

No. 629,266.

Patented July 18, 1899.

F. S. MORRIS.
SPIKE OR NAIL.

(Application filed Nov. 21, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

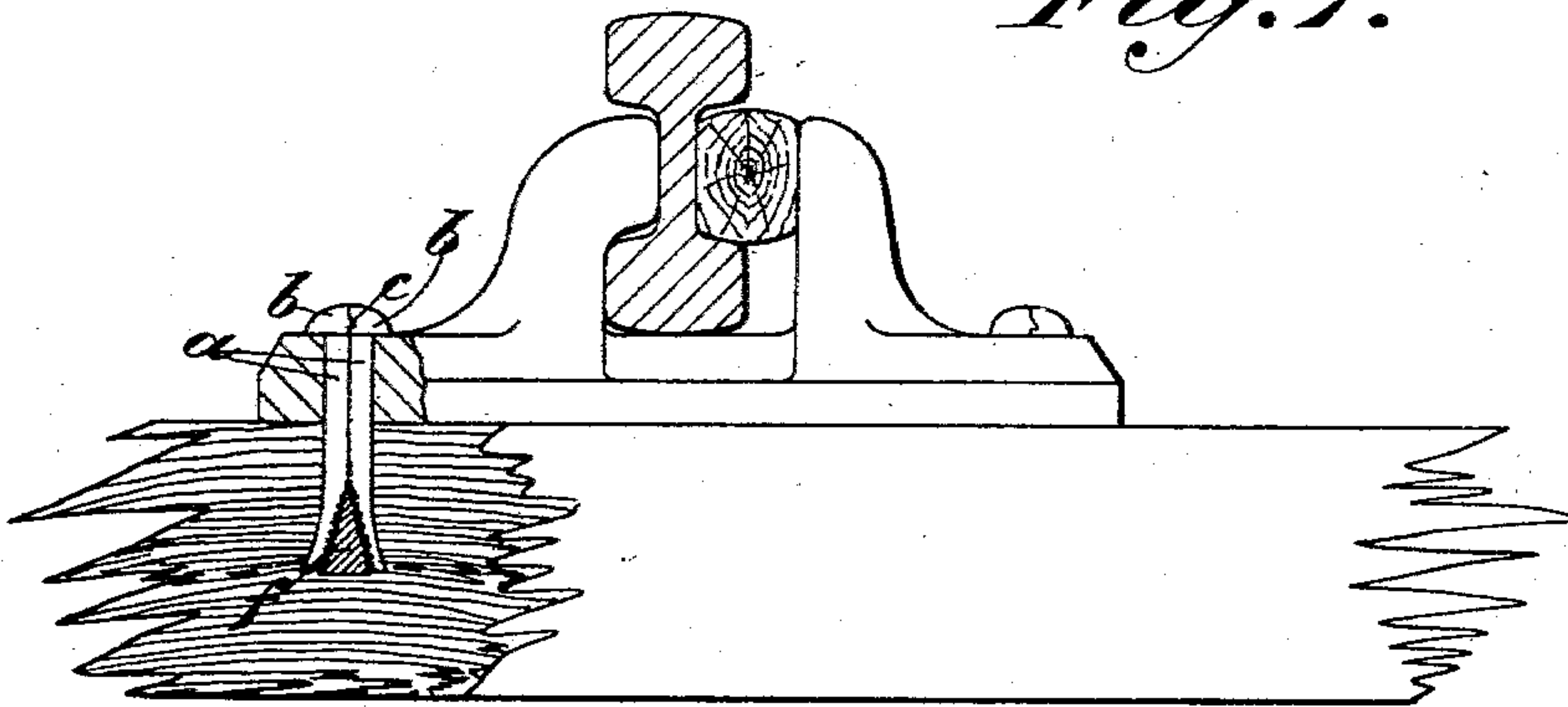


Fig. 2.

