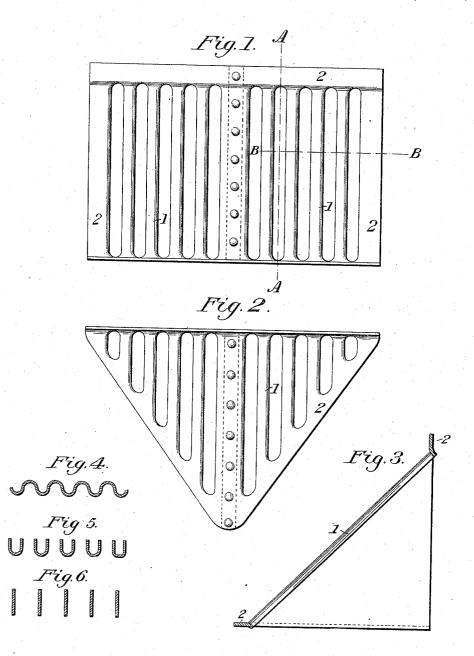
(No Model.)

G. R. JOUGHINS. LOCOMOTIVE PILOT.

No. 579,346.

Patented Mar. 23, 1897.



Witnesses. John Whetstone Allen Mitchell

Inventor. George Robert Joughins.

UNITED STATES PATENT OFFICE.

GEORGE ROBERT JOUGHINS, OF BERKLEY, VIRGINIA.

LOCOMOTIVE-PILOT.

SPECIFICATION forming part of Letters Patent No. 579,346, dated March 23, 1897.

Application filed December 5, 1896. Serial No. 614,606. (No model.)

To all whom it may concern:

Beitknown that I, GEORGE ROBERT JOUGH-INS, residing at Berkley, in the county of Norfolk, State of Virginia, have invented a new 5 and useful Improvement in Locomotive-Pilots and Fenders for Vehicles, of which the following is a specification.

My invention relates to an improvement in pilots or fenders; and the object of my im-10 provement is to construct a pilot which shall be lighter, cheaper, and stronger than any

other pilots hitherto made.

In the accompanying drawings of the pilot, Figure 1 is an elevation; Fig. 2, a plan; Fig. 3, a sectional elevation on the line A A, and Figs. 4, 5, and 6 are proposed sections through the line B B.

I attain my object by making the pilot of a sheet or sheets of metal pressed or stamped 20 in a form or die, so that the slats, as shown at 1, shall be formed by the plate itself integral with the outside or frame 2, and formed in such a manner as to give the requisite

strength to each slat.

To obtain the requisite strength, the part of the plate which forms the slats may be pressed into various shapes, as shown at Figs. 4, 5, and 6. In Fig. 4 the slats are of a corrugated form. In Fig. 5 the slats are sepa-30 rated from each other in part, but still integral with the plate and stamped in a $\boldsymbol{\mathsf{U}}$ or channel form. Fig. 6 is a modified form of same. It is apparent that the forms shown may be combined in the same slat and the same 35 pilot, as may be found desirable. The sheetmetal pilot thus formed may be strengthened and braced in the usual manner if found necessary for severe service.

It is evident that plates may be pressed 40 into other equivalent forms of slatted pilots without departing from the nature of my invention, and that the pilot may be made up of as many sheets of metal as may be found

convenient, as indicated at 3.

What I claim as my invention, and desire 45 to secure by Letters Patent, is-

1. As a new article of manufacture, a sheetmetal pilot, having the slats pressed or stamped therein, substantially as described.

2. A pressed-steel pilot having its slats 50 stamped therein, and integral with the outside or frame, substantially as described.

3. A sheet-metal pilot, having its slats pressed or stamped therein, substantially as described.

4. A pressed-steel pilot having its slats stamped therein, and integrally connected together, substantially as described.

5. A sheet-metal pilot having its slats formed into a U-shaped section, substantially 60 as described.

6. A sheet-metal pilot having its slats formed into a U-shaped section, and with adjacent slats integrally connected together, substantially as described.

7. The U-shaped metal slats for a pilot, connected to a frame at the top and bottom,

substantially as described.

8. A sheet-metal pilot having U-shaped slats pressed or stamped therein and inte-70 grally connected to the outside or frame, substantially as described.

9. A sheet-metal pilot having slats of Ushaped section pressed or stamped therein, and integrally connected together, substan- 75 tially as described.

10. A pilot having its slats formed into a -shaped section, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 80 two subscribing witnesses.

GEORGE ROBERT JOUGHINS.

Witnesses:

JOHN WHETSTONE, ALLEN P. MITCHELL.