

INSTRUCTIONS FOR OPERATING

THE

HANDSEPARATOR

OMEGA

PATENT



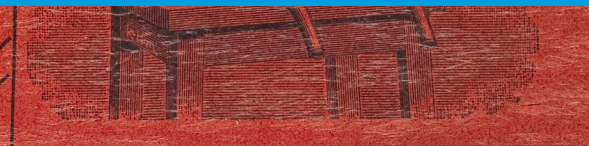
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(AKTIEBOLAGET MASKINFABRIKEN EXCELSIOR)

STOCKHOLM SWEDEN

CENTRAL PALACE.



F. D. NILSON, INVENTOR

1875

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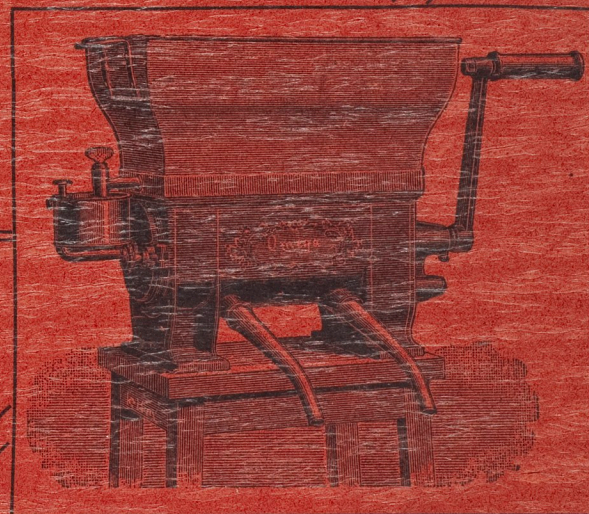
OMEGA

THE **EXCELSIOR** MACHINE CO.

(AKTIEBOLAGET MASKINFABRIKEN EXCELSIOR)

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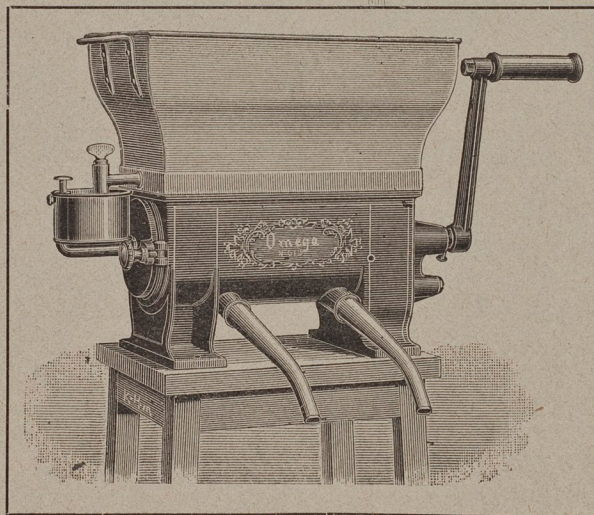
SWEDISH PATENT

F. O. NILSSON

INVENTOR

Skimming Capa city 100 liter

or 22 gallons (gallon = 277,²⁷ cubinches) an hour.



WEIGHT:

NET. = 28 KILO = 62 LBS;

GROSS = 40 KILO = 88,5 LBS.

VOLUME OF A BOX,
SEPARATOR PACKED
DOWN IN SAME,
 $\frac{1}{12}$ CUBMETRE
OR 3 CUBFEET

PRICE

f. o. b. Stockholm, packing free of charge

STOCKHOLM
PRINTED BY P. PALMQUISTS PRINTING CO.,
1898.

PATENT

The Handseparator OMEGA.

PATENT

This separator which was exhibited for the first time at the exhibition in Stockholm 1897, is the result of several years' experiments in order to attain the following advantages:

**SIMPLEST CONSTRUCTION.
GREAT SKIMMING CAPACITY.
CHEAP PRICE.**

**EMPTY BOWL.
EASY RUNNING.**

**SMALLEST COST OF REPAIR.
FACILITY OF TRANSPORTING ON ACCOUNT
OF SMALL VOLUME AND WEIGHT.**

The chief novelty and characteristic for the handseparator Omega is:

