(No Model.) 3 Sheets—Sheet 1.

S. R. BAILEY.

SHIFTING POLE COUPLING.

No. 386,373. Patented July 17, 1888.

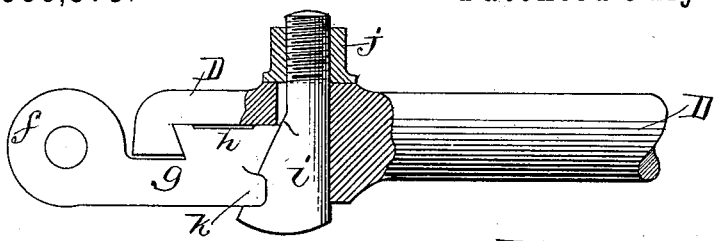

Fig: 3.

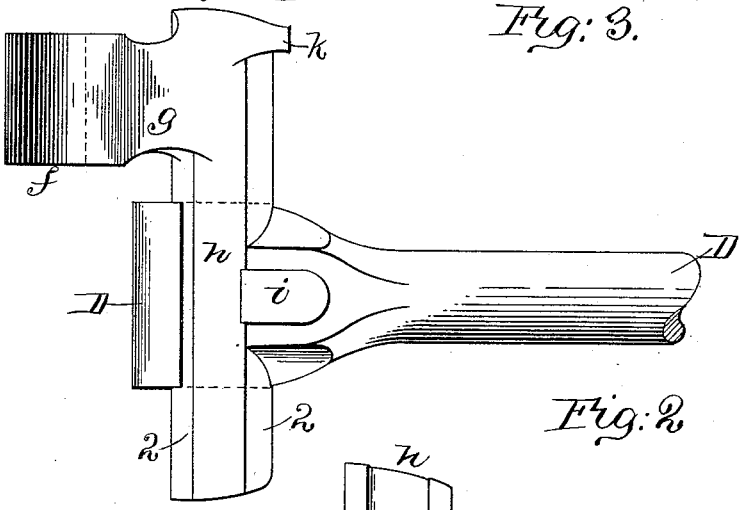

Fig: 2

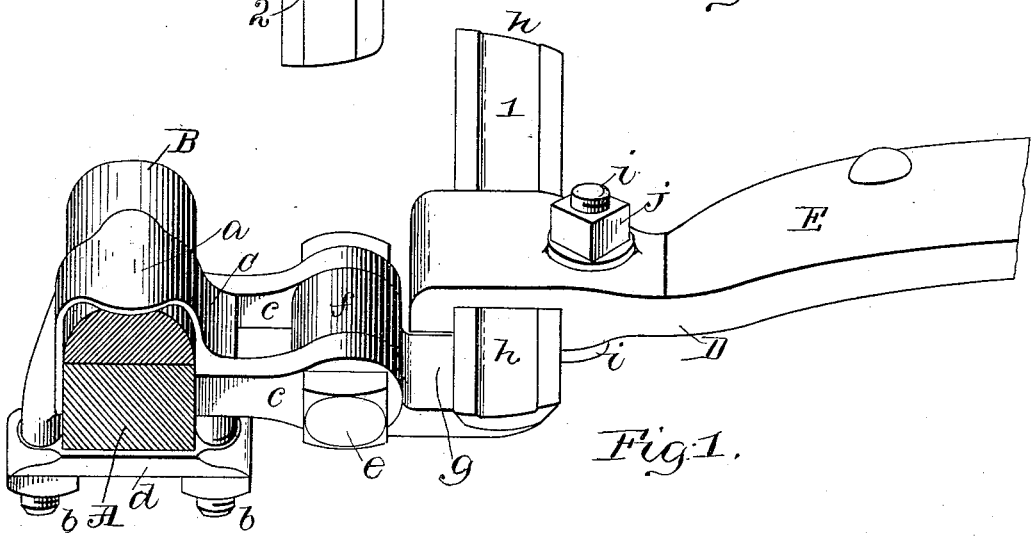

Fig: 1.

Witnesses,
Eugene F. Humphrey
Ebm Hutchinson.

Inventor.
Samuel R. Bailey.
per J. W. Porter. Atty.

(No Model.) 3 Sheets—Sheet 2.

S. R. BAILEY.

SHIFTING POLE COUPLING.

