Nov. 4, 1952 R. J. PARKER 2,616,180

BUILDING GUIDE

Filed Sept. 2, 1950 3 Sheets-Sheet 1

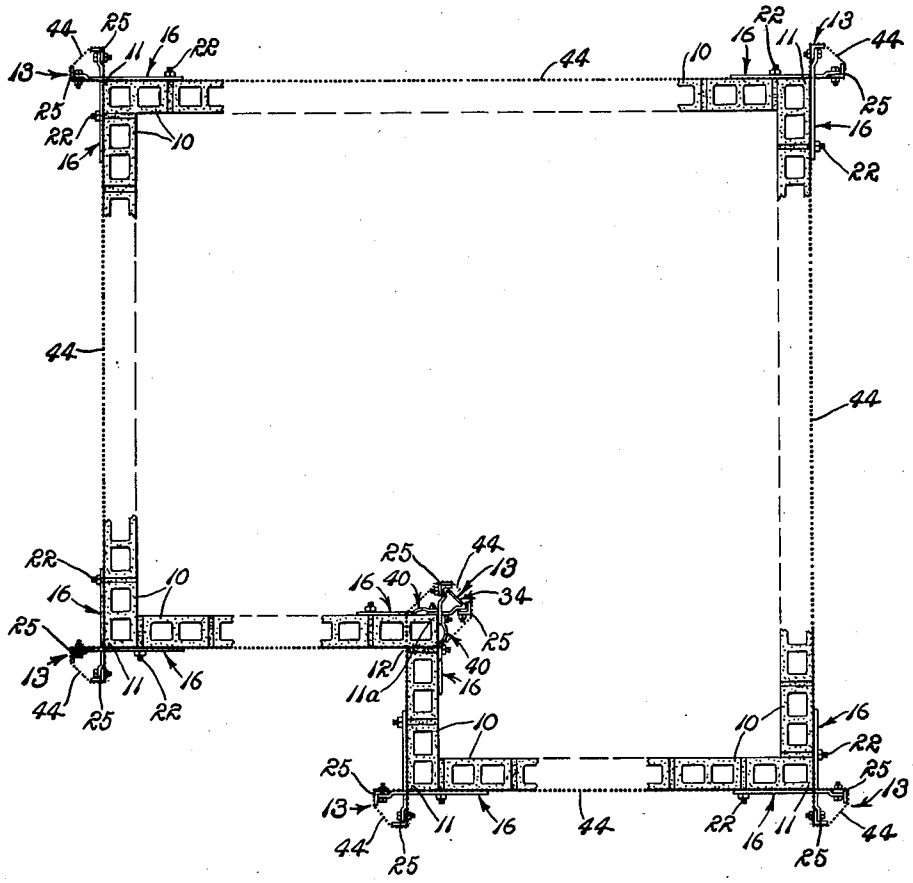


FIG. 1.

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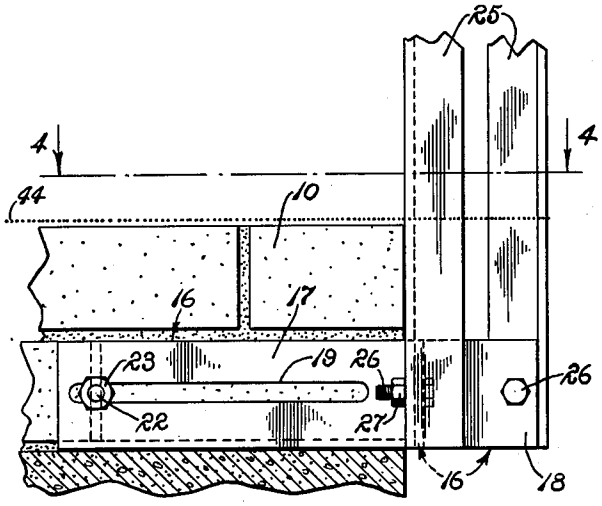


FIG. 3.

