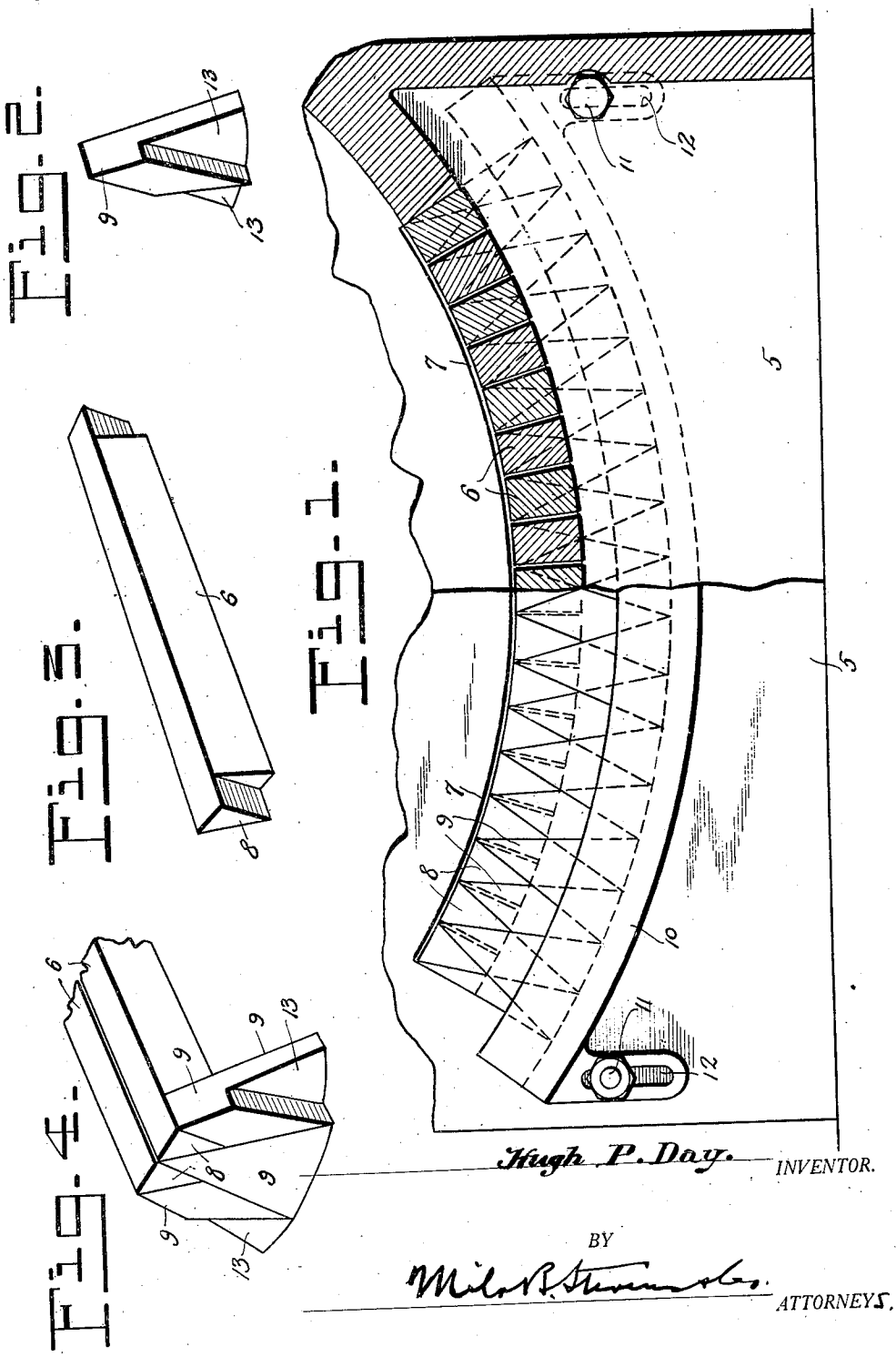
H. P. DAY.

SCREEN.

APPLICATION FILED MAR. 16, 1920.

1,369,629. Patented Feb. 22, 1921.



Hugh P. Day. INVENTOR.

BY

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UNITED STATES PATENT OFFICE.

HUGH P. DAY, OF KNOXVILLE, TENNESSEE.

SCREEN.

1,369,629. Specification of Letters Patent. Patented Feb. 22, 1921.

Application filed March 16, 1920. Serial No. 366,186.

To all whom it may concern:

Be it known that I, HUGH P. DAY, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented new and useful Improvements in Screens, of which the following is a specification.

