

No. 770,409.

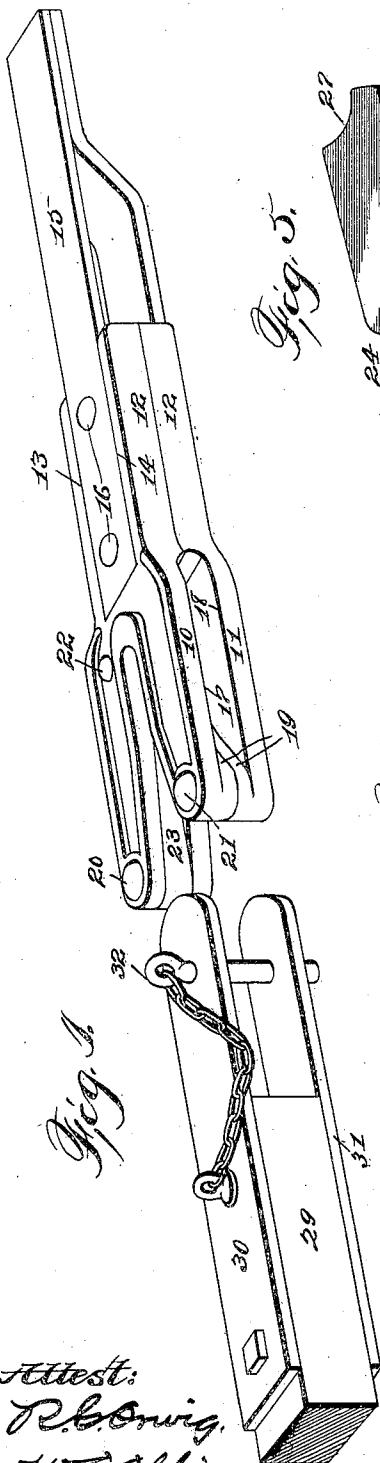
PATENTED SEPT. 20, 1904.

F. J. WOOD.
COUPLING FOR TRACTION ENGINES.

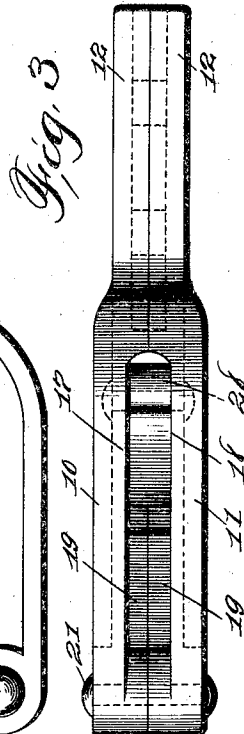
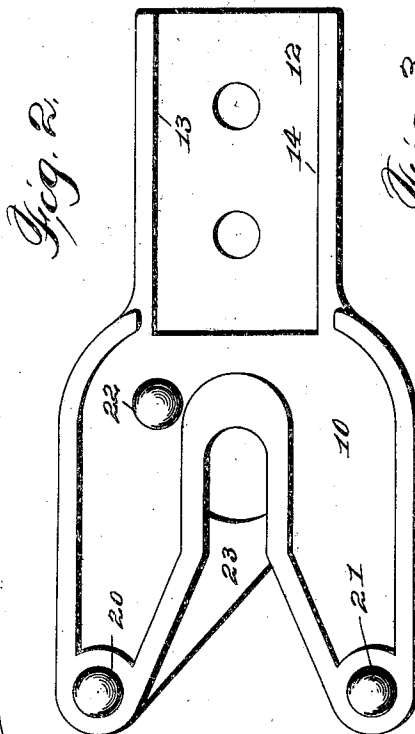
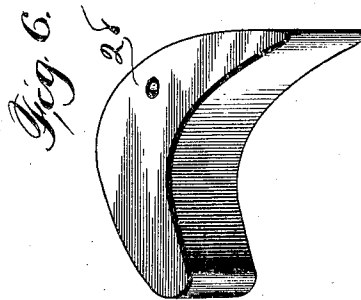
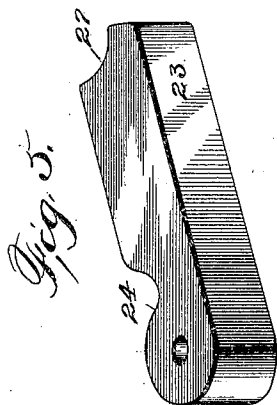
APPLICATION FILED DEC. 10, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Attest:
R. B. Onwig.
W. E. Ellis



Inventor
Franz J. Wood
by J. H. W. Sch. Atty.