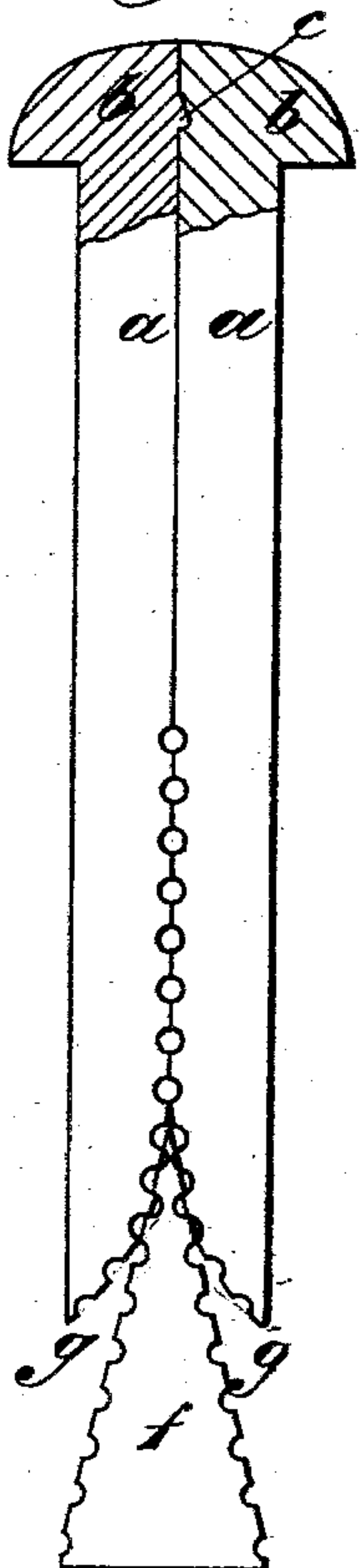


Fig. 3.

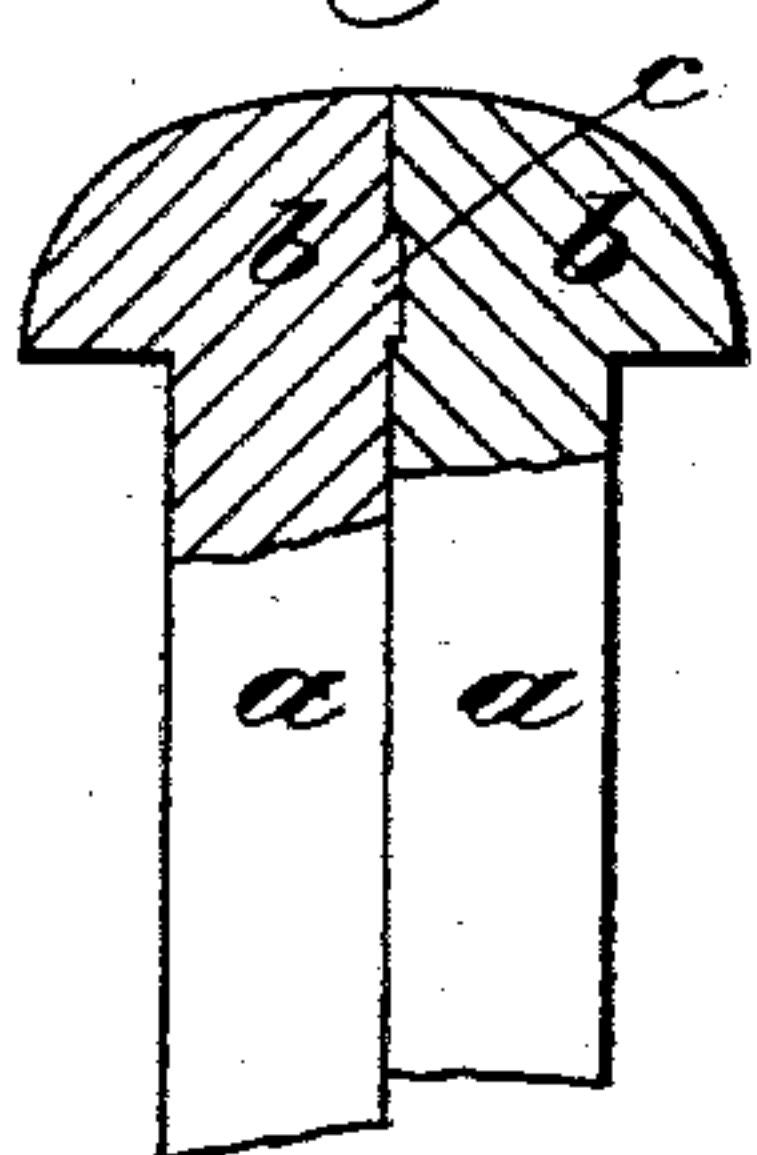


Fig. 4.

