Nov. 24, 1953

K. HÁJEK

2,660,617

TELEPRINTING DEVICE

Filed July 25, 1950

2 Sheets-Sheet 1

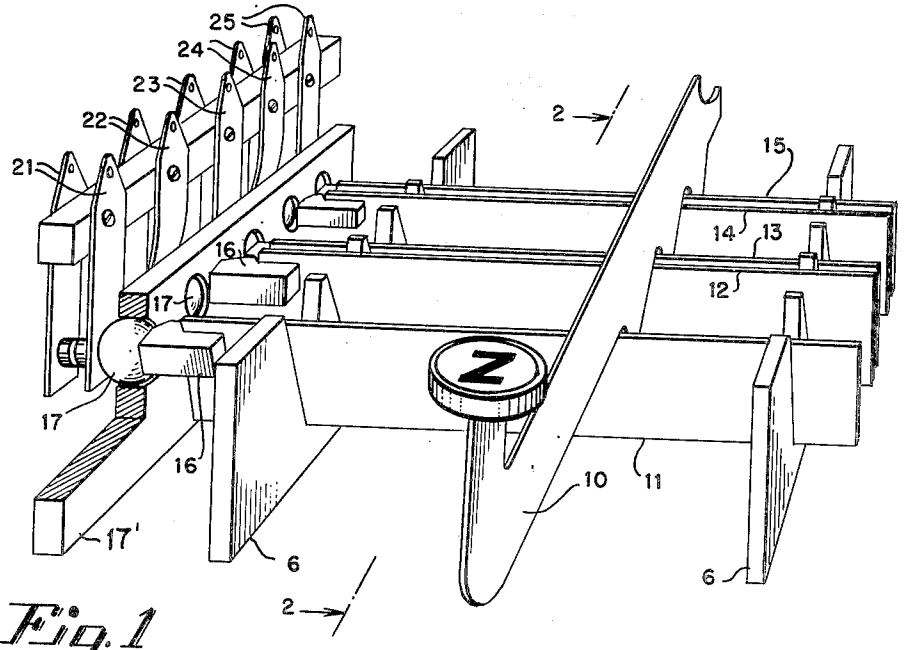
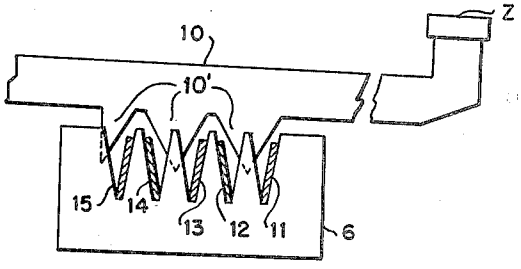


Fig. 1

Fig. 2



INVENTOR.

