

THE SHOT PEENING IN THE CLOSED METALLIC CHAMBER

SALKO DJOZIĆ, B.Sc.

Senior Mechanical Enginneer, GSKG Public Maintenance Enterprise, Zagreb Savska 1 – CROATIA

ABSTRACT

At wich way will be performed the Shot Peening Process is presented on the sketch freely designed. By electric motor is driven whole process in this small space protected by metallic shell. Two driving gears doing the rotative motion. Main thing is provided by SNAIL TRANSFER special fabricated for horizontal movement – left – right. Electric motor work going normal others motors except something additional attached – connected THYRISTORS for exact change sense of motor rotation. Item to be treated can be fixed with lower shaft driven by gear. It is fixed by two flanges on the left – right side with flanges and bolts. That means this axle is removable – down to make space for further process of Shot Peening. Flexible elastic pipes connected with moving box of Snail Transfer. As well in this area is very important system of lubrication, dust removing by suction and protection of becoming dust. Whole device can be very small and can brought by hands depending of user wishes scientific research laboratory or Workshop in manufacturing process.

KEY WORDS

Snail Transfer, left – right horizontal moving, Rotation, Lower axle, Shot Peening media, compressed air flexible plastic pipes, Thyristors – limitators, lubrication suction, protection of dust, electric motor, gears flanges, bolts, metallic box, guide with lubrication, valves, suction pipes for dust, jets for media.

This device for vessel peening by water is one principle solution. It size can depedently of items to be treated for peening. Can have fixed place in one manufacturing area, as well can be made small size to be removed from one to other place in workshop or laboratory for testing. Finally speaking this device can be with minimal device staying in laboratory table with small weight transferible by hands from one to desirable place.

This device is one closed metallic chamber for special shot peening to have good satisfied results. On fig 1 is presented two small shafts. One is directly connected with electric motor item 11. Operation going with two gears item 5 and 10. This gear is item 3 made by Helicoidals serving for moving left – right item 1 is indicated as mobile box. Many mechanisms are installed gear for snail transfer and limitators thyristor for turn and return of this mobile box item 1 and

item 2 is guide – one line for assuring one guide lubricating without obstacles. Over this mobile box two outlets are shot peening media. Lower shaft item 13 is placed under jets outlet blasting media. Below is placed one plate item 13 what collecting dust and destructed shots. For protection of internal surface from the strong dust. These two plates item 6 and item 8 for protection of all items in this closed chamber. On the fig 2 is one section to better see how is looking this chamber. On the top of this chamber is placed flexible pipes item 16 because chamber mobile item 1 (fig 1). Process of shot peening going on this way that mobile box with two jets commencing going left – right with thyristors. These thyristor returning sense of rotation of electric motor it usual item using in many cases in construction in electric construction installed in manufacturing are. For example in transformer station where coming insulation with SF6 gas in one chamber to be more safe in function. On the Fig 3 is presented driving parts for shot peening it enough fixed – attached some parts of metal with this shaft. They make rotation with some metallic parts in same time they are under active two blasting by jets and making Shot peening.

If is not necessary items for rotation with lower shaft we can disconnect it and removes down Peening media falling in this case on the small metallic platform.

If is necessary to check whole procedure on the shell of chamber can be installed some glasses to see how is going procedure during normal function. Shell of chamber serving and protecting working area from dense dust coming over two jets. Dimension of this device can be different depends on size items to be treated by shot peening. For small workshops and research laboratory can be very small and easy for transfer by hands.

