

(No Model.)

C. KERR.
RACK FOR PRESSES.

No. 569,502.

Patented Oct. 13, 1896.

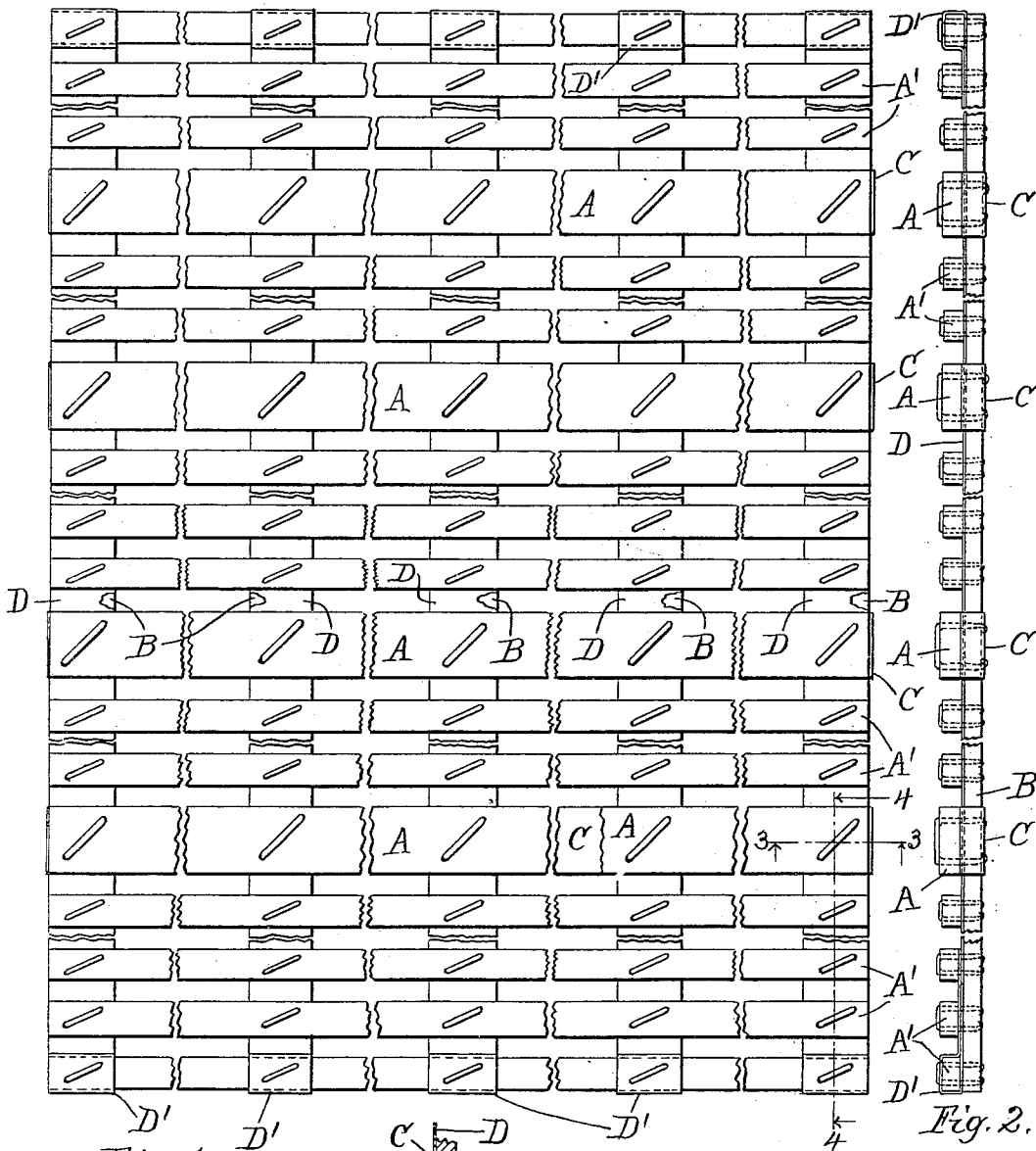


Fig. 1.

Fig. 2.

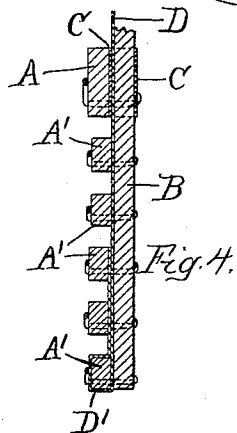


Fig. 4.

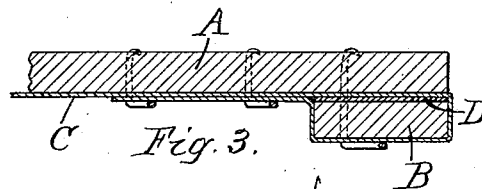


Fig. 3.

Witnesses.
E. T. Wray.
Jean Elliott

Inventor.
Charles Kerr
by *Burton* and *Burton*
his attys.

UNITED STATES PATENT OFFICE.

CHARLES KERR, OF CHICAGO, ILLINOIS, ASSIGNOR TO JEROME E. DAVIS,
OF OAK PARK, ILLINOIS.