BY Karel Hájek

ATTORNEY

Nov. 24, 1953

K. HÁJEK

2,660,617

TELEPRINTING DEVICE

Filed July 25, 1950

2 Sheets-Sheet 2

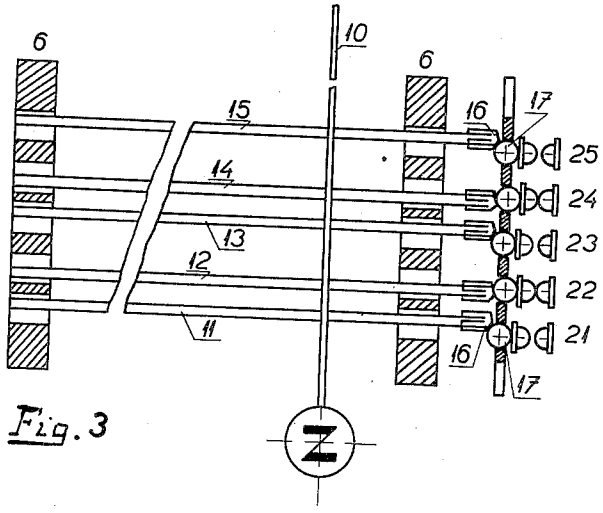


Fig. 3

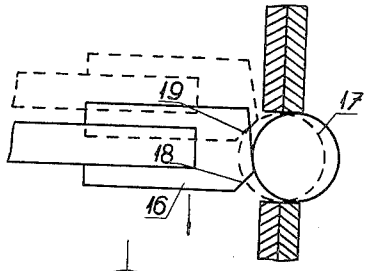


Fig. 4

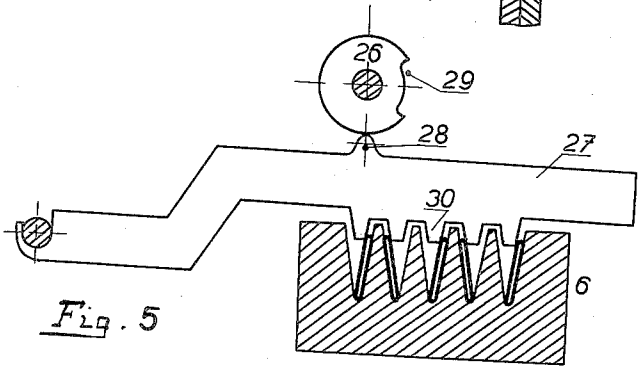


Fig. 5

INVENTOR

Karel Hájek

BY

ATTORNEY

Patented Nov. 24, 1953

2,660,617

UNITED STATES PATENT OFFICE

2,660,617

TELEPRINTING DEVICE

Karel Hájek, Prague, Czechoslovakia, assignor of one-half to Tesla, national corporation, Prague, Czechoslovakia, a corporation of Czechoslovakia

Application July 25, 1950, Serial No. 175,781

Claims priority, application Czechoslovakia August 17, 1949

7 Claims. (Cl. 178—17)

1

My invention relates to a teleprinting device which transforms the characters of the transmitted intelligence into a code comprising combinations of consecutive positive, negative or combined impulses.

An object of the invention is to provide an improved teleprinting device of the type mentioned above. In accordance with the invention combination bars used in my device are not shifted longitudinally relative to the keylevers as is the case in prior art devices, but they are turned or tilted by a small angle about an axis parallel with their longitudinal axis. This turning or tilting movement is controlled by teeth provided on the keylevers, such teeth on each keylever being arranged in accordance with the code corresponding to the individual characters which are to be transmitted.

This and other objects, advantages and novel features of my invention will be apparent from the following description when read together with the accompanying drawings in which:

Fig. 1. shows a perspective view of my new teleprinting device,

Fig. 2 shows a sectional view along line 2—2 of Fig. 1,

Fig. 3 shows schematically a plan view of the contact mechanism of my new device,

Fig. 4 shows a plan view of an enlarged detail of the cantact mechanism of Fig. 3, and

Fig. 5 shows a side view of the locking device employed in the invention.

The embodiment of my new teleprinting device as illustrated in the drawing is by way of example adapted to transmit a five number code. It comprises a customary keyboard composed of a plurality of keylevers 10 which are swingable in a vertical plane. However, only one keylever 10 having a key marked Z is shown. Each keylever 10 is provided on its base edge with a particular combination of toothlike projections 10' and said combinations upon different keylevers differ from each other to make each correspond to a code indicative of the character served by the respective keylever.

The keylevers 10 cooperate with a plurality of combination bars which extend perpendicularly to and below of the set of keylevers 10. In the shown embodiment adapted to transmit a five number code five such combination bars 11, 12, 13, 14, 15 are used. However, it will be well understood that the number of said combination bars may be decreased or will have to be increased, respectively, if a code of less or of more numbers is to be transmitted.

2

Each combination bar 11 through 15 is tiltable or turnable about its lower edge or about an axis parallel thereto and is supported in a cradle or similar structure permitting said tilting or turning movement. In the shown embodiment each combination bar rests in an essentially V-shaped incision arranged in supports 6. The tilting movement of the bars is effected by the said toothlike projections 10' on the keylevers 10 as soon as one or the other keylever is pressed downward against the combination bars as illustrated in Figs. 1 and 2. As each keylever 10 is provided with a different combination of said toothlike projections 10' each keylever when pressed downward against the set of combination bars will tilt or turn the same in different combinations. In one of such combinations as illustrated in Fig. 2 the bars 11, 13, 15 are turned to incline to the right side and the bars 13, 14 to the left side. For reasons later described the shown position of the bars 11, 13, 15 is called the neutral position and the shown position of the bars 13, 14 the working position.

