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Development of a Technological Image of a Stone Crushing Machine

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Abstract: ***The article explores the structure of the grinding machine, which is a pole to the body, and the disk to the disk with a screwdriver and a toothbrush, and to the shaft with a disc and a screwdriver. On the upper side of the body of the machine is placed an anchor at an inclined angle. The tooth is used as a working element and can be adjusted using a rack in the process of researching the disc. We also paid attention to the creation of a machine: the analysis of scientific resources in this area, the technological process being studied in a laboratory setting. The following research has been carried out to develop a model of stone crusher model and some of its dimensions: an overview of the existing technology of building work, the study of some properties of stones, the optimal methods of building work, the diameter and weight of stone. The technological process of the machine is studied; the performance of the new machine is calculated. Experimental tests have shown that the total crushing of a machine with a 2.0-fold increase compared to existing machines will increase by 2.0 times. Thus, based on the results of our preliminary experiments, we came to the following conclusions: The creation of a grinding machine allows for the shortest period of construction work. Unless the creation of a crushing machine does not require the creation of precious stone crushers.***

Keywords: Stone, machine, body, tooth, work authority, the holder of the tooth and disk.

I. INTRODUCTION

In a number of speeches, the President pays special attention to the development and monitoring of the projected parameters of the mining, construction and road construction programs. Further development of mining, construction and a wide network of highways in the country is aimed at ensuring effective integration and maintenance of international communication infrastructure requirements, as well as improving their structure and efficiency. Uzavtoyul SJSC was terminated. One of the important tasks of the established committee is to provide low-cost local raw materials for construction activities. One of the cheapest local raw materials, i.e. slopes, are rocks, which are produced by grinding the boulders from the mountains into the station. Existing grinding machines used in construction are of low productivity and of poor quality. The article is dedicated to the development of technological imaging of an improved stone-crushing machine.

II. METHOD AND MATERIALS:

This study examines the technological description and dimensions of the stone-crushing machine used in mining, construction and road-building. The crusher is attached to the body of the crushing machine, and the disk is attached to the working element by means of a screwdriver and a toothbrush, and to the shaft with a disc and a screwdriver.

III. DISCUSSION AND RESULTS

At the top of the side of the hull is a tray with a slanted angle. The tooth is used as a working element in the study, and it can be adjusted with a disc relative to the disc. A disc is created in the radial direction of the disc and is attached to the disc by a toothpick. The front and profile images of the crushing machine are shown in the following drawings (Figures 1 a, b).

At the top of the chassis 8 of the crushing machine there is a slot 2 for receiving the stone and a loading boot 1 is mounted at an inclined angle. At the bottom of the hull 8 the pillar 7 is fixed and a hole 13 is formed to remove the crushed stone. The body 8 is enclosed with a valve 5 and a mounted screw 12 and a disc 4. Disk 4 has 9 radial holes, which are fastened with a bolt-nut 10 and a bolt-nut 11 and a bolt-nut 11. Tooth 14 is mounted on tooth 15 with an extra sharp blade 22.

The shaft is mounted on the drive shaft 5 screws 12 and disc 4 and the rack 3 is mounted on the other end of the gear 3. is installed. In the tangential position relative to the tooth 14 with the rotating shaft 5, the cone hole 16 and the inclined hole 17, the surface 18 and the corridor 19 are formed. Tooth 15 at tooth 14, spindle 20 is placed. In the peripheral part of the tooth 14 the longitudinal tooth 21 sharp 12 and curved surface 23 are formed. The toothbrush has 24 holes with 24 holes and 24 holes and 25 additional longitudinal teeth on its side. The boulder loaded with the crushing machine tray 1 - comes in the crushing chamber through the pick-up tray 2 and the disc is crushed at 4 rotations 4, gear 14, tooth 15 and sharp tooth 22, resulting in exit 13.