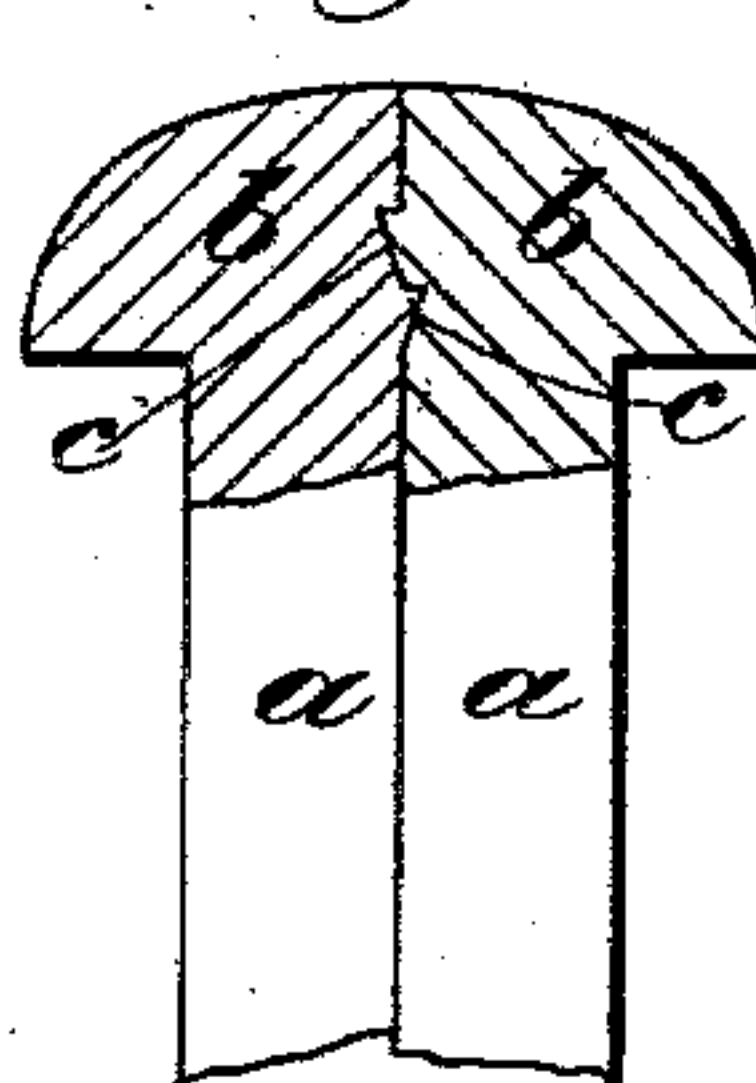


Fig. 5.

