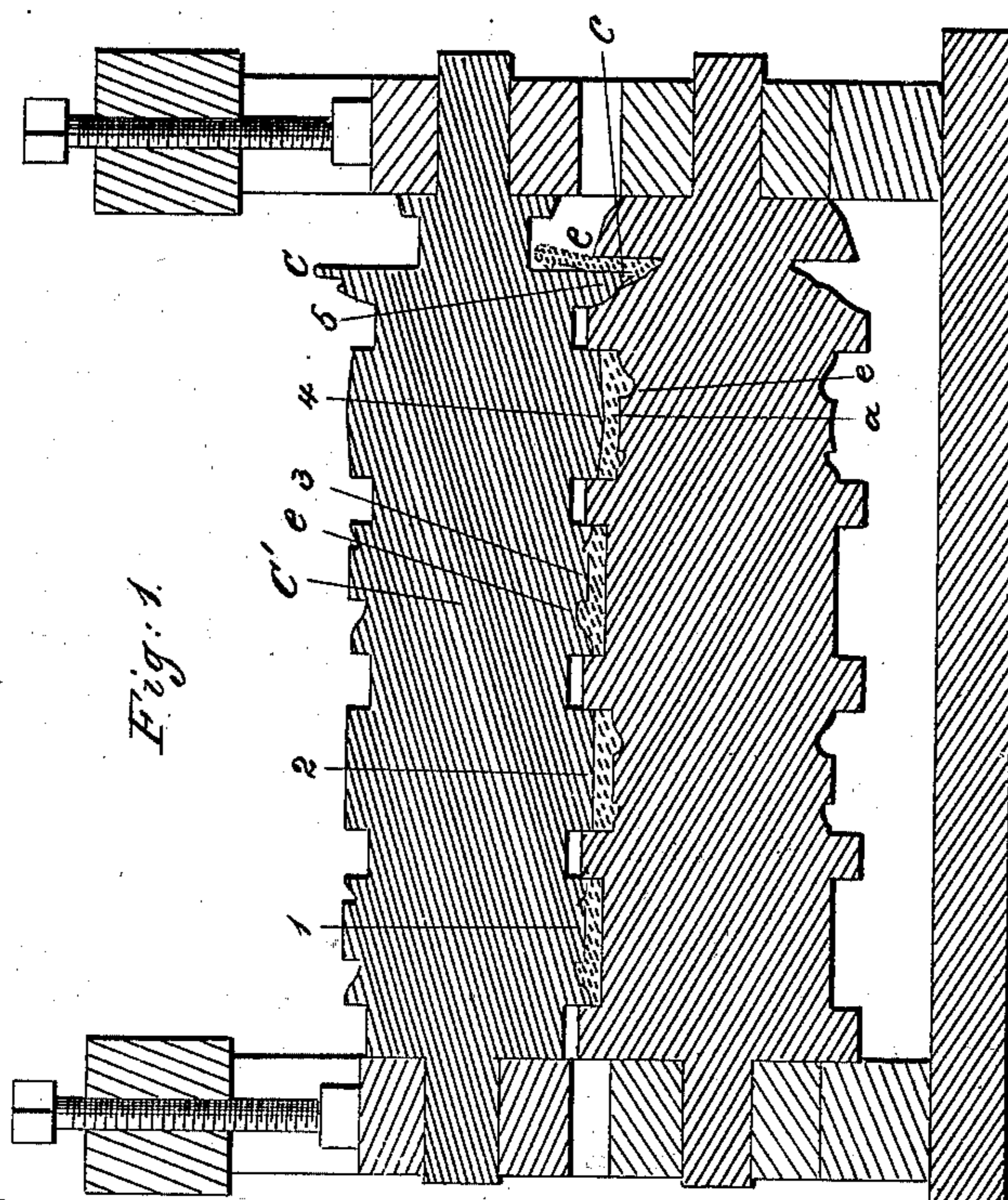