- 1:o The simple gearing by a spurgear fastened to the conical crankshaft, *which according as it is worn may be adjusted*, by the tightening up of the driving wheel and its jam nut, so that any lost motion of the crankshaft in its bearings never need take place.
- 2:o The suspension of the bowl on two glass-hardened centre-points, revolving in equally glass-hardened centre-bearings, Which are *extremely easily* (and cheaply) replaced.
- 3:o The centre-bearing at the open end of the bowl is automatically lubricated by the fat contained in the whole-milk, *accordingly the milk can never come in contact with the lubricants and get a taste of that.*
- 4:o Receiving vessels of sheetiron are not needed for the skim-milk and cream, as the frame itself is fit for that purpose by being painted on the inner side with a special kind of enamelling-paint, which better is able to resist blows than common enamelling and much easier to renew than tinning.
- 5:o The revolving speed of the bowl is not by far so great as at other new constructions of Separators.
- 6:o No insertion of plates, funnels or such things are found in the bowl, which therefore is very easily cleaned.
- 7:o The only parts *liable to be worn* are the two centre-bearings, which in an instant may be replaced by new ones at a trifling cost.

The Handseparator OMEGA

Section

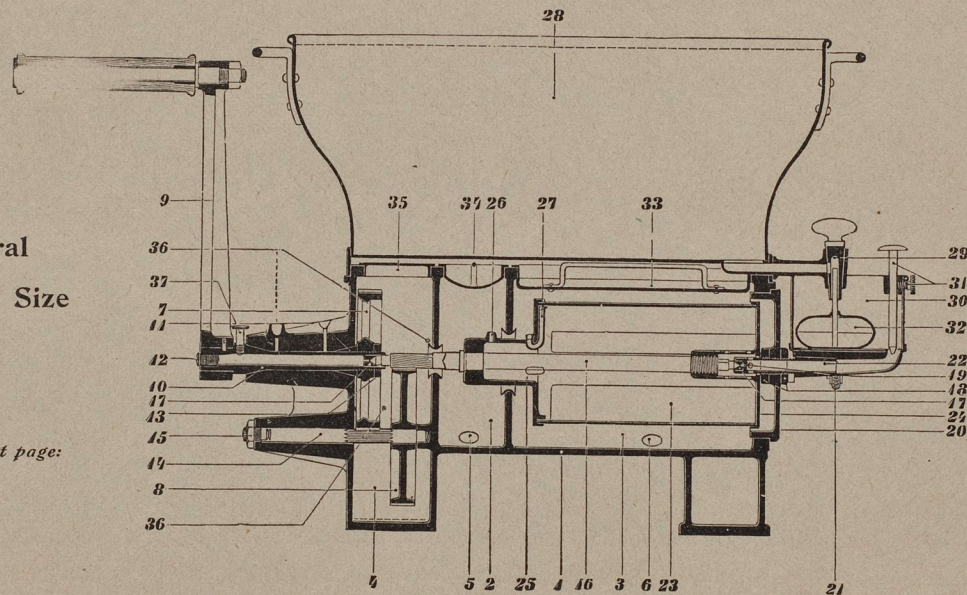
$\frac{1}{6}$ the natural

Size



Name of parts

See next page:



Parts of the Omega-Separator with their prices for ordering spare ones.

See Numbers for each part in Section on the preceding page.

No	N A M E	Sh. p.	No	N A M E	Sh. p.	No	N A M E	Sh. p.
1	Frame		13	Jamnut & washer f. castiron gearwheel		26	Cream screw	
2	Cream-room		14	Lower shaft		27	Skimmilk-pipe	
3	Skimmilk-room		15	Set screw for lower shaft		28	Whole-milk-receiver	
4	Gear-room		16	Spindle for bawl		29	Cock	
5	Discharge pipe for cream		17	Centre bearing		30	Regulating-cup	
6	ditto » Skimmilk.....		18	Jam-nuts of milkentrance-pipe.....		31	Regulating-pin with screw	
7	Castiron gearwheel		19	Automatical lubrication.....		32	Float	
8	Phosphorbronze gearwheel		20	Frame lid		33	Lid for the Skim-milk-room	
9	Crank with handle		21	Eyebolts for the frame-lid		34	» » » Cream room	
10	Crankshaft.....		22	Milkentrance-pipe		35	» » » gear-rom	
11	Loose ferrule on crankshaft		23	Bowl complete		36	Lubrication-hole	
12	Screw and washer for crank		24	Bowl-bottom		37	Lubrication-hole with cap-screw...	
			25	Bowl-top			Lagscrews pr. set	

Besides above every Separator is furnished with:

38	Spiritlevel		43	Oilcan		47	Milk-entrance-pipe-brush	
39	Wrench for spindle		44	Oiltank		48	Tube-brush	
40	» » crankshaft.....		45	Bowl-brush		49	Rules for operating	
41	Cream-screw-key		46	Pipe-brush		50	These instructions.....	

