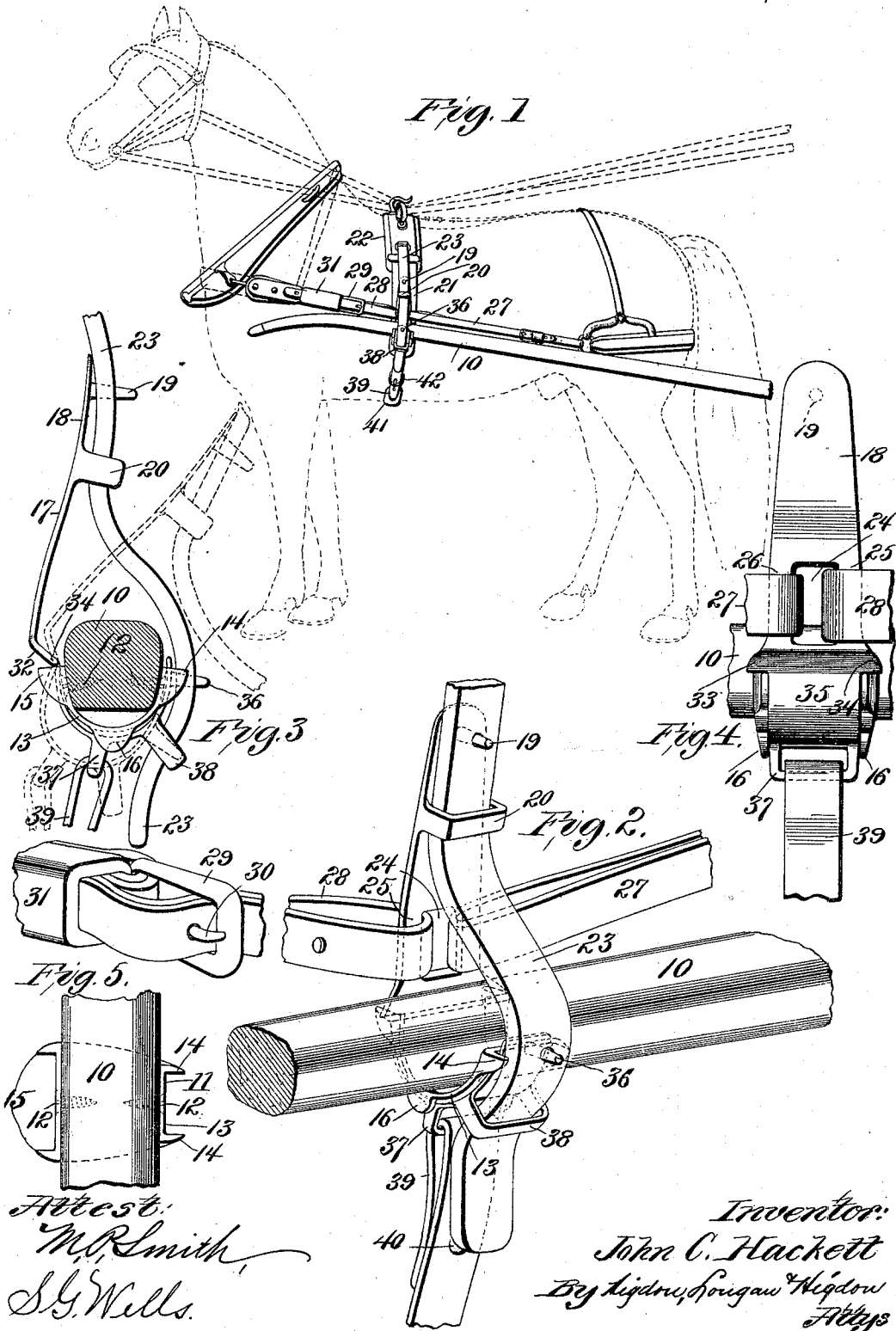


J. C. HACKETT.
SHAFT TUG.

No. 585,570.

Patented June 29, 1897.



