United States Patent

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[54] **ADJUSTABLE HEIGHT DEVICE FOR DATA PROCESSING EQUIPMENT**
1 Claim, 3 Drawing Figs.

[52] **U.S. Cl.** **108/144**
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[50] **Field of Search** 108/150; 16/42

[56] **References Cited**

UNITED STATES PATENTS

603,474	5/1898	Sebold	108/148 X
2,378,852	6/1945	James	108/146 X
2,556,611	6/1951	Borgman	108/144 X
2,614,012	10/1952	Yhan	108/144
2,783,107	2/1957	Gacht	108/146 X
2,935,813	5/1960	Berman et al	108/144 X
3,006,706	10/1961	Park et al	108/146 X
3,183,861	5/1965	Halstriek	108/144
3,232,253	2/1966	Winters	108/144

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ABSTRACT: A card punch for a data processing machine is mounted on a table which is supported by four legs, each of which is rectangular in cross section. Each leg at its lower end extends slidably into the upper end of one of four, identical, tubular extensions, which also are rectangular in cross section. A disc-shaped foot or skid is removably mounted in the lower end of each extension. The extensions support the equipment at a height from which it can be operated readily by a person standing at the table; and when the extensions are removed by sliding them off from the lower ends of the table legs, the latter then support the table at a lower level, which is convenient for operating the equipment from a seated position.

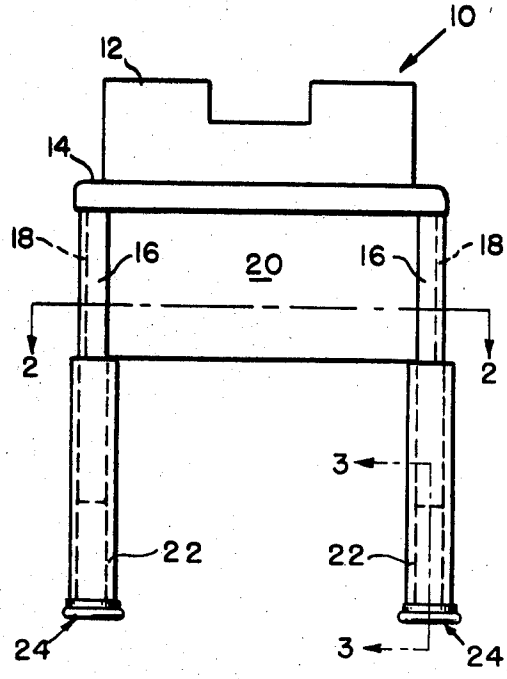
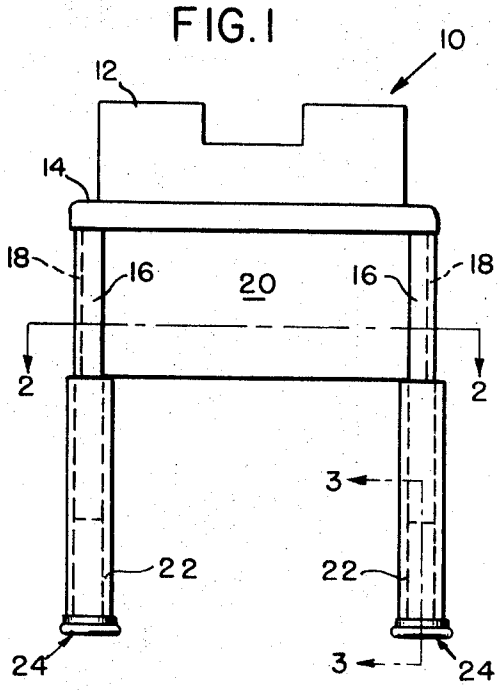


FIG. 1



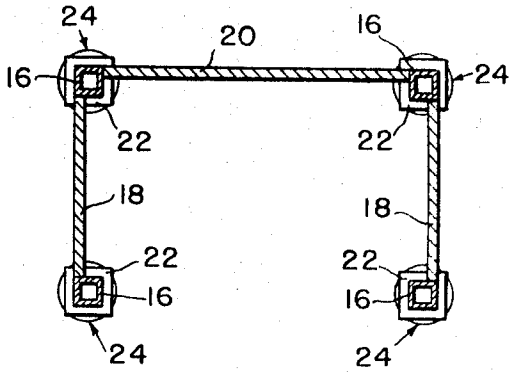


FIG. 2

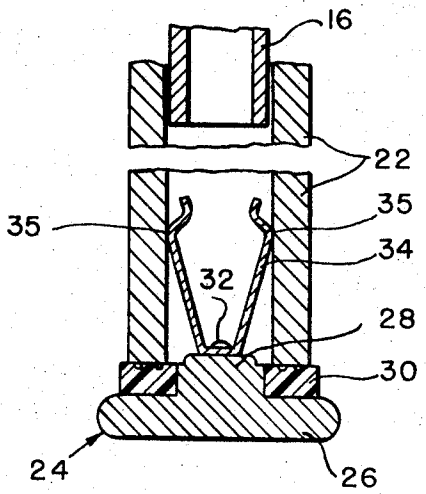


FIG. 3

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ADJUSTABLE HEIGHT DEVICE FOR DATA PROCESSING EQUIPMENT

This invention relates to data processing equipment, and more particularly to means for adjusting the height of a typical card punch or similar device.

A typical card punch, or similar data processing machine, comprises a functional item of equipment, such as a punch/keyboard, mounted on a table supported by four legs each of which is rectangular in cross section. This table supports the card punch device in a convenient position, for example, waist high, so that an operator may remain seated while operating its keys.

