



CERT. No. 001288

FEDERAL REPUBLIC OF NIGERIA

Patents and Designs Act,
(CAP 344 Laws of the Federation of Nigeria 1990)

RP: NG/P/2013/370

PATENT NO:

Date of Patent: 06-06-2013

Date of Sealing: 30-09-2013

President of the Federal Republic of Nigeria and Commander-in-Chief of the Armed Forces
DR. GOODLUCK EBELE JONATHAN

DR OYINKANSOLA ADUKE
OLUKUNLE

WHEREAS a request for the grant of a patent has been made by:

23, AMINA WAY, UNIVERSITY OF IBADAN; IBADAN, NIGERIA. C/O NATIONAL OFFICE FOR TECHNOLOGY ACQUISITION
AND PROMOTION. FEDERAL MINISTRY OF SCIENCE & TECHNOLOGY ABUJA

For the sole use and advantage of an Invention for:

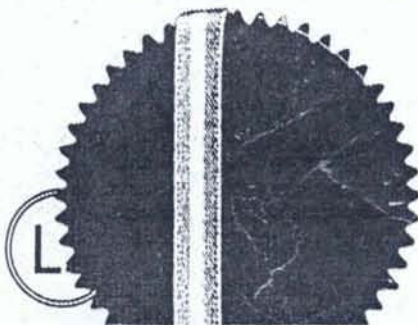
FEED PELLETER

AND WHEREAS the Federal Government being willing to encourage all invention which may be for the public good, is please to accede to the request:

KNOW YE, THEREFORE, that I do by this instrument give and grant unto the person(s) above named and any successor(s), executor(s), administrator(s) and assign(s) (each and any of whom are hereinafter referred to as the patentee) by special licence, full power, sole privilege and authority, that the patentee or any agent or licensee of the patentee may subject to the conditions and provisions prescribed by any statute or order for the time being force at all times hereafter during the term of years herein mentioned make, use, exercise, and vend the said invention throughout the Federal Republic of Nigeria, and that the patentee shall have and enjoy the whole profit and advantage from time to time accruing by reason of the said invention during the term of twenty years from the date first above written of this instrument: AND to the end that the patentee may have and enjoy the sole use and exercise and full benefit of the said invention, I do by this instrument strictly command all citizens of the Federal Republic of Nigeria that they do not at any time during the continuance of the said term either directly or indirectly make use of or put in practise the said invention, nor in anywise imitate the same, without the written consent, licence or agreement of the patentee, on pain of incurring such penalties as may be justly inflicted on such offenders, and of being answerable to the patentee according to law for damages thereby occasioned:

PROVIDED ALWAYS that this patent shall be revocable on any of the grounds from time to time by the law prescribed as grounds for revoking patents by me, and the same may be revoked and made void Accordingly:

PROVIDED ALSO that nothing herein contained shall prevent the granting of licences in such manner and for such considerations as they may by law granted.



MADE this 20th day of Dec

2013

Registrar of Patents & Designs

Drafting of Patent Specification to NOTAP from Dr. Oyin Olukunle

Content

(i) **Title of a Pelleter: The Invention:** Fish Feed Pelleter

(ii) **Abstract**

The invention relates to a rotary pelleting machine comprising a driveable pelleter with varying effective die, in this case, the effective diameters of each die are 0.9cm (a_1) and 0.8cm (a_2) respectively. The disc rotates about a common rotational axis C which serves as a filler device for filling the die(s) with the materials to be compressed and pelleted. Inside the filler is the shaft (h) that works like a worm passing and pushing the material under pressure from the grinding chamber (g) into the filler, on to the rotational axis (c) and finally to the dies. The pelleter/grinder (1 and 3) is powered by a single phase electric rotor (2) attached and driven by an inter-changeable belt (4).

(iii) **Description of the Invention**

(a) **Technical field:** Aquaculture Nutrition (Fish Feed production) OR Animal Nutrition (Animal Feed Production).

(b) **Background of the Invention**

The basic technology is derived from the kitchen mincer design. However, the invention incorporates motorized local Nigerian pepper grinder with the design of the perforated disc of the kitchen meat mincer. The meat mincer design, as incorporated and powered in this design, provides a low cost technology for production of animal feed for grass cutter, fish, guinea pig, snail, rabbit etc and for producing pellets on farms site at cheaper rates. The cost of transportation of feedstuff and finished products is removed from expenditure. The farmer is able to control the quality of his products – pellets depending on farmer's choice. The feedstuff mixture can be compressed to get pellets of high floatability. The option is to prepare a mixture of higher fibre content to get higher floatability for fish pellets. This technology is not too complex for use on local and small-holder farmers as they are used to the mechanism of the pepper grinder.

