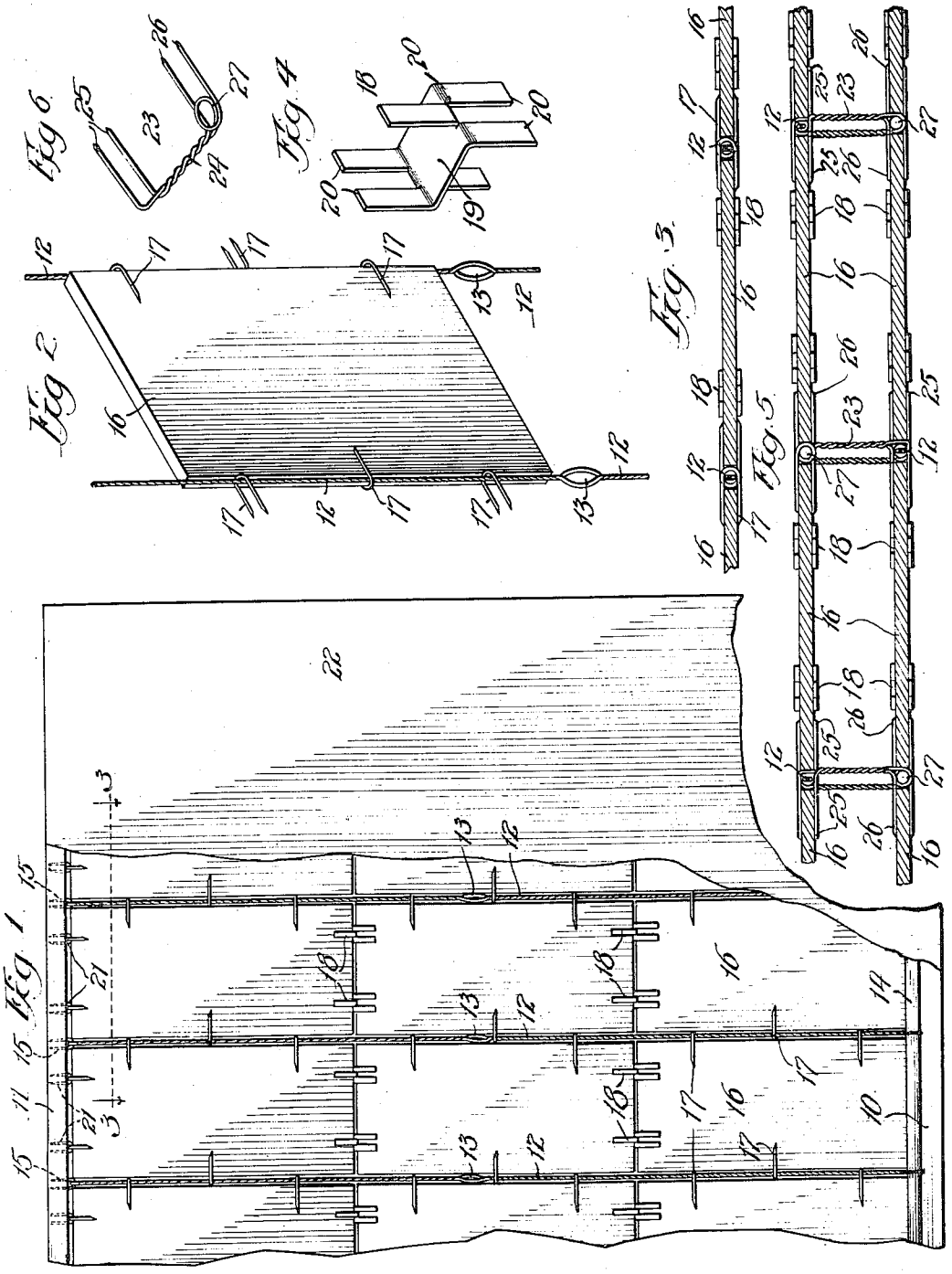
J. SCHEAS.

FIREPROOF PARTITION.

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1,075,123.

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FIREPROOF PARTITION.

1,075,123. Specification of Letters Patent. Patented Oct. 7, 1913.

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To all whom it may concern:

Be it known that I, JOHN SCHEAS, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Fireproof Partitions, of which the following is a specification.

This invention relates to improvements in fire-proof partitions for buildings and aims to provide a partition which shall be light, strong and durable, and which may be constructed without the aid of skilled labor and by the use of which, great economy of floor space may be exercised.

