No. 620,765. Patented Mar. 7, 1899.

# R. FRASER.

## BELT FASTENER.

(Application filed May 21, 1898.)

(No Model.)

Fig. 1

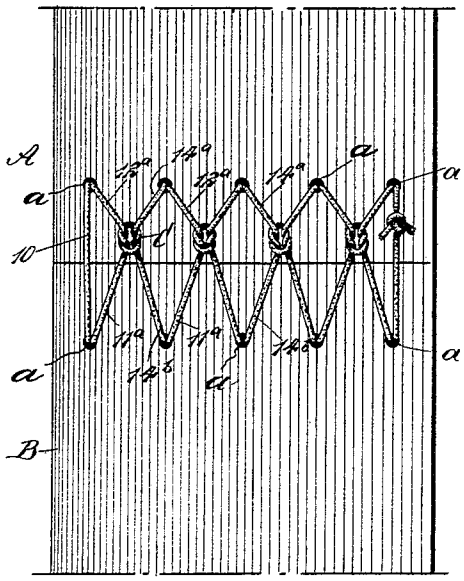



Fig. 2

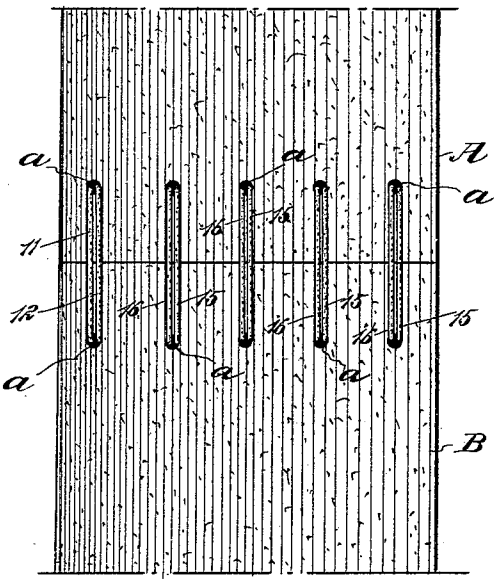



Fig. 3

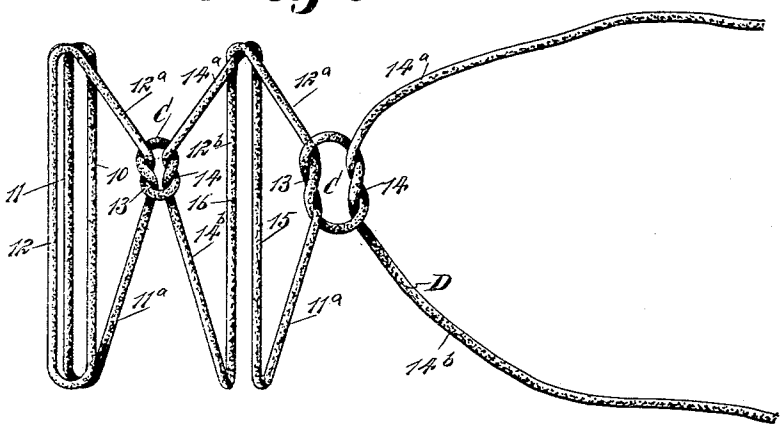
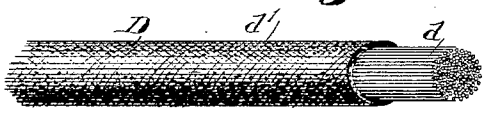



Fig. 4




WITNESSES:

John A. Bergstrom

J. Ed. Acker

INVENTOR
R. Fraser.

BY Munn & Co

ATTORNEYS.

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

# UNITED STATES PATENT OFFICE.

RUSSELL FRASER, OF NEW YORK, N. Y.

## BELT-FASTENER.

SPECIFICATION forming part of Letters Patent No. 620,765, dated March 7, 1899.

Application filed May 21, 1898. Serial No. 681,363. (No model.)

*To all whom it may concern:*

Be it known that I, RUSSELL FRASER, of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Belt-Fasteners, of which the following is a full, clear, and exact description.

