(No Model.)

J. PERCY.

THILL EQUALIZER FOR ROAD CARTS.

No. 358,876. Patented Mar. 8, 1887.

Fig. I.

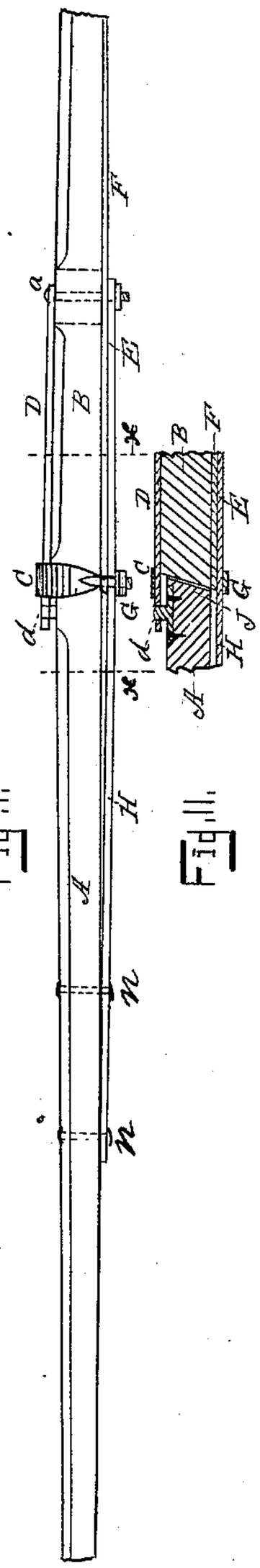


Fig. II.

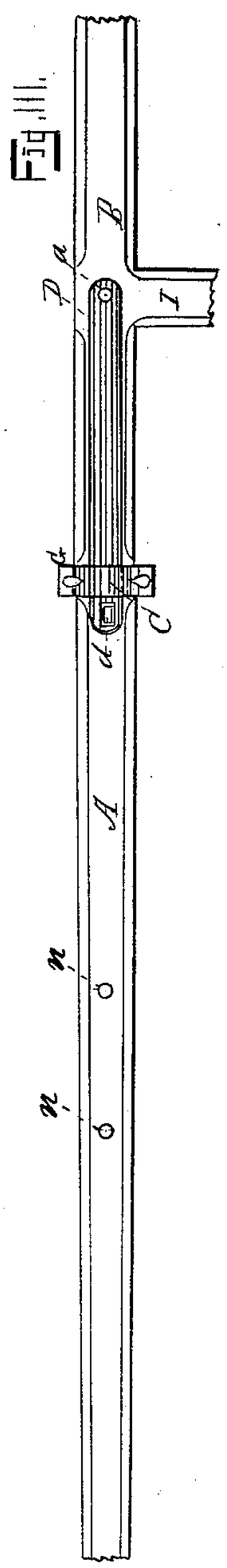


Fig. III.

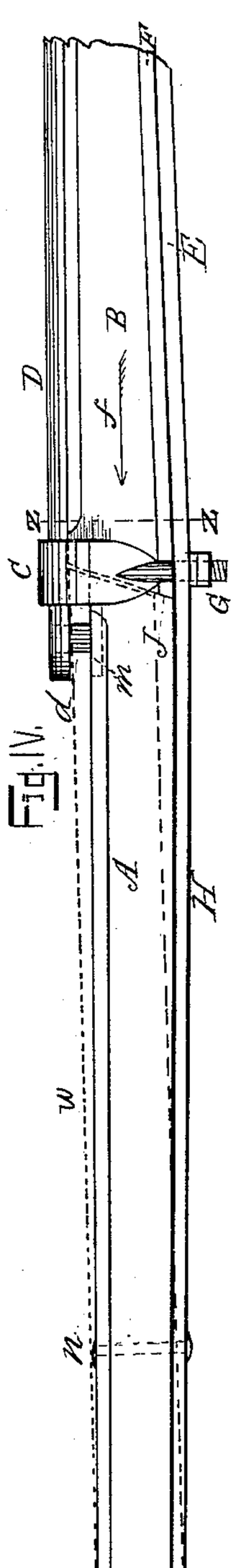


Fig. IV.

Fig. V.