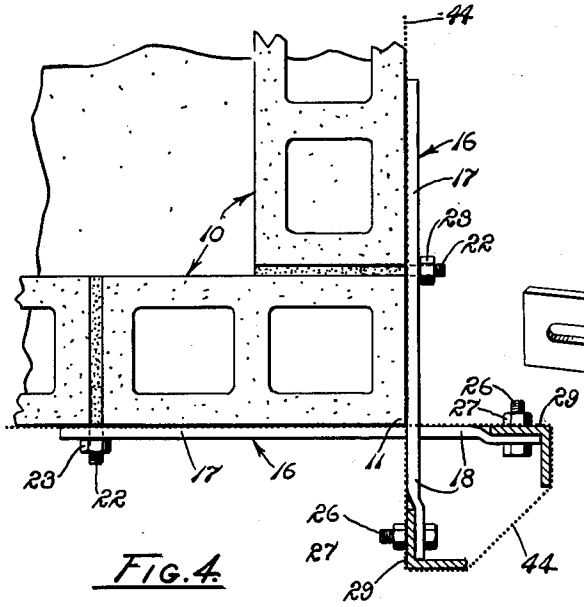


FIG. 4.

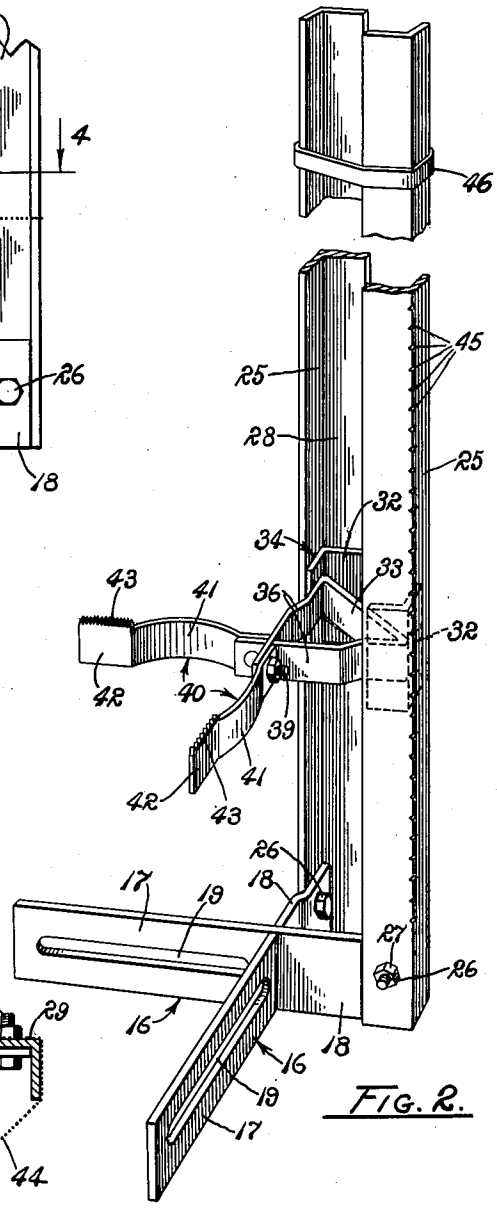


FIG. 2.

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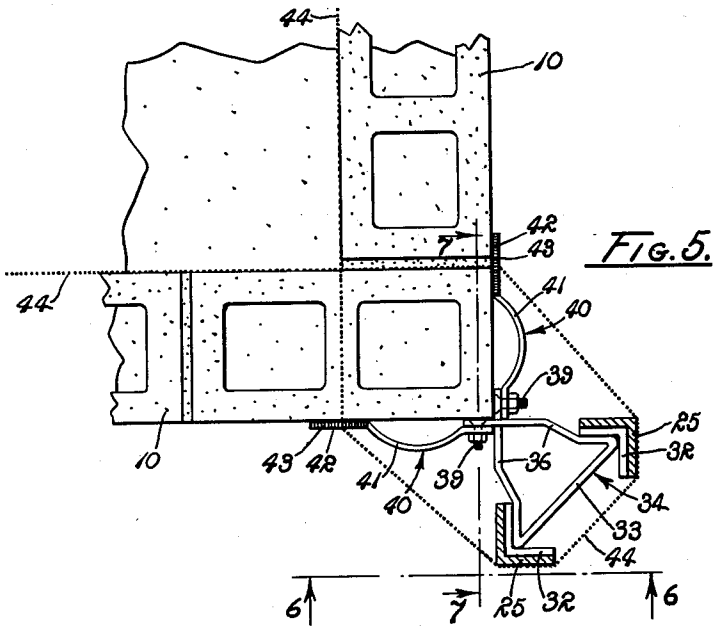


FIG. 5.