A partition composed of fire-proof brick or tiling such as is ordinarily employed is usually from three to six inches in thickness and in large buildings where a great many partitions are employed the amount of floor space taken up by the partitions is a very large item. The same is true where wooden partitions are employed which necessitate the use of 2x4's or other similar uprights or studs.

My invention aims to provide a partition which shall be not only fire-proof but as thin as is consistent with the strength and rigidity required. Instead of employing thick upright studs to support the partition I use twisted wire members which are securely fastened to the floor and ceiling and are then twisted at the center to produce the required tension. Between adjacent tension members I place plates or blocks of plaster-board or other similar material and securely fasten these plates at either side to the tension members and at the top and bottom to the adjacent plates or to the ceiling or floor as the case may be. After the body of the wall is erected, as previously outlined, it is plastered upon both sides and because of the smooth character of the plaster-board the necessity of a first coating of coarse plaster is obviated and the final or finishing coat is all that is ordinarily required.

The invention will perhaps be best understood by reference to the following description when taken in connection with the accompanying drawings in which I have illustrated two preferred embodiments of my invention, although it will be readily understood that the invention is not restricted in scope to the particular embodiments shown on the drawings but is capable of being carried out in a variety of other modifications.

Referring to the drawings—Figure 1 is a side elevation of a section of a wall embodying my invention, part of the plaster being broken away to disclose the inner construction. Fig. 2 is a detail perspective of an isolated plaster-board plate showing its method of attachment to the adjacent tension members. Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 1. Fig. 4 is a detail perspective of a retaining device. Fig. 5 is a horizontal sectional view of a modification embodying a double wall; and Fig. 6 is a detail of a clip which is employed in the construction of the double wall.

Referring to the drawings 10 and 11 designate the floor and ceiling, respectively, of a room. A plurality of tension members 12 are fixedly secured at one end to the floor and at the other end to the ceiling, as shown. The tension members are preferably composed of two strands of wire twisted in opposite directions from the centers, leaving loops or eyes 13 midway their length through which a bar may be inserted to further twist the members and produce the desired tension after they have been securely fastened at their top and bottom ends. Various methods of securing the ends of the tension members to the floor and ceiling may be employed. I have shown, however, for the purposes of illustration, a channel member 14 over which the loops of the lower ends of the tension members may be slipped and, after said members have been spaced the proper distance apart the channel member may be screwed, spiked or otherwise secured to the floor. The upper ends of the tension members are shown as held in place by staples 15. It will be obvious, however, that staples may be used at both ends, that channel bars may be used both at the top and bottom, or that the ends of the tension members may be fastened in any other approved manner, it being only necessary that the members be securely fastened in order that the members may be placed under the required tension by twisting, as above indicated.

Between the adjacent tension members are placed plates 16 of plaster-board or other similar material. The width of these

plates is preferably slightly less than the distance between adjacent tension members in order that a space may be left between each side of the plates and the members through which plaster may enter around the members to form a firm mechanical bond. When the lower ends of the tension members are secured to the floor by a channel member, as shown in Fig. 1, the lower plates 16 may be inserted into the channel of this member, the sides of which will securely hold the lower end of the plates in position.

In order to secure the plates of plaster-board or other similar material to the vertically disposed tension members I employ U-shaped clips 17 which are adapted to be slipped over a tension member so as to embrace the opposite faces of an adjacent plate. As many of these clips are employed to hold each individual plate in position as may be required. It will be evident from the drawings that these clips extend in opposite directions from each tension member to hold the plates on either side of the member, and this position of the clips insures the proper spacing of the plates from the members by reason of the fact that the crown or curved portion of each clip is disposed between the edge of a plate and the tension member which is embraced by the clip. Similar banks of plates of plaster-board are disposed above the first positioned plates and are secured to the tension members in a similar manner. The superposed adjacent edges of the plates are held in alinement and prevented from lateral displacement by retaining devices 18. These devices comprise a flat body portion 19 of a length substantially equal to the thickness of the plaster-board plates, terminating at either end in upwardly and downwardly extending fingers 20. These retaining devices may be made in any preferred manner, but one cheap and easy method of manufacturing them is to provide a flat plate of the proper length with two longitudinal slits at either end thereof and bend the fingers produced by the slits upwardly and downwardly, as shown in Fig. 4. The retaining devices are arranged upon the upper edges of the lower plates with the downwardly extending fingers in engagement with the faces of said plate and the upwardly extending fingers disposed to receive the next plate which is to be positioned thereon. It will be evident that the body portion 19 of these retaining devices serves to space the superposed plates apart so that plaster may also enter between the horizontal edges of said plates to produce a firm mechanical bond. If a channel bar is employed at the ceiling for securing the upper ends of the tension members the upper edge of the top plaster-board plate may be inserted in the channel similar to the lower end of the lower plate. In Fig. 1, however, I have shown another method of securing the upper edge of the upper plate in position, which consists in fastening several of the clips 17 to the ceiling by staples 21. These clips may be stapled in position and turned up against the ceiling until the plaster-board plate is put in position whereupon they may be turned down to engage the opposite faces of the plate as illustrated.