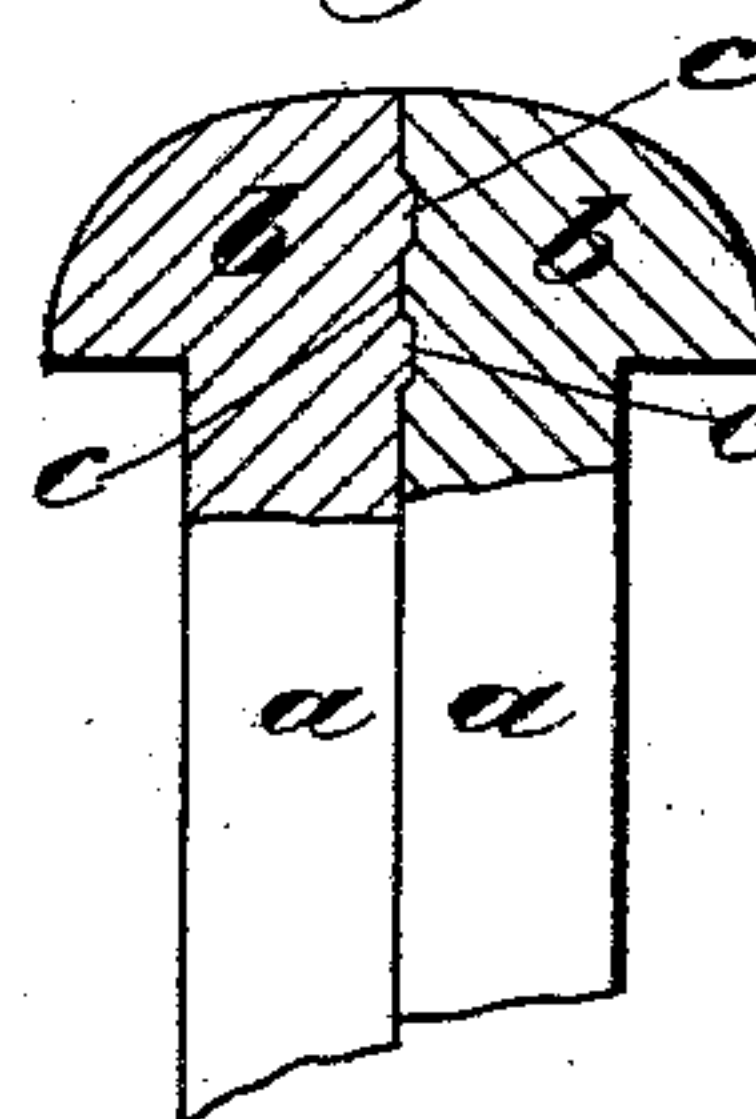


Fig. 6.

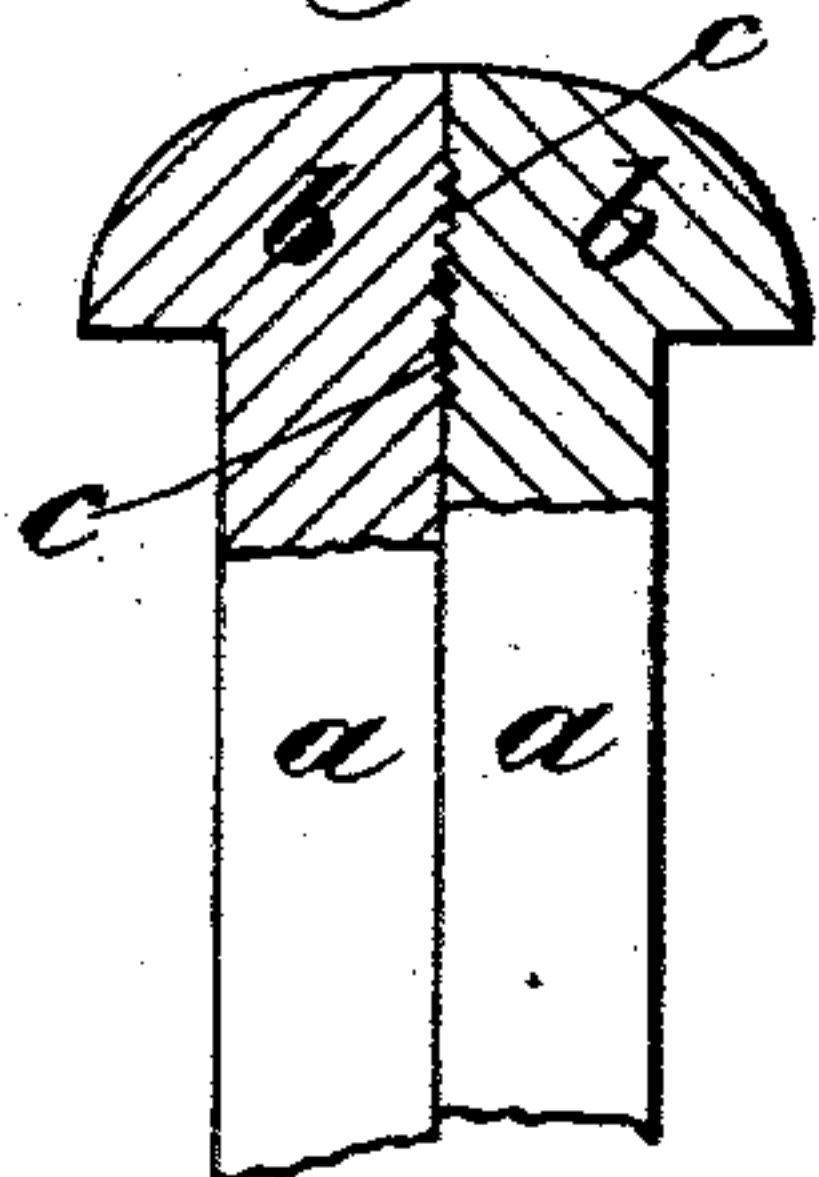


Fig. 7.

