May 21, 1957 O. M. McCURRY 2,793,065

HANDLING DEVICE FOR SHEET MATERIAL

Filed Aug. 20, 1954

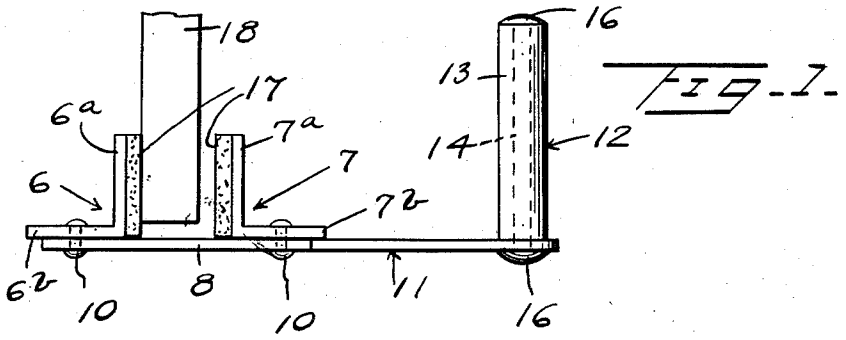


Fig. 1.

Fig. 2.

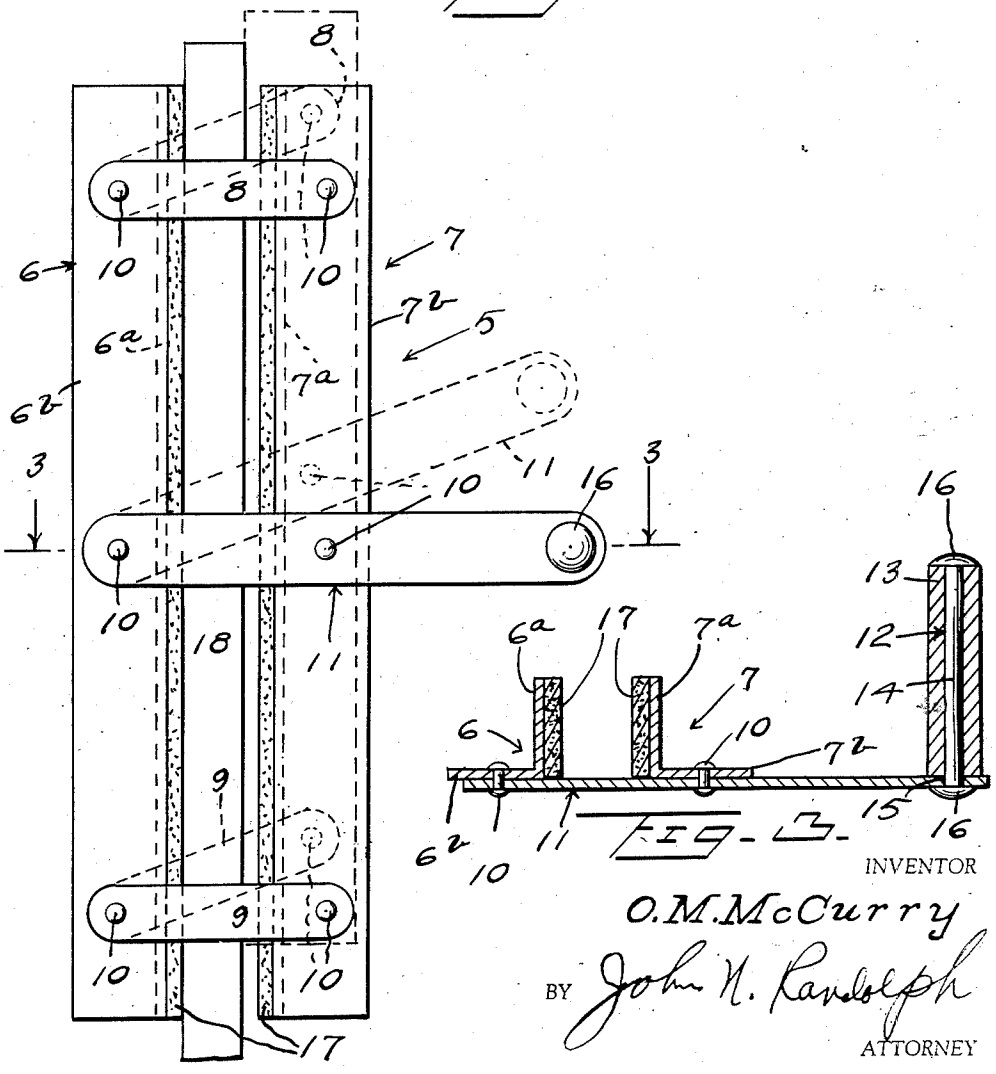


Fig. 3.

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United States Patent Office 2,793,065 Patented May 21, 1957

2,793,065

HANDLING DEVICE FOR SHEET MATERIAL

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Application August 20, 1954, Serial No. 451,247

1 Claim. (Cl. 294—16)

This invention relates to a novel device of extremely simple construction capable of being readily applied to sheet material, such as wallboard, glass, metal or the like, to provide a handle by means of which said material may be readily and conveniently carried and which is secured to the material by a lifting force applied to a handle part thereof.

More particularly, it is an aim of the present invention to provide a carrying or handling device including clamping jaws which are moved into clamping engagement with opposite sides of a piece of sheet-like material by a lifting force applied to the handle part and which will be effectively maintained in gripping engagement with the material by the weight thereof which is borne by the handle part while lifting and carrying the material.

Another object of the invention is to provide a device of the aforedescribed character of extremely simple construction which is capable of being quickly applied to or removed from a piece of sheet material, and which will be extremely efficient and durable for accomplishing its intended results.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is an end elevational view of the handling device shown in a released position relatively to a piece of material to be clamped thereby;

Figure 2 is a side elevational view thereof, and

Figure 3 is a cross sectional view of the device taken substantially along a plane as indicated by the line 3—3 of Figure 2.

The handling device in its entirety and comprising the invention is designated generally **5** and includes a pair of corresponding clamping members **6** and **7**. Said clamping members **6** and **7** each preferably comprise an elongated piece of angle iron or other similar element of angular cross section having complementary sides **6***a* and **7***a*, respectively, which