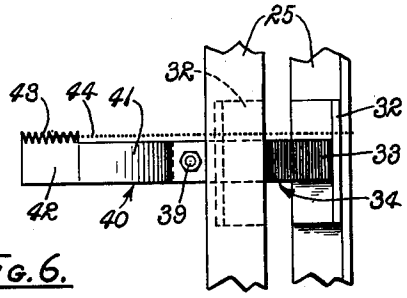


FIG. 6.

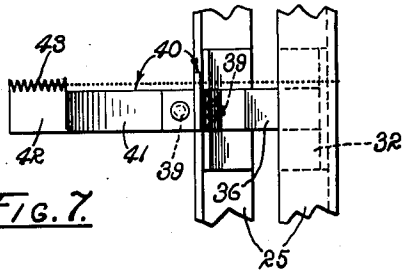


FIG. 7.

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2,616,180

BUILDING GUIDE

Ray J. Parker, Fresno, Calif.

Application September 2, 1950, Serial No. 182,956

7 Claims. (Cl. 33—85)

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The present invention relates to building guides, plumb rules, and the like and more specifically to a guide particularly suited to the construction of masonry.

Progressively greater attention has been given to the construction of buildings of bricks and stone. This has not only been due to the long recognized durability of such construction, but to the depletion of available forests with the accompanying scarcity and increased cost of lumber in many areas. Many localities have unlimited supplies of building stone and almost all communities have the materials and facilities for the production of adobe, red, concrete, or other bricks and blocks.

It has long been recognized in the building trade that the labor costs incident to masonry construction have impeded greater acceptance of the durable building materials. The art of laying bricks and stones has heretofore required a high degree of skill acquired only after extensive periods of apprenticeship for those having natural aptitude and capable of devoting great attention to detail. The rapid increase in the demand for masonry construction because of lumber scarcity and other causes has rendered the available supply of properly trained craftsmen inadequate.

It is therefore an object of the present invention to provide a masonry guide whereby a high standard of proficiency is attainable by even relatively unskilled masons.

Another object of the present invention is substantially to reduce the cost of brick and stone building construction by minimizing the labor costs incident thereto.

Other objects are to provide a masonry guide that is simple and durable in form, easily installed, readily adjustable to progressively increased wall heights, and conducive to improved accuracy in masonry construction.

Another object is to provide a masonry guide utilizing guide lines for the plumbing of walls and the achieving of uniformity of courses thereof in which provision is made for the selective mounting of the guide lines at the inside and/or outside of the corners.

A further object is substantially to increase the speed of masonry construction attainable by the artisan and the novice alike.

Still further objects and advantages will become apparent in the subsequent description in the specification.

In the drawings:

Fig. 1 is a plan view of a partially constructed building of masonry illustrating the employment

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of a plurality of the devices of the present invention in the maintenance of tensioned guide lines along inside and outside corners of the building.

Fig. 2 is a perspective view of a masonry guide employing the principles of the present invention, standards employed therein being foreshortened for illustrative convenience.

Fig. 3 is a fragmentary side elevation of a brick wall and fragmentarily illustrates the masonry guide of the present invention mounted thereon.

Fig. 4 is a horizontal transverse section of the guide shown in Fig. 3 in relation to the wall, as taken on line 4—4 of Fig. 3, illustrating the tensioning of the guide line along the outside of a corner.

Fig. 5 is a plan view of the guide shown in relation to a block wall under construction somewhat similar to Fig. 4 but demonstrating the tensioning of guide lines along the inside of a corner.

Fig. 6 is a fragmentary side elevation of the guide of the present invention, as taken on line 6—6 of Fig. 5.

Fig. 7 is a fragmentary side elevation of the structure shown in Fig. 6 as taken along line 7—7 of Fig. 5 in sectioning relation to a guide arm extension employed in the guide.

