

(No Model.)

2 Sheets—Sheet 1.

C. H. COMPTON.
CATTLE GUARD.

No. 575,921.

Patented Jan. 26, 1897.

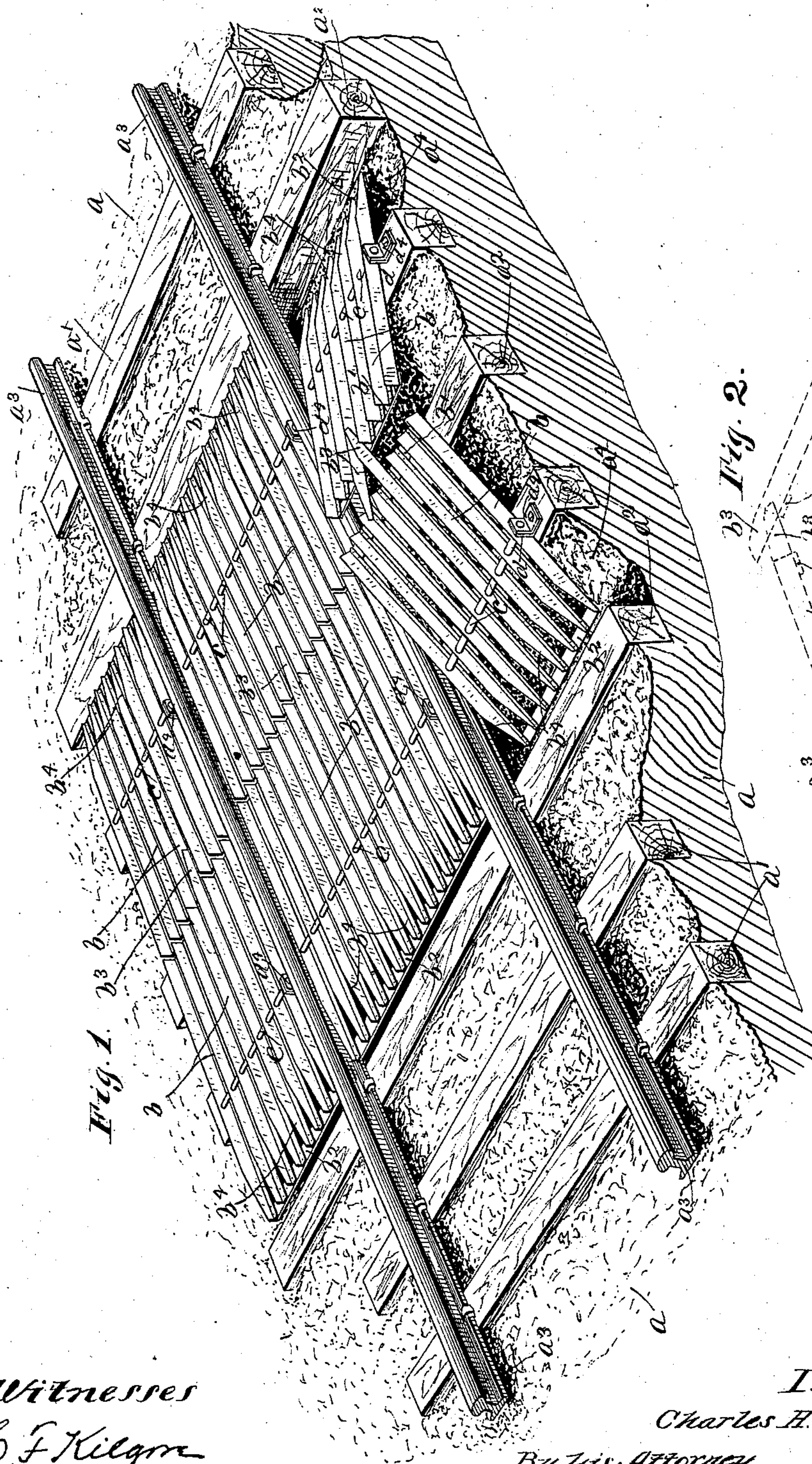


Fig. 1.