are disposed in spaced apart substantially parallel relation to one another. The other sides **6***b* and **7***b* of the clamp members **6** and **7**, respectively, project outwardly from complementary longitudinal edges of the sides **6***a* and **7***a* in directions away from one another and are disposed substantially coplanar, as seen in Figures 1 and 3.

The members **6** and **7** are connected adjacent their ends by a pair of links **8** and **9**. Each of the links is pivotally connected adjacent one end thereof by a rivet or similar fastening **10** to the side **6***b* and by a similar fastening **10**, adjacent its opposite end, to the side **7***b*. The links **8** and **9** are disposed for swinging movement against outer faces of the sides **6***b* and **7***b* and which are located remote from the sides **6***a* and **7***a*.

A lever **11** has one end disposed transversely across the outer faces of the sides **6***b* and **7***b*, substantially midway between the links **8** and **9**, and is pivotally connected to said sides by additional rivets or similar fastenings **10** which are spaced apart a distance corresponding to

the spacing between the rivets or fastenings **10** of the links **8** and **9**. The other end portion of the lever **11** projects laterally a substantial distance from one of the sides **6***b* or **7***b*, said lever being shown projecting outwardly from the side **7***b* in the embodiment of the invention as illustrated. The overall length of the lever **11** is preferably about twice the length of the links **8** and **9** but may be of a greater length or a slightly lesser length, if desired. A handle **12** is connected to and projects laterally from one side of the lever **11**, adjacent its outer end, and preferably extends from the same side thereof which is disposed against the sides **6***b* and **7***b*, so that the handle **12** is disposed on the same side of the lever **11** as the clamping members **6** and **7**. The handle **12** may comprise a sleeve **13** which is turnably disposed on a rod or shaft **14** which extends through an opening **15** adjacent the outer end of the lever **11** and which has headed ends **16**, one of which is formed thereon after the rod or shaft has been passed through the sleeve **13** and lever **11**.

