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FIRMA

A. F. SMULDERS,  
ROTTERDAM.



Steam Pile = = = = =

= = Driving Installations.



= 1904. =

Rubr. A. 84  
No. 27. 10  
No. 152

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Firma A. F. SMULDERS

ENGINEERS —

— SHIPBUILDERS

ROTTERDAM.

Rubr.	A-871
No.	27.10
Cat. No.	14152

DEPARTMENT ==



— FOR —

STEAM PILE DRIVING INSTALLATIONS.

1904.

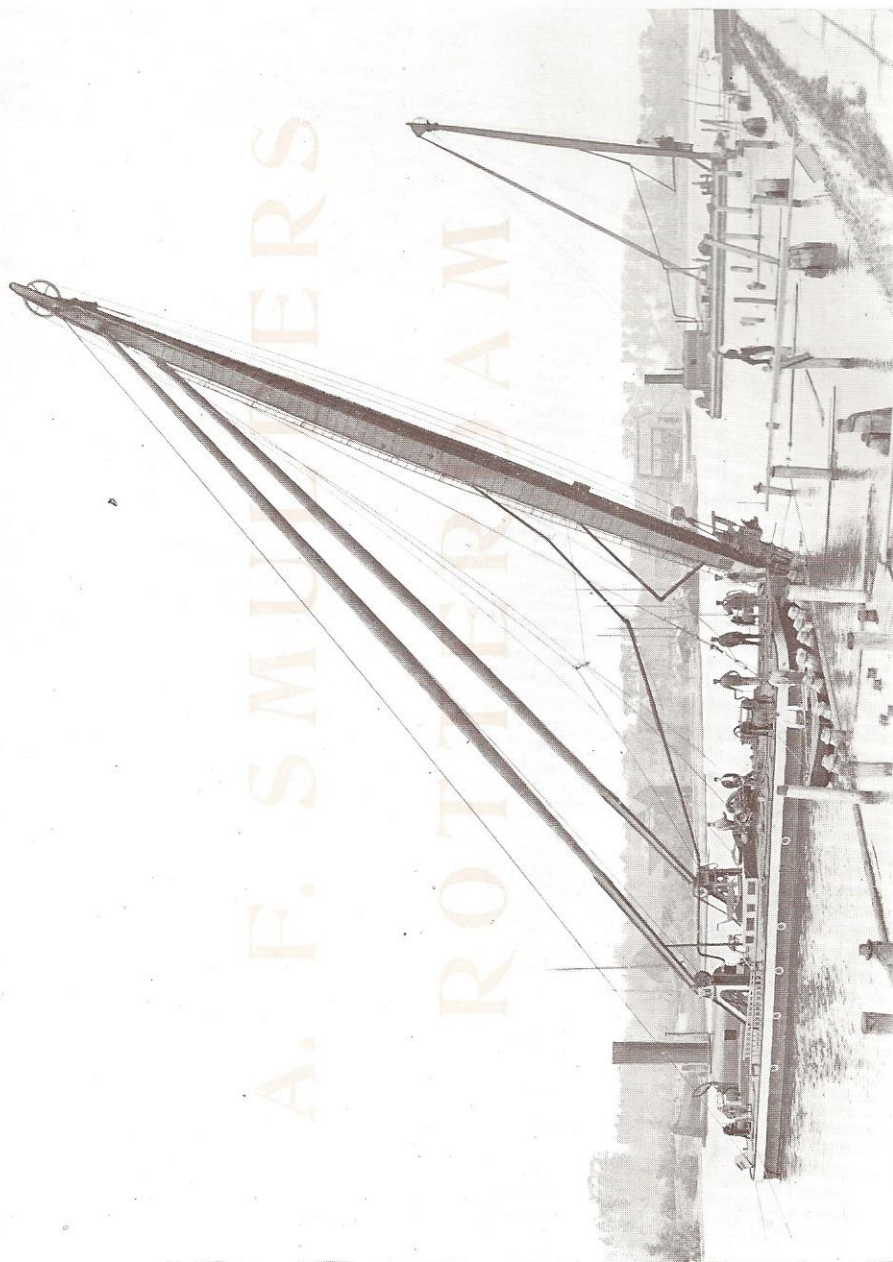
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— TWO FLOATING INSTALLATIONS AT WORK ON THE ROTTERDAM HARBOUR IMPROVEMENT WORKS. —

# Firma A. F. SMULDERS,

ENGINEERS \* SHIPBUILDERS,

ROTTERDAM (HOLLAND).