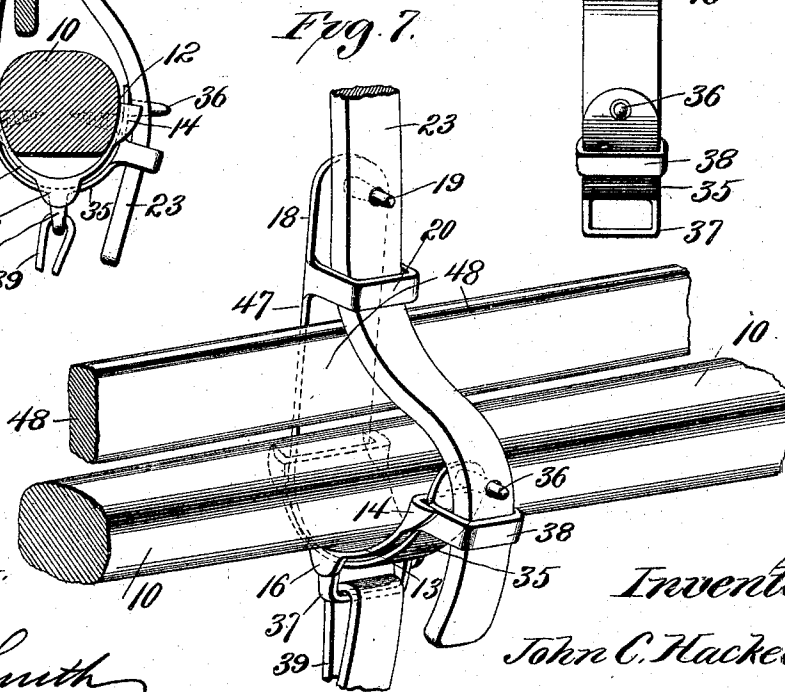
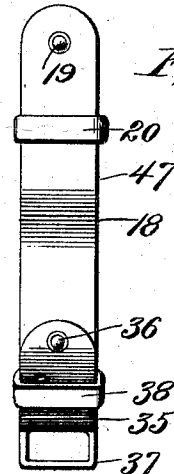
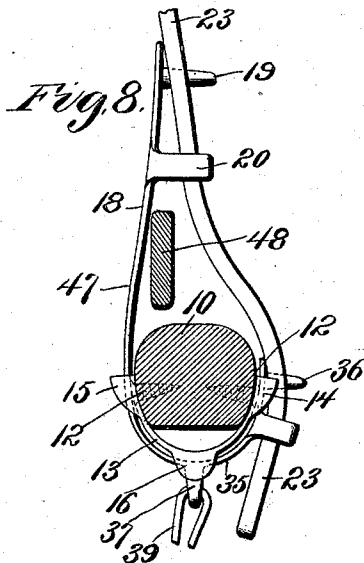
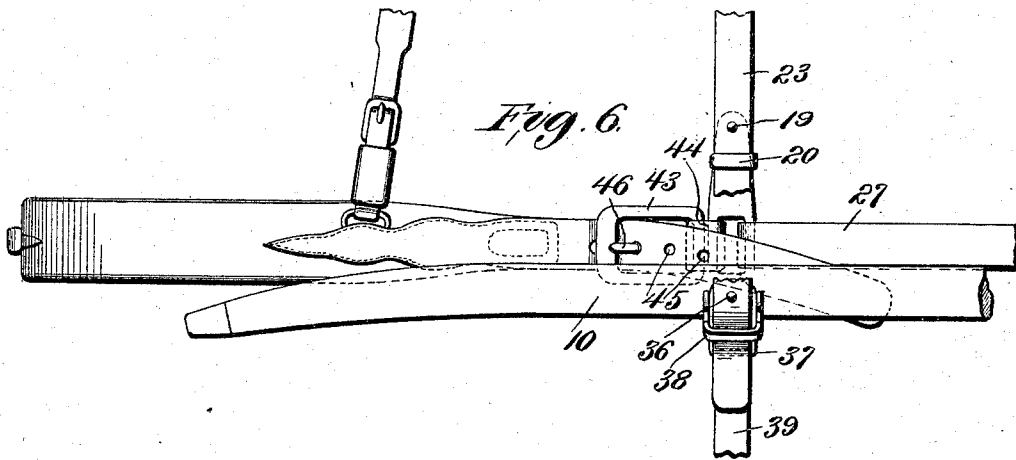
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UNITED STATES PATENT OFFICE.

JOHN C. HACKETT, OF ST. LOUIS, MISSOURI.

SHAFT-TUG.

SPECIFICATION forming part of Letters Patent No. 585,570, dated June 29, 1897.