Elongated cushioning and gripping strips **17** are disposed against and secured to the inner faces of the jaw members **6***a* and **7***a* and preferably extend from end-to-end thereof and are of a width corresponding to the width of said jaw members.

Figures 1 and 2 show the clamping jaws **6***a* and **7***a* straddling a vertical edge of a portion of a sheet member **18** and with the links **8** and **9** and lever **11** disposed transversely of said jaw members **6** and **7**, so that the clamp members are spaced a maximum distance apart for loosely straddling a portion of the sheet member **18**. With the handling device **5** thus disposed, the handle **12** is gripped and an upward lifting force applied thereto. This will cause the lever **11** to swing upwardly about its pivot **10** which engages the side **6***b* as a fulcrum and which will cause the clamp member **7** to be displaced upwardly and inwardly toward the clamp member **6**. In a like manner, the links **8** and **9** will be swung upwardly relatively to the clamp member **6** so that the clamp member **7** will be swung upwardly and inwardly reatively to the clamp member **6** from end-to-end thereof to cause a portion of the sheet-like member **18** which is disposed between the jaws **6***a* and **7***a* to be gripped between the cushioning strips **17** thereof. The greater the lifting force thus applied to the handle **12**, the greater will be the gripping engagement of the jaws **6***a* and **7***a* with the sheet material **18**, so that the sheet material can be readily lifted with the handling device **5** by a lifting force applied to the handle **12**. The heavier the sheet material **18** is, the greater will be the gripping engagement of the cushioned jaw faces **17** therewith to effectively prevent slippage of the handling device **5** relatively to the material **18**. It will be obvious that a second handling device **5** may be similarly engaged with the other vertical edge of the sheet material **18** for handling and carrying large and heavy pieces.

For smaller and lighter pieces capable of being handled by one man, the sheet-like material **18** may be disposed at an incline and the jaws **6***a* and **7***a* applied to a side edge portion adjacent an upper end of the inclined sheet material and with the handle **12** disposed thereabove. A lifting action on the handle **12** will then maintain the jaw faces **17** in tight gripping engagement with the sheet material **18**, since the preponderance of the weight of the material **18** will be below the handling device **5**, and the material **18** may then be carried by one man utilizing a single handling device **5**.

Various modifications and changes are contemplated and may obviously be resorted to, without departing from the spirit or scope of the invention as hereinafter defined by the appended claim.

I claim as my invention:

A handling device of the character described comprising a pair of elongated angle iron clamp members having spaced apart substantially parallel sides defining clamping faces and other substantially coplanar sides extending from said parallel sides, link members, means pivotally connecting each of said link members to the coplanar sides of both clamp members remote from the clamping faces for supporting the clamp members relative to one another in spaced apart substantially parallel relation, said handling device including a link member disposed adjacent each end thereof and an intermediate link member disposed between and equally spaced from the first mentioned end link members, said intermediate link member having an extension at one end thereof forming a lever, said clamping faces being adapted to straddle a portion of a sheet-like member, and an elongated handle connected to and projecting perpendicularly from one side of the lever extension and

remote from the clamp members, said handle being disposed on the same side of the lever extension as the clamp members, said handle being adapted to be grasped for swinging said lever extension longitudinally of the clamp members and in an upward direction for swingably moving the clamp member located adjacent said handle longitudinally of and toward the other clamp member for moving the clamping faces into gripping engagement with opposite sides of the sheet-like member for gripping and lifting the sheet-like member.

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