2 Sheets—Sheet 1.

C. L. MOREHOUSE.

OIL-PRESS.

No. 170,488. Patented Nov. 30, 1875.

FIG. 1.

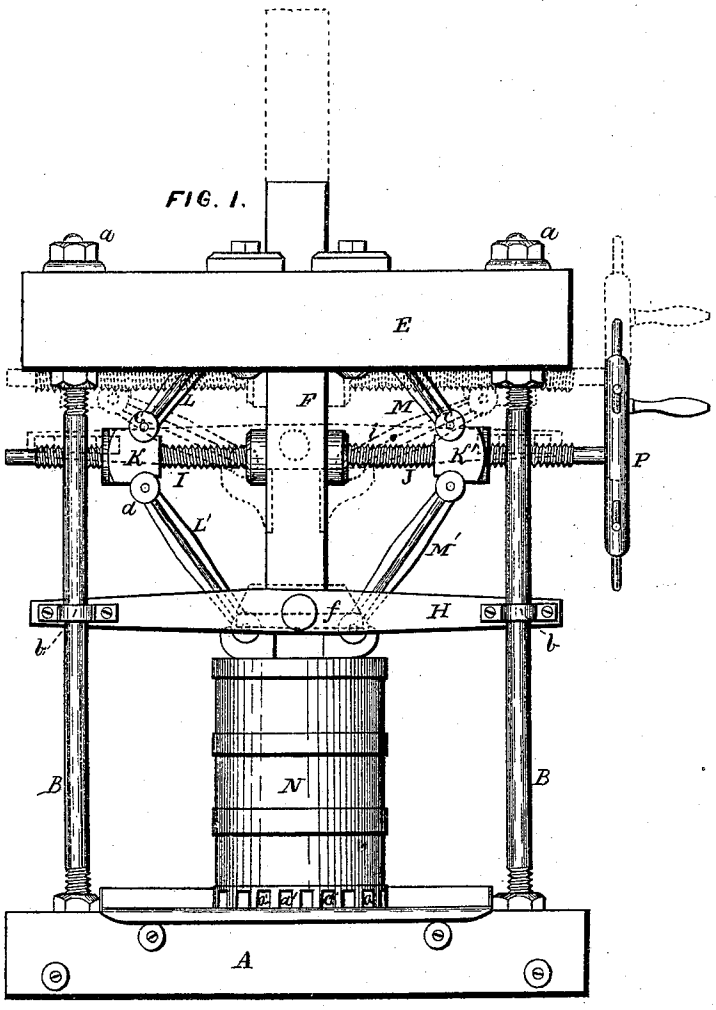


FIG. 2.

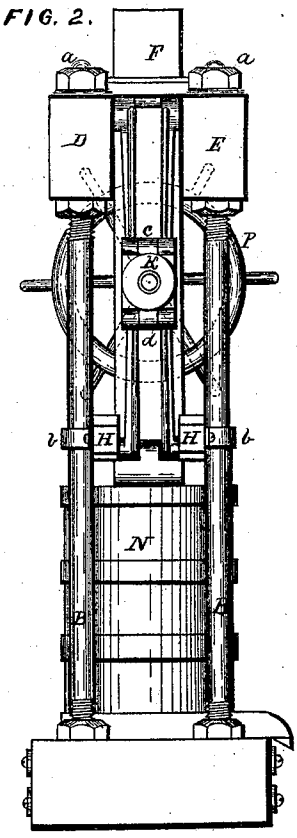
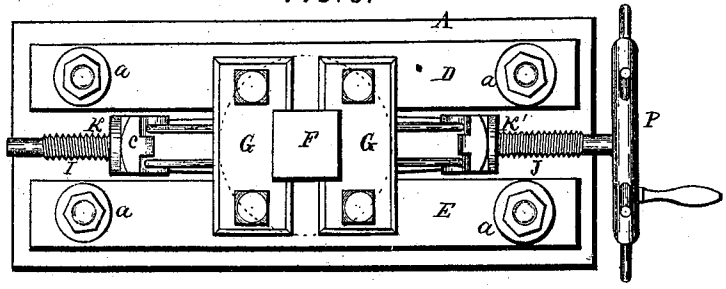


FIG. 3.



WITNESSES.

C. F. Cornell,
R. C. Williams.

INVENTOR.

C. L. Morehouse.
Per Burridge & Lee
Attys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

C. L. MOREHOUSE.

OIL-PRESS.

No. 170,488. Patented Nov. 30, 1875.

FIG. 5.