The grinder (b) grinds the mixture of feedstuffs and empties into the filler/collector (c) housing the shaft (f). When the motor (2) is powered by an electric cable or diesel engine, there is rotation of the shaft inside the filler. The force created binds and forces the feedstuff through the dies and pellets of the required size are produced. The disc can be made in multiples with interchangeable plate i.e. (holes of desired diameter).

The pulley is made of a circular thick rubber to fit into the rill of the motor the grinder and the pelleter. It energizes these units respectively causing the feed to be ground and the dough in the pelleter to pass through the perforated disc (die). The pellets are let out and they can be collected into any container and dried in an oven or in open hot air.

(c) Summary of the Invention

This invention is a combination of a local pepper grinder and a fish feed pelleter. This invention can be used for pelleting any animal feed that involves making the feed into a dough, pelleting and drying.

(d) Detailed description of all components

The invention consists of 2 major parts

1. The Grinder and
2. The Pelleter

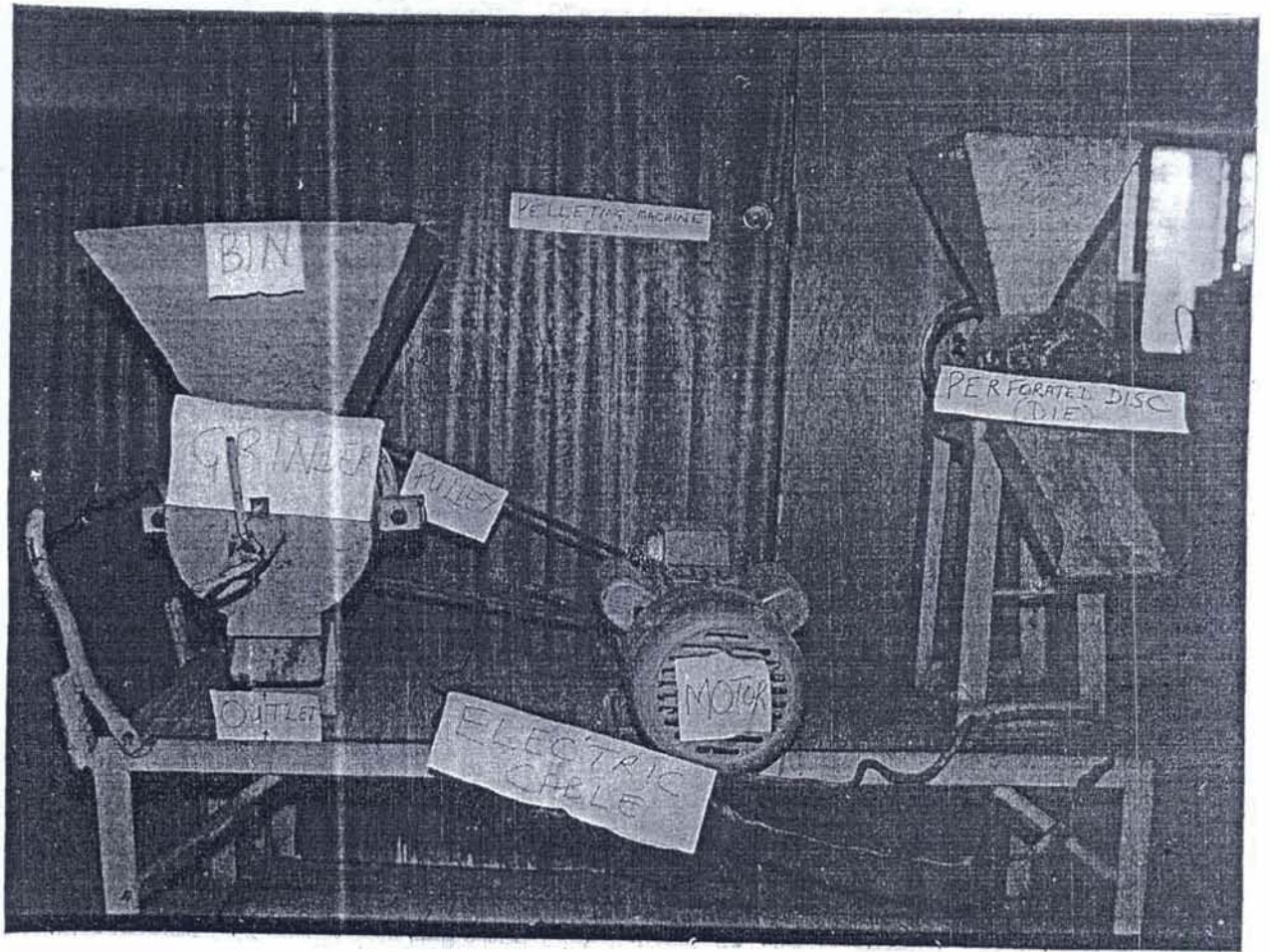
The grinder consists of the

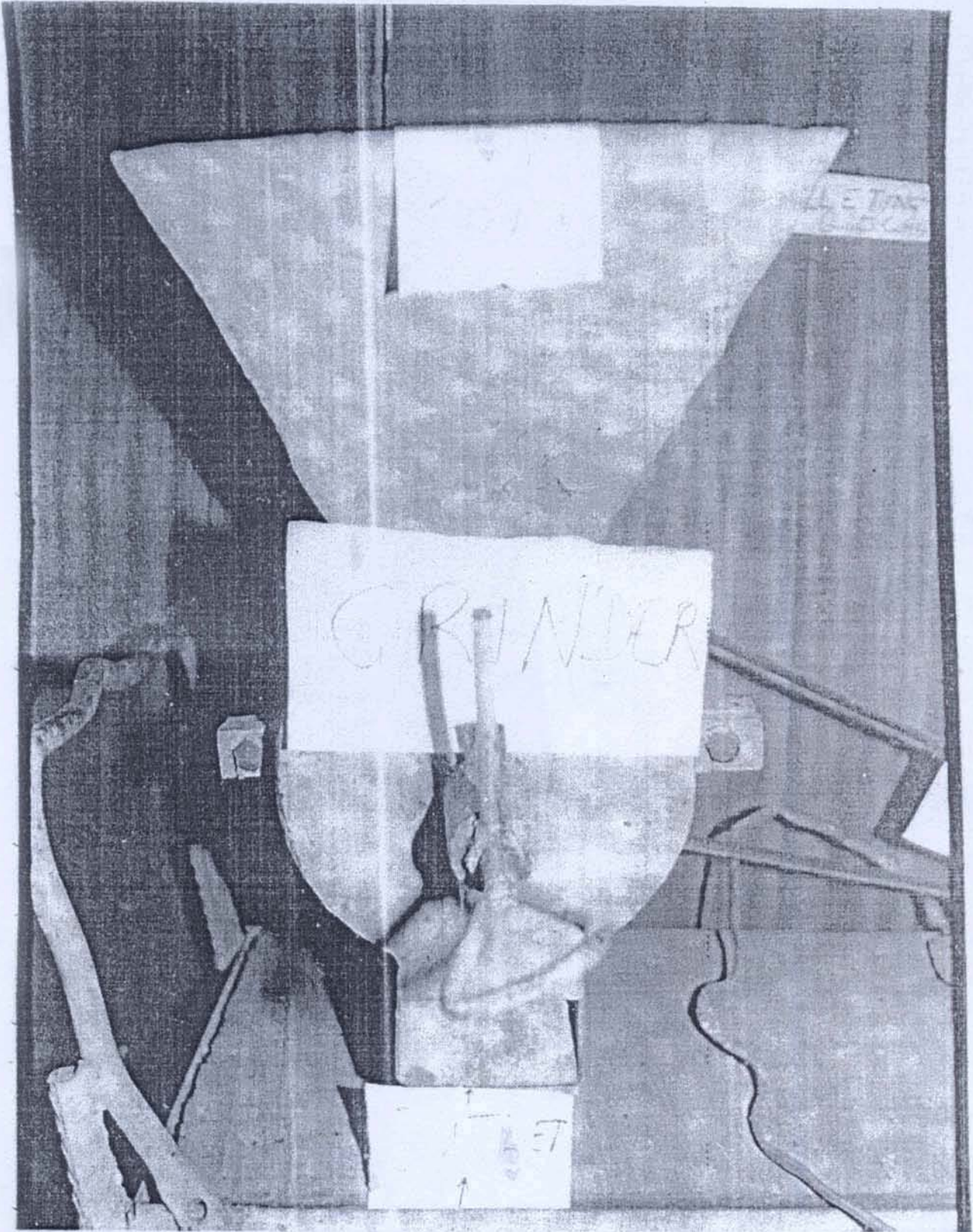
- (a) Hopper:** that holds the feed to be ground. It can be made of metal – tin or iron.
- (b)** The pulley is made of a circular thick rubber to fit into the rill of the motor the grinder and the pelleter. It energizes these units respectively causing the feed to be ground and the dough in the pelleter to pass through the perforated disc (die). The pellets are let out and thus can be collected into any container and dried in an oven or in open hot air.

