(No Model.)

G. H. EVERSON.

COMPOUND RAILROAD RAIL.

No. 262,940. Patented Aug. 22, 1882.

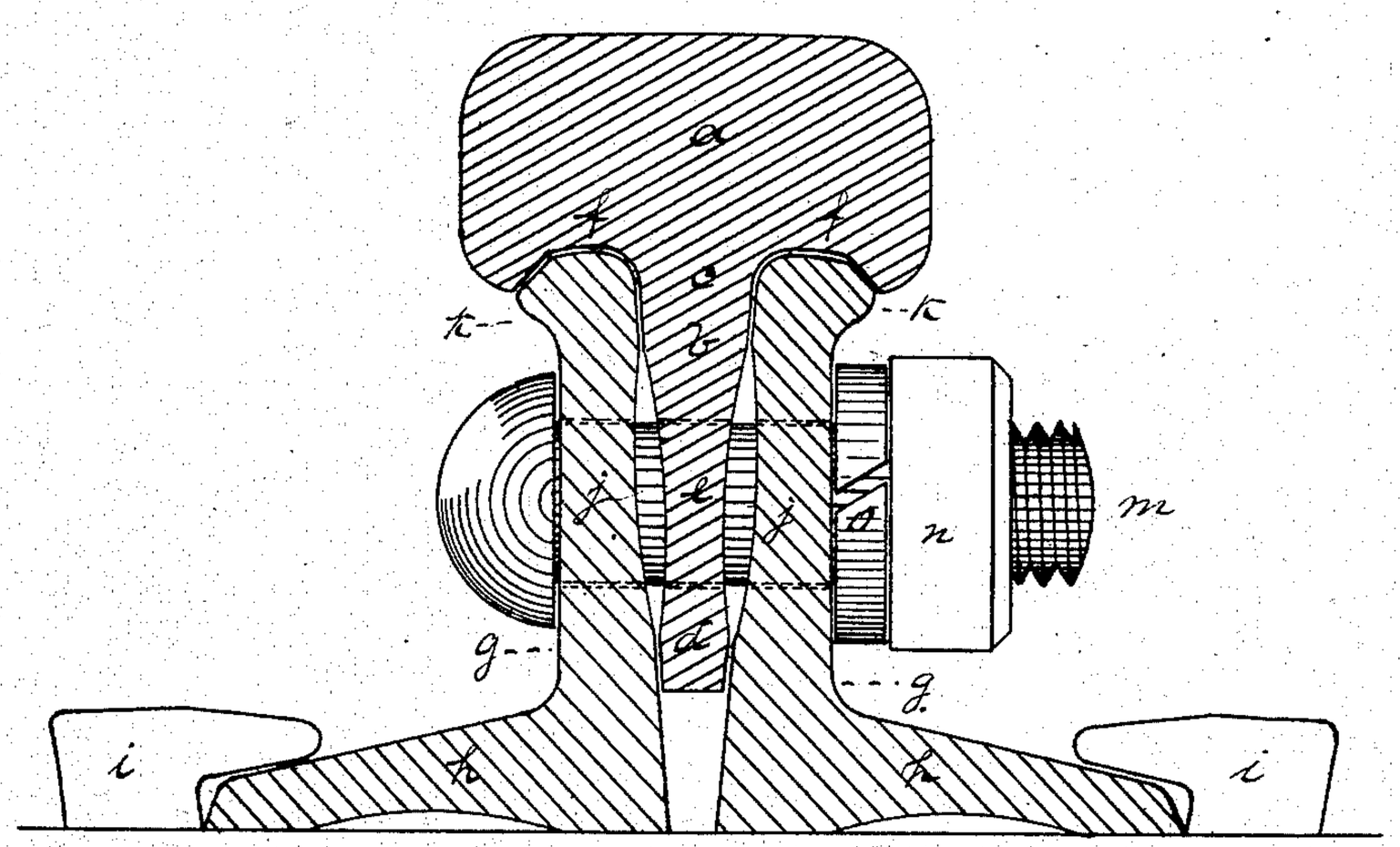

Fig. 1.

