

No. 773,393.

PATENTED OCT. 25, 1904.

J. H. HUBBELL.
OIL PRESS.

APPLICATION FILED MAY 31, 1904.

NO MODEL.

Fig. 1.

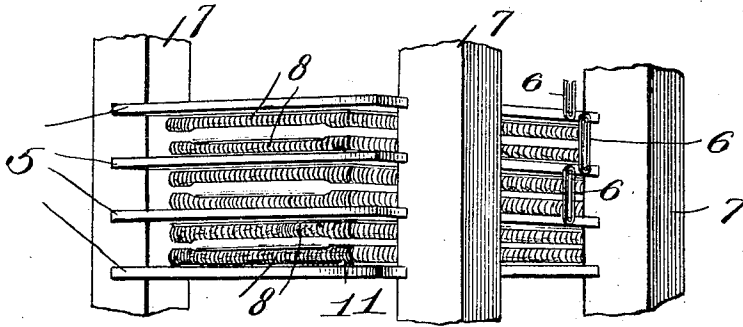


Fig. 2.

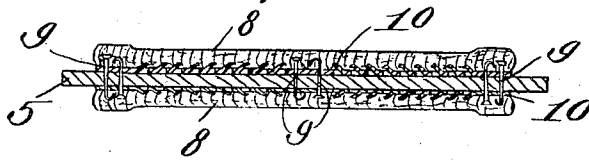
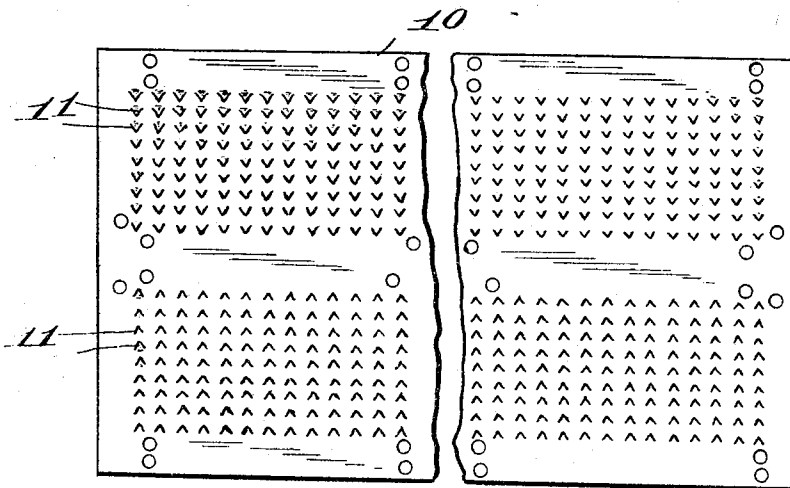


Fig. 3.



Witnesses:
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By
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UNITED STATES PATENT OFFICE.

JOSEPH H. HUBBELL, OF DAYTON, OHIO, ASSIGNOR TO BUCKEYE IRON AND BRASS WORKS, OF DAYTON, OHIO, A CORPORATION OF OHIO.

OIL-PRESS.

SPECIFICATION forming part of Letters Patent No. 773,393, dated October 25, 1904.

Application filed May 31, 1904. Serial No. 210,540. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. HUBBELL, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented new and useful Improvements in Oil-Presses, of which the following is a specification.

This invention relates to oil-presses, and more particularly to a means for prolonging the usefulness of mats and wrappers employed therein.

In certain kinds of presses mats are a necessity, they being suitably attached to the opposite faces of all but the upper and lower of a series of plates. Between these mats the cake or equivalent substance from which the oil is to be expressed are interposed, whereby the plates do not directly engage the cake or their envelops. In the case of the uppermost plate the mat is applied simply to the lower face thereof, while the upper face of the lowermost plate carries a mat. The cake is enveloped ordinarily in camel-hair cloth. This point, however, and the material from which the mats are made are matters of individual preference and do not constitute part of the invention, nor does the construction of the plates themselves enter into the said invention. The plates, which are arranged in superposed order, are forced together by hydraulic or other suitable power, and ordinarily the mats when such force is exerted are spread, due to the fact that the faces of the plates with which said mats engage are smooth. The result is that the mats are torn and ruptured, thereby rendering them in a short space of time useless. As the mats which are capable of doing the best work are very expensive, it is essential that their life should be prolonged, and this is the primary object of my invention. I attain in the present case such object by obviating the spreading and consequent tearing of the mats, which result I secure in a thoroughly simple and practicable manner.

In the drawings accompanying and forming a part of this specification I illustrate one convenient adaptation of the invention, which I will fully set forth in the following descrip-

tion; but I do not limit myself to the disclosure thus made, for several changes may be adopted within the scope of my claims.

Referring to said drawings, Figure 1 is a perspective view of a portion of a press including my invention. Fig. 2 is a sectional elevation through one of the plates represented in the preceding figure, illustrating more particularly the parts immediately associated with said plate. Fig. 3 is a face view of a protector associated with a plate and mat.