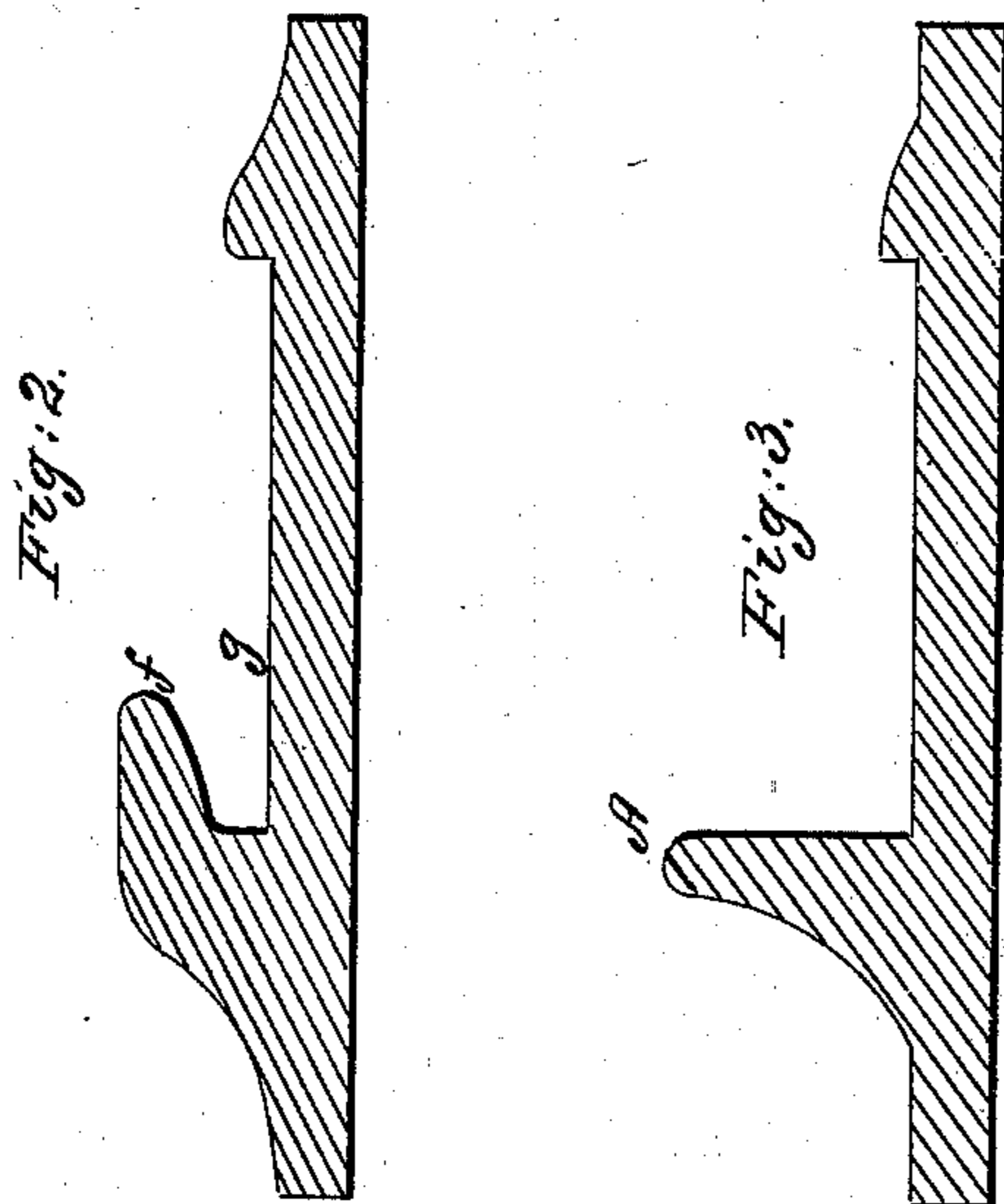