Address for Letters:

Firma A. F. SMULDERS,  
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Address for Telegrams:

ASMULDERS ROTTERDAM.  
Codes Used: A B C 4<sup>th</sup> and 5<sup>th</sup> Ed.  
Western Union Telegraphic.

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## "WERF GUSTO"

Shipbuilding Yards and Engineering Works at SCHIEDAM.

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SHIPBUILDING YARDS AND ENGINEERING WORKS  
at SLIKKERVEER near ROTTERDAM.

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ENGINEERING WORKS  
at UTRECHT.

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BOILER AND METAL ROOF CONSTRUCTION WORKS  
at GRACE-BERLEUR near LIÈGE (BELGIUM).

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SPECIALITY: — PLANT FOR HARBOUR WORKS.

1904.

ALWAYS IN STOCK ==

— OR —

== IN COURSE OF CONSTRUCTION

FOR QUICK DELIVERY.

— *CORRESPONDENCE INVITED.* —

QUOTATIONS. ==

— ON —

== APPLICATION.





THE STEAM CYLINDER ON ITS LEADER.

The superiority of the  
**STEAM CYLINDER** system of pile  
 driving over the old method of the heavy  
 "drop from the sky" monkey is so esta-  
 blished in the contracting world that it  
 requires no further argument from us.

In introducing our special type of  
 "Improved steam cylinder Pile ramming  
 installation" to your notice, we wish,  
 however, to call your attention to the  
 fact, that we have introduced a great  
 many improvements in the construction  
 of the cylinder, by which the "drawbacks"  
 have all been obviated.

We may claim for our machines  
 that they have reached the highest degree  
 of perfection.

They will drive a pile of almost  
 any length and weight.

They will place a pile in almost  
 any position.

They will ram a pile down in al-  
 most any kind of soil.

They do their work

Effectively

Accurately

Economically.



TWO OF OUR INSTALLATIONS IN USE ON  
THE BRUSSELS - SEA PORT WORKS. - -

The complete installation is composed of:

The patent steam cylinder.

The steam winch.

The steam conduit, consisting of iron or drawn steel piping with flexible joints.

A steam boiler.

The framing in steel, iron, or wood, with leader for the cylinder.

#### THE PATENT STEAM CYLINDER. - - - -

Of these cylinders, we manufacture two sizes: the "large" and the "small".

The total length of the first complete with its fittings is about 13 ft., of the latter about 11 ft.

This cylinder rests on the cap placed on the head of the pile to be rammed. Inside the cylinder is a piston working up and down of which the rod acts as the ram-

mer driving the pile down with short automatic knocks at the rate of about 125 to 130 blows a minute: on the steam hammer principle.

When the piston moves at the rate of about 8 ft. a second, the effective force of the blow may be reckoned to be from about 85000 to 90000 foot-pounds.



THE STEAM WINCH — is one specially adopted to this class of work. On the main shaft of this winch are placed warping drums, by means of which and the aid of rope and tackle the piles are hoisted and pitched in their right place.

THE STEAM CONDUIT. — This conduit consists of lengths of iron or drawn steel piping of about 9 feet each with

jointed connections, the total length of piping required depending as a matter of course on the height of the installation, which in its turn is governed by the length of the piles to be driven.

