No. 887,242. PATENTED MAY 12, 1908.

W. J. FRANK.

MACHINE FOR LIFTING SKINS OR HIDES FROM LIME PITS OR TAN PITS.

APPLICATION FILED JULY 3, 1905.

5 SHEETS—SHEET 1.

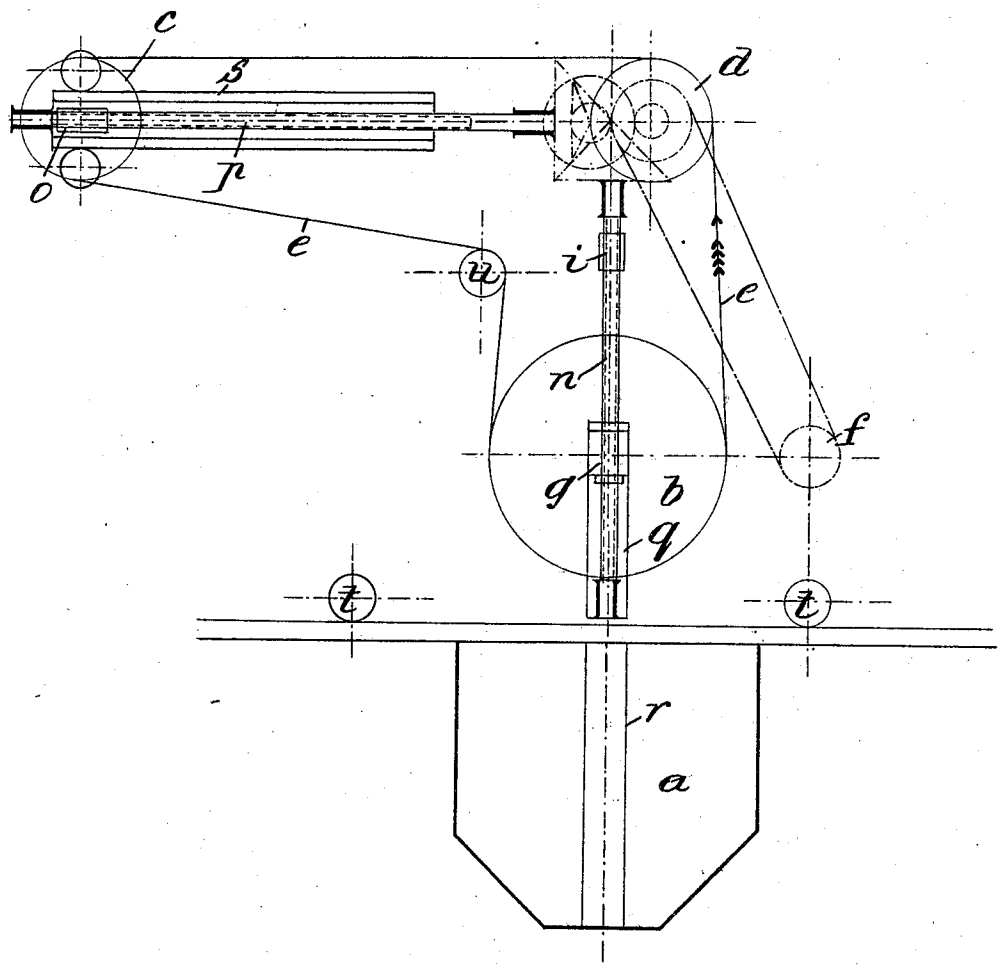


Fig. 1.