Referring in greater detail to the drawings:

In Figs. 1, 3, 4 and 5, a partially completed masonry wall of blocks is shown at 10 having so-called outside corners 11 and inside corners 12. Guides of the present invention are indicated generally at 13 as employed in plumbing the wall 10 as it is constructed and attaining desired symmetry and uniformity of corners thereof. Although the wall 10 is illustrated as constructed of blocks and mortar, it is to be understood that the device of the present invention may be utilized in laying bricks, stone, tile, and the like.

As shown in Figs. 2, 3 and 4, the guides 13 employ brackets 16 for mounting purposes. Each guide utilizes a pair of brackets 16 crossed in substantially right angular relation, each bracket providing a leg portion 17 and a standard supporting portion 18 in substantial alignment. The brackets are conveniently formed of strap or sheet iron or the like and are provided in the leg portions with longitudinal slots 19. The brackets are preferably weldably interconnected in fixed angular relation.

The brackets 16 are conveniently substantially horizontally mounted at the base of the wall 10 by providing mounting bolts 22 embedded in the mortar between the bricks of the first course thereof, between the first course and a foundation, or in

a brick, block, or other material. Nuts 23 serve to tighten the brackets into fitted engagement with the corners of the walls.

Angle iron standards 25 are pivotally mounted individually on the standard mounting portions 18, as by pivot bolts 26 and nuts 27. Each of the pairs of standards of each guide 13 has an elongated guideway 28 defined longitudinally therein by the transversely angular form of the angle iron, the guideways of each pair being in spaced facing relation, as evident in Fig. 2. As shown in Fig. 4, the mounting portions 18 of the brackets are preferably offset so that outer faces of the standards, indicated at 29, are in alignment with the outer surfaces of the wall on which their respective bracket is mounted. The brackets are offset at a distance sufficiently spaced from the pivot bolts 26 so as not to interfere with pivotal movement of the standards from precisely vertical positions adequate to clamp and to release slide members, soon to be described, slidably mounted in the guideways. It is apparent that the standards are pivotally movable in a plane common to the outer surface of the wall on which their respective brackets are mounted.

Elongated slides 32 of a configuration complementary to the guideways 28 are slidably mounted therein. The slides are interconnected by a rigid strut 33 for unitary elevational movement. The slides and strut constitute a slide member 34 mounted in the juxtapositioned guideways whose over-all horizontal length is such as to preclude pivotal movement of the standards toward one another beyond parallel relation and pivotal movement inwardly of the wall beyond substantially right angular relation to their respective bracket.

A pair of elongated guide arms 36 are weldably, or otherwise, rigidly secured to the slide member 34 and interconnected in crossed substantially right angular relation in a horizontal position in substantially vertical alignment with the crossed brackets 16. The guide arms are adapted to fit against an outside corner 11 of the wall being formed and the slide member is conveniently elevationally positioned to accommodate the addition of successive courses to the wall. To release the slide member 34 for elevation of the member and its guide arms, its respective standards 25 are pivoted slightly outwardly from the wall. To constrain the slide member, the standards are pivoted inwardly to erect positions in clamping relation to the slide member. It will be apparent that the extent of the permissive pivotal movement of the standards on the brackets need not be great for this purpose.

Studs 39 are outwardly extended from the guide arms and pivotally mount guide arm extensions 40. The extensions are preferably of arcuate form intermediate opposite ends thereof, as at 41 so as to permit easy access to mortar employed in laying the wall. Ends 42 of the extensions 40 are return bent to substantially vertical alignment with the brackets 16 for fitted engagement against the wall. The ends provide serrated upper edges 43. A guide line 44 is looped about the standards 25 and tensioned along surfaces of the wall 10 and for purposes soon to become apparent may be held in the serrations 43 of the guide arm extensions 40 or engaged in notches 45 provided in the standards 25, as evident in Fig. 2. When the guide line 44 looped about the standards 25 is tensioned, the standards are urged inwardly of the wall in clamping relation to the slide member 34. To augment this clamping action and to maintain the standards and slide member in assembled relation when the line 44 is slackened for removal or adjustment, an elastic strap 46 is optionally provided in circumscribing relation to the upper ends of the standards. The strap may be removed by sliding the same upwardly from the standard. The guide line is preferably sufficiently elastic to provide resilient constriction about the upper ends of the standards so that with the strap removed the standards can be pivoted outwardly a distance sufficient to permit vertical adjustable positioning of the slide member 34 in the standards without removing the line looped thereabout. Further the constrictive effect on the standards should not be so resilient as readily to permit inadvertent outward pivotal movement to an extent sufficient to release the slide member during adjustment. The well-known chalk lines conventionally used as guides in building construction, cords, and the like are excellently suited to the purpose.