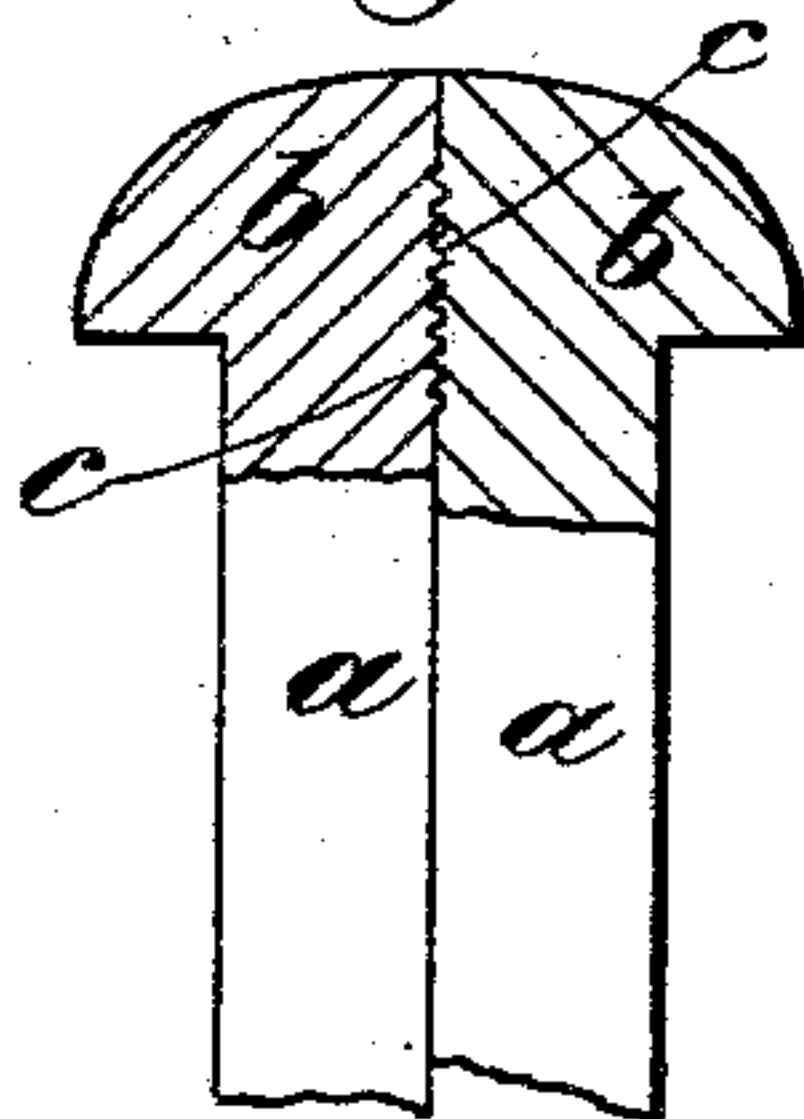
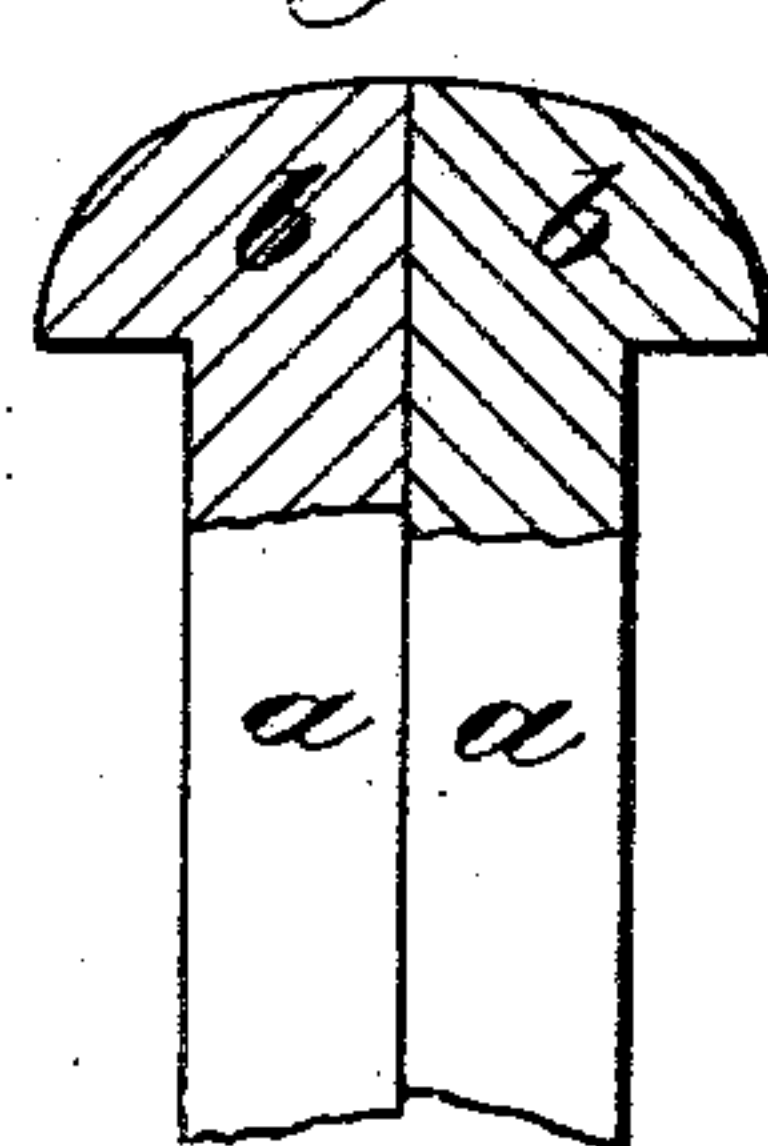