No. 770,409.

PATENTED SEPT. 20, 1904.

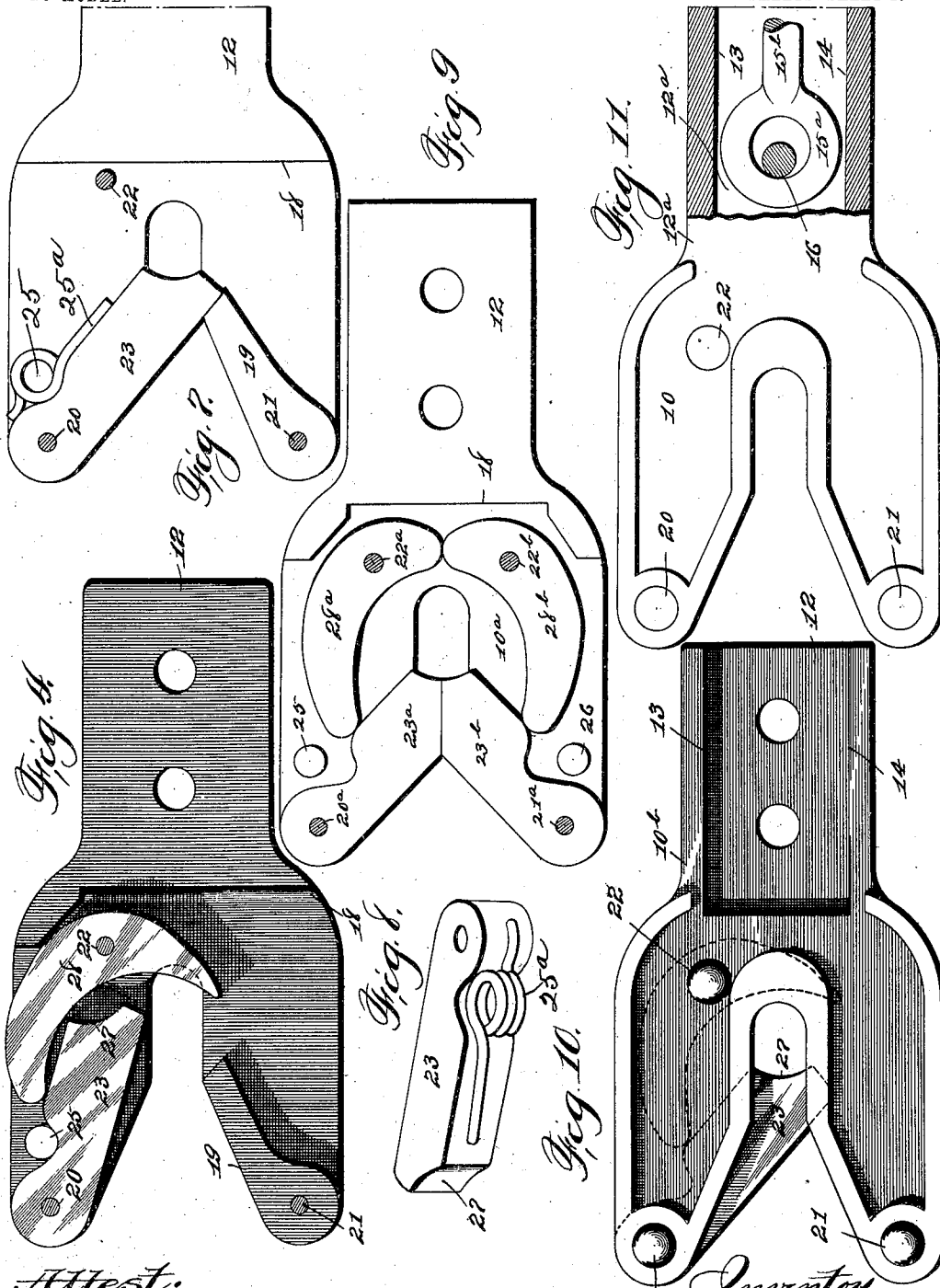
F. J. WOOD.

