

АКСЕЛЕРАТОР



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Jolt

the most effective way to clean the car
from the frozen and caked mass

Functional customers –
Central Directorate for Terminal and
Warehouse Complex Management
Federal Cargo Company

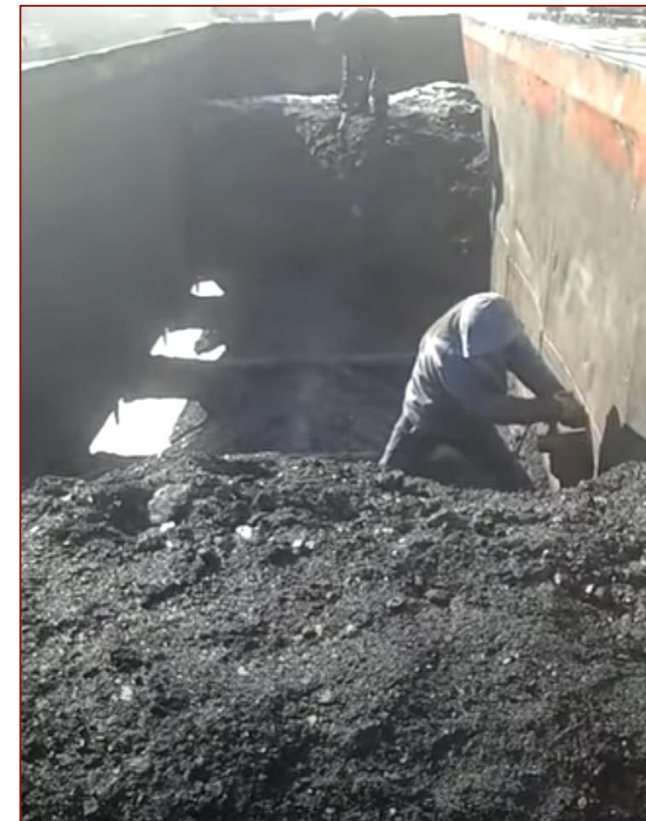
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GENERATION S

ВНИИЖТ



2. The problem

- Underloading of bulk cargo at subzero temperatures ranges from 6% to 15%
- The attempts to free the gondola car from the frozen mass by traditional methods (heating, crushing) are not effective – they increase both the unloading time and lead to the damage of the car
(only in the Far Eastern region, > 36 thousand cars were damaged with grab technology for a year)
- Unloading of one car is for up to 3 days



<https://youtu.be/CyejJoup1Ts>

3. Magnetic pulse Jolt method



The pulse lasts only 100 microseconds



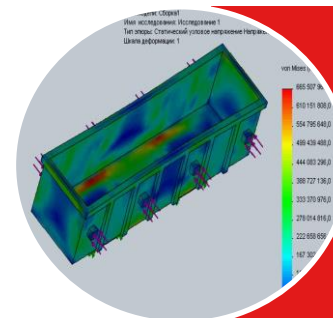
The adhesion layer is destroyed without damaging the car



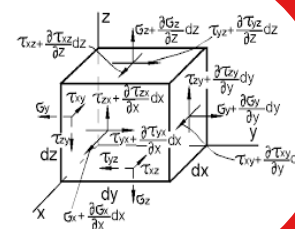
The displacement is only 0.5 mm



The effect is similar to an impact weighing 65 tons



The magnetic pulse method (has been patented) is based on the excitation of the traveling waves in the walls and bottom of the car



The impact on the wall is 7 times lower than the deformation threshold, it eliminates any damage

3. The Implemented projects with Jolt technology



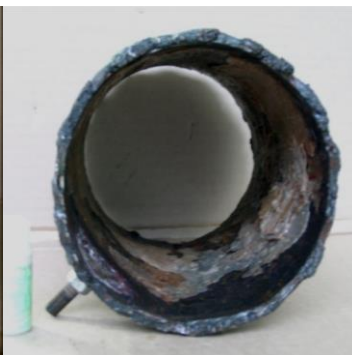
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Disposal of
reinforced
concrete