Fig. 8.



Witnesses

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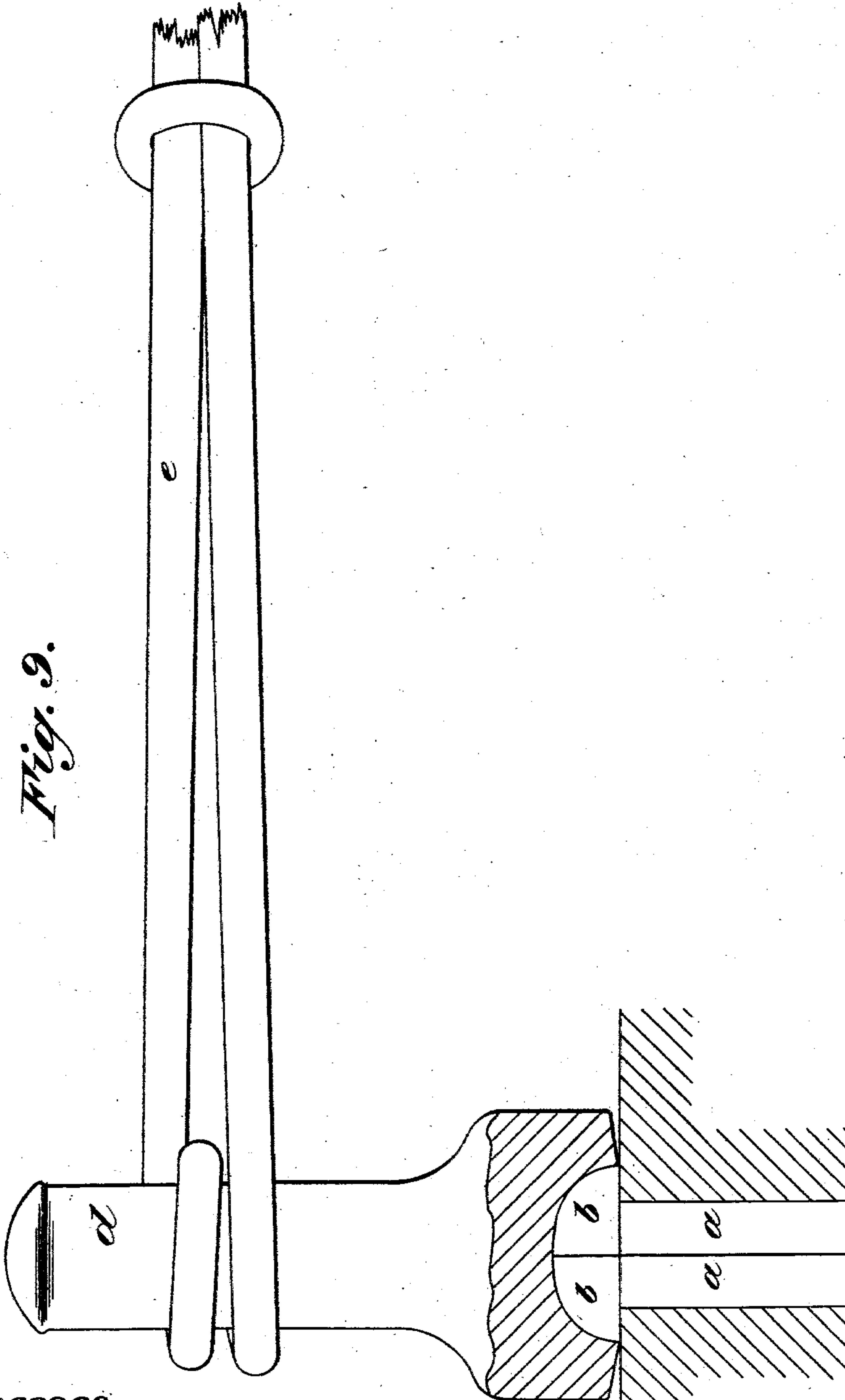
F. S. MORRIS.