Separator-oil and white enamelling-paint kept in Stock and furnished at very low prices.

Orders only sent prepaid or collect on delivery. To avoid mistakes the numbers as well as name of parts required are to be mentioned in the order.

Instructions as to the management of the handseparator Omega.

Please Note.

The Omega Separator is damaged if it is put in motion empty. It must therefore never be started, unless there is milk in the whole milk-receiver and the milk is turned on at the same time with starting the machine.

Each Separator is tried and adjusted at the manufactory, consequently the position of all nuts and screws is not to be altered. The creamscrew is set so that the separator gives 20 % of cream, even this screw is not to be altered before you are quite acquainted with the mechanism of the machine.

Putting up the Separator. The Omega Separator must be set level on a strong and firm table or a specially made stand; for that purpose a spirit-level is sent along with each machine and placed in different positions over the corners of the planed upper edge of the frame. When the bubble of the spirit level places itself in the middle of the glass-tube, and spirit level placed over all the corners the machine has the correct position and is bolted down with the four lag-screws.

Lubrication. Put thereafter oil into each of the three lubrication-holes marked with arrows in red paint. (Take off the screw from the lubrication-hole Nr 37 and fill the shaft with oil and put back the screw; this only for the old style separator),

For the lubrication only good separator oil should be used. If the oil has become thick, put in a few drops of petroleum (coal oil).

Putting together the separator. Clean first all parts of the Separator, except the gearing, with hot water mixed with a little soda (lye). For the frame, whole-milk-receiver, lids below same, regulating cup, a piece of clean cloth free from oil is used for cleaning same; for the bowl, the tubes and the pipes use the brushes that accompany the separator. Never clean the bowl with emery or sand, especially the edge of bowl, which fits into the bowl-top, use for this only a piece of clean cloth.

Then the bowl is put together in the following manner: The bowltop is set on the bowl, so that the slot in the top meets the pin at the side of the bowl, the threaded end of the spindle is put through the hole at the bowltop, screwed in the bowlbottom by hand and tightened up by the wrench with the square hole.

The bowl is now put in through the hole of the frame with pinionpart of spindle ahead, and in such a manner that the conical point of the spindle enters straight into the centre-bearing of the upper shaft. The bowl is kept in this position with one hand, while the framelid with the other center-bearing is put in its place, whereafter the screws (eyebolts) of the lid are thrown in the slots of the lid and the button-nuts tightened up.

The lids of the milk-, cream- and gear-rooms are now put on. The regulating cup is pushed on the milk-entrance-pipe and its set-screw tightened up; the float put into the regulating-cup and then the whole milk-receiver put on, when care must be taken that the pin of the float enters the cock.

The milk- and cream-pipes are put on their ferrules and now the machine is ready for use, *but should not be started in motion empty.*

The skimming. The milk had better be skimmed milk-warm, otherwise it should be heated to about the same degree (35° Centigrade = 95° Fahr). Fill the receiver with whole-milk and fill again when

the receiver is half-full. Take care that the regulating-pin is correctly set; when the line on the pin is even with the upper edge of the regulating cup 100 liters or 22 gallons run through in an hour.

If thicker or thinner cream is desired, this can be brought about even during the running by altering the position of the regulating pin; if this be raised the cream will be thinner, if lowered the cream will be thicker.

Otherwise the thickness of the cream is adjusted by moving the cream-screw, which is placed in the bowltop by means of the wrench no 41, that follows with the machine. If it is screwed in or towards the centre-line of spindle the cream will be thicker, but as the machine leaves the manufactory with creamscrew placed in such a manner that 20 % cream is obtained and the adjusting of this screw is rather difficult, we would advise against the altering of same before you are well used to the separator.

At the moment the machine is started, milk must be let in, by opening the cock.

At first the crank is turned slowly and the speed is increased by and by, until the crank makes 50 (fifty) revolutions a minute.

In order to get used to turn exactly this number of revolutions, count the turns while looking at a watch, that gives the time in seconds.

The more steadily the separator is turned, the better it skims and the less it is worn.

The cream runs out through the pipe close to the crank.

