

No. 806,334.

PATENTED DEC. 5, 1905.

A. W. FRENCH & J. HAUENSTEIN.

STAY FOR PRESS MATS.

APPLICATION FILED SEPT. 8, 1904.

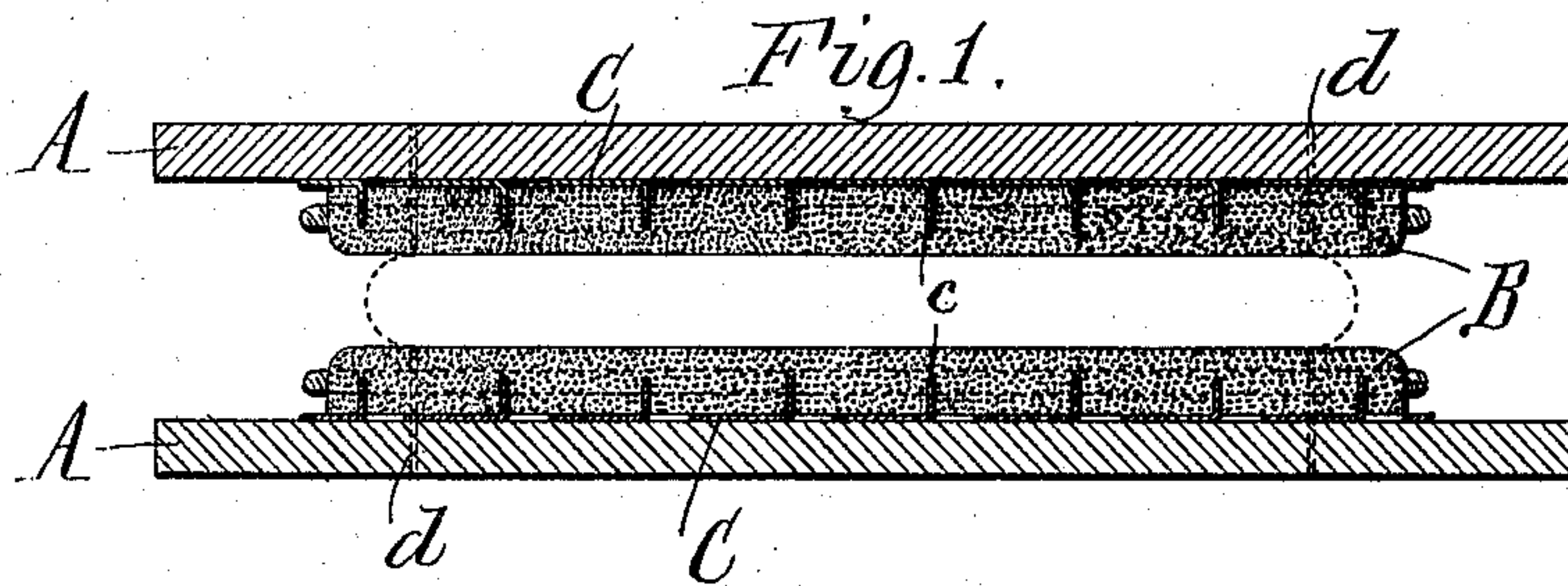


Fig. 2.