Operation

In utilizing the masonry guides of the present invention, a first course of the wall 10 is laid with the mounting bolts 22 embedded at the positions desired. The brackets 16 are fitted to the outside corners 11 of the first course in rested position on a foundation, the ground, or other support and the nuts 23 employed dependably to secure the brackets in substantially horizontal position. Although any number of mounting bolts 22 may be employed, a single bolt for each bracket is adequate and makes initial plumbing of the guides during installation somewhat easier. Similarly the brackets 16 are fitted to, and mounted on, outside corners inwardly disposed to the first course, as indicated at 11*a* in Fig. 1. It will be noted that for descriptive convenience, the corners 11 and 11*a* embraceable between the brackets 16 are identified as outside corners whether disposed within or without the wall. In usual building construction, these so-called outside corners are defined by the intersection of wall surfaces in 90° angular relation measured within the wall. The outside corners 12 are defined by the intersection of wall surfaces in 270° angular relation measured within the wall.

During positioning of the guides 13, the standards 25 need not be removed from their respective brackets 16 but are preferably held in assembled, substantially parallel relation with the slide members 34 held between the pairs of standards by the straps 46 in circumscribing relation to the upper ends of the standards. With the slide member 34 slidably engaged in the juxtapositioned guideways 28 of the pairs of standards 25, a level is employed to position the standards in vertical attitude and the nuts 27 are tightened. The guide line 44 is conveniently tensioned about the building being constructed in looping relation to the pair of standards of each of the guides 13. At the outside corners 11, as shown in Fig. 4, the guide line is fitted in the notches 45 as desired and tensioned along the outer surfaces of the wall in vertical alignment with the outer surface of the first course. To provide guide lines at the inside corners 12, where desired, the guide line looped about the standards, at the outside corner 11*a* inwardly disposed to the wall, is located between selected serrations 43 so that the line is tensioned along the outside surfaces of the wall intersecting in the inside corner 12. The plurality of serrations readily accommodate building

bricks and blocks of various widths. It will be apparent that the arm extensions need only be employed at the inwardly disposed outside corner 11a, as shown in Fig. 1.

It is the usual practice in employing the guide of the present invention periodically to move the slide members 34 upwardly as successive courses are laid. A slide member is conveniently released for slidable elevational positioning by pivoting either of the standards in which it is mounted slightly outwardly of the wall against the resilience of the line 44 and/or the strap 46. When the slide member is in the desired readjusted position, the standard is permitted to pivot inwardly under the resilient urging of the line and/or strap to clamp the slide member frictionally between the standards. The guide arms 36 embrace the outside corners of the wall in their various elevational positions, the ends 42 with the guide arms 36 assist in positioning the corner bricks or the like in proper wall alignment, and the guide line provides a convenient reference always available in close proximity to the working area.

It will be observed that the slide member 34 precludes pivotal movement of the standards 25 toward the wall 10 beyond parallel relation and that the tensioning of the guide line 44 in looped relation about the standards precludes outward pivotal movement of the standards from the wall. This relationship dependably maintains the standards in vertical positions and only infrequently require checking with a level or plumb, such as at the beginning of each work day to eliminate any forcible displacement of the standards from erect position incident to the inadvertent striking thereof.

In actual practice, the employment of the masonry guide of the present invention has greatly improved the precision of the work accomplished by both novice and expert masons. In actual tests, the subject masonry guides have in many instances tripled the number of bricks layed by a bricklayer within a given period without increased effort. The increased speed and precision attained has resulted in a substantial reduction of the labor costs incident to the construction of walls of masonry.

Although I have herein shown and described my invention in what I have conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of my invention, which is not to be limited to the details disclosed herein, but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatus.