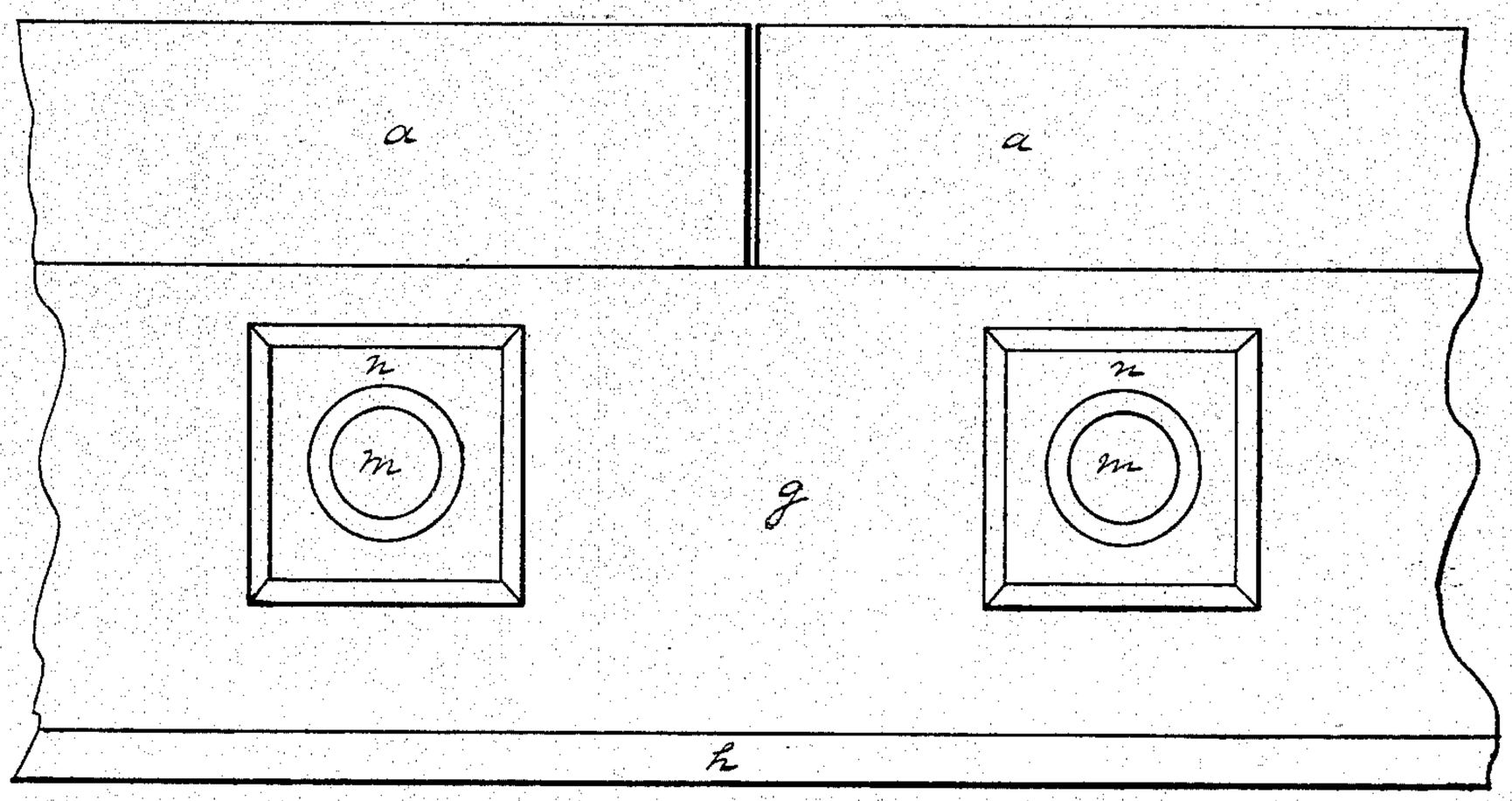

Fig. 2.

Witnesses
Jno. K. Smith
L. C. Sickler

Inventor
George H. Everson
by his attorneys
Bakewell & Kerr

UNITED STATES PATENT OFFICE.

GEORGE H. EVERSON, OF SCOTTDALE, PENNSYLVANIA.

COMPOUND RAILROAD-RAIL.

SPECIFICATION forming part of Letters Patent No. 262,940, dated August 22, 1882.

Application filed April 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. EVERSON, of Scottdale, in the county of Westmoreland and State of Pennsylvania, have invented a new and useful Improvement in Compound Railroad-Rails; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a cross-sectional view of my improved rail, and Fig. 2 is a side elevation of the same.

Like letters of reference indicate like parts in each.

My invention relates to an improvement in that class of compound railroad-rails where the head and web of the rail is secured and supported by flanged side pieces, which are fastened to the ties; and it has for its object a cheaper, stronger, and more perfect rail of this class than has heretofore been made.