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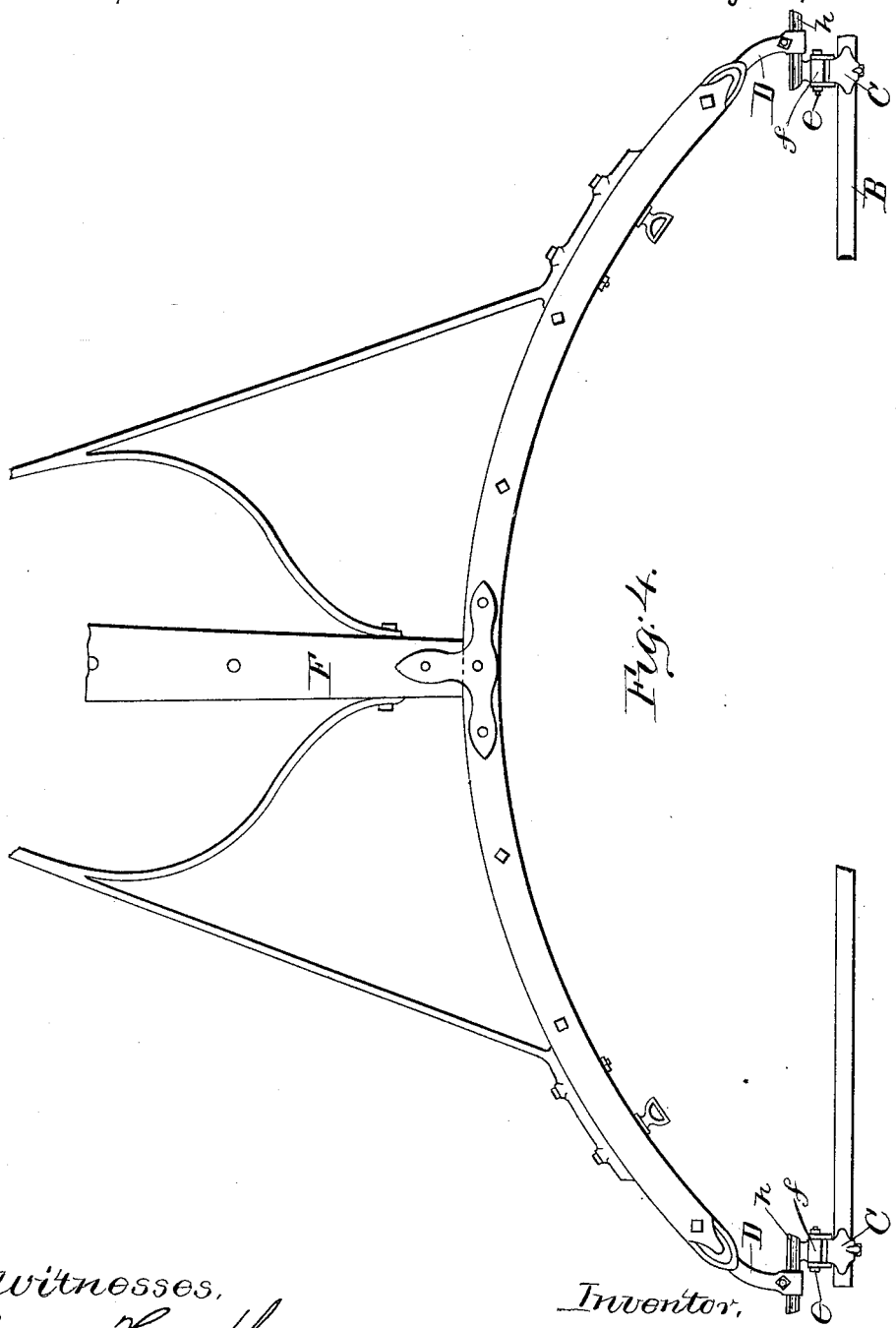

Fig. 4.

Witnesses,
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Ebenezer Hutchinson.

Inventor,
Samuel R. Bailey.
per T. W. Porter Atty

(No Model.) 3 Sheets—Sheet 3.

S. R. BAILEY.

SHIFTING POLE COUPLING.

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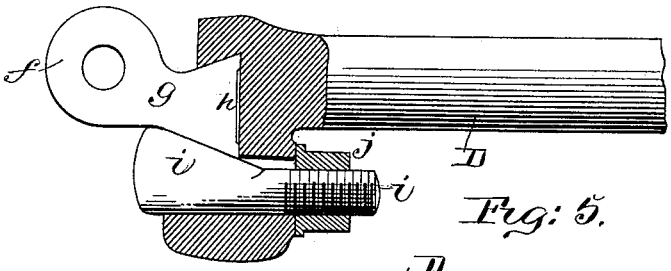

Fig: 5.

