

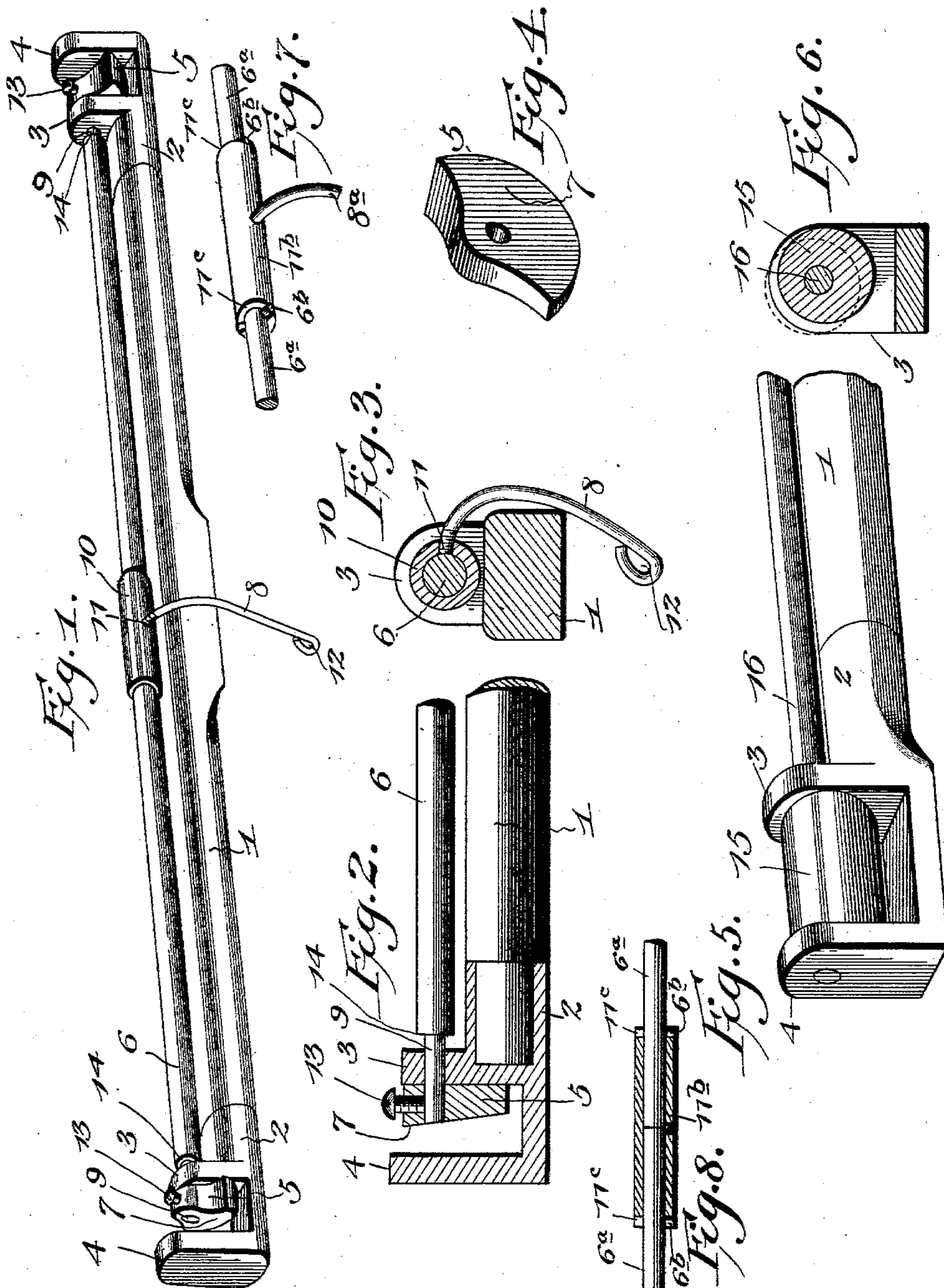
No. 629,962.

Patented Aug. 1, 1899.

S. A. HAINES.
HORSE DETACHER.

(Application filed Jan. 10, 1899.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL ALFRED HAINES, OF GARRETT, TEXAS, ASSIGNOR OF ONE-HALF
TO T. H. CAMPBELL, OF SAME PLACE.

HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 629,962, dated August 1, 1899.

Application filed January 10, 1899. Serial No. 701,746. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ALFRED HAINES, a citizen of the United States, residing at Garrett, in the county of Ellis and State of Texas, have invented a new and useful Horse-Detacher, of which the following is a specification.

The invention relates to improvements in horse-detachers.

10 The objects of the present invention are to improve the construction of horse-detachers and to provide simple, inexpensive, and efficient means for readily releasing the traces from a whiffletree, to free an animal to prevent a vehicle or its occupants from being injured in the event of a runaway, and also to facilitate hitching and unhitching.

15 The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a perspective view of a whiffletree provided with a device constructed in accordance with this invention. Fig. 2 is an enlarged longitudinal sectional view of one end of the device. Fig. 3 is a detail sectional view illustrating the manner of adjustably securing the sleeve to the shaft. Fig. 4 is a detail perspective view of one of the cams. Fig. 5 is a detail perspective view of one end of a whiffletree, illustrating a modification of the invention. Fig. 6 is a transverse sectional view of the same, illustrating the arrangement of the cam. Fig. 7 is a detail perspective view of a portion of the longitudinal shaft, illustrating a modification of the invention. Fig. 8 is a longitudinal sectional view of the same.

30 40 Like numerals of reference designate corresponding parts in all the figures of the drawings.