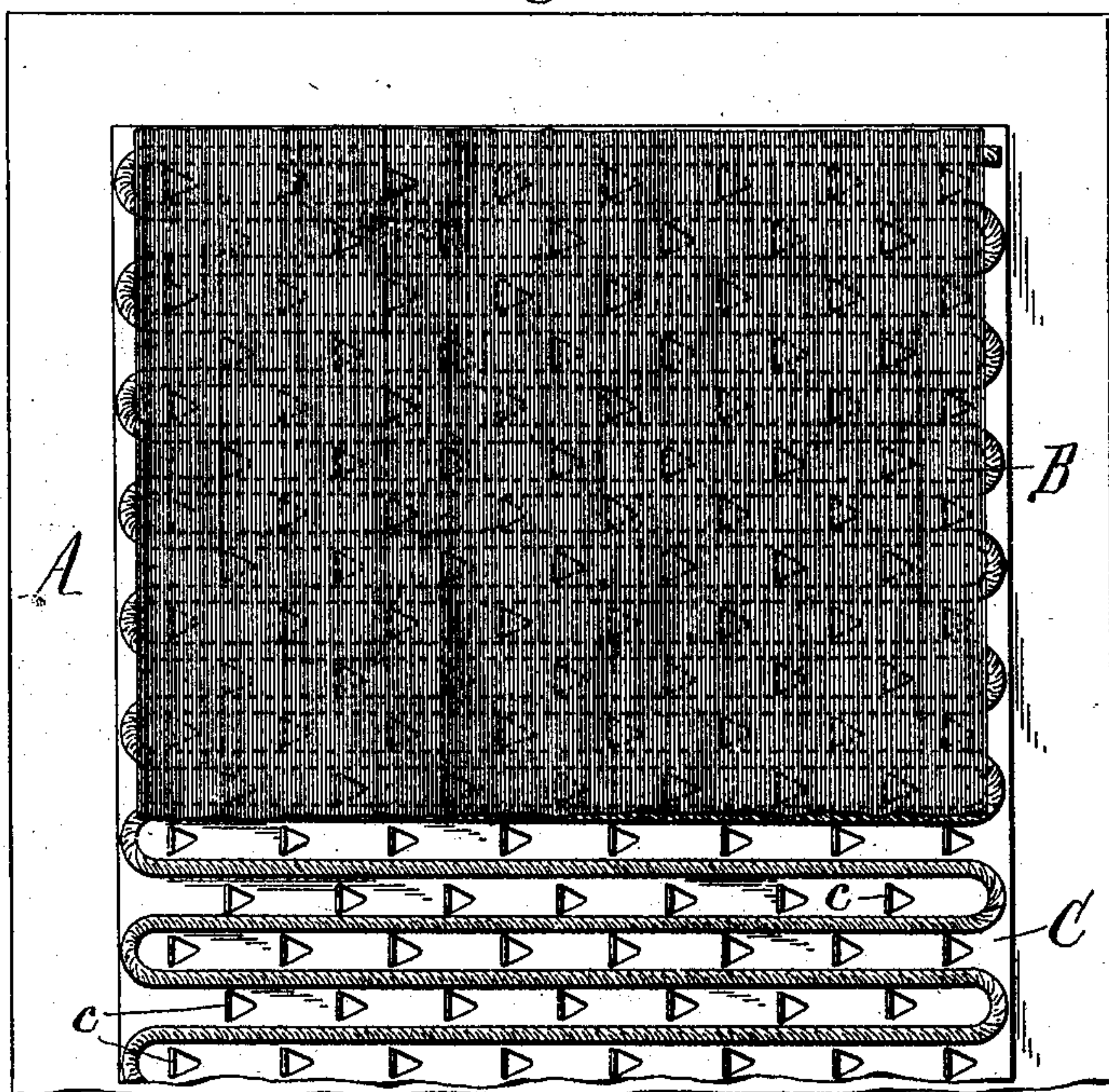


Fig. 3.