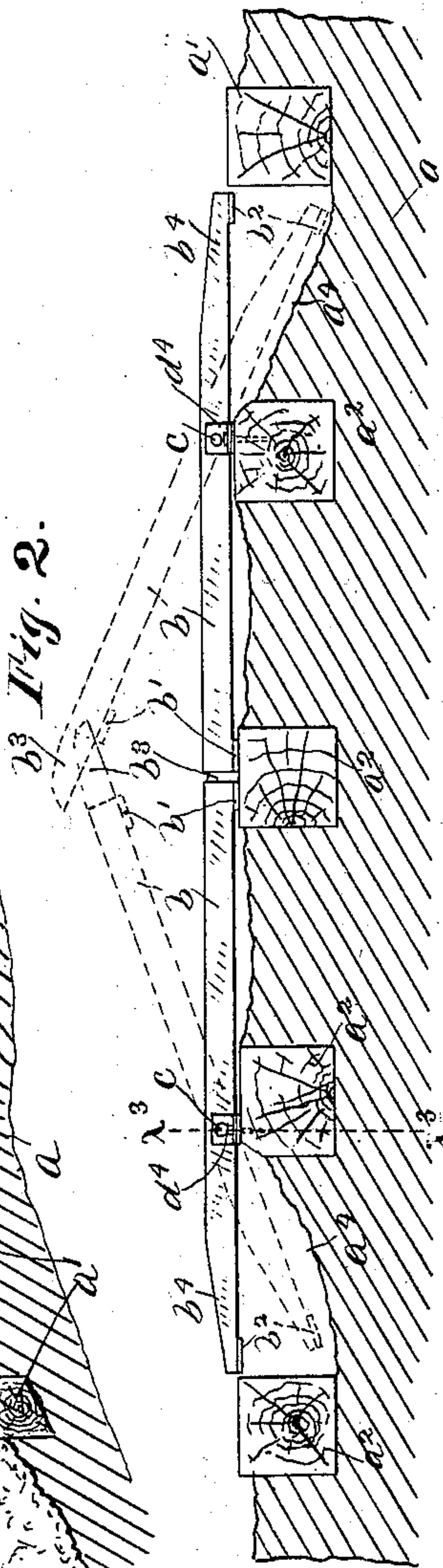


Fig. 2.

