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(54) Adjustable length stay for the building industry.

(57) The present invention relates to an adjustable length stay (1) for the building industry comprising an outer tubular element (2) and an inner tubular element (3) which are connected to respective supporting bases and are telescopically associated with one another.

A threaded sleeve (12) is moreover provided which can be engaged with an outer threaded portion (10) of the outer tubular element (2) and can be abutted against a pin element (20) which can be in turn engaged in holes of the inner tubular element (3), the outer threaded portion (10), according to a main feature of the invention, being made in a single piece with the outer tubular element, by means of a rolling operation.

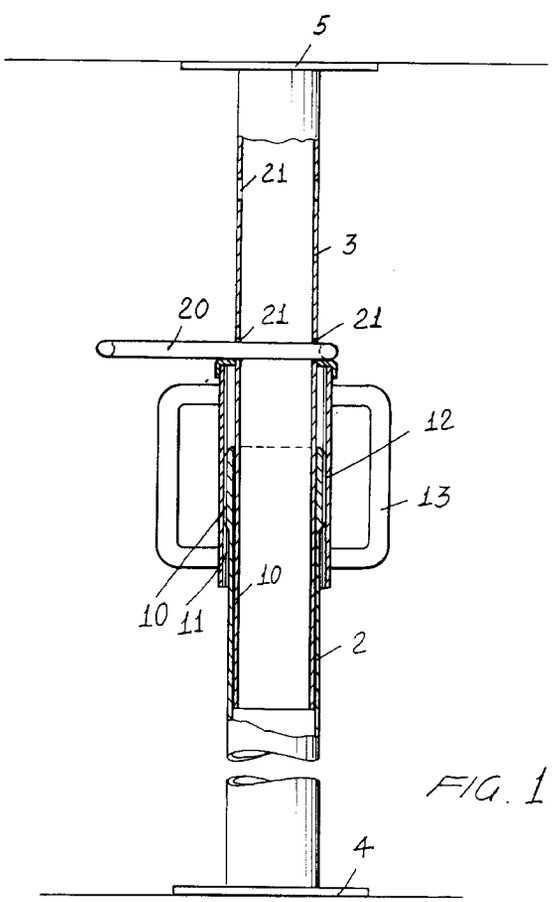

FIG. 1

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BACKGROUND OF THE INVENTION

The present invention relates to an adjustable length stay for the building industry.

As is known these stays are usually used for supporting the temporary forms provided for receiving the reinforced concrete castings and are conventionally formed by two iron pipes which are telescopically coupled to one another and which, at their free end portions are provided with welded supporting bases.

These telescopic pipes can be adjusted in height, and this heigth adjustment is usually obtained by providing the pipes with a plurality of holes and an engaging pin and, in order to achieve a fine adjustment, there is provided a threaded sleeve element which is threaded on the threaded end portion of the bottom pipe so as to affect the pin engaged in a given hole, to provide the fine adjustment, at the stay height, in order to hold in a accurate horizontal position the casting mold.

At present, the above mentioned stays are made by separately making the threaded portion, which, as stated, forms the end part of the outer pipe, and then by welding this threaded portion to the pipe.

A separate adjustment of the threaded portion causes great problems, since the welding operation must be manually performed and, accordingly, it is necessary to carry out an additional working step which negatively affects the cost of the end product.

Another drawback, moreover, is that the weldment regions can originate stresses or modifications of the mechanical characteristics of the pipe which would be susceptible to cause in turn possible breakages.

SUMMARY OF THE INVENTION

Accordingly, the aim of the present invention is to overcome the above mentioned drawbacks, by greatly reducing the making cost of the threaded pipe portion, while eliminating the cost of welding the threaded portion on the outer pipe of the stay.

Within the scope of the above mentioned aim, a main object of the present invention is to provide a new type of stay for the building industry, which can be made by a very reduced number of making steps.

Another object of the present invention is to provide an automatized method of very high yield for making the above mentioned stays.

Yet another object of the present invention is to provide such a stay which can be easily and quickly constructed starting from easily available elements and materials and which, moreover, is very competitive from a mere economic standpoint.