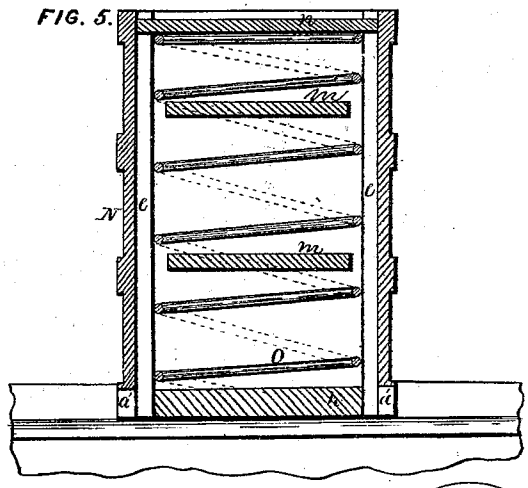


FIG. 4.

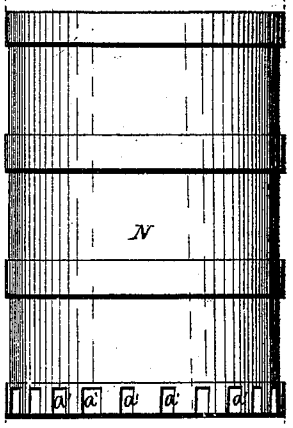


FIG. 9.

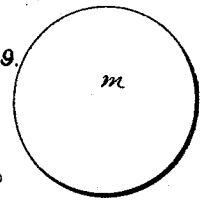
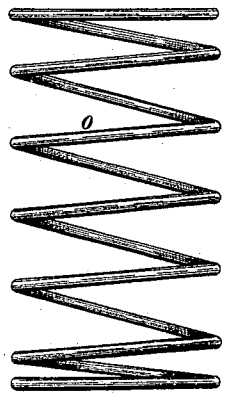


FIG. 6.



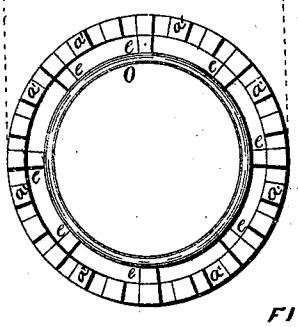


FIG. 8.

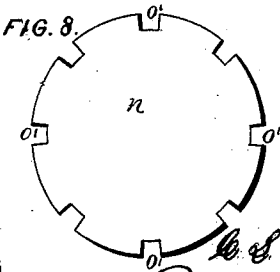
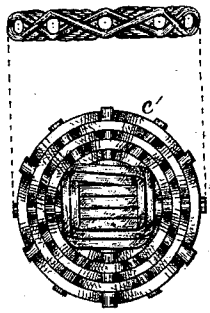


FIG. 7.



WITNESSES.

A. F. Cornell.

R. C. Williams,

INVENTOR.

C. L. Morehouse.

Per Burridge & Co

Attys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES L. MOREHOUSE, OF CLEVELAND, OHIO.

IMPROVEMENT IN OIL-PRESSES.

Specification forming part of Letters Patent No. **170,488**, dated November 30, 1875; application filed September 18, 1875.

To all whom it may concern:

Be it known that I, CHARLES L. MOREHOUSE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Oil-Press; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a side view of the press. Fig. 2 is an end elevation. Fig. 3 is a plan view. Fig. 4 is a view of the cylinder. Fig. 5 is a vertical transverse section of Figs. 4 and 6. Fig. 7 is a woven follower. Figs. 8 and 9 are plain followers, to which reference will be made.

Like letters of reference refer to like parts in the several views.

This invention is a press for the manufacture of paraffine-oil and other oils, the construction and operation of which are substantially as follows:

The frame of the press referred to consists of a base, A, and standards B B C C, secured to said base, whereas their upper ends are secured, respectively, to the beams D E, Fig. 3, by means of the nuts *a*, as shown in the drawings. F is a vertical sliding shaft held in position at the top by guide-plates G, and at the lower end by guide-beams H, Figs. 1 and 2, one on each side of the shaft. The ends of said guide-beams are secured, respectively, to the standards by straps *b*, which permit of the beams moving vertically between said standards, wherein they are arranged as shown in the drawings. I and J are a pair of screws, having their inner ends rigidly connected to each other, so that they revolve together. The screw I has a right-handed thread, whereas the screw J is left-handed. The screw passes through the shaft F in a slot made therein. On the screw I is a nut, K, to the upper side of which is attached, by a joint, *c*, Fig. 3, one end of a link, L. The upper end of said link, in like manner, is attached to the side of the shaft; also, to the lower side of the nut is attached, by a similar joint, *d*, one end of a link, L′. To the screw J is also fitted a nut, K′, to the upper and lower sides of which, in like manner, are attached a pair of links, M and M′, the opposite ends of which are in the same manner connected to the shaft F. The relative position of the two sets of links to each other, and to the screws and shaft, will be fully understood on examination of Fig. 1. In connection with the above-described press is used a cylinder, N, a detached view of which is shown in Fig. 4. The inside of said cylinder is provided with a series of ribs, *e*, arranged longitudinally therein from top to bottom, as will be seen in the vertical section, Fig. 5. Within said cylinder is loosely fitted a spiral spring, O, Figs. 4 and 5, a detached of which is shown in Fig. 6, the purpose of which will presently be shown.