Witnesses

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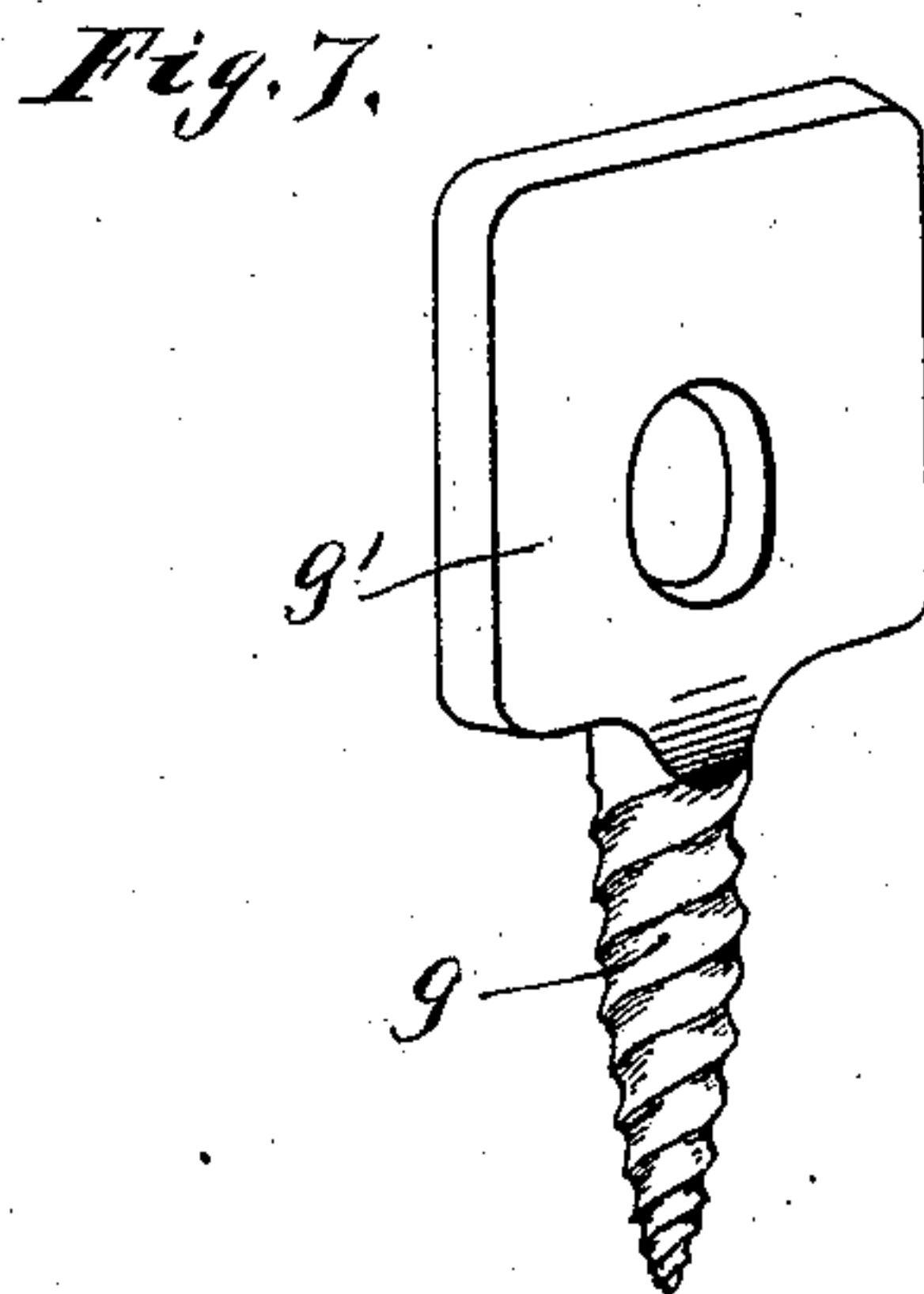