According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by an adjustable length stay for use in the building industry, comprising an outer tubular element and an inner tubular element, said tubular elements being respectively coupled to supporting bases and being telescopically associated with one another, a threaded sleeve being moreover provided which can be screw engaged with an outer threaded portion of said outer tubular element and which can be abutted against a pin element which can be in turn engaged in holes provided through said inner tubular element, characterized in that said outer threaded portion is made as a single piece with said outer tubular elements.

BRIEF DESCRIPTION OF THE DRAWINGS

Futher characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment thereof, which is illustrated, by way of an indicative, but not limitative, example in the accompanying drawings, where:

Figure 1 is a schematic cross-section view illustrating the stay according to the present invention;

Figure 2 is an elevation view illustrating the outer tubular element of the stay according to the present invention;

and

Figure 3 is a further elevation view, as partially cross-sectioned, illustrating the sleeve element included in the stay according to the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the figures of the accompanying drawings, the adjustable length stay for use in the building field according to the invention, which has been generally indicated at the reference number 1, comprises an outer tubular element 2 and an inner tubular element 3 which, at the free end portions thereof, are connected, usually by means of welding, to supporting bases, respectively indicated at 4 and 5.

As shown, the tubular elements 2 and 3 can be telescopically coupled to one another, so as to provide the possibility of easily adjusting, depending on the contingent requirements, the height of the stay.

The tubular element 2 is provided, at its coupling end, with an outer threaded portion, indicated at the reference number 10, which engages with an inner thread 11 of a sleeve element 12 which is provided, on its outer surface, with engaging lugs 13 and which abuts, at one axial end portion thereof, against a pin 20, which, in turn, can be engaged in holes 21 which are formed through the inner tubular element, so as

to provide a first coarse adjustment of the length of the stay.

The fine adjustment of said length can be performed by means of the sleeve element which, as stated, is provided with a threaded coupling portion.

Between the pin 20 and the end of the sleeve element there is arranged and abutment element, indicated at 22.

The main feature of the invention is that the threaded portion 10 is made in a single piece with the outer tubular element, that is said threaded portion 10 does not pertain to a piece which is separately made and must be successively welded to the stay.

In order to provide such an integral construction, the threaded portion 10 is made by a rolling machine, which will roll the outer surface of the outer tubular element so as to provide the thread therein.

This method is very important, since it allows to automatize the making line and, moreover, by eliminating the separate element to be welded, provides the stay with a greater mechanical strength.

Moreover, this method allows to automatize all of the making steps, thereby greatly reducing the making cost of the stay.

From the above disclosure it should be apparent that the invention fully achieves the intended aim and objects.

In particular, the fact is to be pointed out that a stay has been provided which, in addition to having improved mechanical characteristics, has a very competitive cost with respect to the prior art like products.

While the invention has been disclosed and illustrated with reference to a preferred embodiment thereof, it should be apparent that this embodiment would be susceptible to several modifications and variations all of which will come within the spirit and scope of the appened claims.

Claims

1. An adjustable length stay for use in the building industry, comprising an outer tubular element and an inner tubular element, said tubular elements being respectively coupled to supporting bases and being telescopically associated with one another, a threaded sleeve being moreover provided which can be screw engaged with an outer threaded portion of said outer tubular element and which can be abutted against a pin element which can be in turn engaged in holes provided through said inner tubular element, characterized in that said outer threaded portion is made as a single piece with said outer tubular elements.

2. A stay, according to Claim 1, characterized in that said outer threaded portion is made by a rolling process.

3. A stay, according to Claims 1 and 2, characterized in that said outer threaded portion is made by rolling on an automatized making line.

4. A method for making an adjustable length stay for use in the building field, according to the preceding claims, said method comprising the steps of providing an outer tubular element and an inner tubular element, telescopically coupling said outer and inner tubular elements, welding said outer and inner tubular elements to supporting bases, and providing a sleeve element including outer engaging lugs, characterized in that said method further comprises the step of providing, on a coupling end portion of said outer tubular element, an outer threaded portion, said outer threaded portion being made by a rolling step.