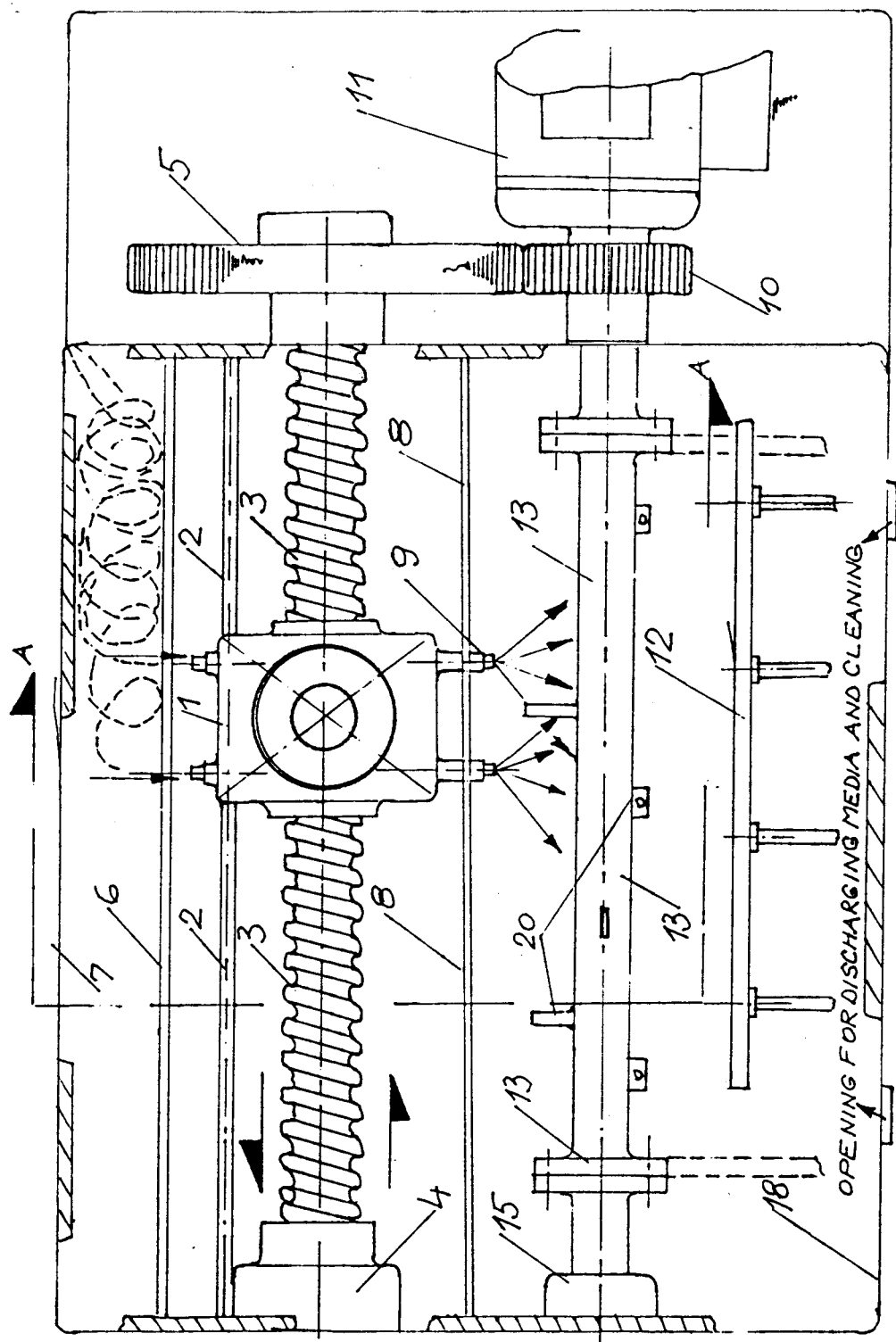
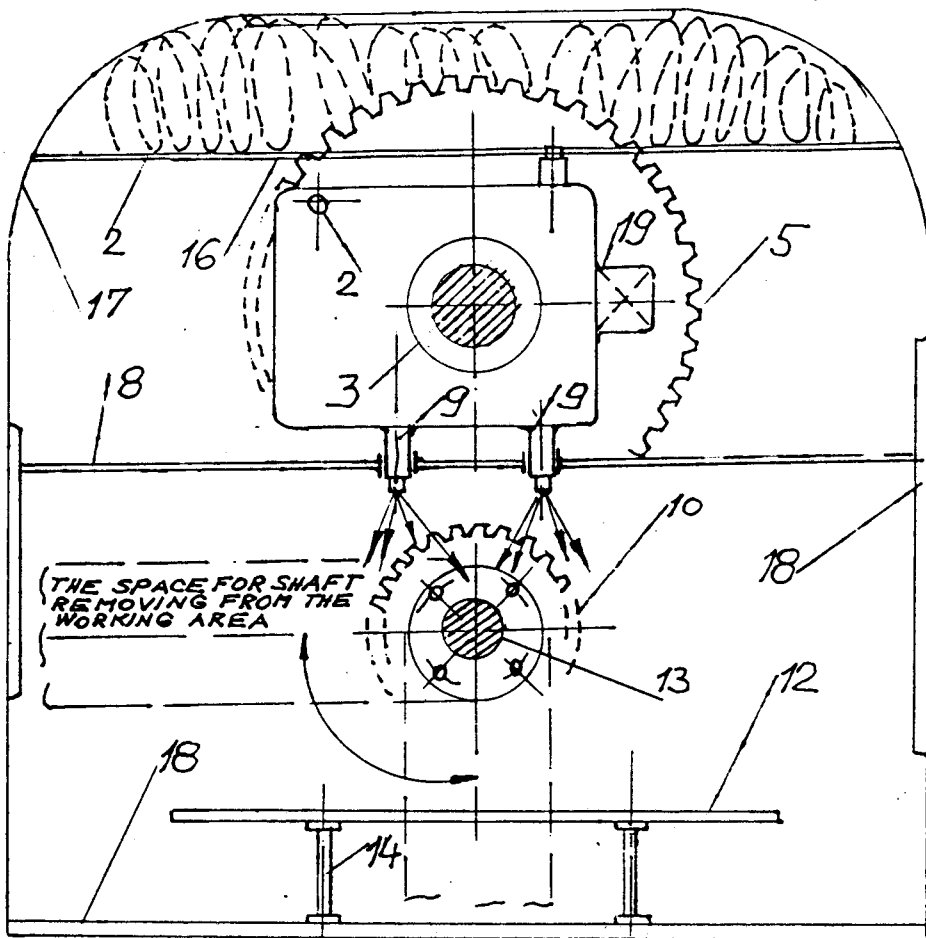


Fig. 1. Closed chamber for shot peening



LIST OF INDICATED ITEMS OF THE SKETCHES

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|----|-------------------------|----|------------------------------|
| 1 | MOBILE BOX | 12 | FIXED PLATFORM |
| 2 | LONGITUDINAL GUIDE | 13 | REMOVABLE SHAFT |
| 3 | SNAIL TRANSFER | 14 | VERTICAL GIRDER |
| 4 | ATTACHMENT PIECE | 15 | ATTACHMENT PIECE |
| 5 | TRANSFER GEAR | 16 | FLEXIBLE PIPES |
| 6 | UPPER WEARING PLATES | 17 | SHELL OF UPPER PART |
| 7 | HOUSING UPPER | 18 | BOTTOM PLATE & SIDE PLATE |
| 8 | PROTECTION SHEETS | 19 | THYRISTOR CONNECTION |
| 9 | JET FOR A MEDIA PEENING | 20 | PIECES FOR CONNEX. & ATTACH. |
| 10 | DRIVING GEARS | 21 | SUCTION |
| 11 | ELECTRIC MOTOR | 22 | LUBRICATION |

Fig. 2. Closed chamber for shot peening section A-A