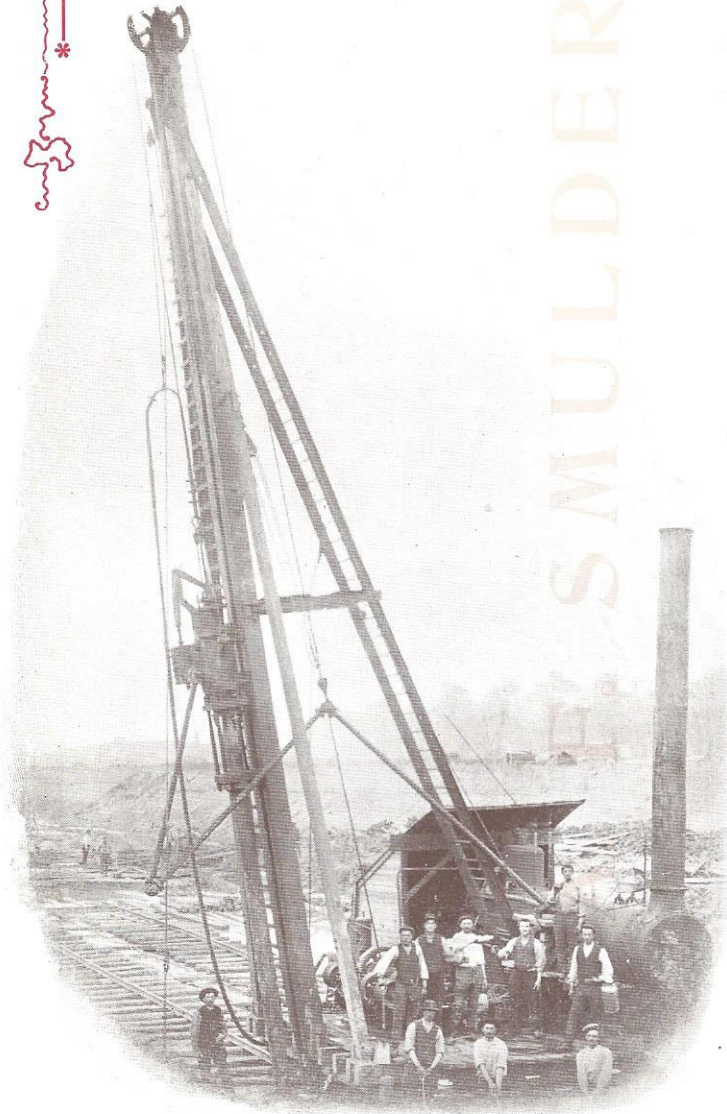
THE STEAM - -  
BOILER. - - -

For the large size cylinder a boiler of about 540 sq. ft. heating surface would be sufficient.

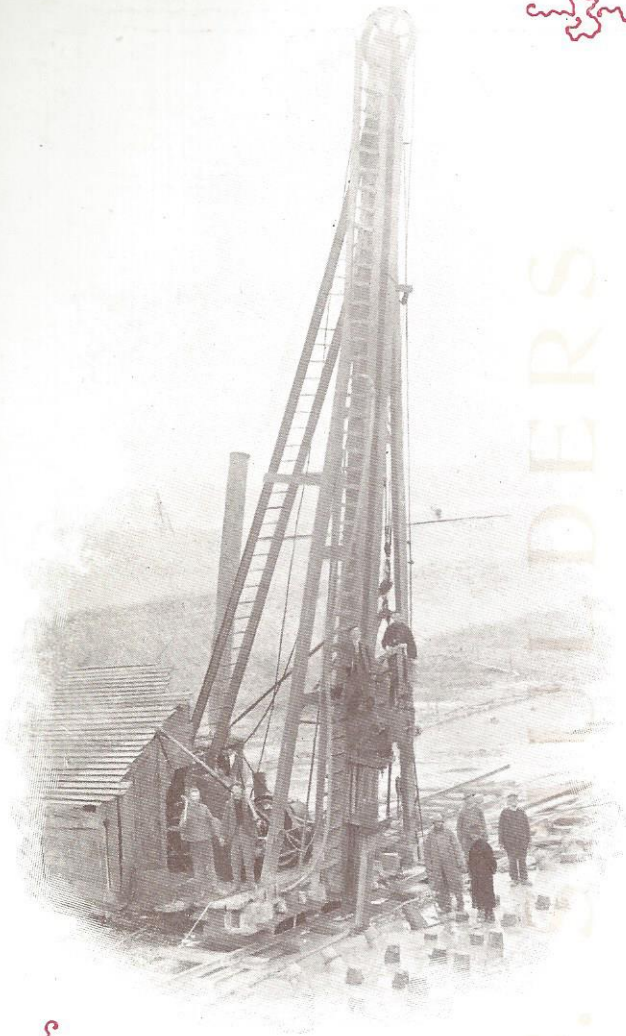
The engine will work satisfactorily with a pressure of from 90 lbs upwards.