Having described the construction of the several parts of the press, and their arrangement, the practical operation of the same is as follows: As aforesaid, the special purpose of this press is for expressing oil from paraffine. To this end, practically, the prepared paraffine is placed in small canvas bags, which are then subjected to the action of the press, as follows: The press is screwed up to the position indicated by the dotted lines *i* in Fig. 1, thereby elevating the head of the shaft F above the top of the cylinder, as indicated by the dotted lines *f*, Fig. 1, which represents the head secured to the end of the shaft, and which is of a size to fit the inside of the cylinder inside of the ribs referred to. This elevation of the shaft and head allows access to the inside of the cylinder, and admits of said cylinder being removed from the press. The cylinder is placed on the floor of the press, as shown in Fig. 1, over a metal disk or base, *h*, Fig. 5, raised thereon, so as to fit within the ribs *e*, and upon which the spring stands, as will be seen in said Fig. 5. Within the spring O, in practice, is arranged a large sack, of sufficient length to allow the mouth of which to extend above the top of the cylinder. Into said sack is deposited a sufficient number of the small sacks or bags of paraffine above referred to, to form one layer in the bottom of the cylinder, upon which is then laid a solid follower or disk, *m*, Figs. 5 and 9. Upon said follower is laid a follower, *c′*, of woven fabric, (represented in Fig. 7,) which may consist of willow, cane, iron, or any other equivalent material, or a combination of both. Upon said follower of woven material is laid another

course of small bags of paraffine, whereon is laid, as before, a solid follower of metal, followed thereon by another of woven material. Upon this is again laid a similar course of bags, and so on until the cylinder is full, or nearly so; on the top of these, alternate courses of bags and followers. The loose material of the mouth of the inclosing-sack is turned, and thereon is laid a follower, *n*, Fig. 4, a detached view of which is shown in Fig. 8. Said follower *n* is provided with a series of peripheral notches, O′, corresponding in number and size, to receive the ribs *e* of the cylinder, so that the circumference of the follower will fit close to the inside of the cylinder, as will be seen in Figs. 4 and 5, in which it will be observed that the follower covers the spring, thereby completing the charging of the cylinder for the press.

The cylinder being thus properly filled, the whole is pressed therein by turning the crank P, thereby operating the screws I J, causing the descent of the shaft and head thereof down upon the follower *n*, and forcing it upon the bags of paraffine, the continuous descent of which expresses the oil from the paraffine, which flows down the sides of the cylinder between the ribs, and escapes therefrom through the openings *a′* in the lower end onto the floor of the press, from which it is taken into a receiver. The position of the press when screwed down upon the contents of the cylinder is such as shown in Fig. 1. The oil being expressed from the paraffine, the press is run up to the position indicated by the dotted lines in said Fig. 1 by a reverse movement of the screws. The pressure being removed from the cylinder, the recoil of the spring loosens up the compressed mass, so that the followers and bags therein can be easily removed.

The spring also serves as a guide to prevent the bags from lateral expansion and crowding between the ribs to the sides of the cylinder, and prevents the downward flow of the expressed oil.

The purpose of the woven follower (shown in Fig. 7) placed on the solid followers between the series of bags is to permit the oil to flow off from the bags to the sides of the cylinder as fast as it is expressed. The oil runs through the interstices of the woven follower onto the smooth surface of the solid one below. Thus the oil will flow as freely from the center of the cylinder as from nearer the sides, which would not be the case were the bags placed directly upon the surface of the solid followers, in which case the contact of the bags with the face of the followers would obstruct the ready flow of the expressed oil.

The woven followers, being made of strong material, will retain their form while under pressure. Hence, they do not crush down and prevent the flow of the oil to the sides of the cylinder.

I am aware that toggle-joint mechanism has been used for various purposes; hence, it is not claimed herein as new, separately considered.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The spiral spring O, in combination with the cylinder N, substantially in the manner as and for the purpose specified.

2. The woven follower *c′*, in combination with the solid followers *m*, spring O, and cylinder N, for the purpose herein specified.

3. In oil-presses, the toggle-joints or lever mechanism of the press, in combination with the cylinder N, spring O, disk *m*, and follower *n*, substantially as set forth.

CHARLES L. MOREHOUSE.

Witnesses:

J. H. BURRIDGE,

A. F. CORNELL.