However, by its very nature, such a device is often used by more than one individual, and, depending upon the complexity of a task, for varying periods of time. Since an operator may be busy performing other tasks during intervals between the use of the device, it may be extremely tiresome or disadvantageous for the operator to sit down, or to bend down, to reach the keys.

It is an object of this invention, therefore, to obviate the need for an operator to bend down, or to seat himself each time the device is to be used. To this end it is an object of this invention to provide means for readily adjusting the height of the table to position the associated card punch or other data processing device, selectively at at least two different levels.

A more specific object of this invention is to provide, for a table or other support for a device of the type described, a plurality of detachable legs, which can be removably attached to the table, or other support, to elevate the keys of the device to a position where they can be manipulated comfortably by an operator while standing.

Other objects of the invention will become apparent hereinafter from the specification and from the recital of the appended claims, particularly in conjunction with the accompanying drawing.

In the drawing:

FIG. 1 is a front elevational view of a vertically adjustable card punch table made in accordance with one embodiment of this invention;

FIG. 2 is a sectional view taken along the line 2–2 in FIG. 1 looking in the direction of the arrows; and

FIG. 3 is an enlarged, fragmentary sectional view taken along the line 3–3 in FIG. 1 looking in the direction of the arrows.

Referring now to the drawing by numerals of reference, **10** denotes generally a data processing machine comprising a conventional card punch **12**, which is mounted in conventional manner on the upper surface of a rectangular, horizontally disposed plate or table top **14**. Table top **14** is secured on the upper ends of four, tubular, rectangularly spaced legs **16**. Each of the legs **16** is rectangular is cross section, and is fastened at its upper end to the underside of the top **14** adjacent one of its corners. Two spaced, parallel, rectangular frame members or sideplates **18** are fastened beneath top **14** to the confronting faces of legs **16** at opposite sides, respectively, of the table. A similar plate or frame member **20** is fastened beneath the rear edge of top **14** between the confronting faces of the two legs **16** at the rear of the machine, and at right angles to the plates **18**.

As shown more clearly in FIG. **1**, the lower ends of legs **16** project equal distances below the coplanar lower edges of members **18** and **20**. These downwardly projecting portions of the legs **16** are slidably housable in the upper ends of four identical, tubular extensions **22**. These extensions **22**, which also are rectangular in cross section, are longer than the portions of the legs **16** that project beneath the plates **18** and **22**; and they have their upper ends engaged with the lower edges of the plates **18** and **20**.

Removably mounted in the lower end of each tubular extension **22** is a foot or skid **24**, which is made of a rigid metal or plastic. Each foot **24** comprises a disc-shaped head portion **26**, which overlies the lower end of each extension **22**, and a reduced diameter shank portion **28**, which projects into the lower end of the associated extension. The shank portion **28** of each foot **24** is surrounded by a resilient, annular washer or ring **30**, which may be made of rubber, or the like, and which is interposed between the lower end of the associated extension **22** and the head portion **26** of the shoe.

Secured by a rivet **32**, or the like, to the top of the shank **28** of each shoe **24** to project vertically upwardly therefrom into the lower end of the associated extension **22** is a generally V-shaped spring clamp **34**. Each clamp **34** is made of spring steel, and has the upper ends of its two legs resiliently engaged as at **35** with opposite sides of the bore of the associated extension **22** frictionally to retain the associated shoe **24** therein.

The height or length of the tubular extensions **22** is selected so that, when the extensions are used as illustrated in FIG. **1**, the card punch **12** will be supported at a convenient level for operation by a person while standing. The extensions **22** may be removed merely by sliding them off of the lower ends of the legs **16** to permit the card punch **12** to be lowered to a level at which it can be operated conveniently by a person while seated. The feet **24** can then be removed from the extensions **22**, and their spring clamps **34** can be inserted into the lower ends of the legs **16** to provide skids or feet therefore, when the card punch **10** is in its lowered position. Moreover, if desired the feet **24** can also be removed at any time to effect at least a slight lowering of the card punch from either of its two above-described positions.

From the foregoing it will be apparent that applicant has developed a relatively simple and inexpensive means for adjusting the operating height of a card punch of the type described.

I claim:

1. An adjustable height device for data processing equipment, comprising

a table for supporting thereon the equipment,

said table having a top, a first set of spaced, parallel legs fastened to said top and projecting downwardly therefrom, and a second set of legs telescopically engageable with the lower ends of said first set of legs to project equidistantly below said lower ends,

said second set of legs being removable from said first set of legs to lower the height of said table,

each of said second set of legs having an opening in its lower end,

and a foot for each of said second set of legs,

and a spring clip secured to each foot for removably securing each foot to one of said second set of legs,

each spring clip having spaced, divergent, resilient arms insertable frictionally into the opening in one of said second set of legs releasably to secure a foot thereon,

a plurality of rigid members extending transversely between said first set of legs below said top to secure said first set of legs in spaced, parallel relation,

said members having coplanar lower edges spaced above the lower ends of said first set of legs,

each of said second set of legs having a central bore extending downwardly from the upper end thereof,

said lower ends of said first set of legs being slidably disposed in the bores in said upper ends of said second set of legs so that the lower edges of said members rest on the upper ends of said second set of legs and thereby determine the height of said table top,

each of said first set of legs also having an opening in its lower end, and

each of said feet for said second set of legs being releasably fastenable to one of said first set of legs by inserting its spring clip into the opening in one of said first set of legs after the second set of legs has been removed from said first set.