

TECHNICAL SPECIFICATIONS **SEAL STRIP SHEARING MACHINE**

1.0 PURPOSE:

The roller type Shearing Machine shall be used for width shearing in running length to size of alloy steel strips for steam turbine.

2.0 SEAL STRIP MATERIAL:

Stainless steel cold rolled strip of material grade X20 Cr Mo 13 having tensile strength 750 N / mm² . Chemical composition shall be C: 0.17-0.22 %, Cr: 12-13 %, Mo: 0.80-1.20 %.

3.0 TECHNICAL SPECIFICATIONS:

- 3.1 Cutting width : 0 - 260 mm
- 3.2 Cutting thickness : Up to 1.2 mm
- 3.3 Shearing accuracy : 0.1 mm
- 3.4 Motor power : 2 H.P.
- 3.5 Speed of motor : to be informed by the supplier
- 3.6 Roller material : High Carbon high Chromium steel
- 3.7 Roller size : OD. 87.0 ID. 20.0, Thickness- 24.0 mm
- 3.8 Electrical lamp to be provided at suitable location.
- 3.9 Set of spanners to be used during operation of the machine to be provided.
- 3.10 The machine must have the following essential features:
 - 3.10.1 Conical friction clutch with lever mechanism for shearing operation (Photo no.1 attached).
 - 3.10.2 The guides shall be of hardness 60-62 HRC and both the guides should move together after adjustment of the width of strip. Additionally one of the guides should also move independently to accommodate the different width of strip. Size of slot on guide should not be more than 0.8 x 1.0mm (Photo no.2A & 2B attached).
 - 3.10.3 Spring loaded clutches with necessary preventive mechanism for additional load/tension should be provided for rerolling of sheared strip (Photo no.3 attached).
 - 3.10.4 Necessary guard should be provided on V-pulley.

4.0 MANUALS:

3 sets of Operation & Maintenance manuals, containing electrical circuit diagram, detailed assembly drawings of each sub assembly with part list shall be provided.

5.0 COLOUR:

Colour of the machine shall be apple green.

6.0 WARRANTY:

Supplier shall provide full and complete guarantee for 18 months (including bought out items , if any) trouble free operation after successful commissioning of the machine.

7.0 SPARES:

Spares for two years trouble free operation are to be provided. Item-wise cost of each spare shall be indicated.

8.0 OTHER CONDITIONS:

8.1 Vendor should be supply suitable power cable for electrical connection (10 m for each m/c) of the machine.

8.2 PDI: Pre dispatch inspection (PDI) will be carried out by BHEL at vendor's works to check specification, compliance & performance. Machine shall be dispatched after clearance given from BHEL.

8.3 Test material shall be provided by BHEL on request and it shall be the responsibility of the supplier to take it to their works . Used test samples shall be returned to BHEL along with the machine. Test samples shall be checked at BHEL .The machine shall only be despatched only after approval of the test samples by BHEL .

9.0 COMMISSIONING & ACCEPTANCE:

9.1 The machine shall be supplied with complete electrical equipment ready for the connections to the power mains.

9.2 Final acceptance shall be made at BHEL, Hardwar following successful erection, assembly, commissioning and job proving within specified accuracy.

9.3 It shall be the sole responsibility of the supplier to rectify any shortcoming in the Design or Operation of the machine observed during commissioning, free of cost.

10.0 TECHNICAL SUPPLY CONDITION :

The machine should be able to operate in following technical conditions :

Power :

Machine should be suitable to operate on 3-phase A.C. supply of 415 Volts \pm 15%, 50Hz \pm 3%

Environment :

Tropical environment consists of dust- laden atmosphere during some part of the year.

Temperature Minimum 3° C - Maximum 45° C

Relative Humidity 95% Maximum

11.0 QUALIFYING CONDITIONS:

11.1 The supplier should be a original machine tool manufacturer of special purpose machine.
List of special purpose machines supplied in the last five years to be provided.