This invention relates to apparatus for crushing or pulverizing hard materials, such as lime-stone, ore, rocks, etc., and more particularly to an apparatus or machine of the rotary beater type.

The invention has for its object to provide in a machine of the kind stated, a novel and improved discharge screen or grating through which the material, after it is crushed or pulverized, passes, a structure being provided which permits adjustment of the screen or grating according to the desired size of the crushed particles.

The invention also has for its object to provide a screen or grating of the kind stated which can be adjusted from the outside of the machine.

The objects stated are attained by means of a combination and arrangement of parts to be hereinafter described and claimed, and in order that the same may be better understood, reference is had to the accompanying drawing forming a part of this specification.

The preferred embodiment of the invention has been disclosed, but it will be understood that various changes and modifications may be made without a departure from the spirit and scope of the invention as claimed hereinafter.

In the drawing,

Figure 1 is an elevation of the bottom portion of the machine, partly in section to show the discharge screen or grating, and

Figs. 2, 3 and 4 are details in perspective.

Referring specifically to the drawing, 5 denotes the side walls of the bottom or outlet portion of a pulverizer of the type disclosed in Patent No. 1203314, dated October 31, 1916. This portion of the machine contains a screen or grating through which the crushed or pulverized material passes. The rotary beater members operating to crush the material have not been illustrated as they form no part of the present invention.

The discharge screen or grating is composed of a plurality of straight bars 6 positioned in parallel and laterally spaced relation between the walls 5, and loosely supported at their ends in slots 7 in said walls. The bars are spaced to permit the crushed material to pass therebetween, and this spacing may be varied by a means to be presently described, to adapt the screen to material of different degrees of fineness. The slots 7 are curved so that the screen is made concave as usual.

The bars 6 project at their ends from the slots 7 for a short distance, said ends being thus located on the outside of the machine. The projecting ends of the bars are triangular, as shown at 8, with the apex of the triangle pointed downward. It will therefore be seen that when the row of bars is in place, there is left a wedge-shaped space between two adjacent bars at the ends thereof, and by inserting a wedge in said space, the bars may be spread to vary the spacing thereof for the purpose hereinbefore described.

The wedges for effecting the hereinbefore-mentioned spreading of the bars 6, are shown at 9, there being a wedge for each end of each pair of bars. The wedges 9 seat on curved supporting members 10 bolted to the outside of the walls 5, beneath the slots 7, as shown at 11. Where the bolts pass through the supporting members, the latter have vertical slots 12 to enable said members to be moved up or down, this being for the purpose of moving the wedges in a corresponding direction to spread the bars 6 or to allow the same to come closer together. The apices of the wedges point upward, and hence the bars 6 spread when the wedges are moved upwardly, whereas they come closer together when the wedges are moved downwardly. Vertical movement of the bars 6 is prevented by the slots 7 in which they seat. As the entire row of wedges is supported by the member 10, they move together with said member when it is shifted up or down. Before the bars 6 as shown in Fig. 1 can be spread farther apart, it will be necessary to remove one or more of said bars, the number removed depending on the extent to which the bars are to be spread. The wedges affecting the removed bars will also be removed.

Referring to Figs. 2 and 4 it will be seen that the wedges 9 are reduced in thickness on one side to give this side a double-wedge contour, and in assembling the wedges they are so placed that the reduced portions of

adjacent wedges interfit, the plane side of one wedge facing outward, and the next wedge having its reduced side facing outward and flush with the plane side of the first mentioned wedge, and so on throughout the entire series. Fig. 4 clearly illustrates this arrangement of wedges, which is for the purpose of bringing the wedges closely together, and leaving the front and rear sides of the series perfectly smooth and devoid of projections.

The hereinbefore described adjustment of the bars 6 can be readily made from the outside of the machine without disturbing any of the interior parts.

I claim:

1. A screen of the type described, comprising a plurality of parallel and laterally spaced bars, supporting walls having slots in which the ends of the bars loosely seat and from which they project, the projecting ends of the bars being shaped to define a wedge-shaped space between adjacent bars, wedges seating in said spaces, and a supporting member carrying the wedges, said member being movable in a direction perpendicular to the bases of the wedges to advance and retract the wedges in the spaces between the bars to vary the spacing thereof.

2. A screen of the type described, comprising a plurality of parallel and laterally spaced bars, supporting walls having slots in which the ends of the bars loosely seat and from which they project, the projecting ends of the bars being shaped to define a wedge-shaped space between adjacent bars, a vertically adjustable supporting member mounted on the outside of the aforesaid walls below the slots therein, and wedges carried by the supporting member and seating in the aforesaid wedge-shape spaces between the ends of the bars.

In testimony whereof I affix my signature.

HUGH P. DAY.