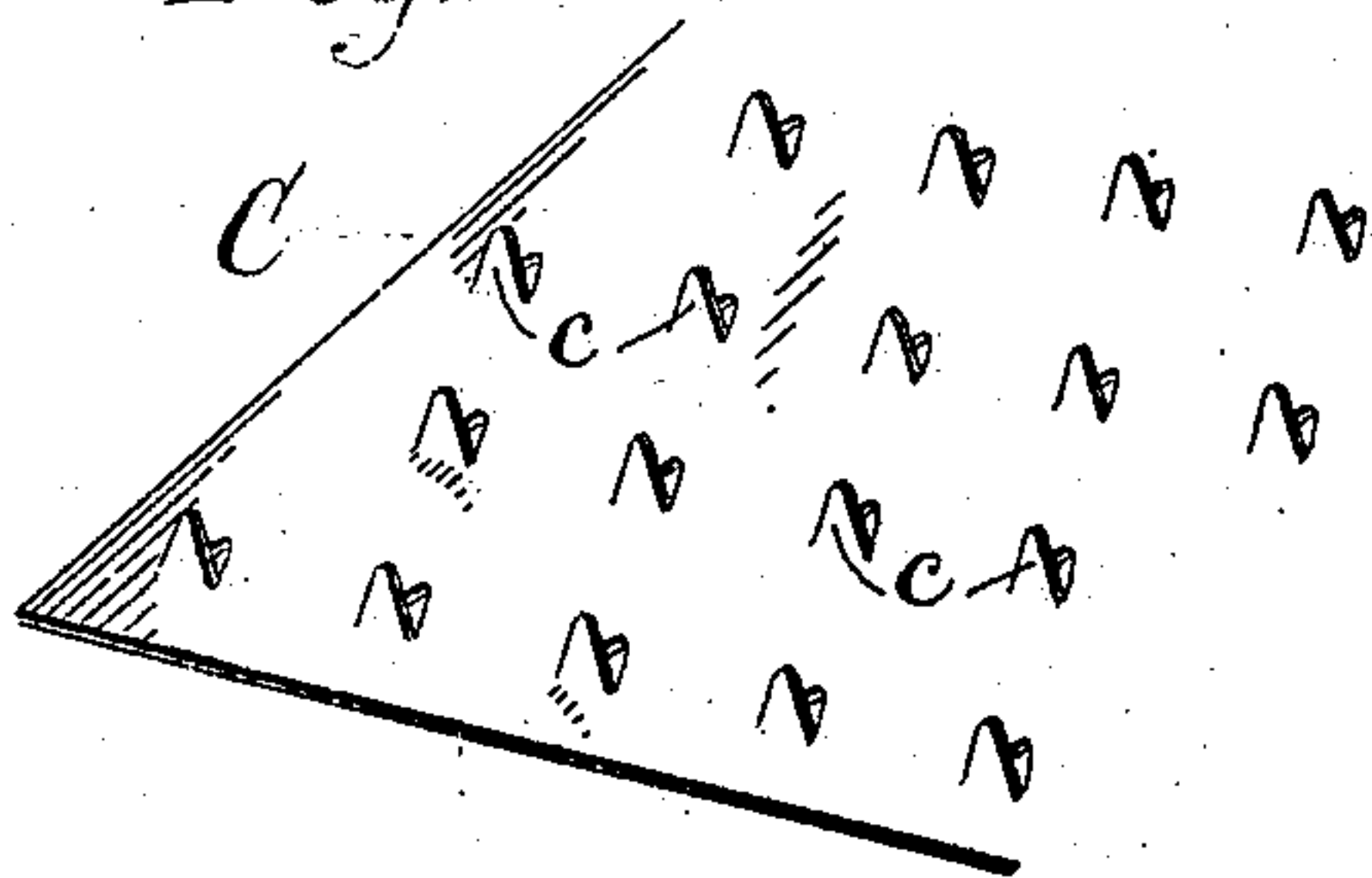
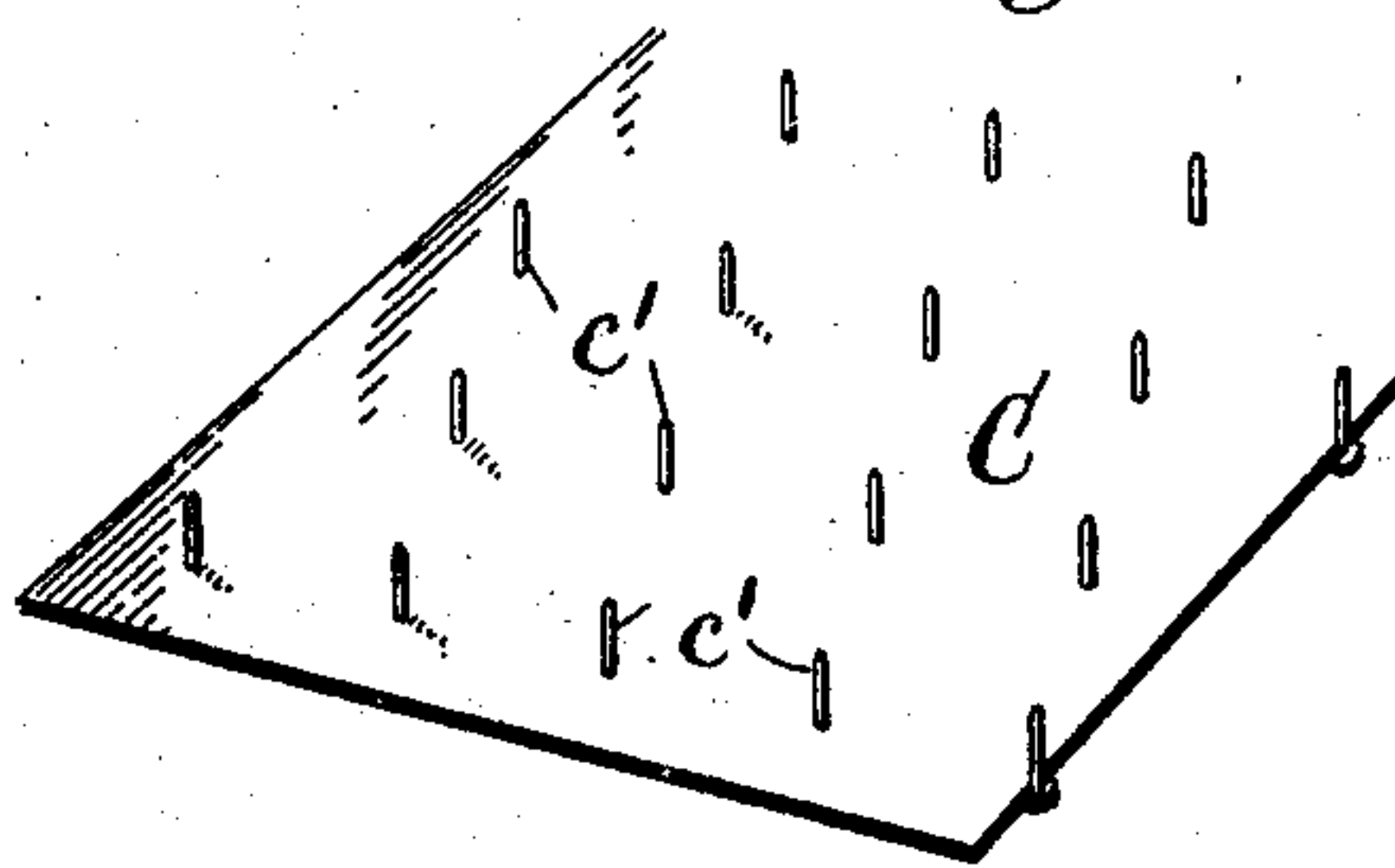


