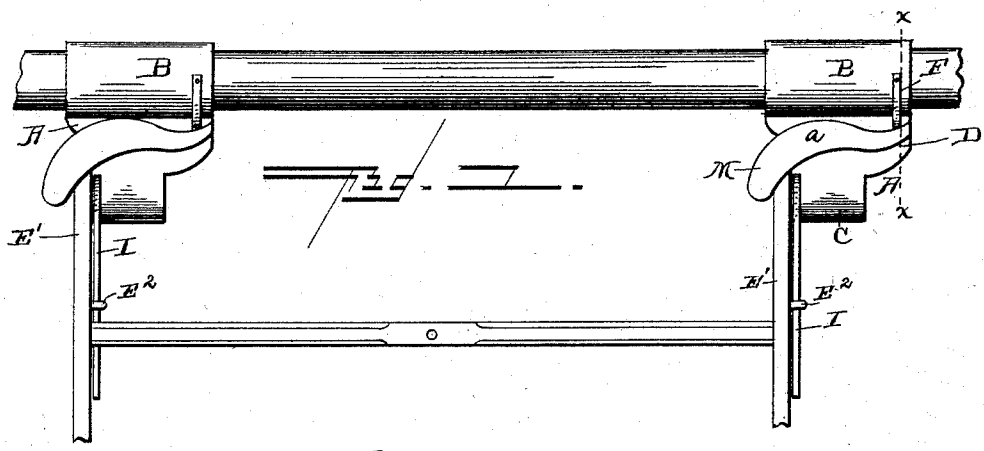
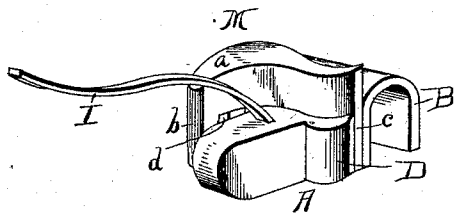
(No Model.)

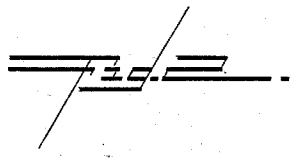
H. GREENLAND & J. C. CARRICK.

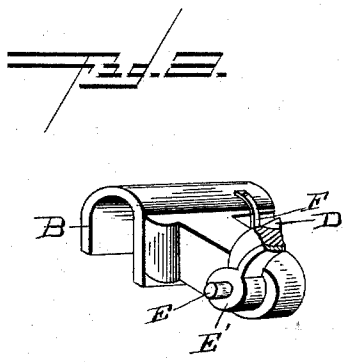
THILL COUPLING.

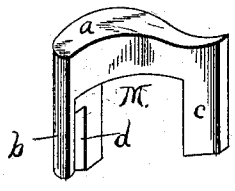
No. 483,440. Patented Sept. 27, 1892.

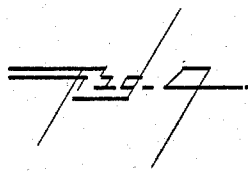


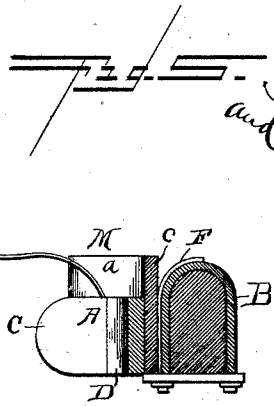












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By

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Witnesses.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HAMILTON GREENLAND AND JAMES C. CARRICK, OF SPIVEY, KANSAS.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 483,440, dated September 27, 1892.

Application filed December 31, 1891. Serial No. 416,719. (No model.)

To all whom it may concern:

Be it known that we, HAMILTON GREENLAND and JAMES C. CARRICK, citizens of the United States, residing at Spivey, in the county of Kingman and State of Kansas, have invented certain new and useful Improvements in Thill-Couplings; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in thill-couplings; and it has for its general object to provide a coupler of a cheap and simple construction adapted to readily effect a safe coupling and to prevent the objectionable rattling of the thills.

