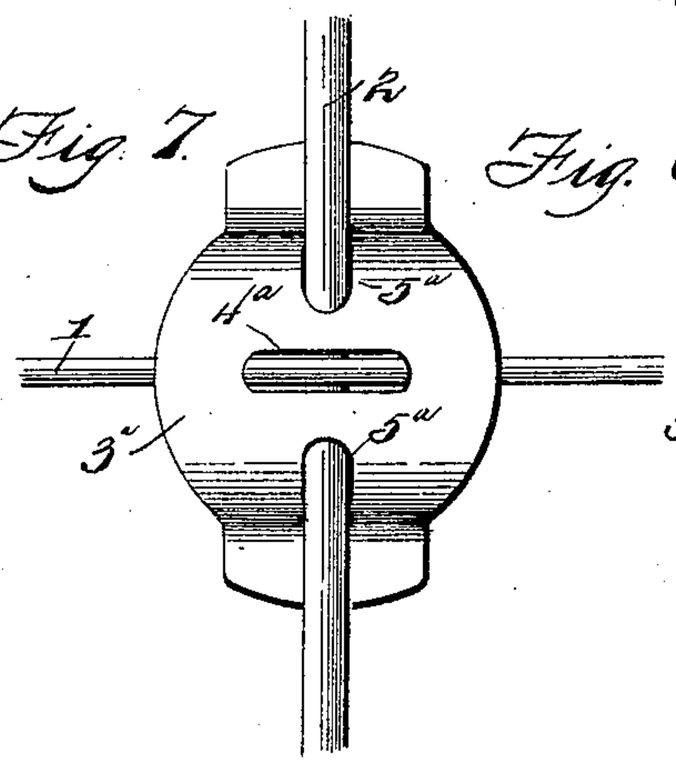


Fig. 8.

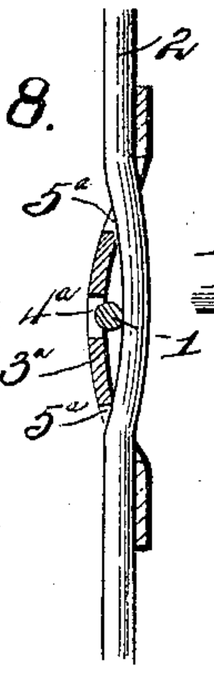
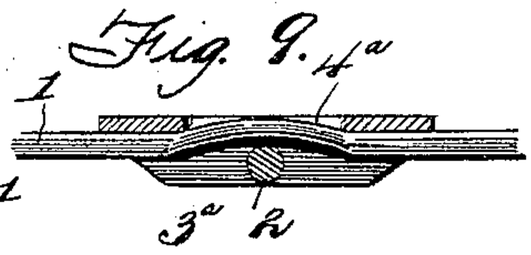


Fig. 9.



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UNITED STATES PATENT OFFICE.

GEORGE P. SMITH, OF JERSEYVILLE, ILLINOIS, ASSIGNOR OF ONE-HALF TO W. H. POWELL, OF SAME PLACE.

FENCE.

SPECIFICATION forming part of Letters Patent No. 611,981, dated October 4, 1898.

Application filed December 16, 1897. Serial No. 662,202. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. SMITH, a citizen of the United States, residing at Jerseyville, in the county of Jersey and State of Illinois, have invented a new and useful Fence, of which the following is a specification.

My invention relates to fences, and has for its object to provide a simple and inexpensive and efficient lock for securing intersecting wires, such as runners and stays of a fence structure, at their points of intersection.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view of a fence embodying runner and stay locks constructed in accordance with my invention. Fig. 2 is a detail view in perspective of a lock, showing the contiguous intersecting wires. Fig. 3 is an edge view of the same, showing the unbroken edge. Fig. 4 is an edge view showing the slotted edge. Fig. 5 is a transverse section. Fig. 6 is an edge view of the lock as seen when applied to the intersection-wires and before the straightening thereof to clamp and crimp the wires. Fig. 7 is a view of a slightly-modified form of lock. Fig. 8 is a longitudinal section of the same. Fig. 9 is a transverse section thereof.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The intersecting wires of a fabric, such as the runners 1 and stays 2 of a fence structure, should be secured together at their points of intersection to prevent movement of either of the intersecting members in a direction parallel with the other member, and it is to provide a lock capable of performing this function and adapted by its application to the intersecting members of the fabric to cause the opposite crimping of the said members that I employ a sheet or plate metal blank, from which is struck the lock 3, forming the subject-matter of my invention. The blank is preferably elliptical or elongated in plan, provided at its transverse center with an elongated opening 4, forming a wire-seat, and provided upon its longitudinal center, respectively at opposite sides of said transverse opening or slot, with longitudinally-elongated openings or slots 5, forming wire-seats. One of the intersecting members of the wire fabric is adapted to extend through the longitudinally-elongated wire-seats 5, while the other member of the structure passes between the first-named member and the plane of the lock at its transverse center, whereby when the parts are forced snugly into contact the second-named member, which in the case of a fence structure is preferably of smaller gage, is crimped or forced forwardly into the seat formed by the transversely-elongated opening 4.