45 1 designates a whiffletree provided at its ends with sleeves or ferrules 2, having inner and outer ears or flanges 3 and 4, arranged in pairs and forming recesses for the reception of a pair of traces which are adapted to be clamped by a pair of cams 5, also operating in the recesses or spaces between the ears or flanges 3 and 4. The cams 5, which are

mounted on a longitudinal shaft 6, are substantially segmental and taper in thickness to provide trace-engaging outer faces 7, arranged at an angle to the outer ear or flange 4 and adapted when rotated to clamp or release the traces, according to the direction of rotation. These cams, which are pivoted near their tops, swing forward in engaging a trace, whereby the strain on the traces will operate to hold the cam firmly in engagement with them.

55 60 The shaft 6, which is rotated by an arm 8, has at its ends 9 reduced and journaled in perforations of the inner ears or flanges 3, and it extends from one end of the whiffletree to the other in order that both cams may be simultaneously operated to release the traces instantly in event of a runaway, and thereby avoid damage to a vehicle or injury to its occupants.

70 75 The arm which operates the shaft is adjustably connected with the same by means of a sleeve 10, having a threaded perforation for the reception of the inner end 11 of the arm 8, which engages the shaft, whereby the sleeve is clamped at any desired point on the shaft. The arm 8 extends rearward and downward when the cams are in engagement with the traces, and it has an eye 12 at its outer end, designed to be attached to any suitable connection for enabling the shaft to be rotated from the interior of a vehicle. By swinging the arm upward the cams are carried out of engagement with the traces.

80 85 In order to enable the cams to be adjusted for operating properly on traces of different thicknesses, they are adjustably mounted on the reduced ends of the shaft by means of set-screws 13, and the shoulders 14, formed by reducing the ends of the shaft, are spaced from the inner ears or flanges 3 a sufficient distance to permit a slight play of the shaft to equalize the pressure on the traces.

90 100 Instead of arranging the cams as illustrated in Fig. 1 of the drawings they may be arranged as illustrated in Figs. 5 and 6 for clamping the traces between their peripheries and the bottom of the spaces between the inner and outer ears or flanges. The cam 15 is eccentrically mounted on the shaft 16, which

is journaled in bearing-openings of both the inner and outer ears, and by rotating the shaft the peripheral cam-faces are carried into and out of engagement with the traces.

5 The longitudinal shaft may be composed of two sections 6^a, connected at their inner adjacent ends by a sleeve 11^b and capable of independent rotary movement in order to enable the cams to be operated independently
10 to permit the traces to be fastened or released successively. The sleeve 11^b is provided at its ends with segmental recesses 11^c, receiving pins or projections 6^b, extending from the inner portions of the sections of the
15 longitudinal shaft, and when the sleeve 11^b is rotated by the arm 8^a the shoulders at the rear sides of the recesses 11^c will engage the pins or projections 6^b and rotate the sections of the shaft simultaneously to release the
20 traces. This construction permits the traces to be released instantly in event of a runaway, and at the same time it permits them to be fastened to the ends of the singletree independently of each other to facilitate hitching and unhitching a horse.
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The harness of a horse is connected with a vehicle by means of the traces and the holdback-straps, which are designed to abut against any suitable form of stops on the
30 shafts, so that when the traces are released the holdback-straps will slide freely off the front portions of the said shafts, whereby an animal will be completely freed from a vehicle.

The invention has the following advantages: The horse-detacher, which is simple and comparatively inexpensive in construction, is strong and durable and positive and reliable in operation, and it is capable of simultaneously releasing the traces and of free-
40 ing an animal instantly to avoid injury to the occupants of a vehicle and damage to the latter in event of a runaway. The device is also adapted to facilitate hitching and unhitching a horse. The arm which operates the shaft
45 may be arranged at any point on the same, and the cams are capable of adjustment for operating on traces of different thicknesses. The cams may be operated independently when the shaft is constructed of sections, as
50 illustrated in Figs. 7 and 8 of the accompanying drawings, and the sectional shaft may also be operated to oscillate the cams and release the traces simultaneously.

Changes in the form, proportion, and minor
55 details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. A device of the class described comprising a whiffletree provided at its ends with
60 inner and outer ears forming between them trace-receiving spaces which are closed at one side, a longitudinal shaft journaled in suitable bearings of the ears and extending from one end of the whiffletree to the other, cams
65 mounted on the ends of the shaft in a vertical position to cooperate with the closed wall of the trace-receiving spaces and adapted to be carried by the rotation of the shaft simultaneously into and out of engagement with
70 the traces, the ears at the ends of the whiffletree serving to keep the traces from moving laterally, substantially as described.

2. A device of the class described comprising a whiffletree adapted to receive the traces,
75 a longitudinal shaft journaled in suitable bearings of the whiffletree, and a pair of simultaneously-operating cams mounted on the ends of the shaft and provided at their side faces with engaging portions arranged to
80 clamp and hold the traces, said cams being fastened to the shaft by set-screws which allow for their adjustment in the arc of a circle, substantially as described.

3. A device of the class described comprising
85 a whiffletree, a shaft extending longitudinally of the whiffletree and composed of two sections, devices arranged at the outer ends of the sections for engaging the traces, a sleeve connecting the inner ends of the sections and
90 arranged to rotate the same simultaneously in one direction, said sections having a limited movement independent of the sleeve, and means for operating the sleeve, substantially as described.
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4. A device of the class described comprising a whiffletree, a shaft extending longitudinally thereof, and provided with devices for engaging the traces, said shaft being composed of sections provided near their inner
100 ends with projections, a sleeve connecting the inner ends of the sections and provided at its ends with recesses receiving the said projections and limiting the independent rotation of the sections, and means for operating the
105 sleeve, whereby the sections are rotated simultaneously, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL ALFRED HAINES.

Witnesses:

JAKE TOLLESON,
J. W. EVANS.