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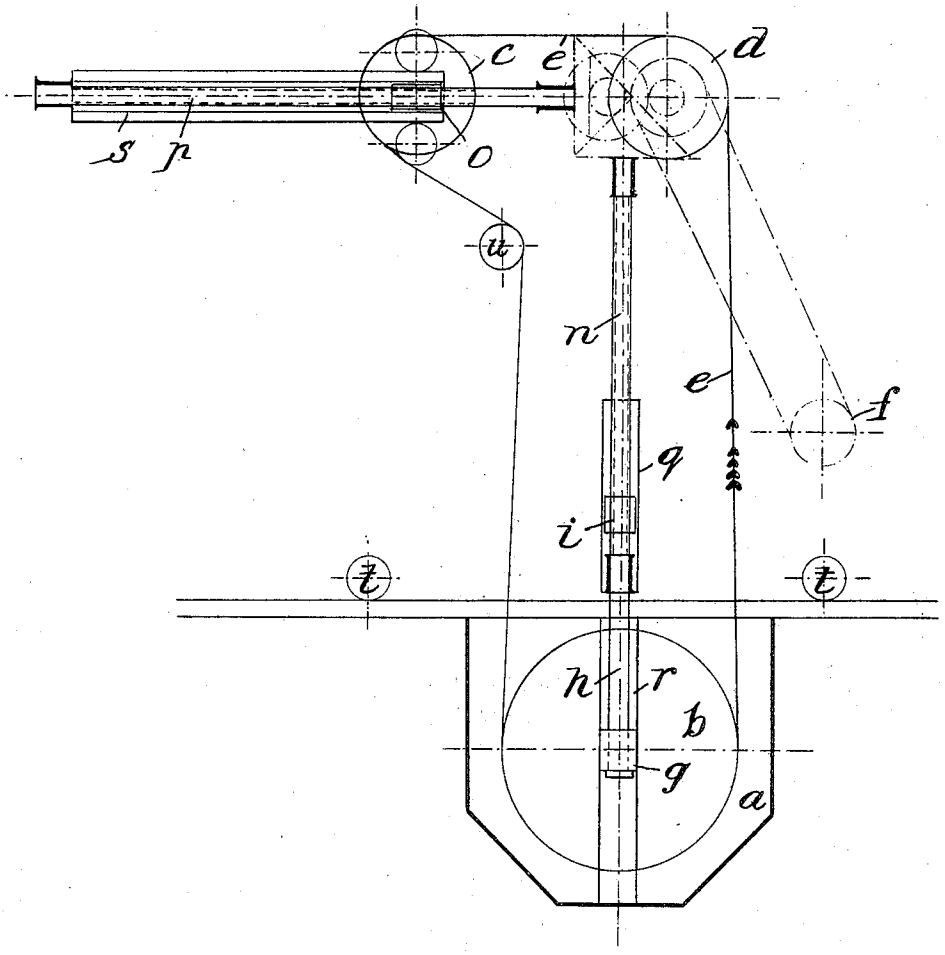


Fig. 2.

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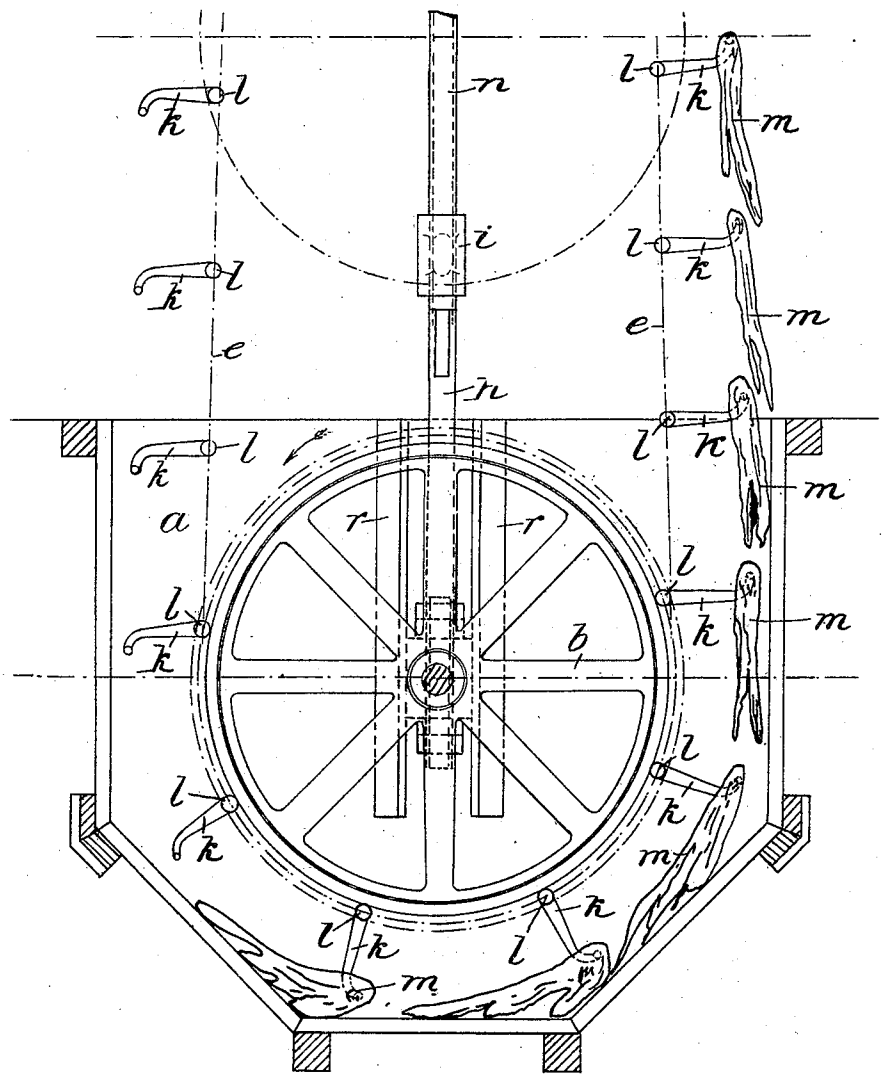