COUPLING FOR TRACTION ENGINES.

APPLICATION FILED DEC. 10, 1903.

NO MODEL.

2 SHEETS—SHEET 2.



Attest:
R. B. Craig
Witness

Inventor
Franz J. Wood,
by J. B. Wood, Attorney

UNITED STATES PATENT OFFICE.

FRANZ J. WOOD, OF DES MOINES, IOWA.

COUPLING FOR TRACTION-ENGINES.

SPECIFICATION forming part of Letters Patent No. 770,409, dated September 20, 1904.

Application filed December 10, 1903. Serial No. 184,698. (No model.)

To all whom it may concern:

Be it known that I, FRANZ J. WOOD, a citizen of the United States of America, and a resident of Des Moines, Polk county, Iowa, have invented a new and useful Coupler for Traction-Engines, of which the following is a specification.

The object of this invention is to provide an improved automatic coupler for traction-engines, whereby a tender or separator or other hauled machines may be attached to a traction-engine or a hauled machine may be attached to a tender.

My invention consists in the construction, arrangement, and combination of elements hereinafter set forth, pointed out in my claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a perspective showing my coupler attached to a draw-bar and in position to receive and attach to a draw-bar or tongue of a hauled machine. Fig. 2 is a plan of the coupler detached from the draw-bar. Fig. 3 is a side elevation of the coupler detached from the draw-bar. Fig. 4 is a plan, partly in section, of the coupler detached from the draw-bar. The locking devices are shown in different positions in Figs. 2 and 4. Figs. 5, 6, and 7 are detail views of structural parts of the coupler. Fig. 8 is a sectional plan of the coupler, showing the substitution of a spring for one of the other elements. Fig. 9 is a plan, partly in section, showing the construction of a coupler provided with duplicated locking parts. Fig. 10 is an elevation illustrating the same structure as Fig. 4 and illustrating the operation of the locking elements by gravity. Figs. 8, 9, and 10 in a sense illustrate modifications of the structure shown in the other views. Fig. 11 is a plan, partly in section, showing means for attaching a different draw-bar to a coupler.

In the construction of the device as shown in Figs. 1 to 7, inclusive, and in Fig. 10 the numerals 10 11 designate mating plates adapted to be placed in mutual engagement face to face, which plates are forked or notched in their forward end portions. The walls of the notch or bifurcation of the plates 10 11 converge from front to rear and terminate in a

notch having parallel sides and a rounded rear end. Each of the plates 10 11 is formed with a stem 12, extending rearward longitudinally therefrom and arranged for mutual contact face to face. The stems 12 conjunctively are of less thickness than the plates 10 11 combined and are formed with flanges 13 14 on their side margins to serve as guards for a draw-bar, about to be described, and to strengthen the stems. A draw-bar 15, of common form, is provided and consists of a bifurcated bar or two bars connected and offset in either direction to form a fork fitted to embrace the stems and lie between the flanges 13 14. The draw-bar 15 is connected to and connects the stems 12 12 by means of bolts 16, mounted transversely thereof, and it is by means of such connection that the coupler is supported on the traction-engine or tender. Concavities, chambers, or recesses 17 18 are formed in the inner faces of the plates 10 11, and bosses 19 at the extremities of the fork-arms of the plates form contacting posts and maintain the separation thereof. The cavities 17 18 open to one side each of the plates 10 11 and to the bifurcation or notches of the plates. The extremities of the fork-arms of the plates 10 11 and the bosses 19 are apertured, and rivets 20 21 are mounted in the apertures thereof. Another rivet 22 is mounted in apertures in the plates 10 11 and extends across the space between the plates. The rivets 20, 21, and 22 connect the plates rigidly. A locking-block 23 is pivoted at one end on the rivet 20 and is arranged for oscillation in the cavities of the plates 10 11 and across the notch or bifurcation thereof at the point of juncture of the inclined and straight walls thereof. A notch 24 is formed in one margin of the locking-block 23 intermediate of the ends of said block, and posts 25 26 on the plates 10 11 and projecting in alinement into the cavities conjunctively form a stop to engage the locking-block in the notch 24 and limit movement of oscillation of said block in one direction. A notch, depression, or pin-seat 27 is formed in the inner end portion of the locking-block 23 and at times when said block lies across the bifurcation of the plates forms a closure or stop at the forward end of the straight portion of said bifurcation

curved in opposition to the curved rear end thereof. A tripping pawl or trigger 28 is pivoted intermediate of its ends on the bolt 22, and the shorter arm of said pawl at times
5 crosses the rear portion of the bifurcation of the plates 10 11, while the longer arm thereof extends to and contacts with the outer margin of the locking-block 23.