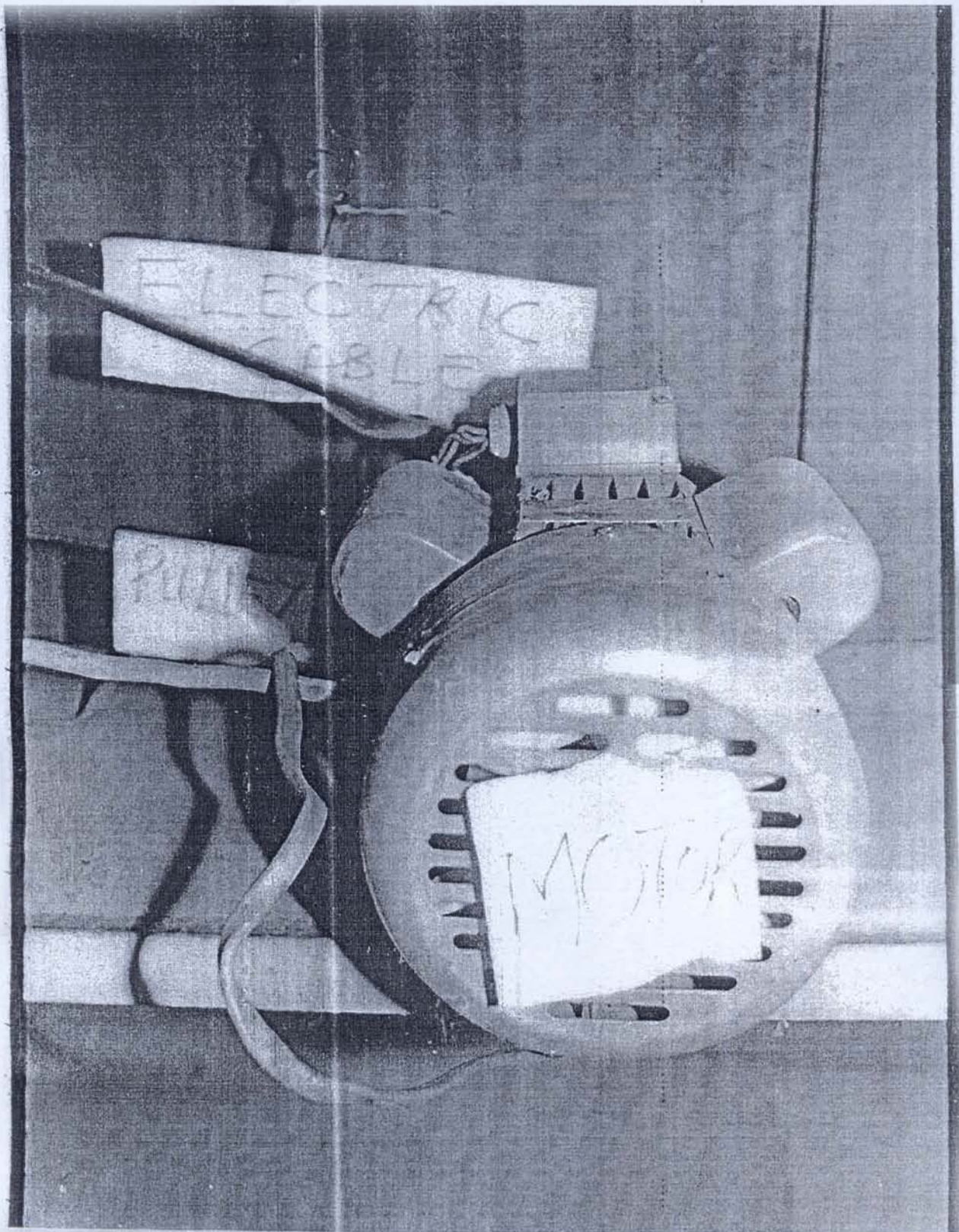
The Pelleter

The pelleter consists of a hopper that holds the dough. The perforated disc that is perforated through which the pellets pass the motor energizes the pulley to cause the dough to feed the disc and the pellets produced continuously.

- (e)** This invention is to be protected against being manufactured by other people without acknowledgement of the inventor who modified the local pepper grinder into a pelleter. The die (a₁, and a₂) incorporation into the grinder (1a – 1g) makes the latter a pelleter (1a₁, and 1a₂).