Application filed September 28, 1896. Serial No. 607,205. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. HACKETT, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Shaft-Tugs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to shaft-tugs; and it consists in the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a side elevation of a harness constructed in accordance with the principles of my invention and in position for use. Fig. 2 is a view in perspective, upon an enlarged scale, showing the connections between the harness and the shafts, parts being broken away to economize space. Fig. 3 is a front elevation of the parts shown in Fig. 2, the shaft being shown in section. Fig. 4 is an inside elevation of the parts shown in Fig. 2. Fig. 5 is a top plan view of a shaft fitted in accordance with the principles of my invention. Fig. 6 is an outside view in elevation of the connection between the harness and the shaft, the breast-collar being used in place of the collar and hames shown in Fig. 1, parts being broken away to more clearly illustrate the construction. Fig. 7 is a view in perspective of a modified form of the parts shown in Fig. 2. Fig. 8 is a front elevation of the parts shown in Fig. 7, the trace and shaft being shown in section. Fig. 9 is a view in elevation of the outside of one of the castings shown in Figs. 7 and 8.

Referring by numerals to the drawings, 10 represents one of the shafts of a vehicle, and the clip 11 is attached to the under side of each of the shafts by means of the screw 12. The clips 11 are attached to the shafts in transverse alinement with each other and with the harness-saddle. Each of the clips 11 consists of the plate 13, curved to approximately a semicircle and extending approximately half-way around the shaft. The outer ends of the plates 13 are somewhat narrower than the inner ends, and a pair of triangular lugs 14 project outwardly from the side edges and near the outer ends of said plates. A pair of triangular lugs 15 project inwardly from the side edges and near the inner ends

of each of the plates 13. The lugs 14 and 15 are substantially alike, except that the lugs 15 are farther apart than the lugs 14. A pair of semicircular lugs 16 project downwardly from the side edges and near the centers of the plates 13.

The shaft-carrier 17 is attached to the harness and engages the clip 11 upon the shaft. The shaft-carrier 17 consists of a plate 18, which is nearly in a vertical position when in use and has a pin 19 projecting outwardly from near its upper end. A short distance below the pin 19 is a loop 20, also projecting outwardly from the plate. The plate 18 is placed against the outer surface of the lower end of the pad 21, which pad extends downwardly from the saddle 22 of the harness. A strap 23 is attached at its upper end to the saddle 22 and extends downwardly outside of the plate 18 through the loop 20, and the pin 19 engages an opening in said strap, thus performing the function of a buckle. In the lower end of the plate 18 is formed a rectangular aperture 24, thus dividing the plate 18 at that point into the two parts 25 and 26. The holdback-strap 27 is passed through the aperture 24 and engages the part 26. The connecting-strap 28 is passed through the aperture 24 and is doubled upon itself, and both ends of said strap are passed through the buckle 29, the tongue 30 of which passes through mating openings in said strap, and the free ends of said strap are inserted in the loop 31. The lower part 32 of the plate 18 below the aperture 24 is bent forwardly at an angle of about forty-five degrees and is widened at both sides, forming the triangular ears 33 and 34.

The plate 35 is formed integral with the plate 18 and is joined to said plate upon the line of the lower edges of the ears 33 and 34. The plate 35 is curved substantially to a semicircle and is of such size that it will fit between the lugs projecting from the edges of the plate 13, with the upper edges of the lugs 15 against the lower edges of the ears 33 and 34 and the outer end of said plate 35 extending upwardly between the lugs 14 and somewhat above the lugs. A pin 36 projects forwardly from near the outer end of the plate 35, and a loop 37 projects downwardly from the center of said plate 35, and a loop 38 pro-

jects forwardly and downwardly at an angle of about forty-five degrees from said plate and at a point approximately half-way between the loop 37 and the pin 36. The plate 18, the pin 19, the loop 20, the bent portion 32, the widened portion forming the ears 33 and 34, the curved plate 35, the pin 36, the loop 37, and the loop 38 are all formed integral and constitute the shaft-carrier 17, and of course a shaft-carrier is required upon each side of the harness.

The strap 23, after passing through the loop 20, is bent outwardly and is passed downwardly through the loop 38 with the pin 36 engaging an aperture in said strap. The pin 36 and the loop 38 also perform the function of a buckle, the same as the pin 19 and the loop 20.

A strap 39 has its upper end attached to the loop 37, and said end is attached to itself by means of the rivet 40. The belly-band 41 connects the free ends of the straps 39 in the usual way by the buckles 42.

The operation of connecting the shaft-carrier 17 with the shaft, or disconnecting it, is performed by pulling the lower end of the strap 23 out of the loop 38, then withdrawing it from the pin 36, and then tipping the upper end of the plate 18 outwardly, as shown in dotted lines in Fig. 3. The clip 11 may then be readily removed from the hook formed by the plate 35.