RACK FOR PRESSES.

SPECIFICATION forming part of Letters Patent No. 569,502, dated October 13, 1896.

Application filed November 18, 1895. Serial No. 569,328. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KERR, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Racks for Presses, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

10 This invention relates to racks used in presses to separate and retain the bags or straining or filtering cloths in which pulp or other material containing liquid is inclosed for the purpose of expressing the liquid
15 through the filtering-cloths in a manner well understood in the art.

In the drawings, Figure 1 is a plan of my improved rack, showing the wooden bars partly broken away to disclose metal sheathing-strips with which the inner surfaces of the bars are faced. Fig. 2 is an edge elevation of the same. Fig. 3 is a detail elevation at the line 3 3 on Fig. 1 on an enlarged scale. Fig. 4 is a section at the line 4 4 on Fig. 1.

25 It is well understood that racks of this character are used in presses for such purposes as cider-making and pressing malt and other pulp of various sorts either for the purpose of forcing out the water and retaining
30 the solid substance or obtaining the juice, the solid substance being refuse, the pulp or other substance to be pressed being inclosed in sacks or filtering-cloths, which are piled up upon the press alternating with the
35 racks, the purpose of the latter being to retain the pile in shape and to distribute the pressure equally through the entire mass, which is thus subdivided into layers, each layer being subjected to the desired pressure.
40 The pressure employed being often several hundred pounds to the square inch and the substance in the filtering-cloths causing the latter to bag or settle in loops between the bars of the racks when the pressure is applied, such pressure being transmitted by the
45 liquid contents in the bags or sacks, according to the law governing such pressure, equally in all directions, the force operates in the loops or depressions between the cross-bars of
50 the racks with a sideward as well as a downward pressure and tends, therefore, to strain

the racks laterally, eventually forcing the fastenings at the intersections of the bars, and in time, the wood being more or less deteriorated by repeated saturations and dry-
55 ings, this sideward strain tears the racks asunder, the rupture occurring most frequently somewhere near the middle, though any weak point will give way. An attempt has been made to remedy this difficulty by
60 the use of metal racks made of strap-iron. A new difficulty then arises from the fact that the metal bars tend to bend between the intersections and soon become too much distorted to be serviceable, and also are liable to
65 crack from the bending, especially as is likely to happen if they are reversed in position at different instances of use, so that the strips are bent back and forth over the edges of the intersecting bars until they crack at such
70 edges, and then are liable to cut or tear the filtering-cloths in handling. To overcome this difficulty and remedy this defect in racks as now constructed is the purpose of my present invention.

75 A A A A are wooden bars, which may be from two inches to four inches in width and from one-quarter to three-eighths of an inch thick. They constitute the principal framework of the upper side of the rack. B B B
80 B B are similar bars extending transversely to the former and constituting the lower section of the rack. In addition to the upper bars A A, &c., the rack comprises any suitable number of narrow bars A' A', &c., which
85 are placed at intervals from each other and from the wide bars equal to about one-half the width of the narrow bars. In practice these named bars, being about one inch wide, are placed one-half inch apart. This upper
90 system of bars constitutes the supporting-surface for the bags or filtering-cloths filled with material to be filtered, which alternate with the racks in the pile to be pressed. The bags are not shown, as they do not constitute
95 part of my invention, only pertaining to its use. Instead of securing these upper and lower series together in the ordinary manner by nailing them together where they cross, I employ metal straps C C, &c., in connection
100 with each of the bars A A, such straps extending the entire length of such bars upon

their lower faces and being folded down
around the outside bars B B, as seen in Fig. 3,
and thence back upon themselves far enough
to be engaged under the second bar B from
5 the edge, the end of the strap being there se-
cured by the fastenings employed at that in-
tersection. In like manner each of the bars B
is provided with a similar strap D upon its up-
per face, such strap being folded up at the end
10 of the bar D and entirely around the outermost
of the upper system and back under one or
more of said bars, in order that the end may be
securely held by the fastenings at the several
intersections to which it is extended in the
15 return-loop shown at D'. These reinforcing-
straps C and D, having a longitudinal tensile
strength sufficient to resist the spreading
caused by the pressure transmitted laterally
through the material which is being pressed,
20 retain the rack in form and save the wood
from the tensile strain which otherwise rup-
tures it, as described, and the life or period
of efficiency of racks constructed with such
reinforcing-straps associated with the wooden

bars is many times that of wooden racks con- 25
structed without such reinforcement.

I claim—

In a rack for presses in combination with
wooden bars arranged in two series transverse
to each other and suitably secured at their 30
intersections; metal straps extending length-
wise of the bars upon their proximate faces;
the straps extending in either direction being
folded over the outermost of the bars extend-
ing in the transverse direction whereby the 35
pressure tending to separate laterally the bars
of each series and to strain longitudinally the
bars of the other series is opposed by the ten-
sile resistance of the metal straps; substan-
tially as set forth. 40

In testimony whereof I have hereunto set
my hand, in the presence of two witnesses,
at Chicago, Illinois, this 15th day of Novem-
ber, 1895.

CHARLES KERR.

Witnesses:

A. C. HAVEN,
F. SPECHT.