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(Application filed Nov. 21, 1898.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

FRANCIS SANDERS MORRIS, OF LONDON, ENGLAND.

SPIKE OR NAIL.

SPECIFICATION forming part of Letters Patent No. 629,266, dated July 18, 1899.

Application filed November 21, 1898. Serial No. 697,112. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS SANDERS MORRIS, a subject of the Queen of Great Britain and Ireland, residing at Trafalgar Square, London, England, have invented Improvements in Spikes or Nails, of which the following is a specification.

This invention has reference to spikes or nails of the kind having divided shanks, which as they are driven into a railway-sleeper or other body are caused to spread or bend outwardly, either owing to their own shape or by wedges provided for the purpose, or both; and the object of the invention is to so construct said spikes or nails as to facilitate their subsequent withdrawal in case of need. For said purpose such a spike or nail according to this invention is made as a compound one—that is to say, in two separate parts, each with a shank or fang, these parts being adapted to fit one another, so as together to constitute the spike or nail whose separate parts, in order to prevent them sliding one on the other, have or may have their abutting surfaces formed with respectively a projection or projections and recess or recesses to fit one another or, as the equivalent, made roughened or ribbed or equivalently formed. The general formation of the spike or nail in other respects may be varied to suit different requirements. The parts being put together so as to constitute, as aforesaid, a compound spike or nail, it is driven into a railway-sleeper or other body after the same manner as a spike or nail made of one piece of metal, so that while the assembled parts of the compound spike or nail retain their original positions longitudinally relative to one another the spike or nail will hold as if made in one piece; but when it is desired to withdraw the spike or nail from the sleeper or other body this can be effected by extracting one of its component parts at a time. To this end, when necessary, a cold-chisel or equivalent instrument may be inserted between the two parts at the top in order to allow the projection or projections of one part to clear the recess or recesses of the other.

In order that others skilled in the art may be enabled to make and use my invention, I now proceed to more fully describe the same in detail with the aid of the accompanying

illustrative drawings, in all the figures of which corresponding parts are marked with the same reference-letters.

Figure 1 shows in side elevation a spike or nail according to this invention applied to the fixing of a railroad-chair to a transverse sleeper or tie, the chair and the sleeper or tie being shown partly in elevation and partly in section. Figs. 2 to 9, inclusive, are to a larger scale. Fig. 2 shows, partly in elevation and partly in longitudinal section, the improved spike or nail made with curved approximately wedge-shaped projection on the inner face of one of its halves and a corresponding recess in the inner face of the other half. Fig. 3 is a corresponding view of the upper part of the spike or nail, in which a slight rectangular projection on the inner face of one half engages a corresponding recess in the inner face of the other half. Fig. 4 is a like view of a modification in which half of the spike or nail has on its inner face an inclined projection and a recess adapted to receive the projection of the other half. Fig. 5 is a like view showing another modification, in which a couple of projections of beveled-tooth form on the inner face of the one half enter corresponding recesses in the face of the other half of the spike or nail. Fig. 6 is a like view showing the inner faces of the respective halves finally ribbed or roughened. Fig. 7 is a like view showing the inner faces of the respective halves somewhat more coarsely roughened. Fig. 8 is a like view showing the juxtaposed inner faces smooth, and Fig. 9 illustrates a convenient method of insuring the simultaneous and equal driving of the component parts of the improved spike or nail.