J. H. SWETT.
Making Railroad Chairs.

No. 21,380.

Patented Aug. 31, 1858.



UNITED STATES PATENT OFFICE.

JAMES H. SWETT, OF PITTSBURG, PENNSYLVANIA.

ROLLING RAILWAY-CHAIR.

Specification of Letters Patent No. 21,380, dated August 31, 1858.

To all whom it may concern:

Be it known that I, JAMES H. SWETT, of
Pittsburg, in the county of Allegheny and
State of Pennsylvania, have invented a new
5 and useful Improvement in the Method of
Rolling Railroad-Chairs; and I do hereby
declare the following to be a full, clear, and
exact description of the same, reference be-
ing had to the accompanying drawings,
10 which illustrate the invention, and in
which—

Figure 1, represents a longitudinal verti-
cal section through a pair of rolls, and show-
ing in red lines the positions, and shape of
15 the bar in the process of reduction and
formation. Fig. 2, represents a section or
end view of one of the finished chairs with
one jaw. Fig. 3, represents a similar end
view of a bar, as heretofore rolled, before
20 the lip or jaw is bent over a former to bring
it into shape and position.

It has been invariably the practice hereto-
fore in rolling railroad chairs, to raise up
the portion that is to make the jaw, as seen
25 at A, Fig. 3, and then to bend down said
part over a former. Now this plan is ob-
jectionable, for several reasons. In the first
place, it requires a quality of iron that is
expensive, for any other than the best, will
30 not stand the bending down of the jaw
from such a vertical position. Secondly,
the portion A, of the bar, cannot be gripped
hard between the rolls, for if so, it would
not follow the bar through them, and its
35 formation depends entirely upon its follow-
ing the bar, and not upon its being wrought
between the rolls, for this cannot be done—
it must pass through loosely, or not at all.
Third, that with the best of iron, the bend-
40 ing down of the jaw injures the fiber of the
metal, and weakens the chair, in its most
important part, and where it endures its
greatest strain. I do not raise up the por-
tion that forms the jaw any higher than it
45 is in its finished state, and consequently do
not have to bend down any part or portion
of it; and on this account have a stronger
jaw, out of less expensive metal, than by
the process heretofore universally practiced.

50 The nature of my invention consists in
cutting under, or into the solid iron for the
purpose of forming the jaw, after the bar
is rolled and bent into proper form, and
thus avoid the raising up, and afterward

bending down of that part or portion which 55
is to constitute the jaw of the chair.

To enable others skilled in the art to make
and use my invention, I will proceed to de-
scribe the same with reference to the draw-
ings, which represent the formation of a chair 60
with one jaw, but two jaws may be rolled
on quite as readily it being only necessary
to put a little more bend in the sole of the
chair so that a jaw, instead of a shoulder,
will clear the rolls. 65

C, represents a tongue, and B, a grooved
roller, hung in a suitable frame, and work-
ing together in the ordinary well known
manner. I have represented five passes
1, 2, 3, 4, 5, between these rolls—more or 70
less may be used, but it is with those 4, 5,
that I shall mainly confine my descrip-
tion, as the others are mere reducers and
shapers. When the bar goes through the
4th pass, it is bent as shown at *a*, in Fig. 1; 75
it is then turned on its edge, and run through
pass 5 where the tongue or collar *c*, cuts into,
or under the part or portion *e*, that is to
constitute the jaw, and brings it into proper
position and form. It will be thus seen that 80
the point *f*, of the finished bar or chair, is
at no time during the whole process, higher
from the base *g*, than it is when finished,
and consequently no bending is necessary.
A very slight bending might be done, with a 85
view of attempting to evade my process, but
all such attempts would be obvious in their
import, the bending need not be done. In-
stead of the pass 5, being on the same pair
of rolls with the others, they may be sepa- 90
rated therefrom and I so prefer them.
After the jaw or jaws are formed on the
chairs or bar, it is then passed flatwise be-
tween a pair of rolls to take the bend out of
the base. Or instead of bending the bar, 95
the same effect may be produced by skewing
the pass, which in effect would amount to
removing the collar from the shoulder or
jaw of the chair, instead of said shoulder
and jaw from the collar—I prefer the bend- 100
ing of the bar—though would claim its
equivalent as involved in my invention.

Having thus fully described the nature
and object of my invention I would state
that I am aware that, the portion of the 105
metal that is to form the jaw or jaws, has
heretofore been raised up, and then bent
down into proper position—this injures the

fiber of the metal, and makes a bad chair—I do not claim any such method, but

What I claim herein as new and desire to secure by Letters Patent is,

5 In the process of rolling railroad chairs, the cutting under or into the solid iron for the purpose of forming the jaw, after the bar is rolled and bent, and thus avoid the

raising up and afterward bending down of the part that is to form the jaw as hereto- 10 fore done.

JAMES H. SWETT.

Witnesses:

A. B. STOUGHTON,
THOS. H. UPPERMAN.