(No Model.)

C. H. BAKER.

SLIDE VALVE.

No. 336,980. Patented Mar. 2, 1886.

Fig. 1.

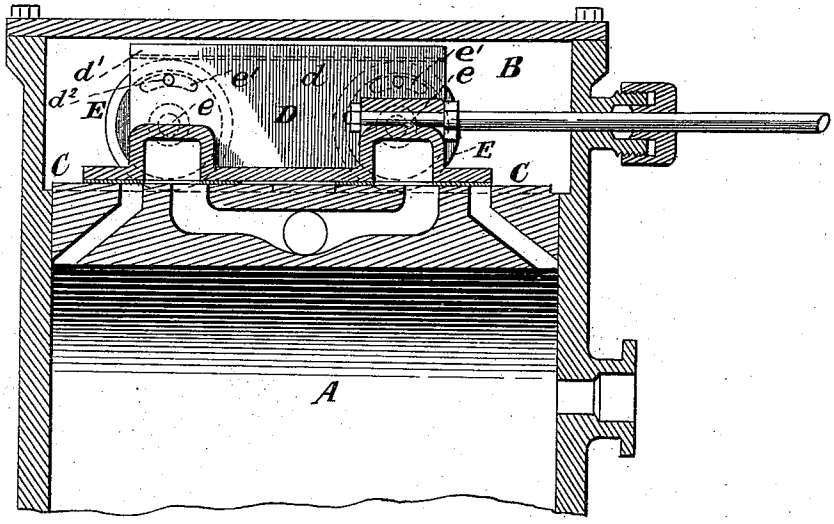


Fig. 2.

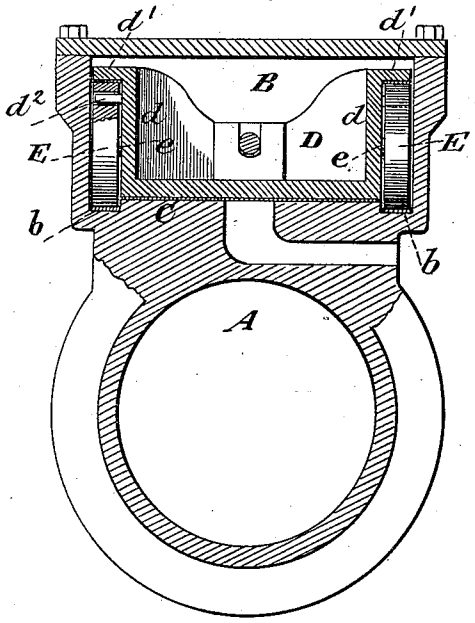
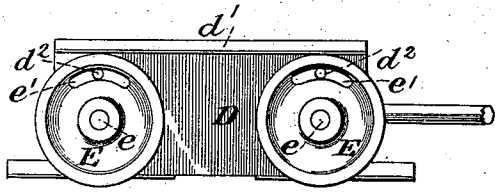


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES H. BAKER, OF MEADVILLE, PENNSYLVANIA.

SLIDE-VALVE.

SPECIFICATION forming part of Letters Patent No. 336,980, dated March 2, 1886.

Application filed December 18, 1885. Serial No. 186,066. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. BAKER, a citizen of the United States, residing at Meadville, in the the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Steam-Engine Slide-Valves; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The general object of the invention is to improve the valve action in high-pressure steam-engines where the slide-valve has a weight of several hundred pounds, a great friction on the valve-seat, and a consequent loss of power as well as a waste of fuel.

Figure 1 of the drawings is a longitudinal vertical section through cylinder and valve-chest; Fig. 2, a vertical cross-section on line *x x* of Fig. 1. Fig. 3 is a detail view of the valve in perspective.

In the drawings, A represents the engine-cylinder; B, the valve-chest; C, the valve-seat, and D my improved valve. This valve is made with the opposite parallel vertical sides *d d*, and these sides with outward horizontal flanges *d' d'*. I support these flanges upon the upper part of the friction-rollers E E, using one, two, or more pairs, preferably made of steel. I also preferably face with steel the under side of flanges *d'*, the bottom face of valve D, the upper face of seat C, and the bottom of the guide-grooves *b b*, in which run the wheels E E. I thus obtain rolling instead of sliding friction, as the weight of valve is carried on the rolls, while the bottom of valve D fits snugly and evenly upon the seat C. This greatly lessens the power required to actuate the valve.

It will be observed that the wheels E are journaled at *e* in the sides *d d* of the valve; but these journals are loose and not arranged to carry any of the weight of the valve. They have also an arc slot *e'* in the sides, so as to receive the studs d^2 on the valve. By this means I hold the roller-face always in its true relative position, so as not to change the wearing-surface.

What I claim as new, and desire to protect by Letters Patent, is--

The combination, with a steam-engine slide-valve, of one or more pairs of supporting-rolls running in guide-grooves *b*, journaled at *e* in the sides of valve, and having arc grooves working on studs d^2 of valve, as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. BAKER.

Witnesses:

FRANK CULP,

JOHN REITZE.