Having described my invention, what I claim as new and desire to secure by Letters Patent is,

1. In a masonry guide, the combination of a pair of elongated standards, means adapted pivotally to mount the standards in substantially upright positions at a corner of a wall individually in substantial alignment with intersecting surfaces of the wall for pivotal movement in the planes of their respective wall surfaces, means fitted to the corner of the wall and slidably mounted between the standards, said means limiting inward pivotal movement of the standards to substantially parallel relation, and resilient means in circumscribing relation to the standards resisting pivotal movement of the standards outwardly of the wall from substantially parallel relation.

2. A masonry guide comprising a pair of standards having guideways formed in substantially erect positions therein in spaced facing relation, means adapted pivotally to mount the standards at a corner of a wall individually in substantial alignment with intersecting surfaces of the wall for pivotal movement in the planes of their respective wall surfaces, a slide member having ends slidably engaged in the guideways of a length substantially equal to the spacing of the guideways at the positions of pivotal mounting of their respective standards, and resilient means urging the standards pivotally against the slide member.

3. In a masonry guide, the combination of a pair of elongated standards, means adapted pivotally to mount the standards in substantially upright positions at a corner of a wall individually in substantial alignment with intersecting surfaces of the wall for pivotal movement in the planes of their respective wall surfaces, a guide line looped about the standards and tensioned along the surfaces of the wall, a slide member mounted for vertical movement on the standards limiting pivotal movement of the standards toward one another to substantially parallel relation, and angularly related arms borne by the slide member adapted for fitted engagement with the corner of the wall.

4. In a masonry guide, the combination of a pair of substantially horizontal brackets rigidly interconnected in crossed substantially right angular relation each having a mounting leg portion and a standard supporting portion, means adapted to secure the mounting leg portions to the corner of a brick wall, a pair of standards individually pivotally mounted on the post supporting portions of the brackets and upwardly extended therefrom in substantially parallel relation, said standards having juxtapositioned guide ways formed longitudinally therein, and a vertically movable slide member having opposite end portions slideably mounted in the juxtapositioned guide ways.

5. In a masonry guide, the combination of a pair of substantially straight brackets rigidly interconnected in crossed substantially right angular relation each having a mounting leg portion and a standard supporting portion, means mounting the brackets in substantially horizontal position with the mounting leg portions in fitted engagement with a corner of a wall, a pair of standards individually pivotally mounted on the supporting portions of the brackets and upwardly extended therefrom in substantially parallel relation, said standards having elongated juxtapositioned guide ways formed longitudinally therein, a substantially rigid slide member of predetermined length mounted in the guide ways and limiting approach of the standards to the length of said slide member, and a guide line looped about the standards in resisting relation to separation thereof and tensioned along the wall.

6. A guide for masonry comprising a pair of standards having elongated guide ways formed longitudinally thereof, means individually mounting the standards at a corner of a wall in spaced relation to opposite intersecting surfaces thereof for pivotal movement about axes substantially parallel to their respectively adjacent wall surfaces with their guide ways in juxtaposition, a substantially rigid member slideably mounted in the juxtapositioned guide ways in fixed angular relation to the standards, means resiliently constricting the standards against the slide member,

and a pair of right angularly related guide arms borne by the slide member individually in substantially parallel relation to the pivotal axes of the posts adapted for fitted engagement with the corner of the wall.

7. In a masonry guide, the combination of a pair of elongated brackets rigidly interconnected in crossed substantially right angular relation each having a mounting leg portion and a standard supporting portion, means mounting the brackets in substantially horizontal position with the leg portions thereof in fitted engagement with a corner of a wall, a standard pivotally mounted on each of the supporting portions of the brackets in substantially horizontal alignment with the wall to which its respective bracket is fitted for pivotal movement about an axis substantially normal to said wall, the pair of standards providing elongated juxtapositioned guide ways therein, an elongated slide slideably fitted to each guide way, a strut interconnecting the slides in fixed spaced relation and limiting pivotal movement of the standards toward one another to substantially parallel relation, a pair of elongated guide arms rigidly interconnected in crossed substantially right angular relation rigidly mounted in substantially horizontal position on the slides in substantially vertical alignment with the crossed brackets, and a guide line tensioned in looped relation about the standards.

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No references cited.