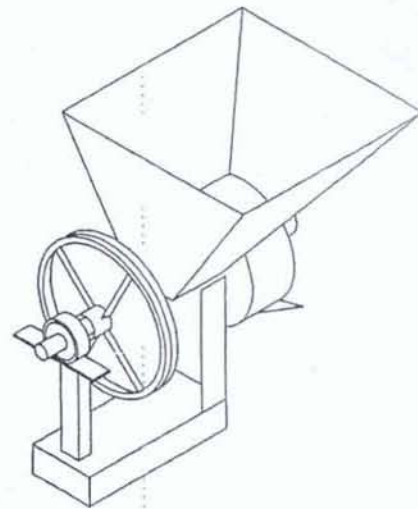
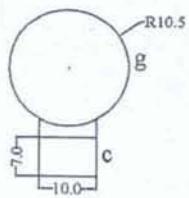
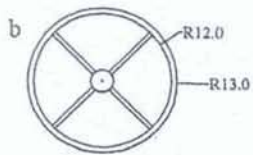
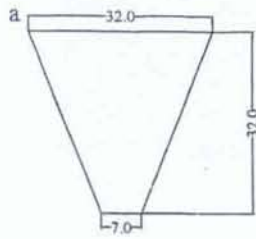


ELECTRIC
CABLE

