S. P. GRAHAM.

Carriage.

No. 107,360. Patented Sept. 13, 1870.

Fig. 1

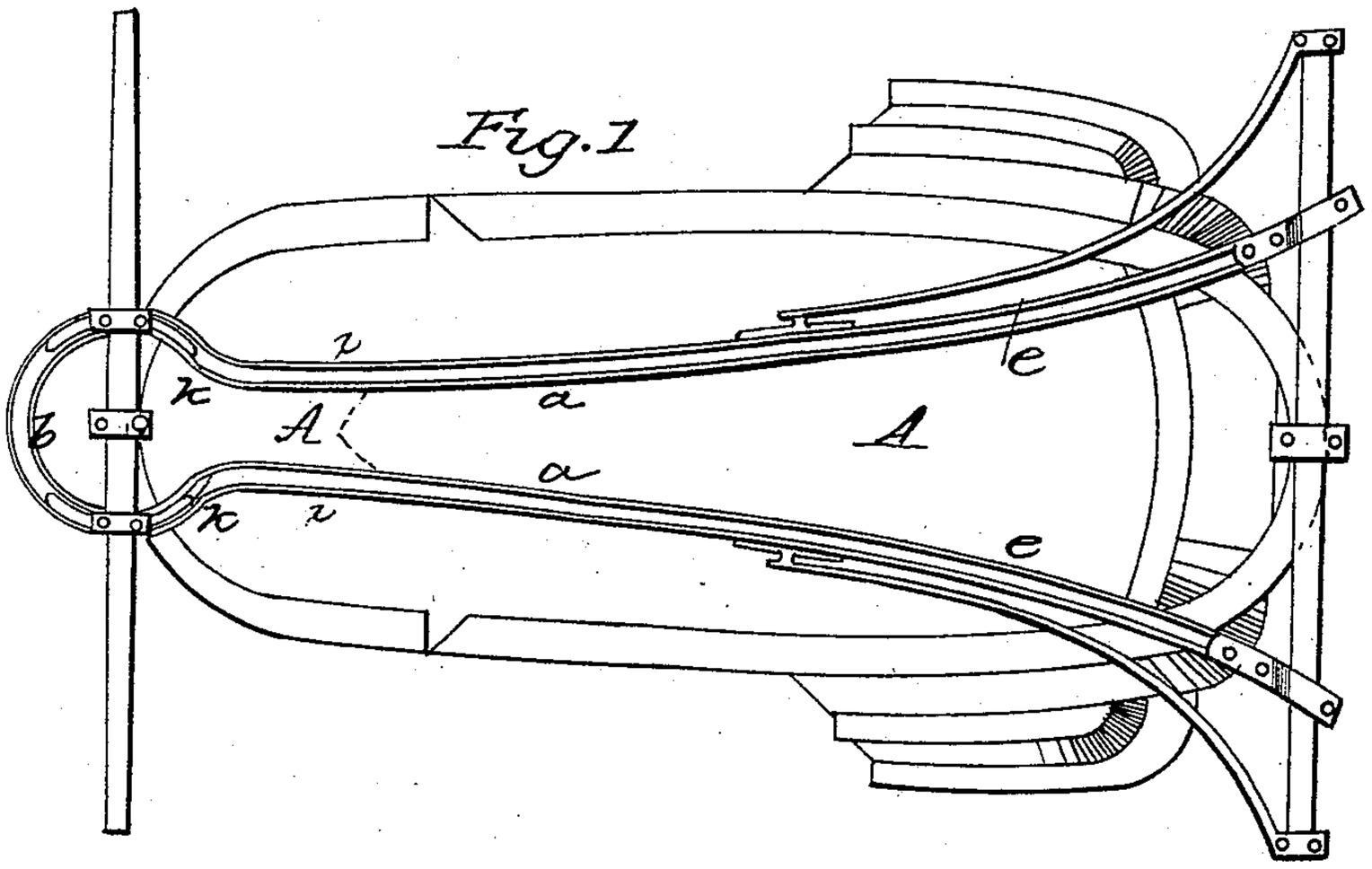


Fig. 2

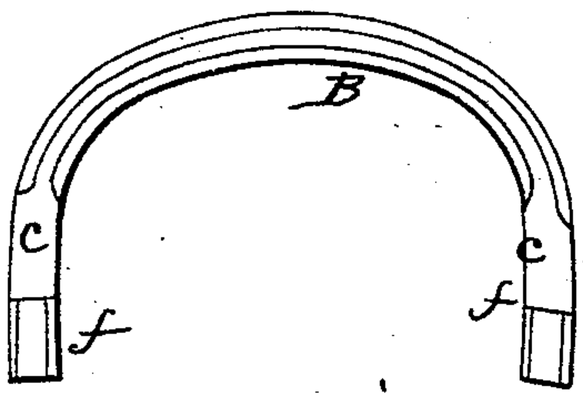


Fig. 3

Fig. 4

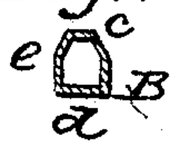


Fig. 6

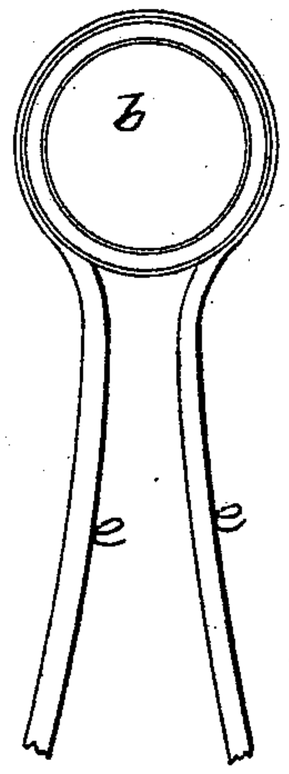
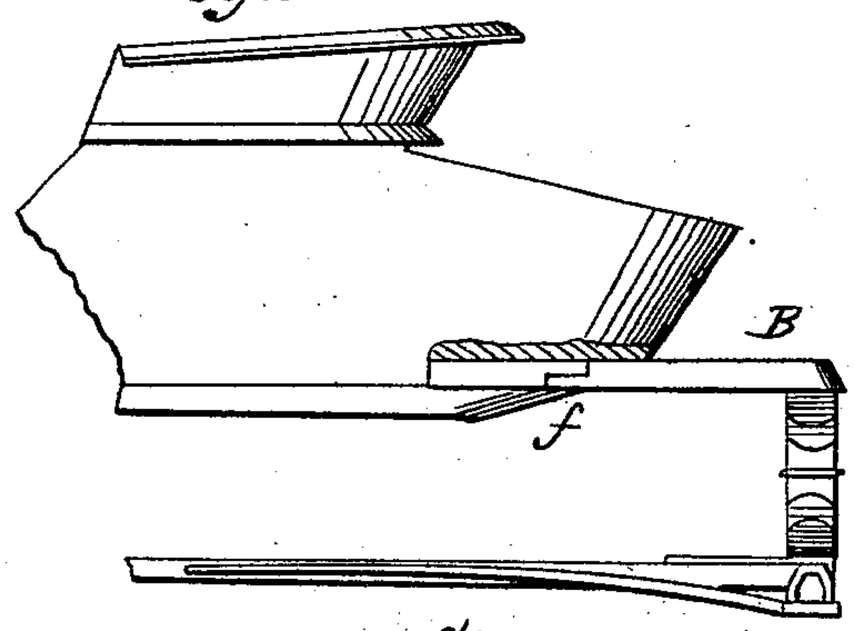


Fig. 5



Witnesses
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Letters Patent No. 107,360, *dated September* 13, 1870.

IMPROVEMENT IN CARRIAGES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, SIMON P. GRAHAM, of Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Improvement in Carriage-Irons; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a plan view of the lower side of the carriage;

Figure 2 is a plan view of the body-loop;

Figure 3 is a transverse vertical section of one limb of the double reach;

Figure 4 is a transverse vertical section of one limb of the body-loop;

Figure 5 is a partial side elevation of the rear part of the carriage; and

Figure 6 is a plan view of the under side of one variety of the double reach.

This invention consists of a double reach for carriages, made of U-shaped strips of iron or steel, in two parts, one narrower than the other, which parts may be joined in either of two ways, that is to say, the narrower part may be placed within the wider one, so that its edges are flush with the edges of the outer strip, leaving an inclosed space between the tops of the inner and outer parts, and a groove in the under side of the reach, or the narrower strip may be inverted and placed outside the wider one, the edges of the latter resting on the bottom of the former, so as to leave an inclosed space larger than in the former case, between the top of one strip and the bottom of the other, which spaces may be filled with wood.

The invention also consists in a double reach, whose forward end is made nearly circular, in order that it may serve as the top section of a fifth-wheel, the groove in the under side of the reach, if the latter be made in the first of the two ways above mentioned, serving as a guide-way for the lower section of the fifth-wheel or stub-circles to travel in; and, in case the reach is made in the second manner, a ring of inverted U-shaped iron being soldered or bolted upon the under side of the circular part of the reach, to serve as a guide-way.

The invention also consists in semicircular body-loops, made of U-shaped strips, by either of the two methods above described, said body-loops being formed with sockets at their ends, which are placed over the ends of the sills, which support the body of the carriage, by which body-loops said sills are connected with the elliptic or other spring that rests on the axle.