Each of the combination bars 11 through 15 actuates by means of a nose or similar member 16 and an intermediate pressure ball 17 caged in a stationary support 17' one of a set of resilient electric coding contacts 21 through 25 as apparent from Figs. 1 and 3.

When certain combination bars such as the bars 11, 13, 15 are in the neutral position defined above, then the respective contacts 21, 22, 23 will not be acted upon and will remain open. When, however, any of the combination bars is turned or tilted by the action of the projection 10' of any keylever 10 into the working position defined above then the nose 16 upon said bar, such as the bars 12, 14, will press upon the respective ball 17 and close the contacts 22, 24. As appearing from the enlarged showing in Fig. 4, but also from Figs. 1 and 3, each nose 16 is provided with two slanting faces namely with a face 18 which actuates the respective pressure ball 17 and effects the closing of the respective electric contact, and with a locking face 19 which in cooperation with the respective resilient electric contact holds the respective combination bar such as 12, 14 in their working positions. The neutral position of the nose 16 is shown in dotted lines in Fig. 4.

Fig. 5 illustrates the locking mechanism which temporarily holds the combination bars 11 through 15 in any position into which they have been adjusted by one of the actuated keylevers 10. Said locking mechanism comprises a locking lever 27

which is swingably mounted parallel to the key levers 10 and which is provided with a locking tooth for each combination bar. It is obvious from Fig. 5 that said locking teeth will hold the combination bars in their working or neutral position, respectively, to which they have been adjusted by a previously depressed keylever 10. Each keylever 10 when depressed to adjust the said combination bars actuates a driving motor (not shown in the drawing) which rotates a cam 26 provided with a recess 29. The locking lever is normally in a neutral position in which it does not cooperate with the combination bars. In such neutral position the projection 28 arranged upon the upper edge of the locking lever 27 engages the said recess 29 of the cam 26. However, as soon as one of the keylevers 10 is pressed downward against the combination bars and the driving motor mentioned above is set into operation rotating the cam 26, the projection 28 will be forced out of said recess 29 and will slide upon the circular surface of said cam thus pressing the locking lever 27 with its locking teeth against the combination bars so that they are held on their adjusted position until the projection 28 reenters the recess 29. The rotational speed and the circumferential shape of the cam 26 are so chosen that the locking lever 27 remains in its locking position shown in Fig. 5 during the time required for transmission of all code impulses.

While one specific embodiment of my invention has been shown and described in detail to illustrate the application of the principles of my invention, it will be well understood that the same may be otherwise embodied without departing from such principles.

What I claim as my invention is:

1. In a teleprinting device the combination comprising a keyboard serving to transmit distinct characters, a plurality of keylevers mounted in parallel, each keylever associated with one key of said board, a plurality of combination bars arranged perpendicularly to said keylevers, a support for said combination bars, said support having a plurality of essentially V-shaped incisions, each incision adapted to receive one of said combination bars and to permit the same to tilt therein about its longitudinal base edge from a neutral position into a working position, a combination of toothlike projections on each keylever, each of said combinations corresponding to a code indicative of the character served by the respective keylever, said projections adapted to tilt selected combination bars within the respective incision from their neutral position into their working position, a plurality of electric contact devices each indicative of the working position of one of said combination bars, and means associated with each combination bar to actuate the respective electric contact device.

2. In a teleprinting device the combination comprising a keyboard serving to transmit distinct characters, a plurality of keylevers mounted in parallel, each keylever associated with one key of said board, a plurality of combination bars arranged perpendicularly to said keylevers, cradles freely supporting said combination bars for a tilting movement therein about their longitudinal base edge from a neutral position into a working position, a combination of toothlike projections on each keylever, each of said combinations corresponding to a code indicative of the character served by the respective keylever, said projections arranged to effect the said tilting movement of selected combination bars, a plurality of electric contact devices each indicative of the working position of one of said combination bars, and means associated with each combination bar to actuate the respective electric contact device.