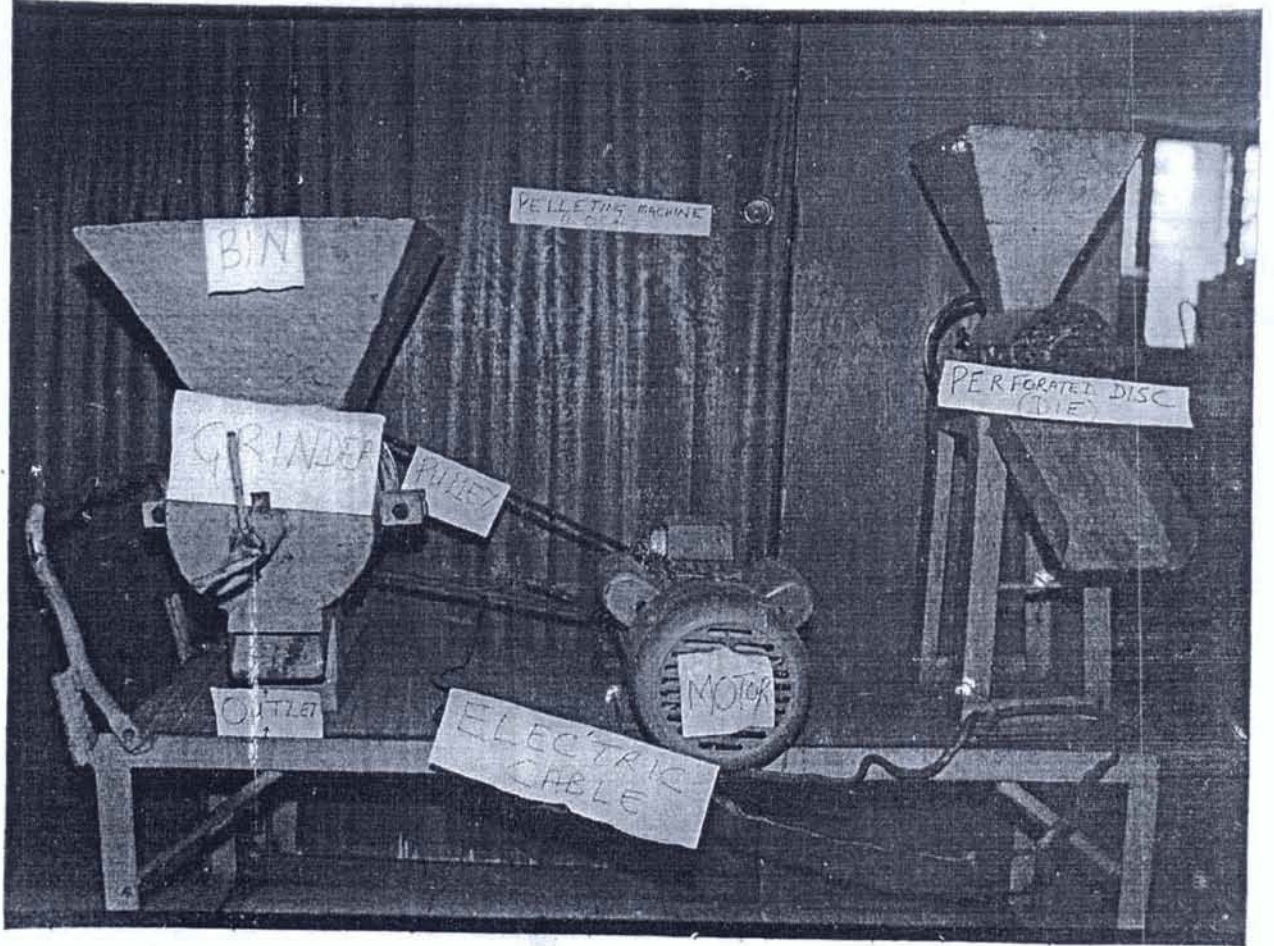
PUMP

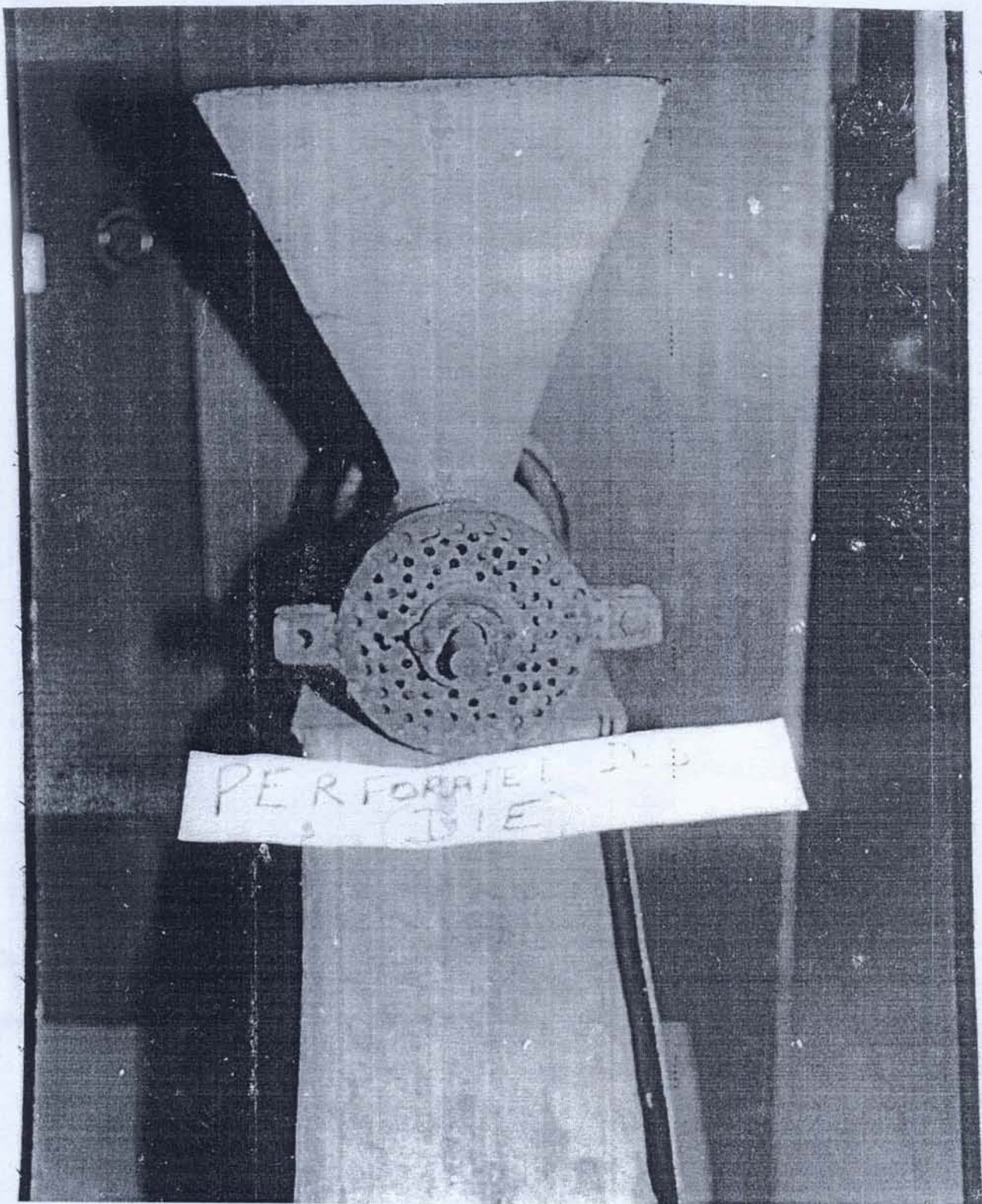
MOTOR

S/N	PARTS	No
1	Grinder	
a	Hopper	1
b	Collector	1
c	Pulley	1
d	Bolts	9
e	Nuts	8
f	Shafts	1
g	Grinding Chamber	1