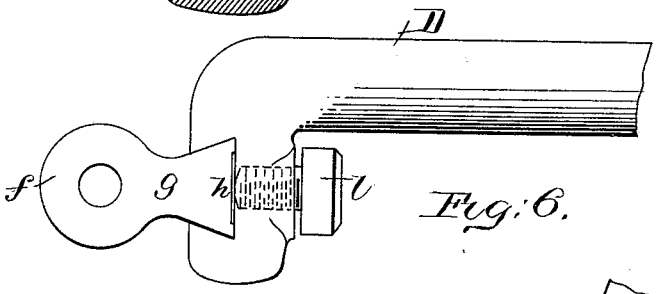

Fig: 6.

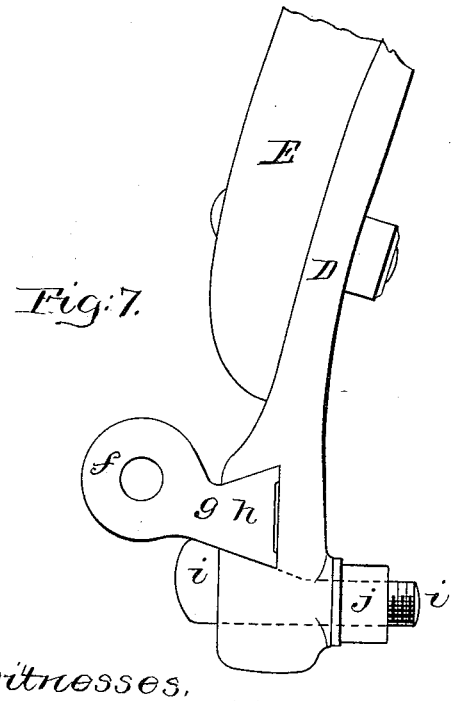

Fig: 7.

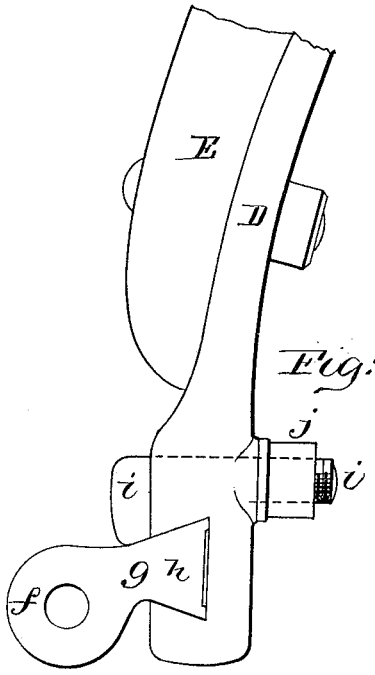

Fig: 8.

Witnesses,
Eugene F. Humphrey
Ebenezer Hutchinson

Inventor,
Samuel R. Bailey
per J. W. Porter. Atty.

UNITED STATES PATENT OFFICE.

SAMUEL R. BAILEY, OF AMESBURY, MASSACHUSETTS.

SHIFTING-POLE COUPLING.

SPECIFICATION forming part of Letters Patent No. 386,373, dated July 17, 1888.

Application filed April 9, 1888. Serial No. 270,141. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL R. BAILEY, of Amesbury, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Pole and Thill Couplings, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

In said drawings, Figure 1 is a perspective view showing a shackle embodying my invention and as applied to the axle and shaft, which latter are shown in part. Fig. 2 is an inverted or under side plan view of the draft-eye, its dovetail bar, and the extension-iron as secured upon said bar. Fig. 3 is a detached side elevation showing the same parts as in Fig. 2, viewed as from above in said Fig. 2. Fig. 4 is a diminished plan view showing my improved shackle as applied to an axle and pole, parts of these latter being broken away. Figs. 5, 6, 7, and 8 show modifications that will be referred to.

My invention relates to that portion of "carriage-hardware" known to the trade as "thill-couplings" or "shaft-shackles" or "shifting-pole irons;" and it consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring again to the drawings, A represents the axle, B the axle-stock, and C the shackle proper, this latter being formed with the usual clip-like portion, *a*, the bolt-like portions *b b*, that receive yoke *d*, and the perforated ears *c c*, all said parts being of old and well-known construction.

Instead of forming the draft-eye *f* with the strap-like part *g* extended straight from the eye along the shaft, or, in other words, with its longitudinal line at right angles to the axis of bolt *e*, I form upon part *g* the bar *h* at right angles to the axial line of part *g*, and so that its axial line is parallel to axle A. Said bar *h* is formed with an upper or top plane, 1, and with side planes, 2 2, which are retiring, so as to form acute angles, as shown, so that the cross-section of said bar constitutes what is known as and termed a "dovetail."