To the attainment of the foregoing and other objects the invention consists in the peculiar construction, certain novel combinations, and the adaptation of parts hereinafter described, and particularly pointed out in the claims appended.

In the accompanying drawings, Figure 1 is a detail plan view of an axle and a portion of a pair of thills together with our improvements in operation. Fig. 2 is a perspective view of one of the couplings. Fig. 3 is a detail perspective view of the axle-section. Fig. 4 is a similar view of the coupling-section, and Fig. 5 is a vertical transverse section taken in the plane indicated by the line *x x* on Fig. 1.

In the drawings similar letters designate corresponding parts throughout the several views, referring to which—

A indicates the axle-section of our improved coupling, which section is formed integral with or fixedly connected to a clip B, which is mounted upon the vehicle-axle in the ordinary or any approved manner. The main portion C of the axle-section A extends forwardly from the clip B, as better shown in Fig. 3 of the drawings, and is provided on one of its sides adjacent to the clip with a lateral branch D, which is pitched toward the front wall of the clip to form a seat of approximate dovetail form in cross-section for the reception of one of the branches of the coupling-section presently described.

Preferably formed integral with the main portion C of the axle-section and extending laterally from the side thereof opposite the side carrying the branch D is a stud E, designed to take through the usual loop or eye upon the inner end of a thill or pole branch E′, which is provided on its side at about the proportional distance illustrated from the coupling with a lateral hook E^2, for a purpose presently disclosed.

Connected at one end to the upper side of the clip B and taking down through the recess formed between the branch D of the axle-section and the axle is a flat spring F, which serves to prevent rattling of the coupling-section presently to be described.

M indicates the coupling-section of our improved device, which comprises the main horizontal portion *a* and the depending branches *b* and *c*, which are preferably formed integral with the said main portion.

Formed in the inside of the depending branch *b* of the coupling-section is a groove *d*, (better illustrated in Fig. 4,) which groove is designed to seat the end of the lateral stud E when the coupling-section is adjusted to position and serves to prevent casual disconnection of the thill E′ from said stud, while the branch *c* of said section M is designed to take down into the recess formed between the lateral branch D of the axle-section and the clip or axle.

Fixedly connected at one end to the upper side of the axle-section A and extending forwardly therefrom is a flat spring I, which engages the under side of the hook E^2 upon the thill or pole branch E′ and serves to prevent rattling of said thill or branch.

From the foregoing description, in conjunction with the annexed drawings, it will be perceived that we have provided an exceedingly simple and inexpensive coupler adapted to readily effect a coupling of the thills to an axle and prevent the very objectionable rattling of the thills.

Although we have specifically described the construction and relative arrangements of our improved coupling, yet we do not desire to be confined to such construction and arrangement of parts, as such changes may be made as fairly fall within the scope of our invention.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a thill-coupling, the combination, with

the axle-section having the lateral branch on one of its sides and the laterally-extending stud upon its opposite side, of the coupling-section having the depending branch grooved on its inside to seat the stud of the axle-section and the depending branch adapted to take into the recess formed by the lateral branch of the axle-section, substantially as specified.

2. In a thill-coupling, the combination, with the axle-section having the lateral branch on one of its sides and the laterally-extending stud upon its opposite side, and the coupling-section having the depending branch grooved on its inside to seat the stud of the axle-section, and the depending branch adapted to take into the recess formed by the lateral branch of the axle-section, of the spring fixedly connected at one end and taking through the recess formed by the lateral branch of the axle-section, substantially as specified.

3. The combination, with a vehicle-axle and a pair of thills, of the couplings described respectively comprising the axle-section fixedly connected to the axle, the laterally-extending and rearwardly-pitched branch formed on one side of said section, the laterally-extending stud formed on the opposite side of the section, the coupling-section having the depending branch grooved on its inside, and the depending branch of dovetail form in cross-section adapted to take into the recess formed by the lateral branch of the axle-section, the spring fixedly connected at one end and taking through the recess formed by the lateral branch of the axle-section, and the spring connected to the axle-section and engaging the thill or pole branch, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

H. GREENLAND.
JAMES C. CARRICK.

Witnesses:
GEO. W. KELLEY,
B. V. KELLEY.