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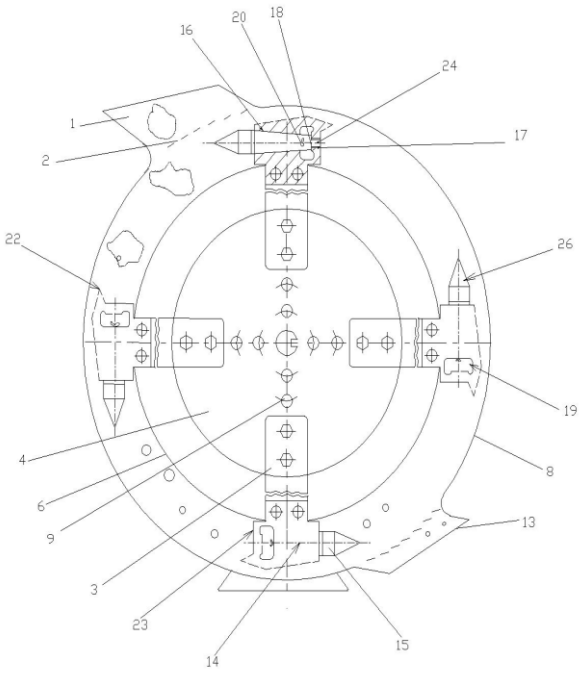
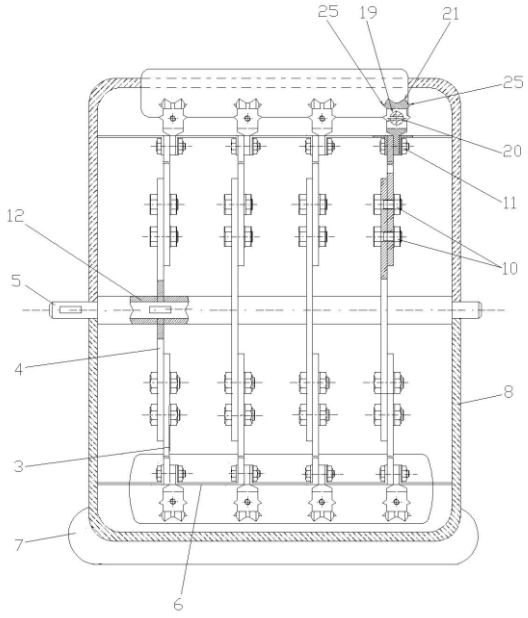


Figure 1, Technological image of the crushing machine: a) Front image.

From the first experiments it was found that the quality of the machine is influenced by the diameter of the work piece, and the diameter is 200 mm. from 500 mm. every 100 mm. In this case, the following dimensions were assumed to be constant: the number of rotations of the working part - 600 rpm, the number of working parts - 4, the distance between the working parts in the shaft - 100 mm, and the length of the shaft - 600 mm.

b) Profile picture.

The results showed that the change in the diameter of the working part was determined by the change in total grinding and power consumption (Figure 2).



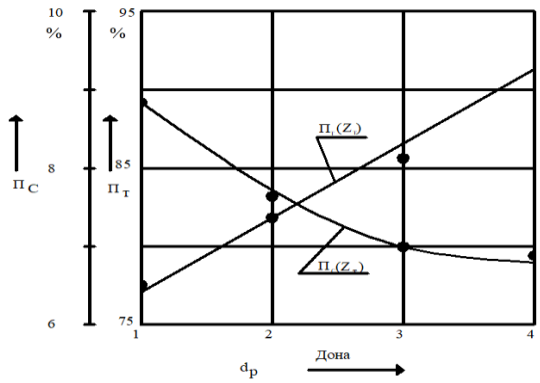


Figure 3. Graph of the dependence of the number of Z teeth on the machine work unit with the total Pt grinding and power Ps consumption.

When the number of teeth increases from one to four, the full grinding increases from 81.3% to 88.2%, or 6.7%. Figures 2 and 3 investigate the fact that the diameter of the working part and the number of blades in it are investigated. When designing this machine, we focused on:

- analyzed the scientific resources in this area;
- the technological process has been studied in laboratory conditions.

IV. CONCLUSION

The following research works were carried out to develop a model of stone crushing machine and scientific validation of some of its dimensions:

1. Review of existing technology of construction works organization.
2. Some properties of the stones have been studied.
3. The optimal methods of organization of construction works were studied.
4. The diameter and weight of the stone are calculated in proportion.
5. The proposed technological description of the crushing machine was studied.
6. Workflow section of the machine was studied.
7. The process of rock crushing was studied.
8. The productivity of the new machine being created has been calculated.

Experience - The test results in a 2.0-fold increase in the total grinding performance of the machine compared to existing machines.

Thus, based on the results of our pilot experiments, we came to the following conclusions:

- Creation of the crushing machine allows to complete construction works in a short time;
- the creation of a stone crushing machine does not require the creation of precious stone crushers.

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