Production of
generators for
installation of RIT
piles



Pipe cleaning at
the
Nazarovskaya
hydrorecirculati
on station



Cleaning the
vacuum grab at the
Krasnoyarsk
Aluminium Plant

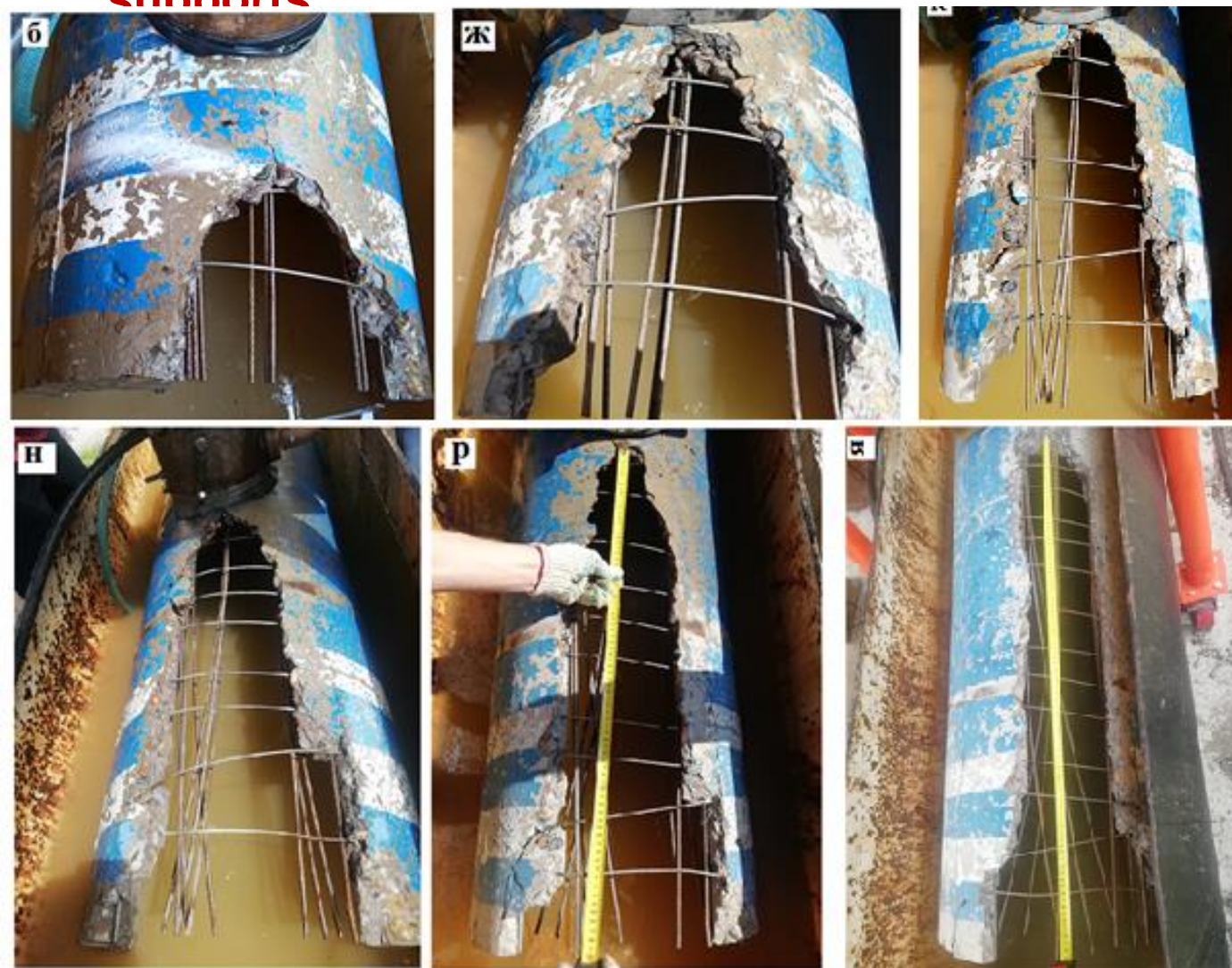


Clearing water at
the Krasnoyarsk
metallurgical
plant



Pressing pipes into
pipe boards at the
"Vineta" municipal
enterprise

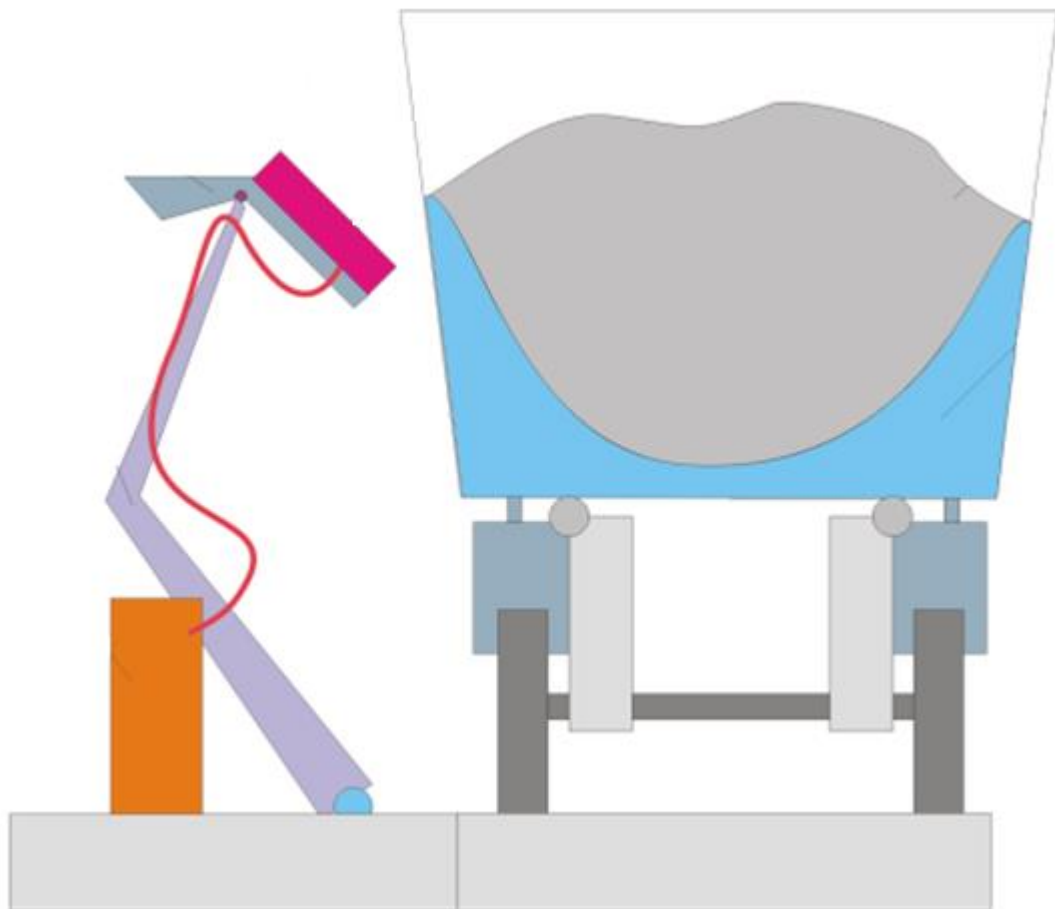
Development of technology for electric hydro impulse disposal of reinforced concrete scrap waste from dismantled contact network supports



The result of the destruction of the supports



4. Jolt gondola cleaning device

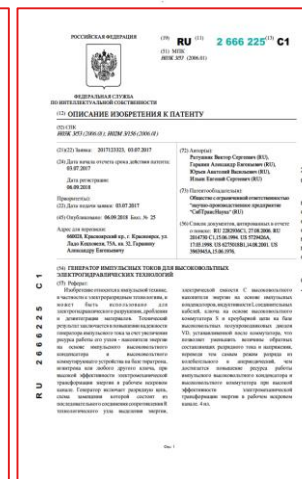
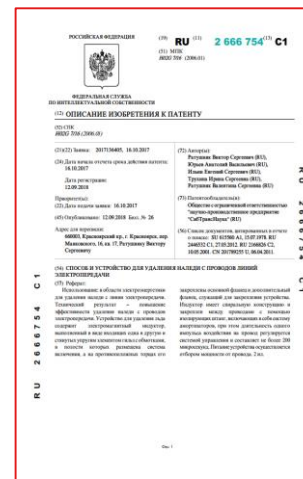
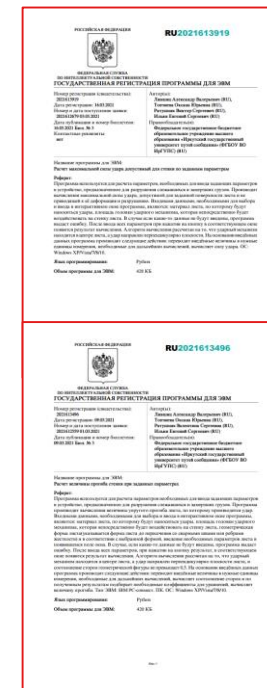


4 Patents for the invention
2 Certificate of registration of a computer program

КРИЖТ

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РЖД



5. Advantages

- 1. Shorter unloading time of the car**
instead of 6 hours of heating - **3-5 minutes.**
- 2. Low power consumption**
instead of 1000 kWh – no more **than 10 kWh**
- 3. No damage to wagons**
- 4. High reliability**

10. The result of the implementation

- Economic:
 - Energy efficiency.
 - The safety of the wagons.
 - Low capital costs (there are no special requirements for the installation site, no coolant is required, moisture is not formed – there is no additional need for drying, a longer period of overhaul maintenance – there are no rubbing parts).
- Technological:
 - Less time to carry out the operation to clean the car.
 - High level of production culture.
- Ecological:
 - Low noise level.
 - Low carbon sign.

12. Jolt magnetic pulse method



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The technological complex for cleaning cars by magnetic pulse method is the most effective way to clean frozen and caked mass during unloading. The complex is energy efficient and it performs the cleaning operation faster than the known analogues. The use of the product is not associated with impact on the walls of the car, which eliminates the possible costs of repairing a damaged car.

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Federal
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