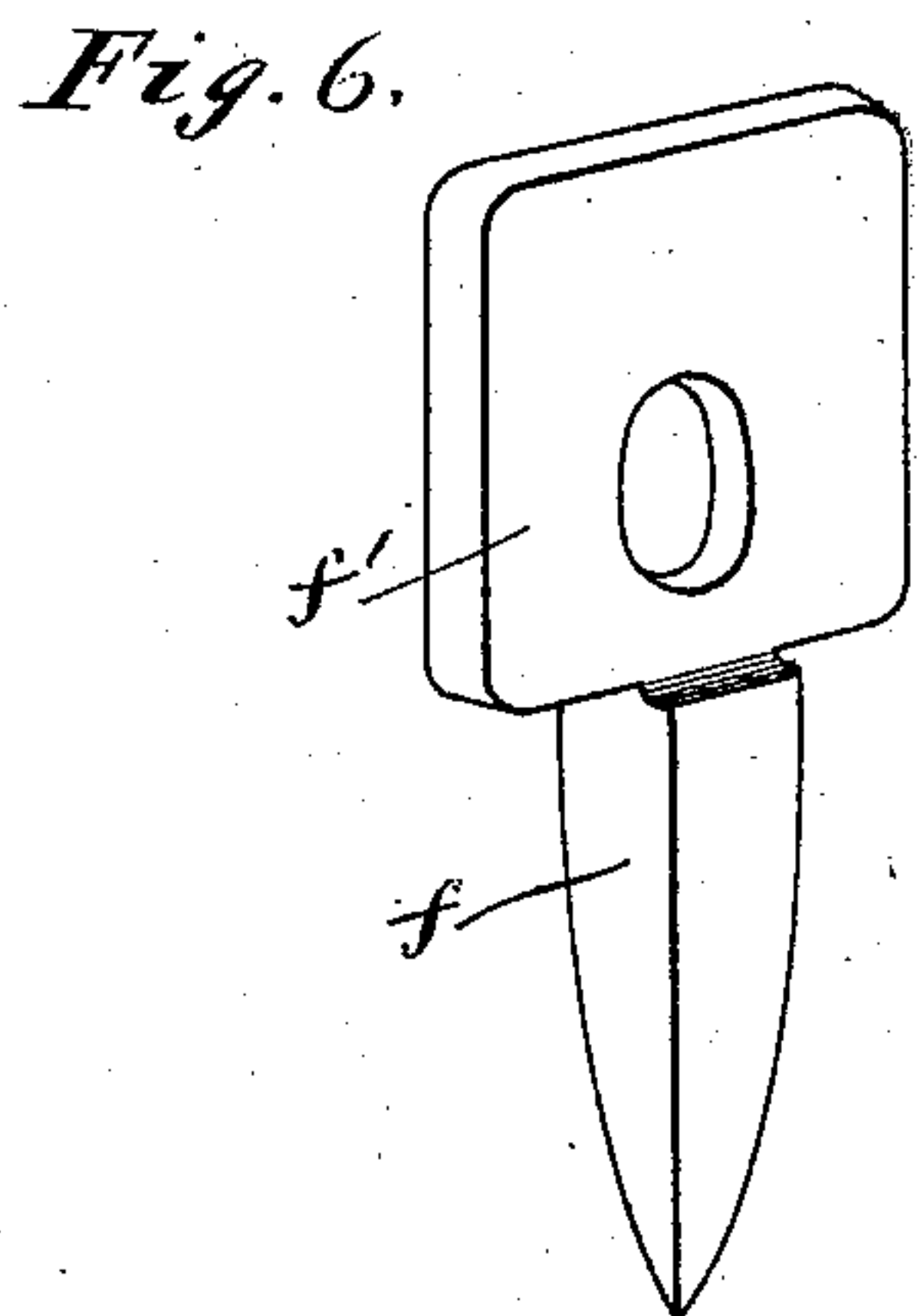
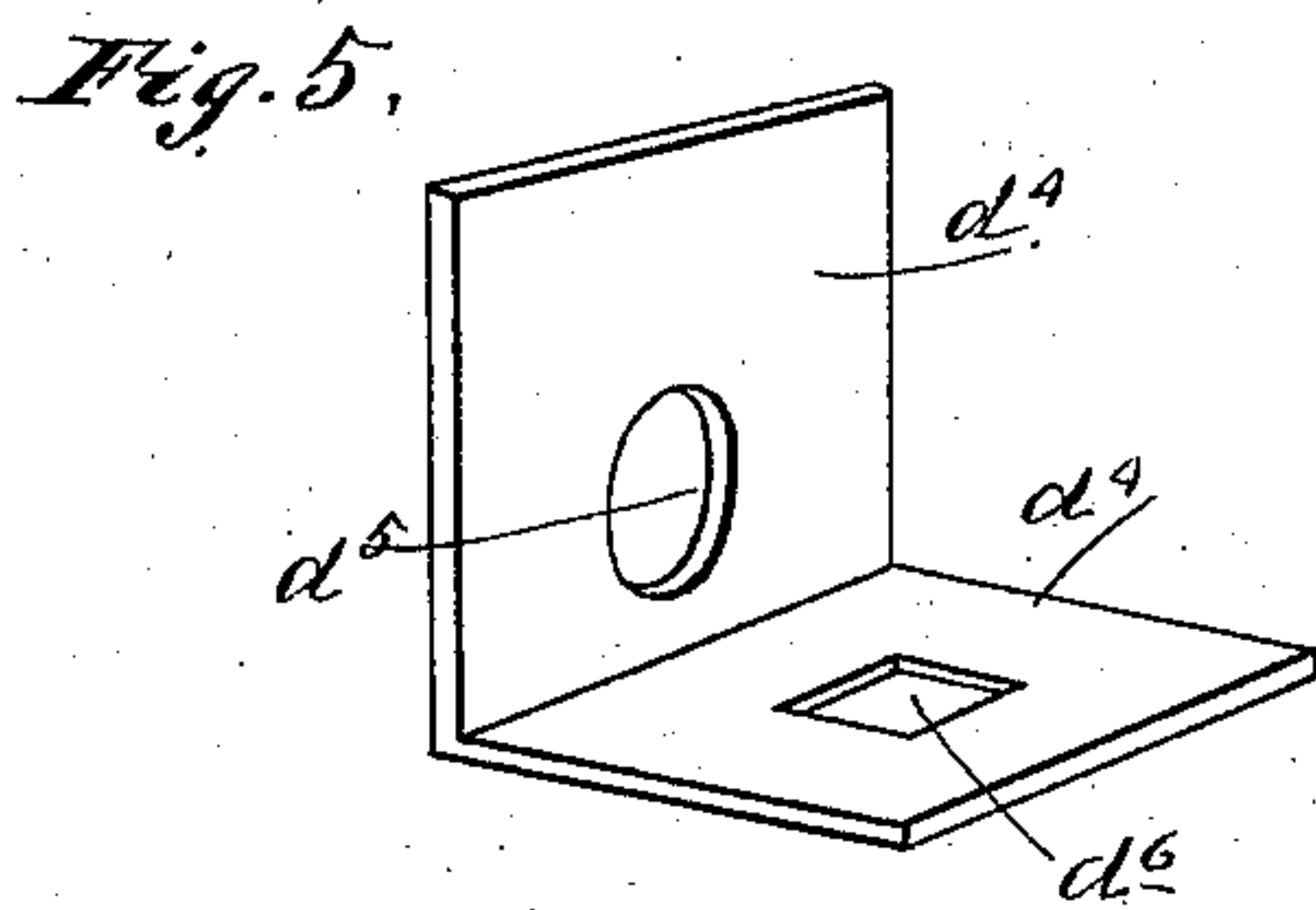