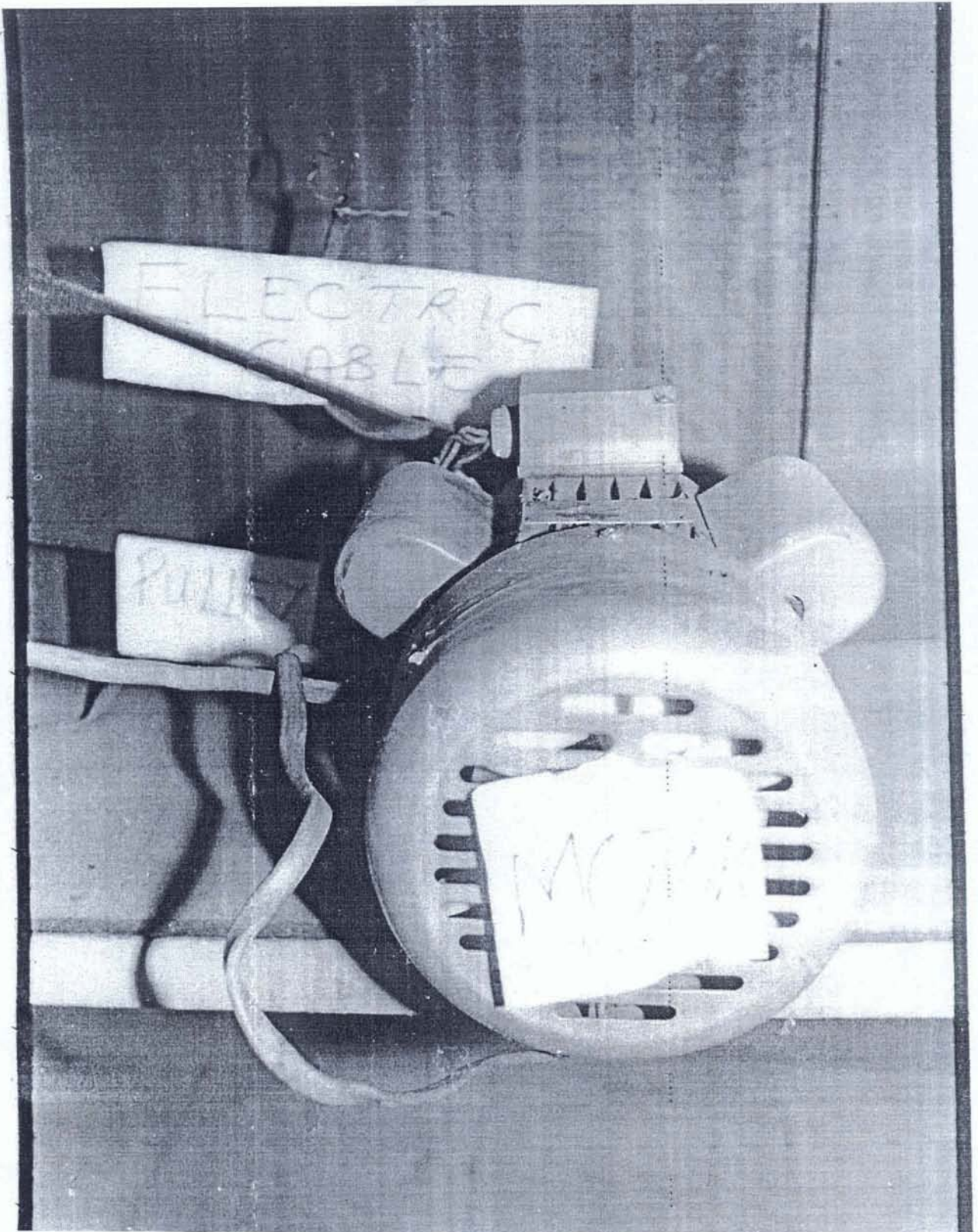


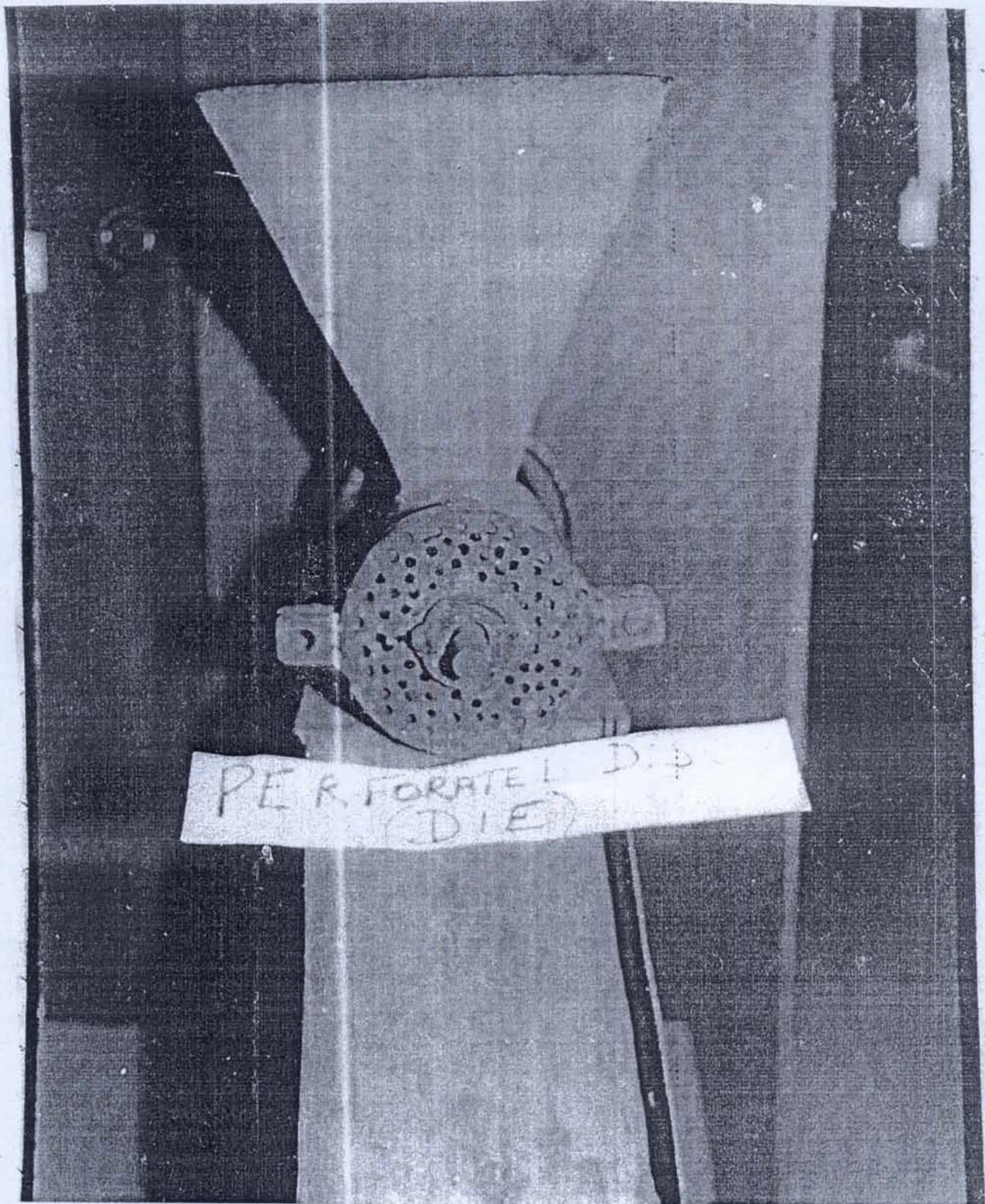
2a
All dimensions in centimetres



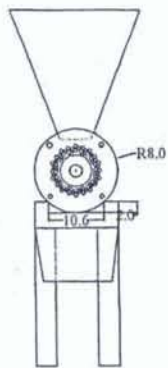


PERFORATED DIE

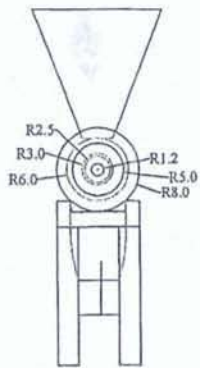




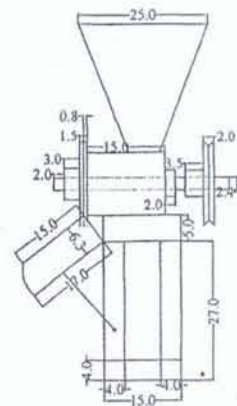
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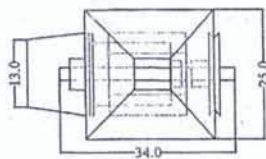
Left Side View



Front View



Right Side View



Plan View

Pelleter

All dimensions in centimetres

S/N	PARTS	No
1	Pelleter	
a ₁	Pelleting Disc with holes of effective diameter of 0.9cm	1
a ₂	Pelleting Disc with holes of effective diameter of 0.8cm	1
b	Hopper	1
c	Collector	1
d	Pulley	1
e	Bolts	5
f	Nuts	4
g	Grinding Chamber	1
h	Shaft	1