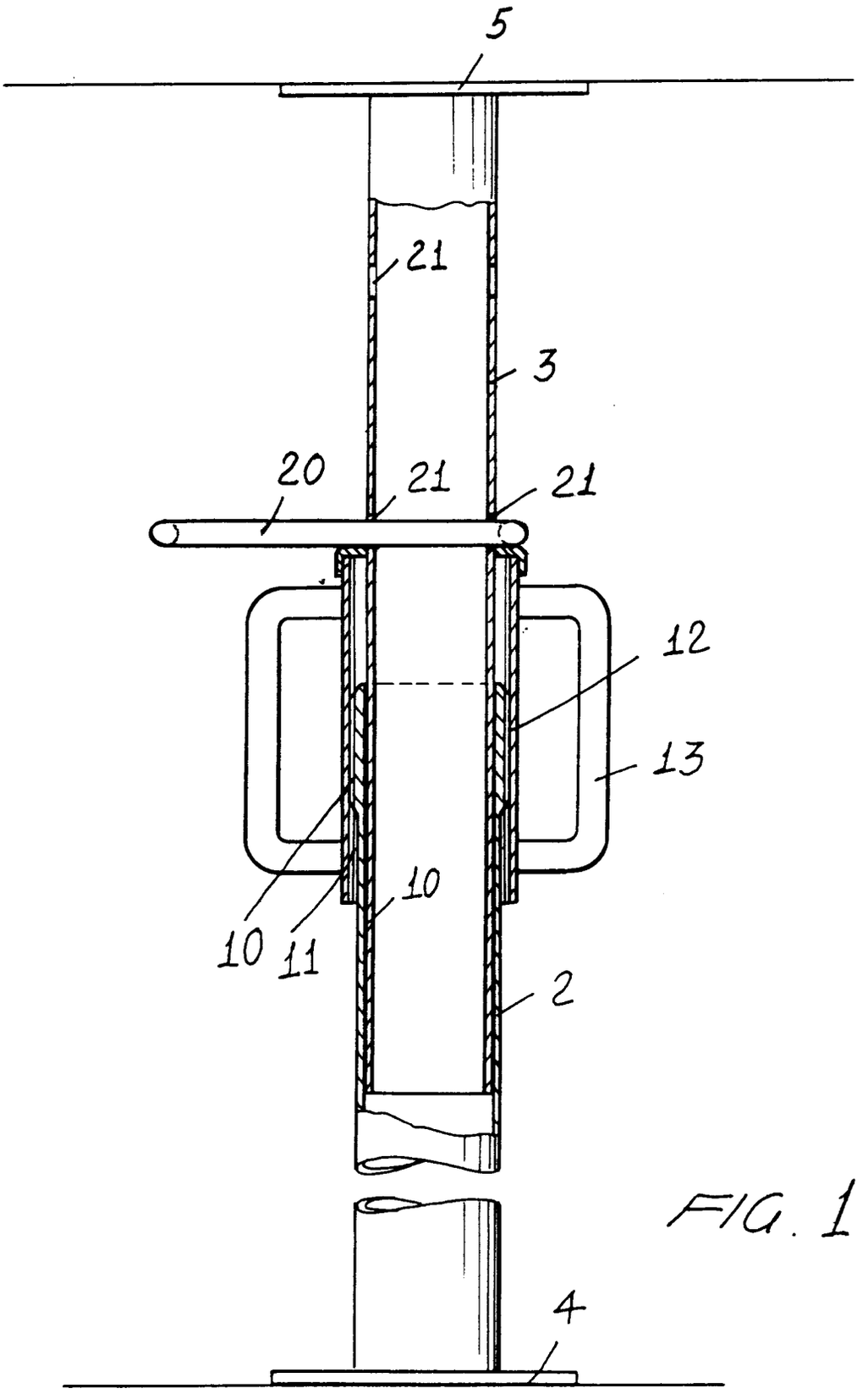

FIG. 1

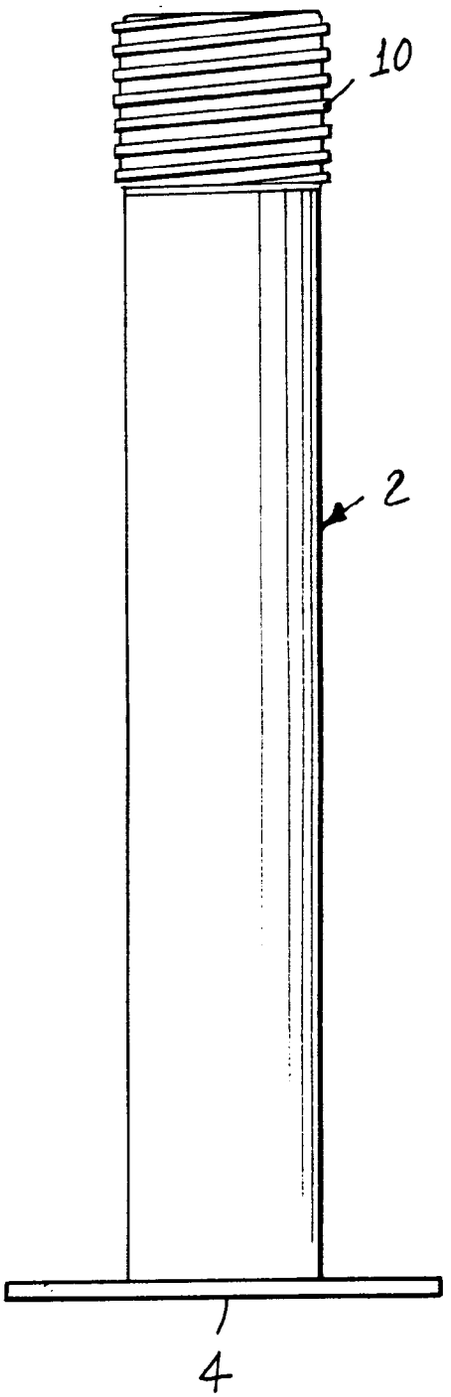

FIG. 2

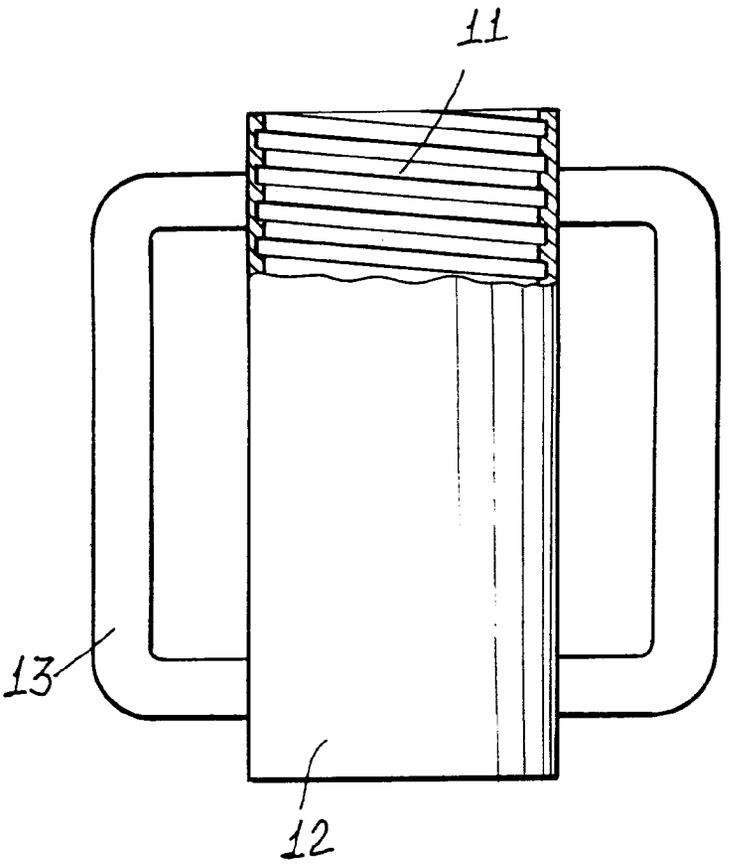

FIG. 3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 92 83 0108

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	DE-A-3 445 657 (FRIEDR. ISCHEBECK) * page 6 - page 7; figures *	1,2,4	E04G25/06
X	FR-A-1 310 595 (LILIENFIELD) * the whole document *	1	
X	FR-A-1 034 942 (LE MATÉRIEL D'ENTREPRISE & DE TRAVAUX PUBLICS) * the whole document *	1	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

E04G

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	09 FEBRUARY 1993	VIJVERMAN W.C.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
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T : theory or principle underlying the invention
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