The object of the invention is to provide a lacing-fastening for driving-belts in which the lacing is a wire and to provide a simple means whereby a single-piece lacing may be threaded through the end portions of the belt in such a manner as to render each lacing-strand independent, the lacing being also so accomplished that a number of strands may break without affecting the strength of the lacing to any appreciable extent.

A further object of the invention is to so apply lacing of the above-named character that the pulley side of the belt will be as smooth as when any of the well-known lacings are employed.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the abutting ends of a belt having the lace applied. Fig. 2 is a bottom plan view of a belt having the lace applied, the face shown in Fig. 2 being the pulley-face of the belt. Fig. 3 is a detail perspective view illustrating the manner in which the lacing is effected, and Fig. 4 is a detail perspective view of the preferred style of lace employed.

A and B represent the abutting ends of a driving-belt, each of the said end portions adjacent to its extremity being provided with a series of spaced and correspondingly-located openings *a*. The lace D that is employed is a wire lace and is in one length or piece, and said lace is constructed of a series of metal strands *d*, circularly arranged and inclosed by a covering *d'*, of fabric or other suitable material. The form of lace constitutes no portion of the present invention, an application for a patent for said lace having been previously filed by me January 21, 1898, Serial No. 667,443.

In applying the lace the ends of said lace are passed through corresponding openings *a* at one side edge of the belt, the said lace being carried through said openings from the top inward or in direction of the pulley-face of the belt, forming a single longitudinal strand 10 on the outer face of the belt, as shown in Figs. 1 and 3. One end of the lace is then carried from the opening in the end A to and through the corresponding opening in the end B, forming a longitudinal strand 11 on the pulley-face of the belt, as shown in Figs. 2 and 3. The other end of the lace is then carried from the end B up to the first opening in the end A and out to the back or outer face of the belt, forming a second strand 12 on the pulley-face of the belt, the two strands 11 and 12 being parallel, both being between corresponding openings or extending from the first opening in the end A to the first opening in the end B of the belt. The end $11^a$ of the lace, which is brought out to the back through the section B, is made to meet the end $12^a$ brought out to the front of the belt through the end A, and the two ends of the lace are given a single tie 13. The two ends are then tied again, as shown at 14, forming a square knot C, and after the formation of the knot the upwardly-extending end $14^a$ of the lace is carried through the second opening in the end A of the belt to the pulley-face of the belt, while the end $14^b$, extending downwardly from the knot C, is carried through the end B of the belt at the opening therein corresponding to the second opening in the end A of the belt. Next the ends of the lace carried to the pulley-face of the belt are crossed and carried through opposite openings of the second set, forming two more parallel strands on the pulley-face of the belt, and the ends of the lace are again tied at the upper face of the belt to form a second square knot and are then taken through the third set of openings in the ends A and B of the belt, this manipulation of the lace being carried out until the lace has been carried through all of the openings in the ends of the belt, forming a series of parallel strands

on the pulley-surface of the belt crossing the abutting ends and diamond-like strands on the upper or outer face of the belt, knots C occurring wherever the strands cross on the outer face of the belt, thus rendering the lacing perfectly secure even should any one or more of the strands become frayed or broken, since each strand is independent and the knots effectually prevent such break spreading beyond the point where it actually takes place.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A belt-fastener consisting of a lacing passing from the outside through contiguous holes in the ends of the belt, both ends of the lacing being carried across the meeting ends of the belt in opposite directions at the pulley-face of the belt and returned outside through said holes, the ends of the lacing at the outer side of the belt being brought together and formed into a knot, said ends being carried from the knot in opposite directions through a second series of holes to the pulley-surface of the belt, for the purpose set forth.

2. A belt-fastening, consisting of a continuous lacing woven back and forth between the two ends of the belt, whereby to join the same, the lacing having its ends secured and the lacing being knotted together at a number of points intermediate its ends, whereby to form the lacing into independent loops and prevent the withdrawal of the entire lacing upon the fracture of one or more of said loops.

3. A belt-fastener, consisting in a continuous lacing woven back and forth between the ends of the belt to join the same, the lacing having its parts secured together at a plurality of points intermediate its ends, whereby to form the lacing into independent loops and to prevent the withdrawal of the entire lacing upon the fracture of one or more of said loops.

RUSSELL FRASER.

Witnesses:
J. FRED. ACKER,
JNO. M. RITTER.