11.2 This is a special purpose Machine and therefore the design and operation of the Machine should preferably be similar to existing machine working at BHEL , Hardwar to ensure similarity in machine operation and interchangeability of tooling (Photo no.4,5 & 6 of machine is attached). Machine manufacturers interested in the development of the Machine may discuss and study the working of the existing machine at BHEL , Hardwar and shall give a compliance certificate along with the offer .

(S.K. Gond)
Engineer/ TTX

(S.B.Yadav)
Sr.Engineer / TUM-Rotor Assly.

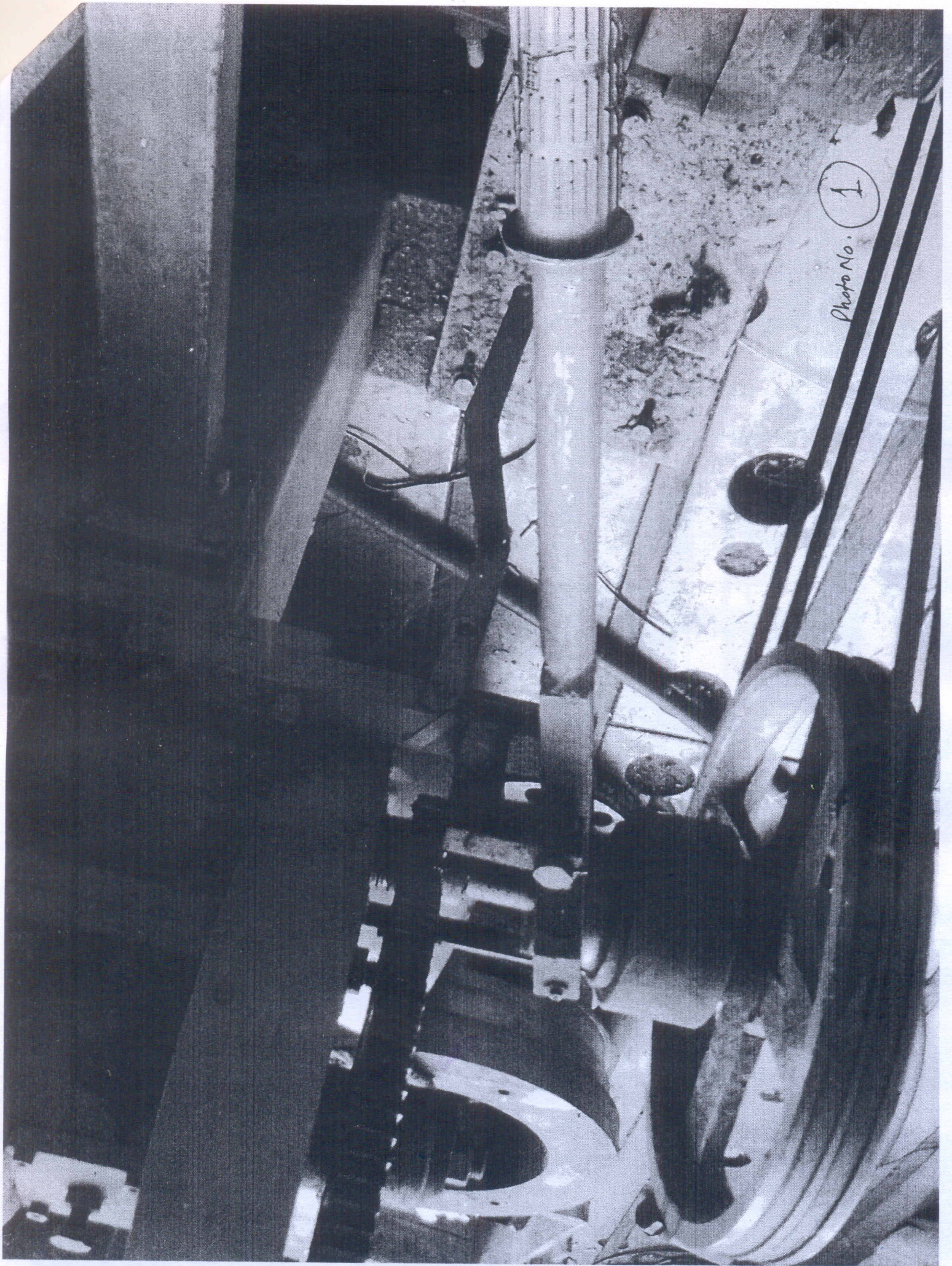


Photo No. 1

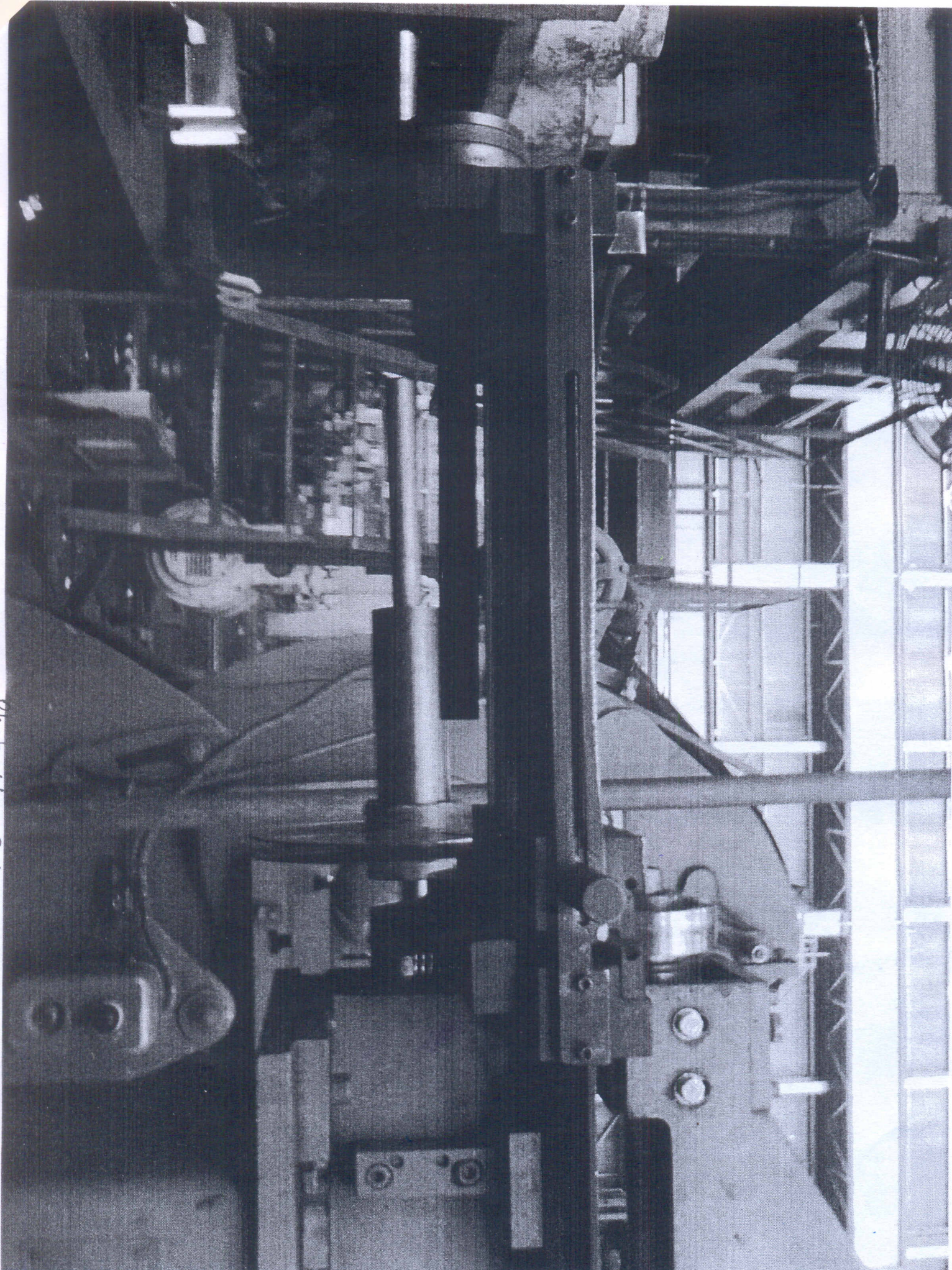


Photo No. 9A

Photo No - 2 B

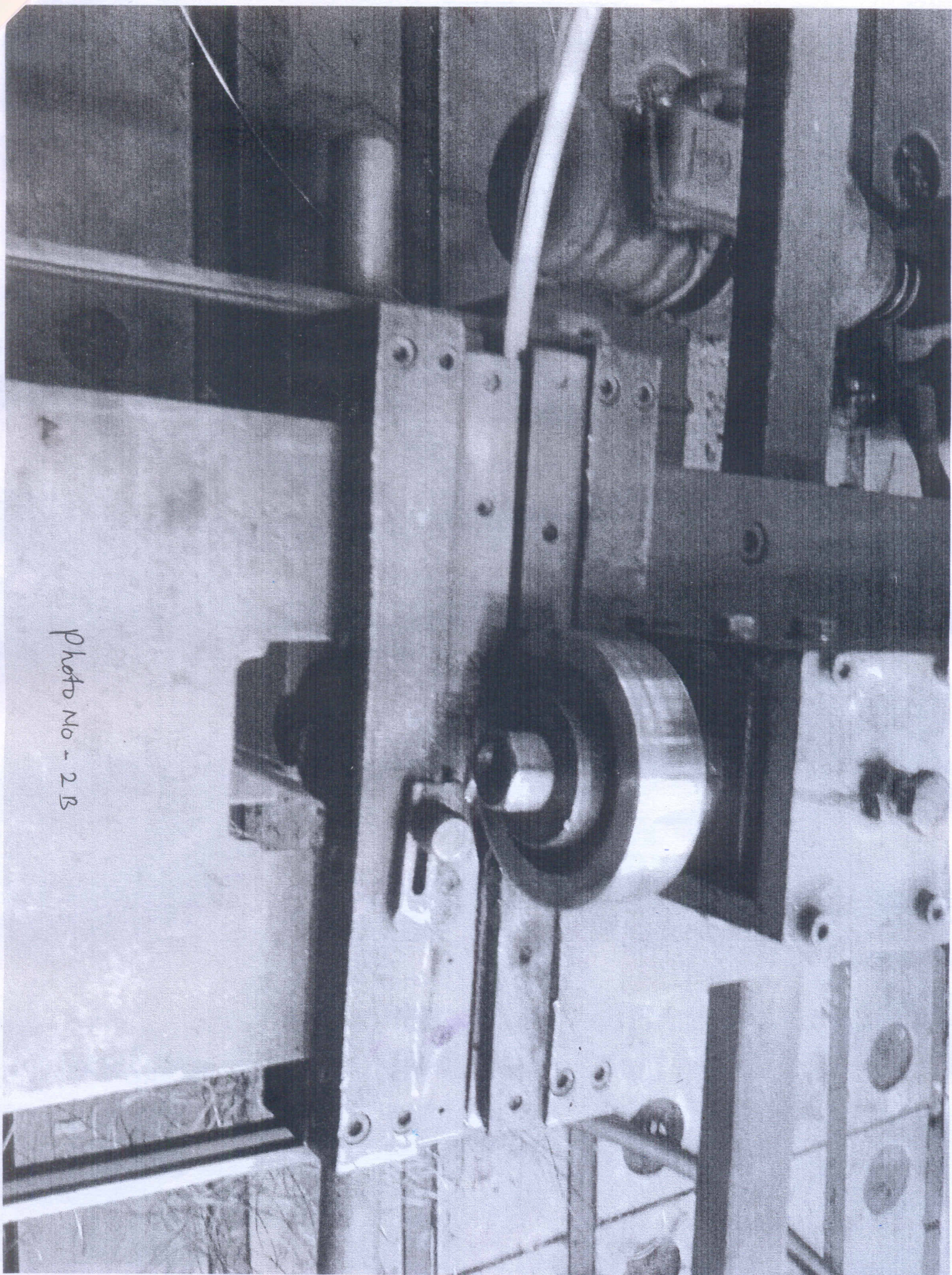
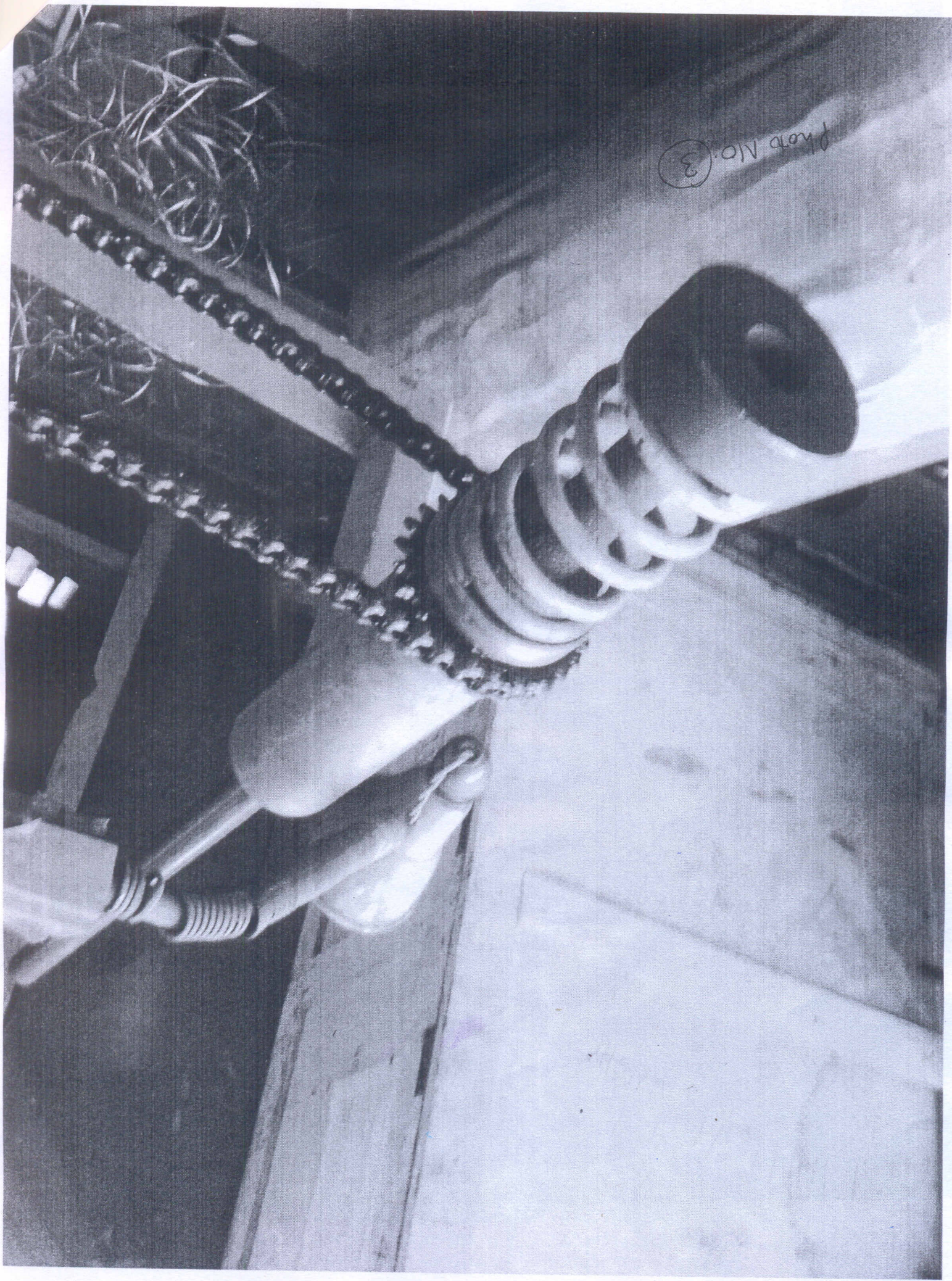