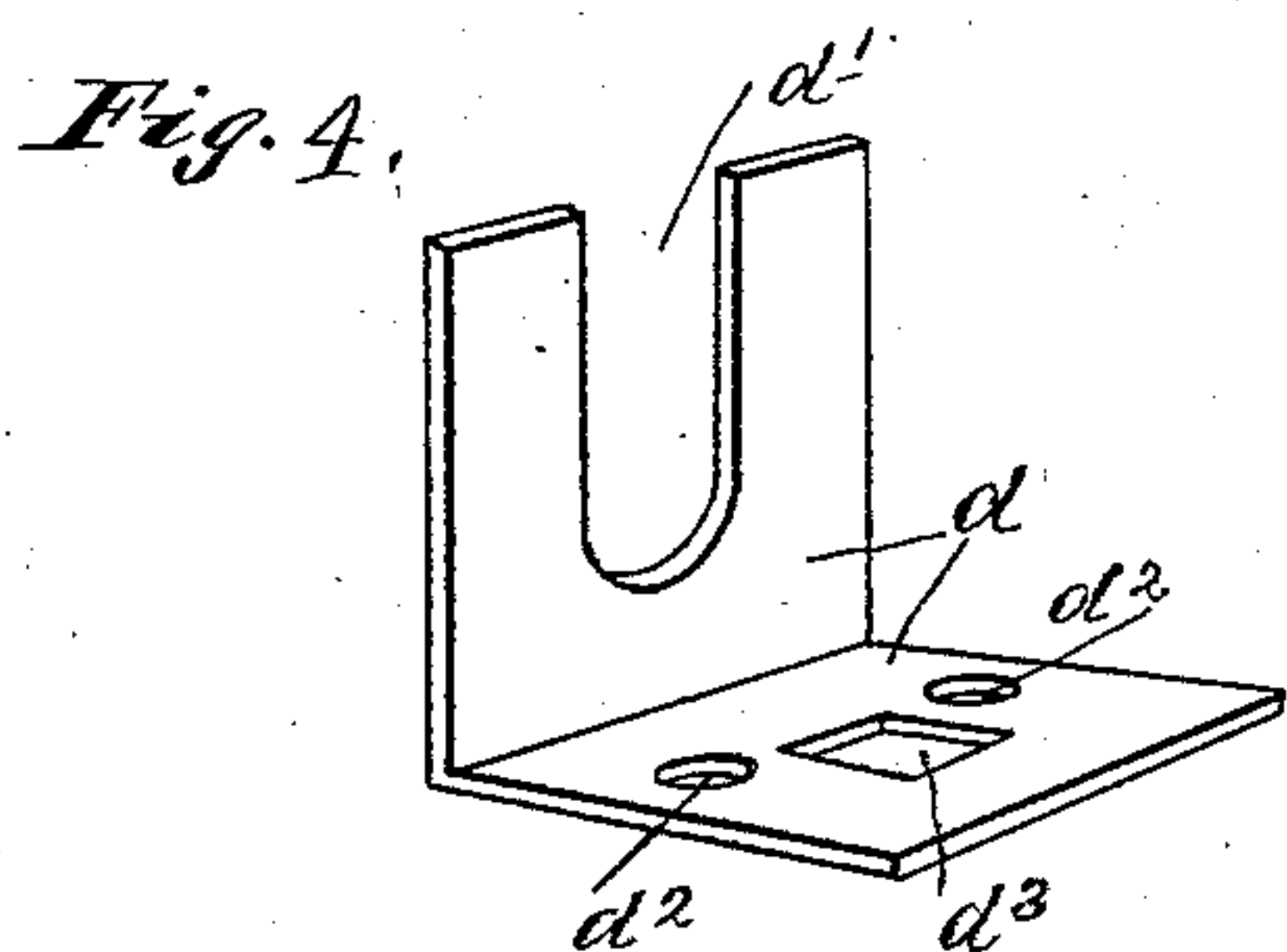
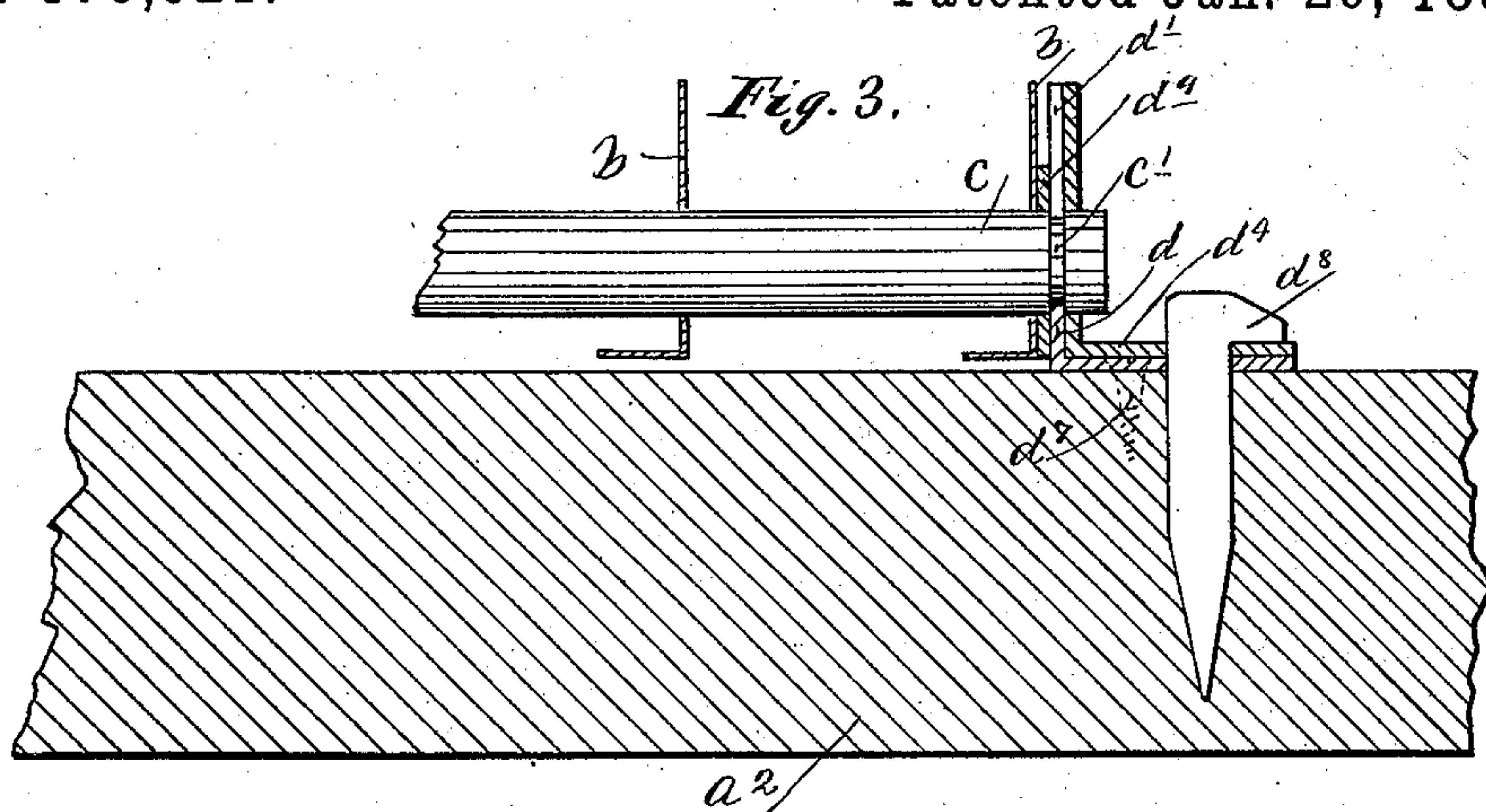
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UNITED STATES PATENT OFFICE.