Like characters refer to like parts in the several figures of the drawings.

The press illustrated in the drawings involves in its construction a series of plates, as 5, arranged one above the other in parallel order and loosely connected in any desirable way—say by open or skeleton links, as 6. The plates are of a construction familiar in oil-presses, and the same applies to the links 6, connecting them, so that a detailed description of these elements is unnecessary. The plates are set within columns, as 7, mounted in a familiar manner and serving to guide the plates as they are moved toward each other by hydraulic or other power in the customary manner. Each plate, except the upper and lower ones, carries upon its upper and lower faces mats, as 8. The terminal plates of the series carry but a single mat and on their inner face, as hereinbefore indicated. These mats are made of hair and, as hereinbefore pointed out, are quite expensive. The several mats may be held in assembled relation with the cooperating plates in any desirable way. For this purpose I have represented 85 pins, which may be in the form of horseshoe-nails, as 9, passed through suitably-positioned perforations in said plates and into the several mats, the points of the nails being clenched in the bodies of the mats, whereby the exposed faces of the latter will not present any abnormal protrusions.

As hereinbefore stated, the plates have their opposite faces smooth, and under ordinary conditions when said plates are moved toward each other during the expressing operation the mats are caused to spread under the pressure, which is considerable, it being, in fact,

at times about four hundred tons to each mat. As a consequence of such state of facts the mats spread and tear, ordinarily sidewise, thereby ruining them and necessitating their frequent replacement. I by virtue of my invention wholly avoid the spreading and consequent tearing or rupturing of the mats and have illustrated a simple and convenient way of securing such results; but I wish at this point to state that I do not limit myself to the means illustrated and hereinafter described for accomplishing said results, for equivalent means within the scope of my claims might be effectively adopted.

I interpose between each plate 5 and its mat 8 a protector, as 10, preferably, though not necessarily, made from sheet-steel and of an area agreeing approximately with that of the mat. Said protector has its working or outer face roughened to prevent lateral or side spread of the mat, and the means for securing the roughening thereof will be hereinafter pointed out. Preferably, though not necessarily, each protector is held assembled with its cooperating plate by the means which connect the mat or mats thereto. Such means, as hereinbefore indicated, consists of the ordinary horseshoe-nails. These nails pass through perforations in the several protectors registering with those in the several pressure-plates 5, through which said nails project. The mat-protectors 10 have longitudinally thereof two series of projections 11, illustrated as spurs punched outwardly from the same and arranged in longitudinal rows. The two series of projections or spurs, it will be seen, point toward each other, and it will therefore be apparent that one series of spurs or projections opposes the other. Said projections or spurs do not in practice penetrate into the body of the mat, but simply serve to prevent lateral displacement or movement thereof.

In practice the cake is put between the several plates and the plates moved toward each other by hydraulic or other desirable means. As the plates are moved toward each other the spurs or projections on each plate will take hold of a cooperating mat with force sufficient to prevent spreading of said mat, one series of projections on a plate serving to limit the movement of the mat in one direction, while the other series of projections serves equally as effectively to prevent opposite lateral motion of said mat.

Not only do I, as just set forth, prolong materially the usefulness of the hair mats used in an oil-press, but I also secure the same function with respect to the wrappers for the cake, which wrappers are usually made of camel's-hair cloth and are in themselves quite

expensive. Ordinarily these wrappers are destroyed in a few weeks, so that it will be apparent that a prolongation of their usefulness is a material factor.

It will be understood that I do not limit myself to the use of the horseshoe-nails, as 9, hereinbefore described for holding a mat or mats in assembled relation with a plate and a protector or protectors. Horseshoe-nails, however, have been found satisfactory for the purpose, and in practice I drive them from opposite directions through the hair mats and through registering perforations in the plates and protectors, respectively. Should not horseshoe-nails be used to hold the parts together, I prefer to maintain the protectors in working relation by the same means that connect the respective mats with their cooperating pressure-plates.

Having thus described my invention, what I claim is—

1. An oil-press including a plurality of pressure-plates having mats on their opposing faces, and protectors between the respective plates and mats, having means for preventing spreading of said mats.

2. An oil-press including a plurality of pressure-plates having mats on their opposing faces, suitably connected with the respective plates, and protectors between the respective plates and mats, having means for preventing spreading of said mats, the protectors being held in assembled relation by the same means respectively that hold the mats in place.

3. An oil-press including a pressure-plate having a mat on one of its faces, and a protector between the plate and mat, having means for preventing spreading of said mat.

4. An oil-press including a pressure-plate, having a mat on one of its faces, pins passing through the plate and mat respectively to hold the mat in place, and a perforated protector between the mat and plate, having means to prevent spreading of the mat, said pins extending through the perforations in the protector.

5. A protector for use in oil-presses, consisting of a plate having two series of projections pointing toward each other.

6. A protector for use in oil-presses, consisting of a plate having spurs punched therefrom and arranged in two series pointing toward each other.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOSEPH H. HUBBELL.

Witnesses:

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FRED F. PIKE.