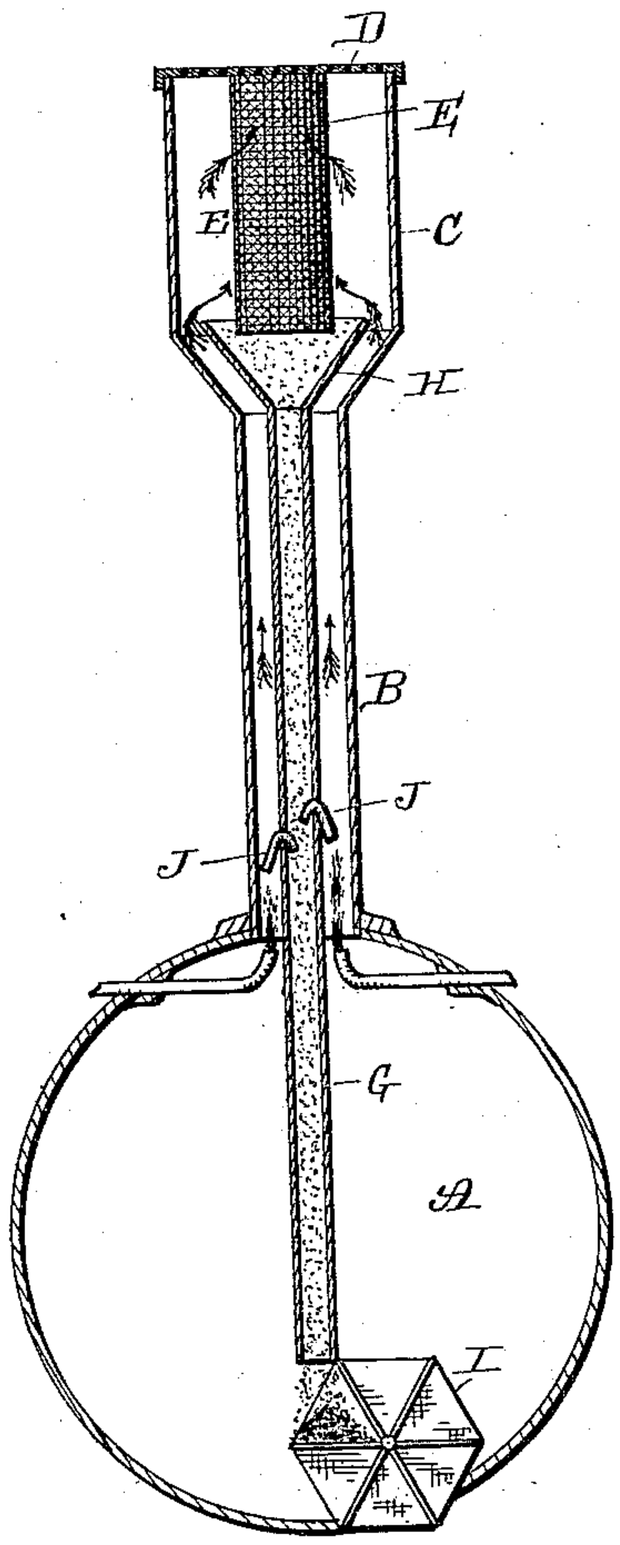
(No Model.)

J. S. PARK.

SPARK ARRESTER.

No. 298,229. Patented May 6, 1884.



Witnesses.
Louis F. Gardner
J. C. Gaines

Inventor.
Jno. S. Park,
per
J. A. Lehmann,
Atty.

UNITED STATES PATENT OFFICE.

JOHN S. PARK, OF ROCKPORT, INDIANA, ASSIGNOR OF THREE-FOURTHS TO FERDINAND WEIL, JOHN W. GRAHAM, AND TAYLOR C. BARYE, ALL OF SAME PLACE.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 298,229, dated May 6, 1884.