Obviously the lock embodying my invention is adapted to be struck in flat form from sheet or plate metal; but before application to a fabric or to the intersecting members thereof I prefer to crimp the plate by folding it to form a V upon its transverse center. This provides a transverse groove at the rear side of the plate, (see Fig. 6,) in which one member of the fence structure is adapted to lie, while the spaced longitudinally-elongated openings 5 are brought into alinement, so that the other member of the fabric may be threaded therethrough at the rear side of the first-named member. The subsequent straightening of the lock to the position shown in Figs. 2 to 4, inclusive, causes opposite ends of each longitudinal opening 5 to bite against opposite sides of one member of the fabric, while the other member of the fabric is crimped into the transverse slot or opening 4, and the end edges of said opening bite against its surface to prevent displacement parallel with said second-named member.

Thus far the description applies equally to both forms of the lock illustrated in the drawings, the modified construction shown in Figs. 7 to 9, inclusive, embodying a plate 3^a, having a transversely-elongated slot 4^a and spaced oppositely-positioned longitudinally-elongated slots forming seats 5^a. This construction of lock, however, necessitates, as above indicated, the threading of one of the fabric members—as, for instance, the stay—through the longitudinal spaced openings of the lock while the latter is in its crimped position. In order to avoid this

threading of one of the members through the lock and to provide for displacing and readily applying a lock in repairing a fence, I preferably provide the plate 3 (illustrated in Figs. 1 to 6, inclusive) with a transverse slot 6, communicating with the inner end of each longitudinally-elongated seat 5 and extending laterally in one direction from each of said seats to the contiguous side edge of the plate. This provides for sliding the fabric member which is to engage said spaced seats 5 into its place through the lateral inlet-slot 6, or, rather, sliding the lock parallel with the runner 1 or an equivalent member of the fabric until its lateral inlet-slots pass over the stay 2 or its equivalent and dispose the seats 5 in the plane of said stay, after which the straightening of the lock will cause the desired engagement of the parts, together with the crimping of the fabric members. Simultaneously, however, with the bending or crimping of the lock prior to its application to the fabric I preferably upturn the extremities of the plate at the outer sides of said lateral inlet-slots to form ears 7, which, when the lock is straightened to clamp the fabric members, extend forwardly from the plane of the end portions of the plate to the plane, approximately, of the central portion thereof, and thus prevent the lateral displacement of either the stay or the lock in a direction opposite to that in which the lock is applied to the stay. In other words, these ears engage the side surface of the stay and prevent the lateral displacement thereof through the entrance-slots.

From the above description it will be seen that an important advantage of the lock embodying my invention resides in the fact that the transversely-disposed member of the fabric bears at the ends of a crimped portion against biting edges at the ends of the transverse slot and is held in firm contact with these biting edges by the oppositely-bearing portion of the intersecting member of the fabric, the interval between the biting edges at the extremities of the transverse slot being approximately three times the diameter of the intersecting fabric member, while said intersecting fabric member is engaged at opposite sides by biting edges at the opposite ends of each longitudinal seat or slot or at two points upon each side of the plane of the first-named fabric member. The stay or longitudinal fabric member is also crimped slightly between its points of engagement with the end slots 5, said crimp obviously being in the opposite direction to that which is formed in the transverse member engaged by the lock, and hence movement of either member parallel with the other is prevented.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a wire fabric, the combination with intersecting longitudinal and transverse members, of a lock consisting of an elongated sheet-metal plate provided at its transverse center with a transversely-elongated slot into which said transverse fabric member is crimped, and also provided, upon its longitudinal center, with longitudinally-elongated slots, separate from said transversely-elongated slot, through each of which the longitudinal member extends, in contact with the opposite side of said transverse member from the plate, the longitudinal member, between the longitudinal slots through which it extends, being crimped in the opposite direction to the transverse member, substantially as specified.

2. In a wire fabric, the combination with intersecting transverse and longitudinal members, of a lock consisting of a pliable plate, provided at its transverse center with a transversely-elongated slot, and upon its longitudinal center with separate spaced slots, the transverse member having a crimp lying in the transverse slot of the plate to prevent displacement of the plate parallel with the transverse member, and the longitudinal member lying in the concave side of the crimp of the transverse member and extending through said spaced openings, and being crimped, between said spaced openings, in the opposite direction from the transverse member, to prevent displacement of the plate parallel with the longitudinal member, substantially as specified.

3. A lock for the intersecting members of a wire fabric, consisting of a plate provided with a central transverse slot forming a seat for one of the fabric members, provided at opposite sides of said transverse slot, and upon its longitudinal center, with longitudinally-elongated slots to receive a second fabric member, and having lateral entrance-slots extending from the inner or contiguous ends of said longitudinal slots to the contiguous side edge of the plate, the outer edges of said entrance-slots being upstruck to form ears 7 projecting forwardly from the contiguous end portions of the plate at the same side of the longitudinal slots and engaging the sides of the second-named fabric member, substantially as specified.

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

GEORGE P. SMITH.

Witnesses:
RICHARD CHAPPELL,
F. J. LAURENT.