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AN INSTALLATION ON  
ROLLING PLATFORM  
RAMMING SLIGHTLY  
INCLINED INWARD.







DRIVING PILES PLUMB.

## SPECIAL ADVANTAGES OF OUR SYSTEM. - - -



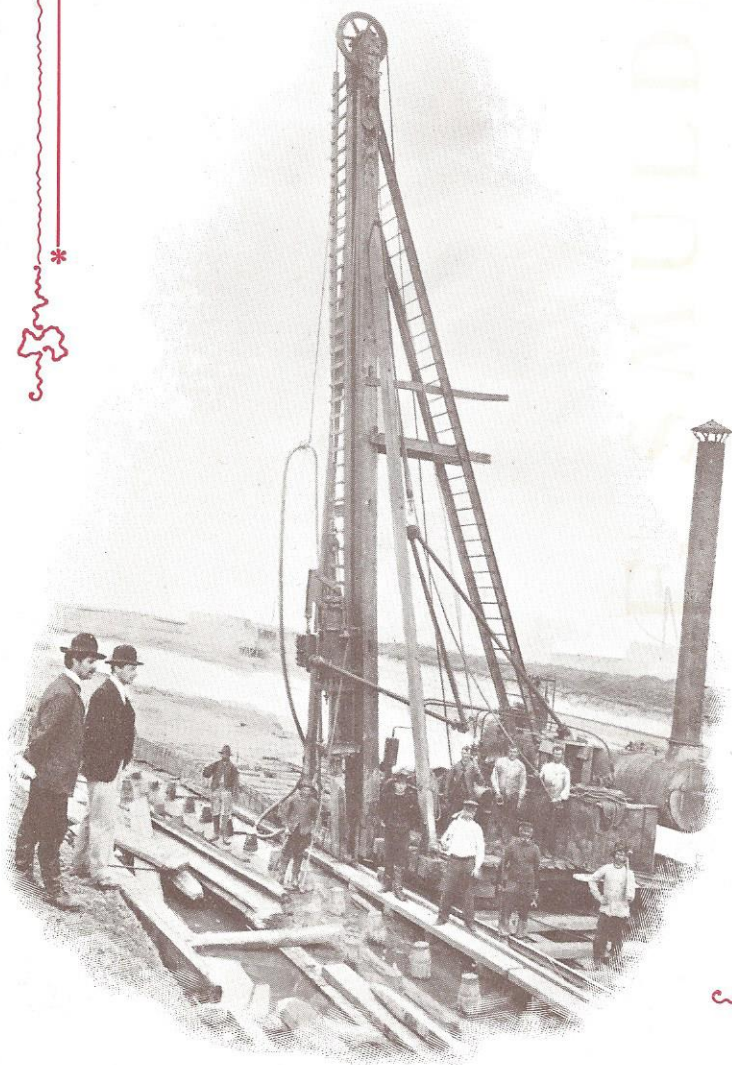
- 1°. Longer and heavier piles  
can be driven than with  
any other system.
- 2°. The pitching of the piles  
can be done with a greater  
degree of precision.
- 3°. Through the rapid suc-  
cession of the blows, the

pile descends more regularly and has no time to adhere to the soil during the extremely short interval between two blows (half a second).

- 4°. Piles can be driven at any incline desired.
- 5°. The gentle though powerful blow which the steam hammer strikes makes this system specially adapted to the driving of beton and other composition piles.

6°. Any class of soil can be satisfactorily dealt with.

7°. A great saving of wages. The number of attendants required being reduced to a minimum.





## THE FRAMING.

We supply the entire framing in steel or iron, but when desired in wood, as is often the case, we are quite ready to supply you with the working plans for the construction of same, when the order for the other parts is placed with us.

To do this satisfactorily, we require the following particulars:

Is the installation destined for a rolling or floating platform?