The extension-iron D is formed with a transverse slot corresponding with the cross-section of bar *h*, as shown, so that iron D may be moved freely along bar *h* when the latter is inserted in said slot.

For the purpose of rigidly locking iron D in place upon bar *h*, I form through said iron a passage corresponding to the key-bolt *i* and in such relation to its described transverse slot that when said key-bolt is forced inward by its threaded nut *j* it will rigidly lock the parts together.

Extension-iron D may be flattened in cross-section to receive the shaft E, as shown in Figs. 1, 7, and 8, or it may be rounded, as shown in Figs. 2 to 6, when used in connection with the pole F of a vehicle. The bar *h* is raised above arm *g* sufficiently to allow iron D to be moved freely over said arm, and so as to be directly above the arm and in front of eye *f*, and, if it be preferred, the shafts and pole may be "shifted" by sliding irons D along bars *h* till released therefrom, if said bars are not provided with the stop *k*, which prevents the described method of unshipping the shafts or pole and renders the removal of pivot-bolts *e* necessary, as then the bars *h*, though formed with stop *k*, may be withdrawn from irons D; but for avoiding all possibility of danger resulting from carelessness in not tightening key-bolt *i* by means of its nut *j*, I prefer to form said stop *k* on bar *h* so that the irons D cannot be removed from said bars when eyes *f* are secured between ears *c*.

It will be apparent that the pole or shaft irons D are in no respect "adjustable," but have always the same relation to each other—that is, the same distance apart; but eyes *f*, with their bars *h*, are adjustable in relation to irons D, so that eyes *f* may be between said irons, or outside of them, or abreast of them, for the purpose to be next described.

Supposing bars *h* to have a length of two and one-quarter inches in addition to the width of iron D, (which is the length shown in Figs. 1 and 2,) then, with eyes *f* arranged in the pole as shown in Fig. 4, the same pole could be used in carriages in which the shackles C varied four and one-half inches in their distance apart; and by changing places of eyes *f* so that their bars *h* extended inward instead of outward, then the interchanging capacity would

be doubled—that is, if, with the eyes arranged as shown in Fig. 4, a given pole could be used in a carriage where shackles C were but three feet from center to center, the same pole could be used where the shackles were three feet nine inches apart; and by increasing the length of bars *h* the capacity of interchangeability is increased four times the increase in the length of the bars; but in practice it will be seldom, if ever, that said bars need be of a greater length than that shown.

In the modification Fig. 5 the bar *h* is formed with its wider plane vertical and at the same level as arm *g*, while the slot in iron D is in its rear end instead of its lower side. In Fig. 6 a set-screw, *l*, is substituted for key-bolt *i*. In both these figures the iron D is shown as formed to be employed with a pole.

In Figs. 7 and 8 the bar *h* is formed in relation to eye *f* as in Figs. 5 and 6; but iron D is formed to be used upon a shaft instead of a pole, and the slot for arm *h* is formed in the upper side of the iron, in order that the shafts may have the usual quarter-circle curve at the rear end; but these changes are, as stated, but modifications and obvious changes from what is shown in the first four figures; and other changes in construction may be adopted without departing from the spirit of my invention.

I claim as my invention—

1. A vehicle-shackle draft-eye having a bar formed thereon with its longitudinal line parallel with the axis of the pivot-bolt, substantially as specified.

2. The bar *h*, in combination with the draft-eye, and having its edges or planes 2 2 oblique to and at an acute angle to plane 1, substantially as specified.

3. The bar *h*, formed integrally with the draft-eye and raised above arm *g* to allow iron D to move over said arm, substantially as specified.

4. The combination, with the draft-eye of a vehicle-shackle having bar *h*, of extension-iron D, formed with a transverse groove or slot to receive said bar, substantially as specified.

5. In a shaft-shackle, the combination, with bar *h*, formed upon shaft-eye *f*, and extension-iron D, formed to engage said bar, of key-bolt *i*, formed and arranged to operate substantially as specified.

6. The stop *k*, formed upon bar *h*, as and for the purposes specified.

7. In a vehicle-shackle, the combination of draft-eye *f*, its bar *h*, extension-iron D, and key-bolt *i*, all adapted to coact substantially as specified.

SAMUEL R. BAILEY.

Witnesses:
GEO. W. CATE,
F. C. WHITING.