Application filed January 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. PARK, of Rockport, in the county of Spencer and State of Indiana, have invented certain new and useful Improvements in Spark-Arresters; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to an improvement in spark-arresters; and it consists, first, in the combination with the stack, of a wire screen which is located in the upper part of the stack, and through which the smoke escapes, of the pipe having a funnel upon its upper end to catch the sparks as they fall from the screen, and of a revolving cylinder having a number of sections; second, in the combination of the stack, the exhaust-nozzles, the wire screen placed in the top of the stack, the pipe for catching the cinders, and short bent pipes, which are passed through the cinder-pipe for the purpose of catching a portion of the steam and causing a downward draft toward the revolving cylinders, which are located at the bottom of the cinder-pipe, all of which will be more fully described hereinafter.

The object of my invention is to produce a spark-arrester in which the sparks are caught and dropped upon the track from time to time, instead of being allowed to escape into the air.

The accompanying drawing represents a vertical section of a spark-arrester embodying my invention.

A represents the boiler, and B the stack, attached thereto in the usual manner, and having the enlarged top C. This top is partially closed by a perforated disk, D, and screwed to the under side of this disk is a wire screen, E, of any desired form, and which screen has a solid bottom. Placed in the stack and the combustion-chamber of the boiler is the cinder-pipe G, which has its upper end formed into a funnel, H, which extends up in any desired relation to the lower end of the screen, for the purpose of catching the cinders as they drop from the side of the screen. As the wire screen is too fine to allow sparks to pass through it, the sparks strike against the sides of the screen, and then drop downward, and are caught in the funnel. The lower end of the cinder-pipe projects down just over the top of the revolving drum or cylinder I, which is provided with a number of partitions, which serves to catch the sparks as they drop from the end of the pipe. This drum or cylinder is free to revolve, and it turns upon its bearings far enough, when one of the compartments has been filled by the cinders, to empty them through the opening in the bottom of the combustion-chamber upon the track. This cylinder or drum closes the opening through which the cinders are discharged sufficiently to form, practically, a tight joint. As the cinders drop from the end of the pipe into one of the sections, they become extinguished, and lie there until the section has become sufficiently filled to cause the cylinder to revolve. When the cinders are discharged, they are dead and can do no harm in any way. In order to cause a downward suction or draft in the cinder-pipe, the bent tubes J are passed through the pipe, either in the relation to each other shown or any other that may be preferred, and these bent pipes catch a portion of the exhaust-steam as it rises up along the sides of the cinder-pipe. This steam being forced into the stack with considerable power, a portion of the steam is caught by these bent pipes and discharged in a downward direction into the cinder-pipe. This downward draft or suction prevents the cinders from clogging up the funnel upon the top of the pipe or from moving so slowly as not to be discharged rapidly enough. While a greater portion of the steam passes upward through the stack in the usual manner, just enough is diverted to keep the cinder-pipe always clear.

It will be seen that the parts which constitute this spark-arrester are very few and simple, and that there are no parts to get out of order.

Having thus described my invention, I claim—

1. In a spark-arrester, the combination of

the boiler, the stack, the wire screen placed in the upper portion of the stack, the cinder-pipe having its upper end so shaped as to catch the sparks as they fall from the side of the screen, and a revolving cylinder placed at the lower end of the cinder-pipe, substantially as shown.

2. The combination of the boiler, the stack, the wire screen located in the upper portion of the stack, the cinder-pipe located below the screen for catching the cinders, the revolving cylinder or drum for discharging the cinders, the bent pipes which pass through the sides of the cinder-pipes, and the exhaust-nozzles, substantially as described.

3. In a spark-arrester, the combination of the wire screen for arresting the sparks, a cinder-pipe placed below the screen to catch the cinders, and a revolving drum or cylinder provided with a series of compartments, the drum or cylinder being made to revolve only by the weight of the cinders which have fallen into one of the compartments, substantially as set forth.

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

JOHN S. PARK.

Witnesses:
E. E. WESSELER,
JOHN BASYE.