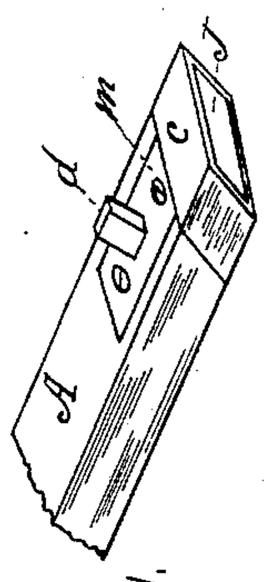
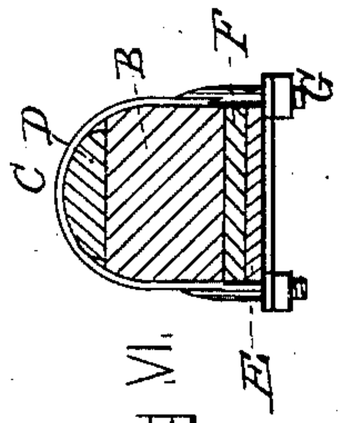


Fig. VI.



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UNITED STATES PATENT OFFICE.

JAMES PERCY, OF CHICAGO, ILLINOIS.

THILL-EQUALIZER FOR ROAD-CARTS.

SPECIFICATION forming part of Letters Patent No. 358,876, dated March 8, 1887.

Application filed December 16, 1886. Serial No. 221,709. (No model.)

To all whom it may concern:

Be it known that I, JAMES PERCY, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented new and useful Improvements in Thill-Equalizers for Road-Carts, of which the following is a specification, reference being had to the accompanying drawings, illustrating the invention, in which—

Figure I is a side elevation of one thill combined with my attachment; Fig. II, a central vertical section of Fig. I, between the dotted lines *x x;* Fig. III, a top or plan view of Fig. I; Fig. IV, an enlarged broken view of Fig. I, with the thill-spring down, as when the weight of a person is thrown on the thills in getting in or out of the cart; Fig. V, a perspective representation of the inner end of the forward portion of the two-part thill; Fig. VI, a transverse section of Fig. IV, taken on line *z z*, looking in the direction indicated by dart *f*.

The purpose of this invention is to provide simple and more effective means for equalizing the horse motion of road-carts and like two-wheeled vehicles.

In carrying my invention into practice I construct the thills in two parts each, as has been before done, but employ wholly different means to break the horse motion between the thill-straps and the body of the cart.

Instead of forming the butt-joints separating the two-part thills at right angles with their bottom faces, the joints in my device are formed on such an angle, as shown at J, that the forward parts, A, of the thills are prevented from passing below the T-iron F by lapping onto the beveled ends of the back portions, B, of the thills. The T-irons F, which are now employed on the ordinary single-piece thills, are made to stop at the inner ends of the back portions, B, and to form a portion of the laps for the beveled ends of the forward portions, A, to bear against when the parts are in position as shown at Fig. IV.

The springs which connect the parts A B are shown in Figs. I, II, IV, and VI at E H, the part E, back of the joint J, being secured to the parts B by the same bolts, *a*, which secure the T-irons F, and by clips C G, of ordinary construction, and the forward portions of the springs are bolted to the parts A at *n n*. The forward portions, A, are formed of a depth less than the parts B, that their inner ends may have the required lateral movement between the spring E H and stop-plate D to break the horse motion given to the thills at their joint-connections, so that the body of the cart will move along level notwithstanding the forward ends of the thills have vertical reciprocating movements. At Fig. IV the thill is shown depressed, as when the weight of a person is thrown thereon entering the body of the cart, and as when the end of the thill has the highest position by the horse motion. The dotted lines *w* show the position of the forward part, A, when its forward end has the lower position by the horse motion. A stop, *d m*, is secured to the top portion of the inner end of the part A, and a slot is formed in the forward end of the plate D to engage it, whereby the part A is controlled in the downward horse motion to the position shown by said dotted lines *w*.

From the foregoing it will be seen that the inner end of the part A has a free movement between the plate D and the draft-spring H E. To prevent any noise of these parts, the inner end of the part A may be provided with a rubber band, *e*, Fig. V. The clip C G not only holds the draft-spring H E and slotted plate D in place, but it serves to conceal the joint-connection and gives a neater appearance to the device.

It is not new to equalize the horse motion of two-wheeled vehicles, as this has been done by various mechanisms different from those herein described. I therefore confine my invention to the claim presented.

I claim as new and desire to secure by Letters Patent of the United States—

In mechanism for equalizing the horse motion of two-wheeled vehicles, the two-part thills A B, with overtopping joints J, and the part A, formed of less depth than the part B, and provided with the stop *d m*, in combination with the slotted plate D, engaging the said stop, the draft-spring H E, and the clip C G, as specified.

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