A separator-tongue 29, having top and bottom plates 30 31 bolted thereto and connected by a coupling-pin 32, is shown in Fig. 1 to illustrate the means of using the coupler. The tongue 29 is advanced toward the coupler or the coupler is backed toward the tongue,
15 and the parts are brought together in such manner that the coupler-plates enter between the plates 30 31 on the tongue and the coupling-pin 32 enters the bifurcation of the plates and is guided by the converging walls thereof
20 into contact with the locking-block 23. The locking-block 23 yields under impact or pressure of the coupling-pin 32, and in so doing moves outwardly and moves the trigger 28, so that the shorter arm of said trigger enters the
25 rear portion of said bifurcation. The coupling-pin 32 traverses the straight portion of the bifurcation and contacts with and moves rearwardly the shorter arm of the trigger, and in so doing causes the longer arm of the trigger
30 to engage and move the locking-block 23 across the bifurcation in front of the coupling-pin. Thereafter vibration of the coupling-pin in contact with the trigger prevents accidental displacement of the locking-block from locking
35 position in front of the pin, and the parts can best be uncoupled by withdrawing the pin from its seat in the plates 30 31.

In Figs. 7 and 8 the trigger is omitted and a spring 25^a is mounted on one or another or
40 both of the posts 25 26 and presses at all times on the locking-block 23 and holds said block across the bifurcation of the plates and in locking position, the spring yielding under impact or pressure of the coupling-pin 32
45 with the block in the operation of coupling and upon the passage of the pin within the straight portion of the bifurcation immediately repositioning the block in front of the pin.

50 In Fig. 9 duplicate locking-blocks 23^a 23^b are shown pivoted at their outer ends on rivets 20^a 21^a and meeting at their inner ends across the straight portion of the bifurcation of the plate 10^a. Duplicate triggers 28^a 28^b also are
55 shown pivoted on duplicate bolts 22^a 22^b and meeting across the inner end portion of the

bifurcation of the plate 10^a, the outer end portions of said triggers contacting with the respective locking-blocks.

In Fig. 10 the plate 10^b is shown on edge 60 and arranged to receive a horizontal coupling-pin, (not shown,) the locking-block and trigger operating into locking positions by gravity.

In Fig. 11 the stems 12^a 12^a are shown separated and formed with the flanges 13 14 between them, such separation being provided to admit an eye 15^a on a draw-bar 15^b, made of metal, round in cross-section, the connection between them made by a single bolt 16 traversing the stem and eye. 70

I do not wish to be understood as limiting myself to the details of construction herein shown and described, as other and various modifications of the structure may be devised 75 that do not depart from the spirit of my invention.

I claim as my invention—

1. A coupler for traction-engines, comprising connected plates forked at one end, a locking-block mounted for oscillation between the plates, and a trigger mounted for oscillation between said plates and contacting with said locking-block. 80

2. A coupler for traction-engines, comprising plates forked in their outer end portions, a locking-block mounted for oscillation between said plates and arranged to cross the bifurcation thereof, and a trigger mounted for oscillation between said plates and arranged for
85 contact with the locking-block and also for movement into the bifurcation of the plates. 90

3. A coupler for traction-engines and the like, which coupler is forked in one end, a locking-block mounted for oscillation across
95 the fork of the coupler, and a trigger mounted for oscillation and contact with the locking-block, said trigger also arranged for extension into the fork of the coupler.

4. In a coupler for traction-engines and the like, the connected plates forked in their forward ends, the support for said plates, the locking-block and the trigger contacting therewith, both block and trigger mounted for oscillation between the plates and arranged for
100 entrance to the fork thereof at times. 105

Signed by me at Des Moines, Iowa, this 25th day of March, 1903.

FRANZ J. WOOD.

Witnesses:

R. G. ORWIG,
S. C. SWEET.