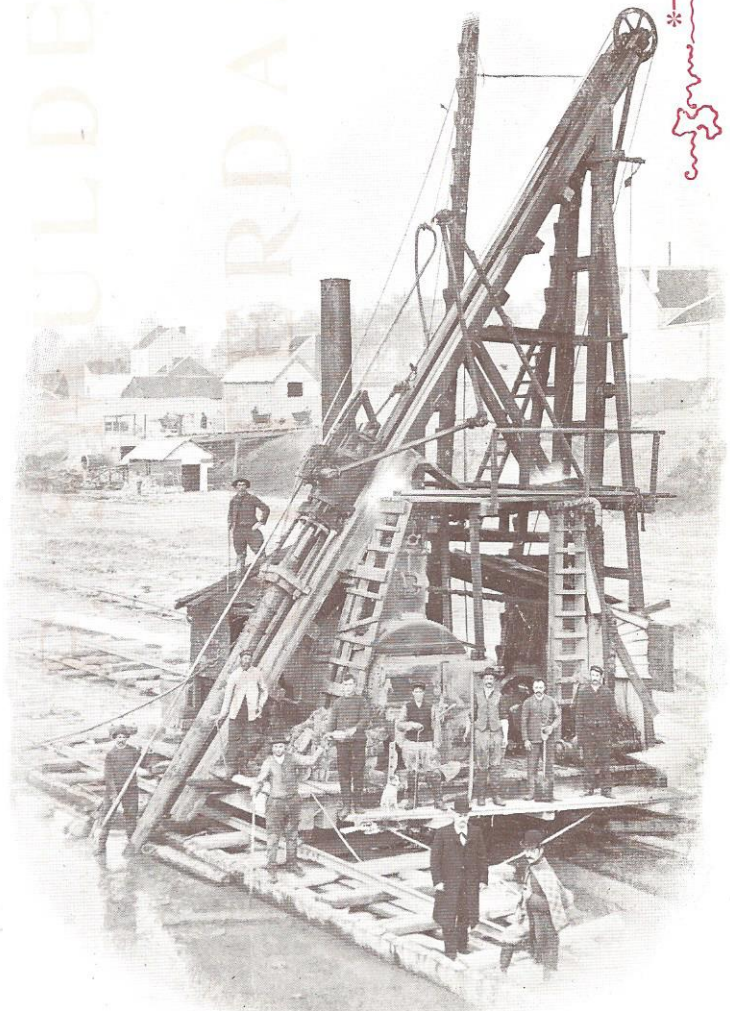
Do you intend to drive your piles plumb or on an incline?

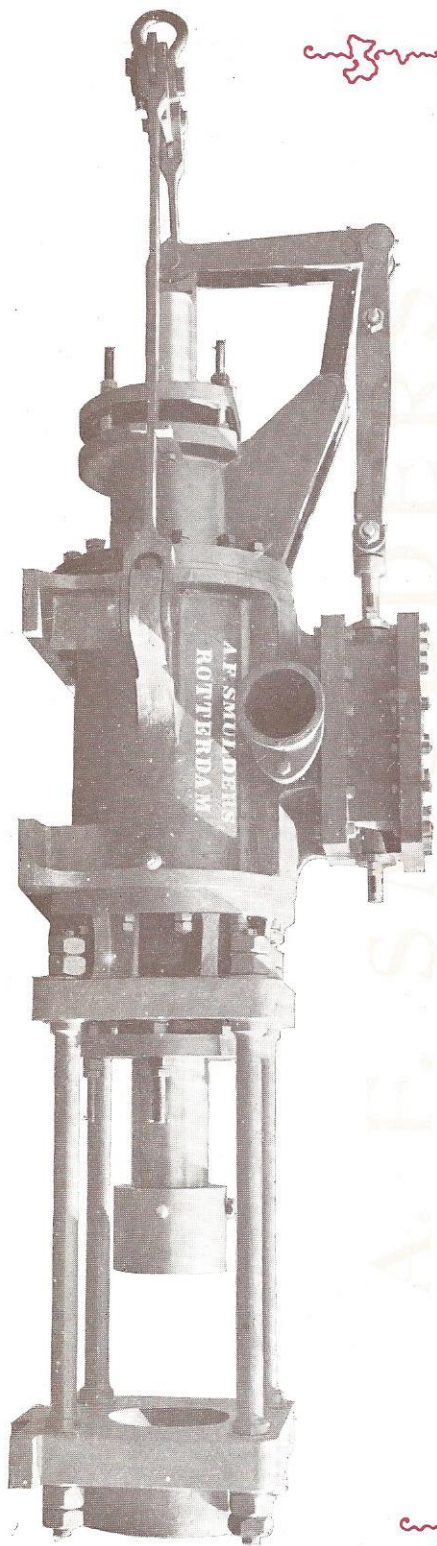
In the latter case to what degree?