Photo No. 3



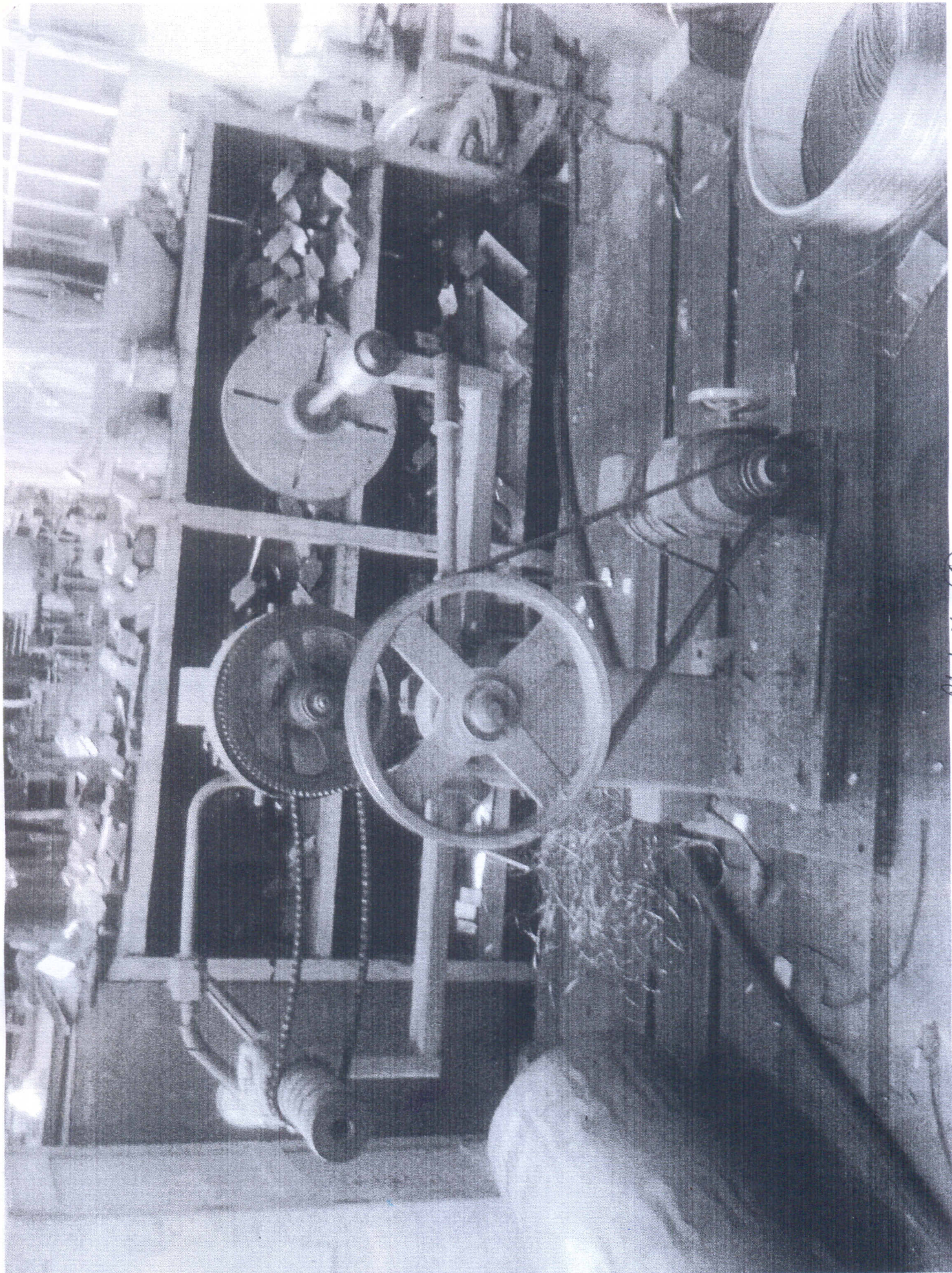


Photo No. (4)