Fig. 3.

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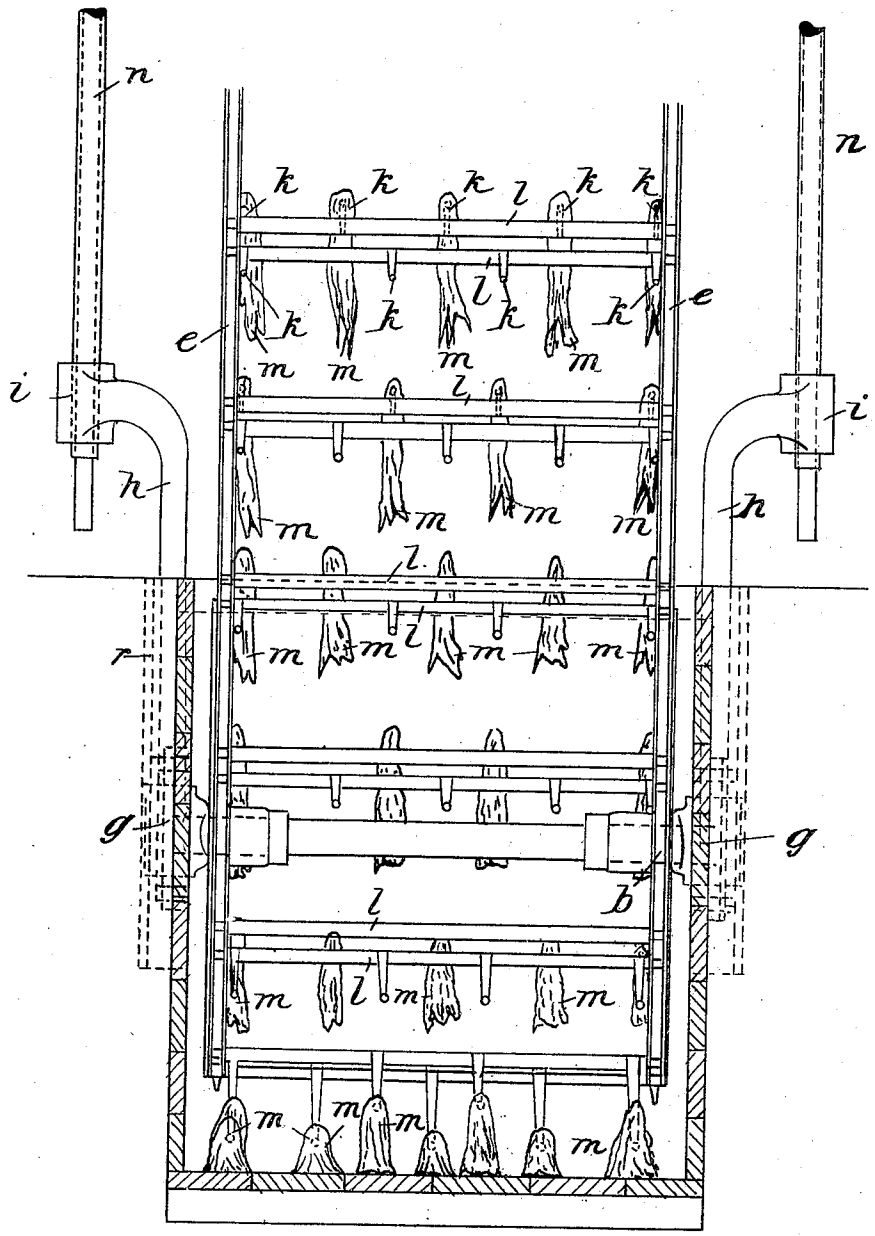


Fig 4

Witnesses
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5 SHEETS—SHEET 5.