The framing for plumb ramming is always so arranged that it is adjustable for slight inclines.

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INSTALLATION FOR  
RAMMING ON AN IN-  
CLINE OF 90 DEGREES.





THE CYLINDER  
OR  
STEAM HAMMER "MONKEY"  
OF OUR  
PILE RAMMING INSTALLATIONS.

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The various patented improvements  
which we have introduced, secure for  
this tool:

The highest degree of efficiency.

Simplicity of Construction.

Reliability of Working.

Minimum of Repairs.

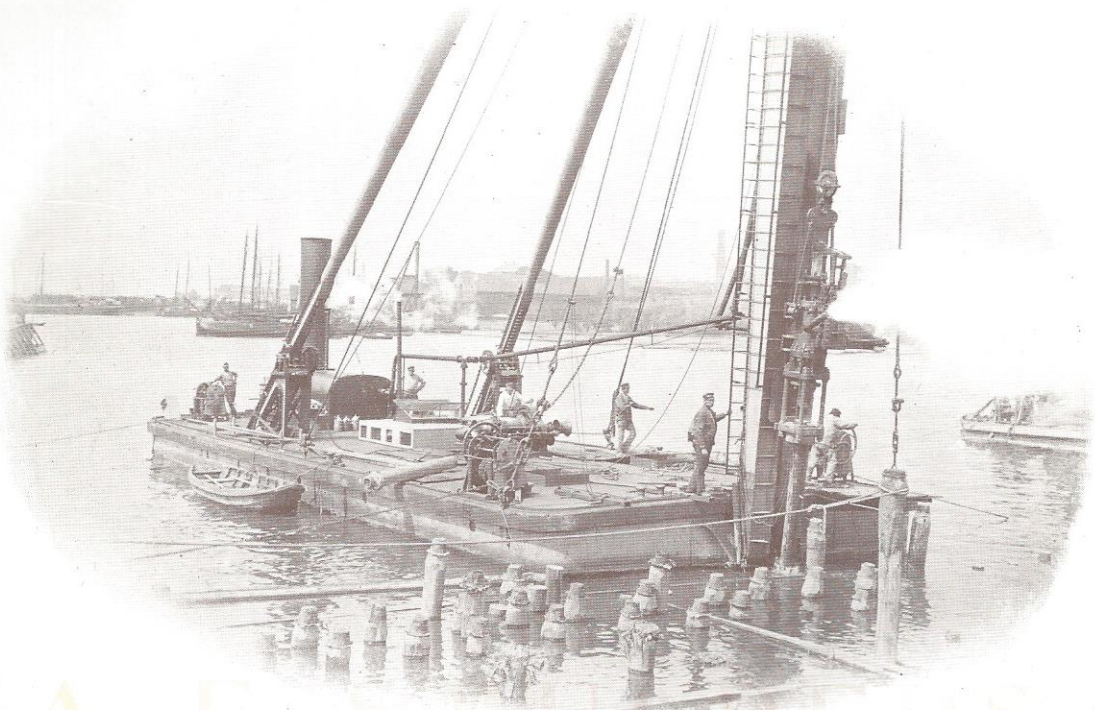
A „firm but gentle”

Automatic Ramming.

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This monkey in its present  
perfected form is the result of many  
years of painstaking trials and  
experiments.