CHARLES H. COMPTON, OF NEW ALBANY, INDIANA.

CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 575,921, dated January 26, 1897.

Application filed March 24, 1896. Serial No. 584,607. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. COMPTON, a citizen of the United States, residing at New Albany, in the county of Floyd and State of Indiana, have invented certain new and useful Improvements in Cattle-Guards; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved cattle-guard for railways.

To this end my invention comprises the novel devices and combinations of devices hereinafter described, and defined in the claims.

The preferred form of my invention is illustrated in the accompanying drawings, wherein, like letters referring to like parts throughout the several views—

Figure 1 is a view in perspective, showing my improved cattle-guard applied in working position on a railroad-track. Fig. 2 is a side elevation of the parts shown in Fig. 1. Fig. 3 is a transverse vertical section taken through a portion of one of the pivoted guard-sections substantially on the line x^3x^3 of Fig. 2. Fig. 4 is a perspective view showing one of the angle-pieces which constitute the pivot-bearings for the pivoted guard-sections. Fig. 5 is also a view in perspective, showing an angle-piece which coöperates with the angle-piece shown in Fig. 4 to form one of the bearings for the pivoted guard-sections. Fig. 6 shows a modified form of support for the pivot-shaft of the guard-section, and Fig. 7 illustrates another modified form of pivot-support for the guard-sections.

a indicates the road-bed or ballast, a' a^2 the ties, and a^3 the rails, of an ordinary surface railway. The ties a' are of the ordinary dimensions, while the ties a^2 are of extra length and project the entire distance between the wing-fences. (Not shown.)

In my present invention I construct the cattle-guard in the form of pivoted sections, located in coöperating pairs, one pair between the rails and one pair between each rail and the adjacent wing-fence. These pivoted sections are connected for simultaneous movements and as preferably constructed have their pivots located outward of their centers

of gravity, so that said sections will tend to remain in their straight-line horizontal positions.

In my preferred construction the pivoted guard-sections comprise longitudinal angle-bars b , which are tied together at their inner ends by cross-bars b' and at their outer ends by cross-bars b^2 . The grate-like sections thus formed are pivoted on transverse rods c , which are driven snugly through perforations in the intermediate portions of the angle-bars b . These transverse rods c are provided at their outer ends with circumferential grooves c' , and these projecting ends of the rods c are journaled in bearings, each of which comprises the following details of construction:

d indicates an L-shaped angle-piece, the vertical flange of which is provided with an open-ended slot d' of such transverse dimensions as to fit the groove c' in the end of the pivot-rod c , and the horizontal flange of which is provided with screw-holes d^2 and with a spike-hole d^3 .

d^4 indicates another L-shaped angle-piece, the vertical flange of which is provided with a perforation d^5 , which fits the largest portion of the shaft c , and the lower flange of which is provided with a spike-hole d^6 , adapted, when the angle-pieces are placed in working position, to register with the spike-hole d^3 of the angle-piece d .

The angle-pieces d , which are to support the coöperating members of the pivoted guard-sections, are secured onto the alternate members of the long ties a^2 before said guard-sections are located in working position. This may be done by means of screws d^7 , which are screwed into the ties with their heads countersunk into the perforations d^2 .

In placing the guard-sections in working position the reduced or grooved portions c' are placed in the slots d' of the angle-pieces d , in which position the vertical prongs formed at the sides of said slot d' will securely hold the engaged shaft c from endwise movement. The angle-piece d^4 is next placed in working position, which is done by placing the same against the angle-piece d with the perforation d^5 on the outermost end of the shaft c , as shown in Fig. 3. This angle-piece d^4 may now be locked in working position and the angle-piece d also more securely held in posi-

tion by means of an ordinary railway-spike d^8 , which is passed through the coincident perforations d^3 and d^6 and is driven into the tie.

d^9 indicates a loose washer placed between the side of the pivoted guard-section and the adjacent angle-piece d .

It will be noted that the angle-pieces d hold the shafts c from endwise movement, while the angle-pieces d^4 constitute the bearings for said shafts and hold the same from movement in all directions except endwise and pivotal movement. Obviously the guard-sections are very securely held in working position by the above device, while at the same time the sections may be readily removed by any one having a claw-bar simply by drawing the spikes d^8 . It will thus be seen that the guard-sections work in coöperating pairs positioned longitudinally of the track on pivots extending transversely or crosswise of the track.

When positioned as above described, it will be noted that the tie-bars b' at the inner ends of the pivoted sections rest in close proximity to each other upon the central member of the ties a^2 , while the tie-bars b^2 at the outer ends of said sections work close against the outer members of the ties a^2 .

In the construction shown I secure the simultaneous movement of the coöperating pairs of pivoted guard-sections simply by projecting or elongating one of the bars b of each of said sections, as shown at b^3 . These projecting portions b^3 overlie the tie-bars b' of the adjacent coöperating guard-section, and hence when either member of the pair of sections is raised or tilted the coöperating member will also be raised or tilted, as illustrated by dotted lines in Fig. 2, as well as by the right-hand pair of sections shown in Fig. 1.

It will be noted that the ballast or road-bed is cut away or left unfilled, as shown at a^4 , to permit the downward-tilting movement of the outer ends of the pivoted guard-sections. It will also be noted that the bars b are beveled at their outer ends, as shown at b^4 , to remove projecting edges, on which passing objects might catch.