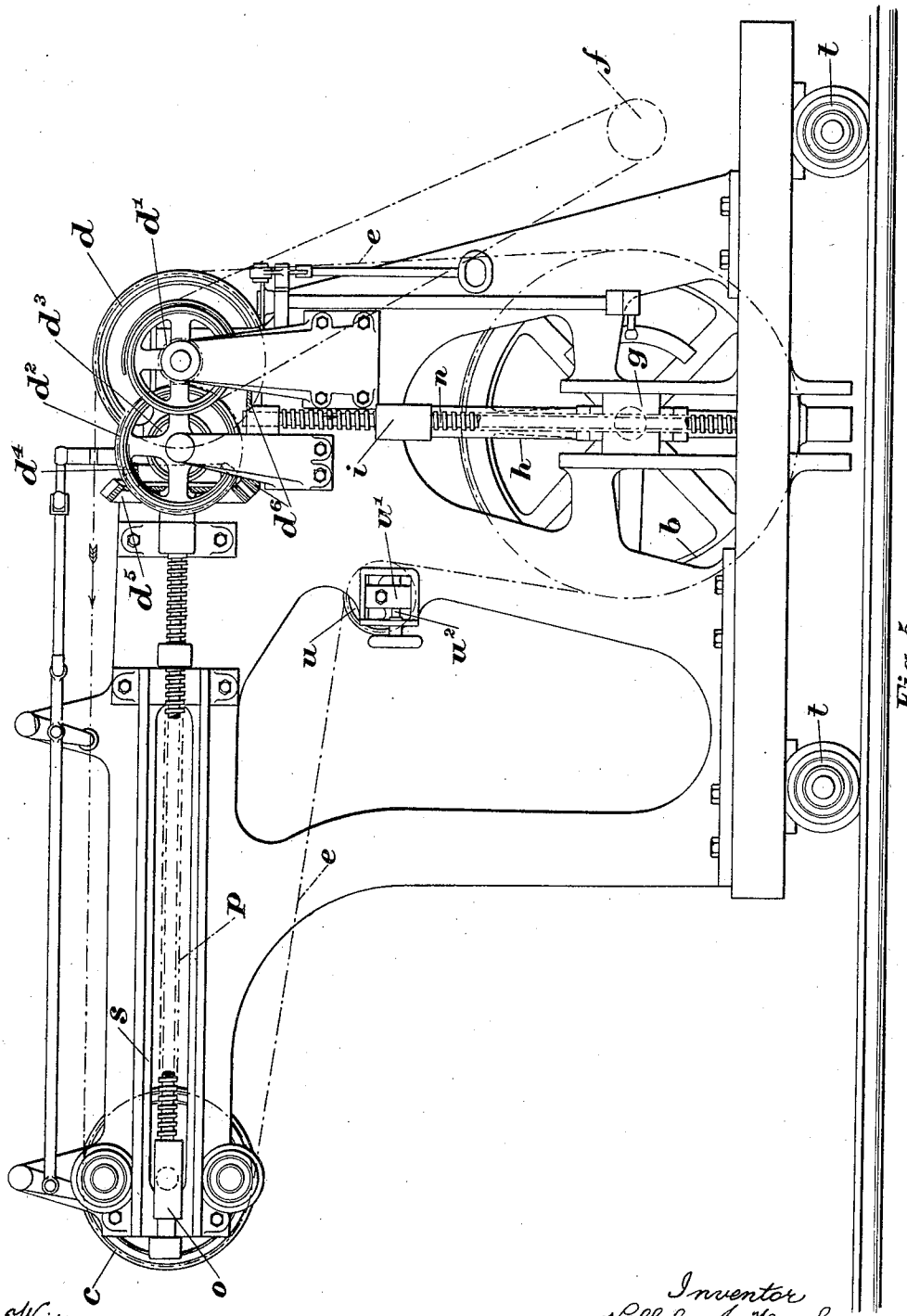


Fig. 5.

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by
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Attorney

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UNITED STATES PATENT OFFICE.

WILHELM J. FRANK, OF WORMS, GERMANY.

MACHINE FOR LIFTING SKINS OR HIDES FROM LIME-PITS OR TAN-PITS.

No. 887,242. Specification of Letters Patent. Patented May 12, 1908.

Application filed July 3, 1905. Serial No. 268,237.