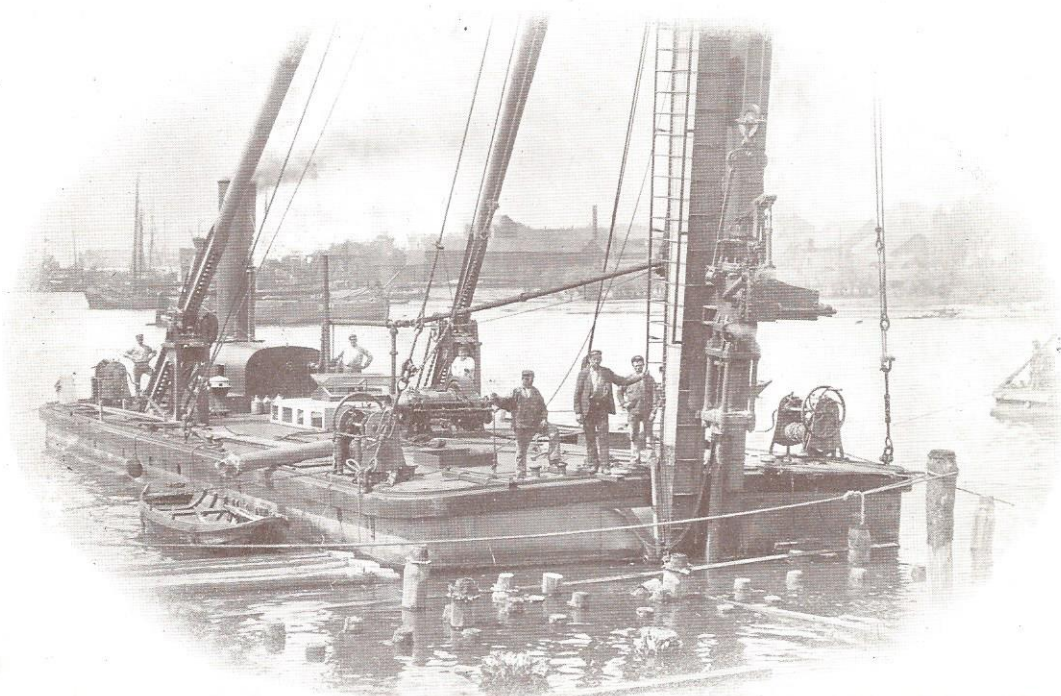
A. F. SMULDERS

— — — AN INSTALLATION ON PONTOON. — — —

Our installations, when placed on a pontoon, are specially adopted to pile driving for all kind of dock, harbour and other waterworks, such as the placing of:

Bollards and stockadoes,  
buttress piles, mooring piles,  
gauge piles and guide piles for caissons,  
for cofferdams and timberdams in general.

They are most suited for the construction of quay-walls and all such works where the correct pitching of the piles is of primary importance.



— — — ANOTHER VIEW OF THE SAME — — —

We are prepared to give quotations for entire floating installations, complete: pontoon, frame with leaders, cylinder, winches, boiler etc.

All parts are manufactured in our own works:

The pontoon on our ship building yards:

**SCHIEDAM**

or **SLIKKERVEER.**

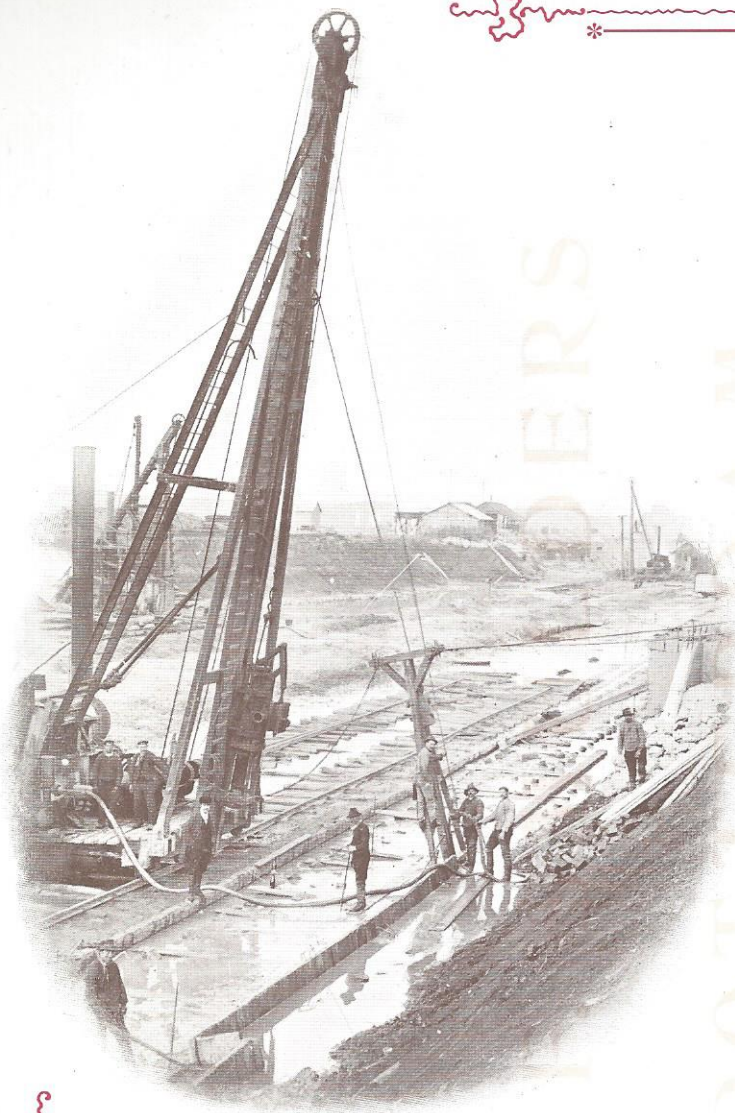
The mechanical parts at our works:

**UTRECHT.**

The boilers at our works:

**GRACE BERLEUR.**





WHEN WRITING  
FOR PLANS AND  
QUOTATIONS,  
PLEASE SEND  
US THE FOL-  
LOWING PARTI-  
CULARS:

- 1°. The length of  
the piles to be  
rammed,
- 2°. the diameter of  
the pile at its  
head,
- 3°. the weight of the  
piles,
- 4°. the nature of the  
soil.

Mention also whether the machine is to be placed on a  
rolling or floating platform.

Our patent pile-driving installations have been supplied to the following firms:

Messrs.	Number.
Blaton, Declercq & Lapiere, Brussels . . . . .	3
Van Hattem & de Wild, Flushing . . . . .	4
A. D. Volker, Dordrecht .	1
H. Rietmeijer, Rotterdam .	2
J. J. Bekker, Zwartsluis . .	3
J. Schoonenburg & C. J. Maks, Amsterdam . . . .	1
Rutgers & Verkoren, Alphen	2
F. K. Ozinga, Amsterdam .	2
Vonck & Westmaas, Amsterdam . . . . .	3
M. v. d. Wegt, Rotterdam .	1
F. S. Reijmer, Rotterdam .	1
Vonck & Quakkelaar, Flushing . . . . .	1
Mees Visser, Papendrecht .	1
A. S. Schaafsma, Fort de Gagel . . . . .	1
J. N. Daalderop, Asperen .	5
N. van Haaren, Honswijk .	3

Messrs.	Number.
J. C. van Hattem & Co., Amsterdam, . . . . .	1
L. J. v. d. Steenhoven & Co. Amsterdam . . . . .	5
R. Hargot, Liège . . . . .	1
G. Goedhart, Dordrecht .	1
W. P. & H. de Vries, Rhenen . . . . .	1
P. P. Seret & Co., Sliedrecht . . . . .	1
Hillen & Th. Verhoeven, Sneek . . . . .	1
J. Ch. Luthin, Amsterdam .	2
Van der Eerde, Doeveren .	1
F. Rincker, Amsterdam . .	1
A. Helsen, Nieuwersluis .	1
Wiegerink & Terwint, Amsterdam . . . . .	3
Bekker & v. Seters, Maarssen . . . . .	2
Board of Works, Rotterdam	2
Topham, Jones & Railton, London and Cardiff . . .	1



2184030



Messrs. A. F. SMULDERS,

will be pleased to send the following

Sectional Catalogues

on application :



Dredging plant. Excavating plant.

Steam and Electric Cranes.



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