Fig. 4.



Witnesses:

E. A. Volk.

R. W. Rinsar.

Inventors.

A. W. French and J. Hauenstein,
by Wilhelm, Parker & Hard
Attorneys.

UNITED STATES PATENT OFFICE.

ALFRED W. FRENCH, OF PIQUA, OHIO, AND JOHN HAUENSTEIN, OF BUFFALO, NEW YORK, ASSIGNORS TO THE FRENCH OIL MILL MACHINERY COMPANY, OF PIQUA, OHIO.

STAY FOR PRESS-MATS.

No. 806,334.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed September 8, 1904. Serial No. 223,770.

To all whom it may concern:

Be it known that we, ALFRED W. FRENCH, residing at Piqua, in the county of Miami and State of Ohio, and JOHN HAUENSTEIN, residing at Buffalo, in the county of Erie and State of New York, citizens of the United States, have invented a new and useful Improvement in Stays for Press-Mats, of which the following is a specification.

10 This invention relates to stays or means employed in presses for expressing oils to hold the press-mats from spreading and breaking under the strains to which they are subjected in the operation of the presses.

15 In operating oil-presses the oil cakes or molded masses of ground oil-bearing meal from which the oil is to be expressed are enveloped in press-cloths and with these envelopes placed in the press. The press-plates of many

20 kinds of presses are provided with thick elastic or yielding and pervious mats between which the cakes are placed to insure an even equal pressure to all portions of the cake and provide for the drainage of the oil therefrom. These

25 mats are ordinarily made of horsehair on account of its strength and elasticity and are expensive and notwithstanding their strength are spread out of shape, distorted, and broken in a comparatively short time under the very

30 heavy strains to which they are subjected in use. It has been proposed to prevent such spreading and breaking of the mats by providing the press-plates with projections or interposing wire fabric or netting between the

35 press-plate and mat, the projections of the press plate or wire fabric being intended to sink into the mat under pressure and hold the same intact. Neither of these methods is satisfactory. If the projections are cast or

40 forged on the press-plates, they will necessarily be wide and low and will bear against the surface strands or hairs of the mat and tend to spread and break the same. Cast plates are also objectionable, as they are frequently

45 broken in the presses, and forged plates are expensive. To provide a steel plate with separately attached projections of sufficiently small size to enter between the strands of the mat without breaking or spreading them is

50 an expensive operation and projections on the heavy press-plates, however made, are readily broken in shipping and handling the plates. Another important consideration is that mills

already equipped with press-plates will not undertake the expense of supplying press-plates with the projections. The wire fabric or netting stay is objectionable because the projections thus afforded, like those formed on the press-plates, do not enter in between the strands of the mat, but cross and press against the surface strands of the mat, which are thus broken.