To all whom it may concern:

Be it known that I, WILHELM J. FRANK, a subject of the German Emperor, and resident of 5 Cornelius-Heylstrasse, Worms, in the Grand Duchy of Hesse and Empire of Germany, have invented a Machine for Lifting Skins or Hides from Lime-Pits or Tan-Pits, of which the following is a specification, reference being had therein to the accompanying drawings.

For the purpose of loosening the hairs skins or hides are put into pits filled with lime-water. Heretofore it was customary to lift the skins or hides one at a time from the lime-pits by means of long hooks or tongs.

The object of my present invention is now a machine able to perform this work in a shorter time.

The essential feature of this machine consists in an endless chain-band fitted with grasping hooks and moved through the pit by means of sprocket-wheels sinking gradually into the pit, said hooks lifting thereby the hides from the pit.

I have illustrated the invention in the accompanying drawings, in which—

Figures 1 and 2 are schematic views of the machine in different respective positions of its parts, while Figs. 3 and 4 show the essential part of the machine in side- and front-elevation respectively. Fig. 5 is a side elevation of the machine some of the parts being broken away.

a, Fig. 1, is the pit.

b, *c* and *d* are three pairs of sprocket-wheels.

e are two endless chains running over said sprocket-wheels and adapted to be moved by a motor *f* driving the shaft of the wheels *d* by means of a belt running over pulleys. The shaft of the wheels *b* rests on both sides in bearings *g* mounted upon arms *h;* the upper ends of these arms are formed into nuts *i* through which two vertical spindles *n* extend. The bearings *o* of the shaft of the wheels *c* are likewise formed into nuts, through which two horizontal screwed spindles *p* extend. Upon the shaft of the wheel *d* there is mounted a small pinion d' (see Fig. 5) which engages with a larger toothed wheel d^2 mounted on a shaft arranged adjacent to and parallel with the first mentioned shaft. Upon the second shaft there is moreover mounted a small bevel wheel d^3 that engages with another bevel wheel d^4 rigidly connected with the bevel wheel d^5 mounted upon the spindle *p* and engaging with the bevel wheel d^6 mounted upon the spindle *n*. The two vertical rods shown on the right in Fig. 5 are parts of well-known disengaging and reversing gear which need not be described at length. The bearings u' of the chain wheels *u* can be adjusted by means of screws u^2 which are provided with hand wheels and serve for the purpose of tightening the chains *e*. The chain *e* is shown touching the roller in Fig. 2 but in reality lies in a different vertical plane and request is therefore made for the line of the chain to be continued to the wheel *c*.

The latter are adapted to be driven by the shaft of the wheels *d* by means of cog- and bevel-wheels, and to drive in turn the screwed spindles *n* by means of bevel-wheels. The bearings *g* are adapted to slide in vertical guides *q* and *r* secured to the machine-frame or to the side-walls of the pit *a* respectively, while the bearings *o* are provided with rollers running on horizontal guides *s* secured to the machine-frame. *t*, Figs. 1 and 2, are rollers mounted at the machine-frame and running on rails secured to the bottom of the work-shop. The chains *e* are connected together in certain distances by means of horizontal rods 1, Figs. 3 and 4; each of these rods is fitted with four or five grasping hooks *k*.

The operation is as follows: The machine is carried over the pit *a* filled with lime-water and hides, and set in motion. The chain-band *e*, *l* moves then in the direction of the arrow in Figs. 1 and 2; at the same time the wheels *b* sink gradually into the pit *a*, while the wheels *c* move in the same measure to the right hand, in such a manner that the chain-band remains always strained. In this movement of the chain-band the hooks *k* grasp and lift the hides *m* one by one from the pit *a;* the hides are then carried to that place, at which the chains *e* run over the wheels *c*, and fall down. The hides *m* moving from the pit to said place, a large proportion of the lime-water adherent to the same has time enough to drop off. The parts having reached the position shown in Fig. 2, and all hides having been lifted, the machine is reversed, so that the wheels *b* rise out of the pit *a*, and the wheels *c* move to the left hand, until the position shown in Fig. 1 is again reached.

I claim as my invention—

In machines for lifting hides or skins from pits an endless chain band means thereon for engaging the skins or hides, chain wheels upon which said endless chain band is mounted, bearings within which said chain wheels are mounted, screwed spindles upon which said bearings are mounted for simultaneously giving to each of said chain wheels movement in transverse directions, and means for moving the chain band substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILHELM J. FRANK.

Witnesses:
H. W. HARRIS,
JOS. H. LEUTE.