The rail-chair key and transverse sleeper or tie, as well as the wedge represented in Fig. 1, are all of known construction and are shown only in order to illustrate, by way of example, one of the numerous applications of my improved spike or nail, which in each of the forms illustrated in section (Fig. 8 excepted) is composed of two parts, each comprising a shank portion *a* and a head portion *b* and a projection *c* and a recess adapted to receive such a projection, Figs. 1, 2, and 3, whereby the two halves or separable parts of the spike or nail are engaged with one another, so as

when driven to move simultaneously, or each part may for the same purpose be equivalently formed with both a projection *c* and recess or projections *c* and recesses, the projection or projections *c* of the one adapted to engage in the recess or recesses of the other, Figs. 4 to 7, inclusive.

As already stated, the parts are to be put together so as to constitute, as represented in the drawings, a compound spike or nail, and by reason of the engagement of the one part with the other may when so placed together be driven by hammering, after the manner of an ordinary spike or nail.

In some cases, especially where a hole to receive the spike or nail is previously bored, the compound spike or nail may be made, as represented in Fig. 8, without the interlocking projections.

When the "interlocking projections and recesses" (in which expression I include the roughening of the parts, such as indicated, by way of example, of Figs. 6 and 7) are dispensed with, as in Fig. 8, for example, it will be convenient when driving the spikes or nails to use a device *d* resembling a cupping-tool and held by a hazel-rod *e* or equivalent, the blows of the hammer then of course being delivered onto the top of the device *d*. (See Fig. 9.) In order that the fangs may when the compound spike or nail is driven into a wooden sleeper or tie or other like body spread outward, so as to afford a better hold, whether a separate wedge *f*, Fig. 1, be used or not, the lower ends of the shanks or fangs are or may be at the inner sides thereof, Fig. 2, curved or beveled or equivalently formed, so as to gradually become of less and less cross-sectional area and to terminate in a more or less sharp edge *g*, or in some cases the shanks or fangs may at their lower ends be pointed.

In Figs. 1 and 2 the inner sides of the lower ends of the shanks or fangs are shown serrated or ribbed, and in Fig. 1 the separate wedge *f* is shown with its two inclined sides correspondingly serrated or ribbed, so that before inserting the lower end of the compound spike into a hole bored to receive it the serrated or ribbed wedge *f* can be inserted into the compound spike sufficiently to be (after insertion into the hole) securely held between the serrated shanks or fangs while the spike is driven until the bottom of the wedge *f* reaches the bottom of the hole into

which the spike or nail is being driven, after which, as the spike or nail is further driven, its serrated shanks or fangs will take an outward downward course, accentuated by the presence between the shanks or fangs of the serrated wedge *f*.

I do not claim, broadly, the conjoint use of two fangs and an interposed wedge.

What I claim as my invention is—

1. A compound spike or nail made in two separable parts, each with a shank or fang having its inner face outwardly curved or inclined and serrated or ribbed, said separable parts at their inner faces having interlocking projection and recess, so as together to constitute the spike or nail, in combination with a serrated or ribbed wedge adapted to be inserted between and held by said serrated or ribbed fangs, substantially as described for the purpose specified.

2. A compound spike or nail made in two separable parts, each comprising a part head, a shank or fang, means whereby said parts when placed together, become interengaged or interlocked, so as to form, for driving and holding purposes, practically one, and each part made with an end of its shank or fang curved or beveled and serrated or ribbed at the inner side; in combination with a correspondingly serrated or ribbed wedge, adapted to be inserted between and held by said curved or beveled, serrated or ribbed surfaces of the shanks or fangs, substantially as described for the purpose specified.

3. The compound spike or nail made in two longitudinal practically similar separable sections abutting along their inner longitudinal faces and approximately smooth at their outer faces, the inner faces of the sections beveled outwardly and downwardly approximating the V-shaped bottom recess, said beveled faces being roughened or irregular, in combination with a wedge fitting said recess and gripped by said roughened faces, whereby the wedge spreads the lower ends laterally, and whereby the sections of the spike can be separately drawn, substantially as described.

Signed at London this 8th day of November, 1898.

FRANCIS SANDERS MORRIS.

Witnesses:

EDWARD FIELD,
CHAS. ROCHE.