Heretofore great difficulty has been experienced in rolling a rail of this class so as to form a durable and perfect rail in which the strain will be evenly distributed throughout the different parts.

My invention, which I will now proceed to describe, so that others skilled in the art may manufacture and use the same, consists in forming the head of the rail and the flanged side pieces so that the latter will act as a perfect support for the former, relieving the strain on the bolts, and in making the web as light as possible, while the permanent flanged side pieces are made strong and durable without increasing the weight of or the amount of metal used in the combined rail.

In order to prevent the greater part of the weight and strain from bearing on the bolts which secure the top of the rail to the side pieces, the strain and weight must bear from the top pieces onto the side pieces, and in such a manner as to act as a clamp-tightening connection of the parts, instead of acting as a wedge, which tends to separate the parts; or, in other words, the force and weight of passing trains must be as nearly as possible directed from all parts of the top of the rail toward the center.

In the drawings, *a* represents the head of the rail, from the lower part of which extends the web or tongue *b*, which is wider at the points *c* and *d* than at the points *e*. Below the points *d* the web is slightly wedge-shaped. In the lower part or under surface of the head *a*, on each side of the web *b*, are two cavities or recesses, *f f*, which extend along the length of the rail. These cavities, which receive the obtuse ends or heads of the webs or angle-pieces *g g*, may be curved, oval, octagonal, or at an angle more obtuse than a right angle. On both sides of the web *b* are the permanent side angle-pieces, *g g*, the feet *h h* of which rest on the ties and are spiked thereto by the spikes *i i*. The top of these side pieces may be formed larger than the parts *j j*, which are slightly hollowed out, so as to be somewhat thinner than the other portions of the side pieces, so as to form the lugs *k k*, the top of which are of a curved, oval, octagonal, or other shape, the angles of which are more obtuse than a right angle, so that these lugs may fit in the cavities *f f* in the under surface of the head *a*. Passing through holes in the side pieces, *g g*, at the points *j j*, and through the web *b* at the points *e e*, is a screw-threaded bolt, *m*, secured by a nut and washer, *n o*. This bolt secures the top piece and web to the flanged side pieces.

This compound railroad-rail has many advantages over the other rails of this class heretofore in use. The weight and strain of passing trains are borne by the side pieces, *g g*, instead of bearing on the bolt *m*, and the top piece resting on the lugs *k k*, the weight tends to clamp the side pieces against the web *b*, instead of acting as a wedge, and also it prevents the rattling and jarring of the parts, which take place where the top piece of the rail merely rests on the side pieces, they not being secured in cavities in the bottom of the top piece. Owing to the web *b* and the side pieces, *g g*, being hollowed out at the points *e e* and *j j*, the side pieces bearing on the web *b* only at points *d d* and *c c*, the bolt passing through the portions *e e* and *j j*, a certain spring is afforded to the parts, which prevents jarring and rattling, which would tend to loosen or break portions of the rail. These hollows also lighten the rail and reduce the quantity of metal used.

The different portions of the rail, as described, are easily rolled, there being nothing in their shape that renders them more difficult to roll than the simple railroad T-rail now in general use. These rails have all the well-known advantages of the compound rail without their disadvantages.

I am aware that compound rails having an acute-angled cavity in the lower face of the top piece have been made; but these are objectionable in that it is exceedingly difficult to roll the cavity in the rail, and I do not desire to claim the same; but,

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A T-head for compound rails, having broad or rounded grooves or recesses in the under surface of the head at each side of the central stem for receiving the blunt upper or bearing-head of the side or web pieces of the rail, substantially as and for the purposes described.

2. The combination of the blunt-headed side or web pieces with a T-head having rounded or shallow seats, recesses, or grooves in the under surface of the head at each side of the central stem for receiving the said heads, substantially as and for the purposes described.

3. In a compound railroad-rail, the combination of a head-piece having a stem, and grooves on the under surface of the head at each side of the stem, with angle-pieces or webs having obtuse heads which enter the grooves or recesses in the under surface of the head, and shallow grooves along the line of the bolt-holes, substantially as and for the purpose specified.

4. In a compound railroad-rail, the head *a*, having the recesses or grooves *f f* upon its under surface, and the stem *b*, wedge-shaped at its extremity and grooved along the line of bolt-holes, in combination with the angle-pieces having the obtuse heads, which enter the recesses *f f* of head *a*, and having shallow grooves *j j* along the line of bolt-holes, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand this 5th day of April, A. D. 1882.

GEORGE H. EVERSON.

Witnesses:

JAMES K. BAKEWELL,

JAMES H. PORTE.