The operation of this cattle-guard must be obvious, but will be briefly described. Whenever stock roaming down the track in either direction come to and attempt to cross the cattle-guard, they must first step onto the outer end of one of the pivoted guard-sections, which will thereby be tilted into the position shown by dotted lines in Fig. 2 and at the right in Fig. 1. This giving way of the support under the animal's feet will of itself tend to scare the animal, and the sudden rising or bobbing up of the inner end of the guard-section before the animal's face will so completely scare the beast that it will make no further attempt to cross the guard, but will, on the contrary, quickly withdraw from the same.

My improved cattle-guard therefore will effectually prevent stock from passing over the same in either direction.

The transverse pivot-rods c should be located at sufficient distances outward beyond the longitudinal centers of gravity of the sections so that the inner ends of the sections will have sufficient weight to restore the sections to their normal position in spite of ordinary obstacles, such as snow.

It is important to also note a very important action which is made possible by my invention. Suppose, for example, that by some accident, or by having been maliciously tampered with, the pivoted sections have been secured or stuck in their tilted position. In this case when a train approaches, no matter from which direction, the cow-catcher or other part of the train would first strike against the upper end portion of the section nearest to the train, and would of course force the same downward, even if it had to bend the section in doing so, but would find nothing upon which it could catch to tear said section from its working position. Inasmuch as both sections of each pair of pivoted guard-sections are positively connected for simultaneous movements, it follows that under the above action the section which was the farthest from the approaching train and which would be torn loose if caught by the train will be positively forced into its horizontal position before the interfering portion of the train reaches the same. Again, if by any contingency the guard-sections should become locked in a horizontal or straight-line position, still the guard would be as efficient as the ordinary standard construction. Again, if the longitudinal bars of the sections should become flattened or bent downward, the efficiency of the guard would not be materially affected; and it may be here stated that a cattle-guard built on the principle of my invention would be a very efficient device even if the sections of the same were formed with unbroken or continuous face-surfaces, as distinguished from the gratings shown.

It will also be understood, of course, that minor details might be changed without departing from the spirit of my invention. For instance, so far as certain of the broad claims of my invention are concerned various modified though less desirable bearings for the transverse pivot-shafts c of the guard-sections might be employed. One modified form of shaft-bearings is illustrated in Fig. 6 and comprises a spike f with flattened and perforated head f' , while Fig. 7 illustrates another modified form of pivot-support, of which g indicates a wood-screw provided with a flattened and perforated head g' . With these two latter forms of shaft-bearings the pivot-shaft c will not require the groove c' , but should be loosely passed through the perforations in the guard-section bars b , so that it may be placed in working position after the shaft-bearings $f f'$ or $g g'$, as the case may be, have in the former case been driven into the tie or in the latter case been screwed into the tie.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A cattle-guard, comprising one or more pairs of pivoted grate-like sections, each of which sections has an elongated or projecting bar which engages the cooperating section of the pair, whereby said sections are given simultaneous movements, substantially as described.
2. A cattle-guard, comprising one or more pairs of sections, disposed longitudinally of the track and mounted on independent transverse pivots, but adapted for simultaneous movements, by means of positive connections between the same, whereby, if an animal steps on the outer end of either section, the inner ends of both sections will be thrown upward beyond the horizontal, or if one of said pivoted sections is struck by a passing train, both of the cooperating pivoted sections will be forced into their horizontal or normal straight-line positions, substantially as described.
3. In a cattle-guard, the combination with one or more pivoted sections, of a pivot-shaft passing laterally through the section, and two-part pivot-blocks for said shafts, comprising

each, one piece which engages said shaft and holds the same from endwise movement, but permits upward displacement of the same, and another piece which holds the shaft from upward movement, but permits longitudinal displacement, but which two bearing-pieces, in cooperation with each other, hold said shaft from displacement, in all directions.

4. In a cattle-guard, the combination with one or more pivoted sections, of the pivot-shaft *c* extending transversely through said section and formed on its projecting ends with grooves *c'*; the two-part bearings, engaging the ends of said shaft *c*, comprising, each, the angle-piece *d* securable to the tie and provided with the vertical slot *d'* and with the spike-hole *d*³, and the angle-piece *d*⁴ having the bearing-perforation *d*⁵ and spike-hole *d*⁶; and the spike *d*⁸ working through said spike-holes *d*³ and *d*⁶, said parts operating substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. COMPTON.

Witnesses:

GEO. BORGERDING,
MICHAEL ZIES.