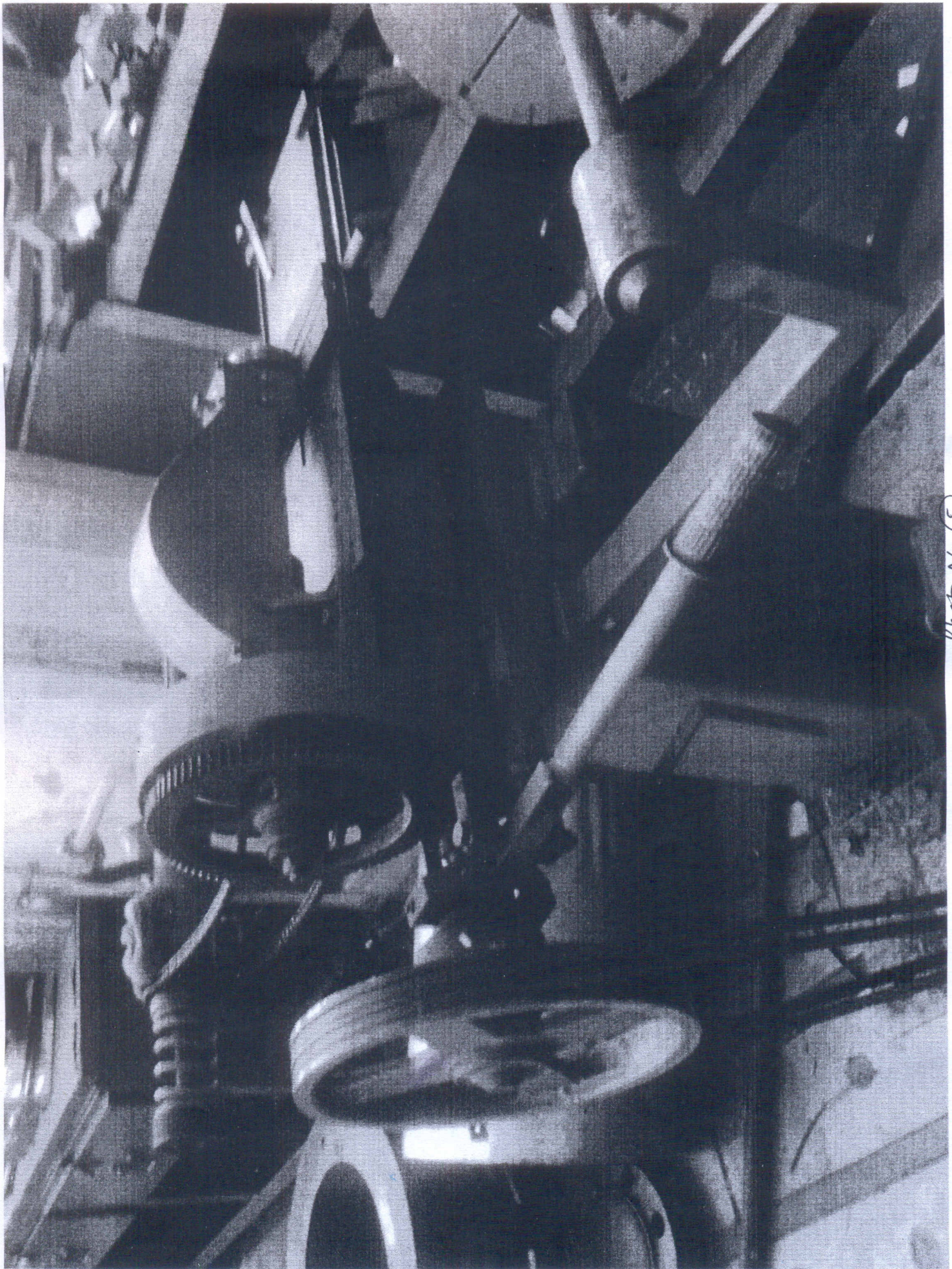


Photo No. 15

Photo No. 6