It is obvious that when a harness is constructed in accordance with the principles of my invention as heretofore described the usual traces are not required, the shaft-carrier being attached to the hame-tug or to the breast-collar by means of the connecting-straps 28, and said shaft-carrier being attached to the shaft by means of the clip 11 the force exerted by the parts will be applied directly to the shafts and will pull the vehicle without the use of the usual traces. The buckle 29 may be upon the rear end of the hame-tug, as shown in Fig. 1, or it may be upon the rear end of the breast-collar, as indicated by dotted lines in Fig. 1.

When it is desired to use a breast-collar, which has been attached directly to the traces by sewing or riveting, as shown in Fig. 6, a buckle 43 may be attached to the part 26 of the plate 18 by means of the loop 44. The traces may be cut to the desired length and have a series of apertures 45 formed therein, which apertures will engage the tongue 46 of the buckle 43. In this construction the buckle 43 and the loop 44 take the place of the connecting-strap 28 shown in Fig. 2; otherwise the construction is the same as already described.

The shaft-carrier 17 may be lined or covered with leather or other suitable material to any desired extent without departing from the spirit of my invention.

The shaft-carrier 47 (shown in Figs. 7, 8, and 9) is designed for use upon a harness where it is not desired to abolish the traces.

When the shaft-carrier is constructed for this particular purpose, the rectangular aperture 24, the bend 32, and the ears 33 and 34 may be omitted; otherwise the construction and operation are the same as that heretofore described. The trace 48 may pass in front of the plate 18 and behind the strap 23, and the shaft-carrier may be lined or covered with leather or other suitable material to any desired extent without departing from the spirit of my invention.

I claim—

1. In a device of the class described, the combination with the harness-saddle, of the plate 18, the pin 19 projecting forwardly from near the upper end of said plate, the loop 20 projecting forwardly from the plate 18 and below said pin 19, the rectangular opening 24 in the lower part of said plate 18 and forming the parts 25 and 26, the bent portion 32 at the lower end of said plate 18, the lugs 33 and 34 upon the sides of said bent portion, the plate 35 formed integral with the lower end of said plate 18, and curved substantially to a semicircle, the pin 36 projecting from near the outer end of said plate 35, the loop 37 projecting downwardly from the center of said plate 35 and the loop 38 projecting forwardly and downwardly from said plate 35 and between said pin 36 and said loop 37, the strap 23 attached to said harness-saddle and passing downwardly through the loops 20 and 38 and having the pins 19 and 36 inserted in apertures in said strap, substantially as specified.

2. In a device of the class described, the plate 18, the pin 19 projecting forwardly from near the upper end of said plate, the loop 20 projecting forwardly from the plate 18 and below said pin 19, the rectangular opening 24 in the lower part of said plate 18 and forming the parts 25 and 26, the bent portion 32 at the lower end of said plate 18, the lugs 33 and 34 upon the sides of said bent portion, the plate 35 formed integral with the lower end of said plate 18 and curved substantially to a semicircle, the pin 36 projecting from near the outer end of said plate 35, the loop 37 projecting downwardly from the center of said plate 35 and the loop 38 projecting forwardly and downwardly from said plate 35 and between said pin 36 and said loop 37, in combination with the clip 11, consisting of the plate 13 curved substantially to a semicircle, the lugs 14 projecting from the side edges and near the outer end of said plate, lugs 15 projecting from the side edges and near the inner end of said plate, the lugs 16 projecting from the side edges and near the center of said plate, the plate 13 being attached to the shaft in position to be engaged by the plate 35, substantially as specified.

3. In a device of the class described, the combination with a harness-saddle, of the plate 18, the pin 19 projecting forwardly from near the upper end of said plate, the loop 20 projecting forwardly from the plate 18 and

below said pin 19, the lugs 33 and 34 upon
the sides of the lower end of said plate 18,
the plate 35 formed integral with the lower
end of said plate 18 and curved substantially
5 to a semicircle, the pin 36 projecting from
near the outer end of said plate 35, the loop
37 projecting downwardly from the center of
said plate 35, the loop 38 projecting forwardly
and downwardly from said plate 35 and be-
10 tween said pin 36 and said loop 37, the strap
23 attached to said harness-saddle and pass-
ing downwardly through the loops 20 and 38

and having the pins 19 and 36 inserted in
apertures in said strap, the clip 11 to be at-
tached to the shaft, and the lugs 15 project- 15
ing inwardly from said clip to engage said
lugs 33 and 34, substantially as specified.

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

JOHN C. HACKETT.

Witnesses:

M. E. SPILLMAN,
MAUD GRIFFIN.