In the drawing—

A is the double reach;

a, the groove in its under side; and

b, the circular head or fifth-wheel.

The limbs *l* of the double reach curve inward between the circular head and their rear ends.

Such inward curvature increases the space which the wheels have to work in beneath the carriage-body in turning, and also enables the reach to endure more twisting and wrenching than as though the limbs were straight.

In fig. 3—

c is the outer strip;

d, the inner strip; and

e, the inclosed space, all relating to the double reach.

If preferred, the double reach may be made in the same way that the body-loop B, fig. 4, is constructed, in which—

c is the upper and wider strip;

d, the lower and narrower strip; and

e, the inclosed space.

The body-loop may also be constructed in the same way as the double reach.

The advantages of constructing a body-loop or a double reach in either of these ways are that they are stronger, lighter, and cheaper than if made of solid wood or iron.

In fig. 2—

f are hollow sockets at the ends of the body-loop.

In fig. 1—

k k are apertures cut in the inner flanges *i i* of the double reach, the functions of said apertures being to allow the lower fifth-wheel, which traverses the circular guide-way *b*, to pass out of the same, thus completing the guide-way.

The strips *c d* are first formed by stamps and dies, and then bent on a former. The strips are riveted or soldered together when made into body-loops or reaches.

The U-shaped strips are, in effect, double angle-irons. Whoever, therefore, should use a single angle-iron, would, I claim, infringe upon this patent.

In the case of a reach or loop made in the second of the above-described ways, a wooden bar may be used in place of the upper and wider slip *c*, for a portion of the length.

Having thus described my invention,

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

1. The double reach A, constructed of the U-shaped parts *c d*, substantially as and for the purpose specified.

2. The body-loop B, constructed of the U-shaped parts *c d*, and provided with hollow sockets *f*, substantially as and for the purpose described.

3. The double reach A, constructed with the circular guide-way *b* and limbs *l*, curved inward, substantially as and for the purpose set forth.

4. A ring of inverted U-shaped iron, as shown in fig. 6, substantially as described.

SIMON P. GRAHAM.

Witnesses.

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