The object of this invention is to provide an efficient practical stay for the purpose stated which avoids the objections above noted, is of simple and inexpensive construction, and can be supplied at small cost to presses already equipped with press-plates.

In the accompanying drawings, Figure 1 is a section showing two adjacent press-plates and mats provided with stays embodying the invention. Fig. 2 is a broken plan view of one of the plates, mats, and stays. Fig. 3 is a perspective view of a portion of the stay shown in Figs. 1 and 2. Fig. 4 is a similar view of a mat-stay of modified construction.

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

A represents the press-plates of a press, which may be of any usual form, and B the press-mats between which the oil cake is placed and pressed. These mats are ordinarily made of horsehair woven in such manner that the larger part of the strands or hairs composing the mat or all of the surface strands or hairs run in one direction or substantially parallel with one edge of the mat.

C represents the stays or devices for holding the mats intact and preventing them from spreading and breaking when subjected to pressure in the press. The stay consists of a thin plate or sheet of metal or analogous thin material of substantially the same shape and size or somewhat larger than the mat, having on one side numerous slender prongs or projections which penetrate the body of the mat entering between the strands or hairs thereof. The prongs or projections can be made in different ways and give good results. For instance, as shown in Figs. 1 to 3, they are formed by stamping or punching up integral pointed portions *c* from the metal stay-plate. From Fig. 2 it will be seen that the prongs or projections are so disposed relative to the mat that their flat sides are parallel with the direction of the surface strands or hairs of

the mat, so that they can extend into the mat between the strands thereof without spreading the strands to any appreciable extent. They present broad straight upright faces to the strands, thus preventing the same from slipping over or past the projections and spreading, whereby the danger of rupturing the strands is minimized.

In the construction shown in Fig. 4 the prongs or projections c' are formed by short straight nails inserted through holes in the stay-plate. These nails are retained in an upright position in any suitable way—for instance, by their heads, which are preferably broad and flat and which are held firmly between the stay-plate and the press-plate. If desired, the nails can be soldered or otherwise secured to the stay-plate. The nails, like the projections shown in the other figures, will readily enter the mat without appreciably spreading the strands, and they offer upright sides, which hold the strands from slipping and spreading under pressure. The nails being smooth and round will not cut or break the strands or hairs of the mat. One of the stays is placed between each mat and the adjacent press-plate and is preferably secured in place by the usual fastening wires or devices d employed for securing the mats on the press-plates.

Stays constructed as described can be produced and supplied to mills at small cost. They will not spread, break, or cut the strands or hairs of the mats, but will positively hold the same intact and prevent the spreading, distortion, and breaking of the mats when under pressure, thus being free from the stated objections to known contrivances intended for a similar purpose.

We claim as our invention—

1. A stay for press-mats, comprising a plate

or body which is separate from and adapted to be placed between the press-plate and the press-mat, and has slender projections which penetrate the press-mat between the strands thereof, substantially as set forth.

2. A stay for press-mats, comprising a plate or body which is separate from and adapted to be placed between the press-plate and the press-mat, and has projections which penetrate the press-mat between the strands thereof and have upright sides to engage and hold the strands of the mat from spreading, substantially as set forth.

3. A stay for press-mats, comprising a plate or body which is separate from the press-plate and against which the press-mat is placed, and which has projections which penetrate the mat between the surface strands thereof and are slender in a direction transversely of such surface strands whereby the latter are not spread or broken by said projections, substantially as set forth.

4. A stay for press-mats, comprising a plate or body which is separate from and is placed between the press-plate and the press-mat, and has slender projections which extend perpendicularly from the face thereof and engage the press-mat to prevent the spreading thereof, substantially as set forth.

Witness my hand this 19th day of August, 1904.

ALFRED W. FRENCH.

Witnesses:

E. C. HARD,

C. B. HORNBECK.

Witness my hand this 26th day of August, 1904.

JOHN HAUENSTEIN.

Witnesses:

E. C. HARD,

C. B. HORNBECK.