When milk has to be filled into the wholemilk-receiver, or the receiving vessel for skim milk has to be changed, the person turning the crank can very well let that go and do the changing, but the turning must not cease so long that the speed is perceptibly decreased.

When the whole-milk has pretty near run through, about a gallon of skim milk is poured into the receiver, the crank is dropped and the separator left to turn until stopping by itself.

Skimming done the separator is at once taken apart and cleaned for the next time.

The bowl and the loose parts should after cleaning be kept in a dry, airy place.

NOTE.! The Omega separator should not be turned empty.

If the separator does not skim clean, the cause of that is any of the following:

- 1) That the bowl has not the correct speed.
- 2) That the milk is too cold.
- 3) That too little a quantity of cream is taken.
- 4) That the regulating pin is put too high, so that too much milk is let in.
- 5) That the skim-milk-pipes in the bowltop are stopped up.

If cream remains in the separator after skimming is done or very nearly done, this depends on:
That too little or no skim milk has been poured into the whole-milk-receiver after skimming is done.

If the bowl trembles or shakes this depends on:

- 1) That the button-nuts of the lid are not tightened up.
- 2) That the lubrication-holes of the centre-bearings are stopped up.
- 3) That the milk has not been let in before starting the machine.
- 4) That the screw of the milk-entrance-pipe (that the location of this) has been altered, so the spindle has too much or too little play.

- 5) That the separator is not properly fastened to the table.
- 6) That there is dirt in the circular slot of the bowltop and, this accordingly does not fit properly.

Adjusting. If the separator has been turned empty and accordingly runs unsteadily or shakes, the fault is generally as follows:

- 1) The centre-bearings are damaged.
- 2) The centre-points of the spindle are broken off or uneven.
- 3) The spindle is crooked or bent.

In order to remove the first fault the damaged centre-bearing has to be exchanged. If this be the centre-bearing automatically lubricated, it will be done in the following manner: enter a nail or a spindle through the milk-entrance-pipe, push out the centre-bearing with a light blow and put in a new one. If the centre-bearing of the crankshaft be damaged, the screw at the end of the crankshaft is unscrewed, the spindle or the nail is entered through the hole and the centre-bearing pushed out; for putting in the centre-bearing in its place a peg of hard wood, of the same thickness as the centre-bearing, should be used for the driving it in, until it is steadily fastened in the crankshaft.

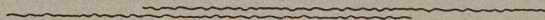
If the centre-points of the spindle are damaged, it will be necessary to send the spindle to the manufactory in order to have the points ground.

If the spindle is crooked a new spindle must be procured.

If after long using the centre-points of the spindle are worn, and these ground and by that the bowl gets too much play (spindle too short), this play will be reduced by loosening the two jam-nuts of the

milk-entrance-pipe, then this will be tightened by means of the wrench (with the square hole) but not more than that only a very little play is felt, for the bowl is to hang freely between the centre-bearings, then the outer and at last the inner jam-nut is tightenhed up. At the tightening of these nuts the milk-entrance-pipe is kept in its proper position by means of the wrench before mentioned.

If the crankshaft should be worn so as to show much play, this will be helped by loosing the nut at the castiron gear-wheel and screwing up the wheel until the play is reduced, after which the nut is again tightened up.



THE EXCELSIOR MACHINE Co.

AKTIEBOLAGET MASKINFABRIKEN EXCELSIOR

manufactures besides

Omega-Separators

CREAM- and MILK-COOLERS
BUTTER-CHURNS
BUTTERKNEADING-MACHINES
BUTTER-KNEADING-BOARDS
BUTTER-PRESSES
PASTEURISING-APPARATUS

MILK-SCALES
BUTTER-SCALES
CREAM-CASKS
BUTTER-TROUGHS
CHEESE-PRESSES

CHEESE-TANKS
CHEESE-MILLS
MILK-PUMPS
DAIRY-CARTS
MILK-CARTS
BUTTER-TRANSPORT-BOXES

*Pumps of all kinds, fire-engines for handpower, firemen's equipments, Patent ventilator
Cyclone, Building-castings, Jacks, Pulleys and Blocks, Iron Stair-cases etc.*

THE OMEGA-

IS PATENTED IN ALL COUNTRIES.

SEPARATOR

Manufactured, only by

THE **EXCELSIOR** MACHINE Co

CENTRAL PALACE

STOCKHOLM, SWEDEN

TRADE-MARK



Stockholm Printed By P. Palmquist's Printing Co. 1895.