After the body portion of the wall has been erected, as described, it is preferably covered on both sides with a layer or coating of plaster 22. Owing to the fact that the plaster-board plates are relatively smooth and that there are no projections which extend any considerable distance beyond the faces of the board, it is not always necessary to use the coarse or rough coat which is ordinarily first applied to the surface of a wall or to the lath if lath are used. It will be readily understood, however, that the use of both a rough coat and a finishing coat will tend to increase the strength and rigidity of the wall and that in many cases both coats are desirable. As has been previously indicated the edges of the plaster-board plates are spaced from the tension members and from each other by the clips and retaining devices so that when the plaster is applied it will fill in the spaces between the plates and bind around the tension members and around the opposite faces of the plates, producing a very efficient mechanical bond which results in a strong, rigid and durable wall.

In Fig. 5 I have shown a modification of the wall above described which differs therefrom principally in the fact that two thicknesses or banks of plaster-board plates are employed, thus producing a wall having dead air space between the sides thereof. The tension members 12 in this instance are preferably arranged in staggered relation and the plaster-board plates 16 are superposed in banks, as shown, and the horizontal edges are retained in alinement by the usual retaining devices 18. In lieu of the clips 17, however, I employ a special type of clip 23, as shown in Fig. 6. This clip comprises a back or body 24 composed of two twisted wires which are bent at one end to form the fingers or prongs 25 and at the other end to form similar prongs 26. For the purpose of spacing the vertical edges adjacent plaster-board plates at the joint where no tension member is positioned, I provide a spacing loop 27 at the base of the prongs 26 which serves to space the plaster-board plates, as clearly shown in Fig. 5. The double wall is, of course, thicker than the single wall, the thickness being determined and regulated by the length of the body portion 24 of the clips 23. A wall con-

structed in conformity with this modification, having the dead air space between its sides, is practically sound proof and is also a very efficient non-conductor of heat and moisture.

The modifications which have been shown on the drawings and described in detail have been selected for purposes of illustration merely, and it will be evident that various changes in the form, proportion and minor mechanical details of the various parts may be resorted to without departing from the spirit of the invention or sacrificing any of the material advantages thereof.

I claim:

1. A fire-proof partition comprising vertically disposed tension members stretched between the floor and ceiling, said tension members being securely fastened to the floor and ceiling and being adapted to be twisted to produce the desired tension, a plurality of plates of plaster board disposed between adjacent tension members, clips for securing the vertical edges of the said plates to the tension members, each of said clips embracing a tension member and the opposite vertical faces of a plate, and a plurality of clips for retaining the horizontal edges of said plates in alinement.

2. A fire-proof partition comprising a plurality of tension members spaced apart and secured at their upper and lower ends to the ceiling and floor, respectively, plasterboard plates disposed between adjacent tension members, clips embracing a tension member and the side edges of adjacent plates, said clips serving to space the plates from the tension members to permit the entrance of plaster therebetween, and retaining devices laid between the adjacent horizontal edges of the plates, said devices comprising upwardly and downwardly extending fingers to hold the adjacent edges of superposed plates in alinement and space said edges apart for the entrance of plaster, and a coating of plaster upon each side of the plates, said plaster entering the spaces around the plates to form a firm mechanical bond.

3. A fire-proof partition comprising tension members stretched transversely of the partition, said tension members being securely fastened at their ends at the edges of the partition and adapted to be twisted to produce the required tension, a plurality of plates of plaster board disposed between adjacent tension members, clips for securing edges of the said plates to the tension members, each of said clips embracing a tension member and the opposite vertical faces of a plate, and a plurality of clips for retaining adjacent edges of said plates in alinement.

4. A fire-proof partition comprising tension members disposed transversely of the partition and composed of a plurality of strands of wire twisted in opposite direction from the center of said members, means for securely fastening the ends of the said tension members at the edges of the partition whereby the tension upon the said members may be increased by twisting the strands of the said members, a plaster board disposed on edge between adjacent tension members, a plurality of U-shaped clips embracing the tension members and opposite sides of said plate, a similar plate disposed adjacent the said plate, and a retaining device laid between the edges of the said plates and having oppositely projecting fingers adapted to engage opposite sides of said plates to retain the said plates in alinement.

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