3. In a teleprinting device the combination comprising a keyboard serving to transmit distinct characters, a plurality of keylevers mounted in parallel, each keylever associated with one key of said board, a plurality of combination bars arranged perpendicularly to said keylevers, cradles freely supporting said combination bars for a tilting movement therein about their longitudinal base edge from a neutral position into a working position, a combination of toothlike projections on each keylever, each of said combinations corresponding to a code indicative of the character served by the respective keylever, said projections arranged to effect the said titlting movement of selected combination bars, a plurality of electric spring contacts each indicative of the working position of one of said combination bars, a nose at one end of each combination bar adapted to actuate the respective electric spring contact by closing the same while the combination bar tilts from its neutral position into its working position.

4. In a teleprinting device the combination comprising a keyboard serving to transmit distinct characters, a plurality of keylevers mounted in parallel, each keylever associated with one key of said board, a plurality of combination bars arranged perpendicularly to said keylevers, cradles freely supporting said combination bars for a tilting movement therein about their longitudinal base edge from a neutral position into a working position, a combination of toothlike projections on each keylever, each of said combinations corresponding to a code indicative of the character served by the respective keylever, said projections arranged to effect the said tilting movement of selected combination bars, a plurality of electric spring contacts each indicative of the working position of one of said combination bars, a nose at one end of each combination bar to actuate the respective electric contact while the combination bar tilts from its neutral position into its working position and a freely rotatable caged ball between the latter and the respective nose.

5. In a teleprinting device the combination comprising a keyboard serving to transmit distinct characters, a plurality of keylevers mounted in parallel, each keylever associated with one key of said board, a plurality of combination bars arranged perpendicularly to said keylevers, cradles freely supporting said combination bars for a tilting movement therein about their longitudinal base edge from a neutral position into a working position, a combination of toothlike projections on each keylever, each of said combinations corresponding to a code indicative of the character served by the respective keylever, said projections arranged to effect the said tilting movement of selected combination bars, a plurality of electric contact devices each indicative of the working position of one of said combination bars, means associated with each combination bar to actuate the respective electric contact device, a locking device to hold the combination bars in their adjusted neutral and working positions, respectively, and means actuating said locking device to operate simultaneously with the depression of a key of said key board.

6. In a teleprinting device the combination comprising a keyboard serving to transmit distinct characters, a plurality of keylevers mounted in parallel, each keylever associated with one key of said board, a plurality of combination bars arranged perpendicularly to said keylevers, cradles freely supporting said combination bars for a tilting movement therein about their longitudinal base edge from a neutral position into a working position, a combination of toothlike projections on each keylever, each of said combinations corresponding to a code indicative of the character served by the respective keylever, said projections arranged to effect the said titling movement of selected combination bars, a plurality of electric contact devices each indicative of the working position of one of said combination bars, means associated with each combination bar to actuate the respective electric contact device, a toothed locking lever to hold the combination bars in their adjusted neutral and working positions, respectively, and means for depressing said locking lever to bear with its teeth against the combination bars, said means operating simultaneously with the depression of a key of said keyboard.

7. In a teleprinting device the combination comprising a keyboard serving to transmit distinct characters, a plurality of keylevers mounted in parallel, each keylever associated with one key of said board, a plurality of combination bars arranged perpendicularly to said keylevers, cradles freely supporting said combination bars for a tilting movement therein about their longitudinal base edge from a neutral position into a working position, a combination of toothlike projections on each keylever, each of said combinations corresponding to a code indicative of the character served by the respective keylever, said projections arranged to effect the said tilting movement of selected combination bars, a plurality of electric contact devices each indicative of the working position of one of said combination bars, means associated with each combination bar to actuate the respective electric contact device, a toothed locking lever to hold the combination bars in their adjusted neutral and working positions, respectively, said locking lever being mounted in parallel to said keylevers, and means for depressing said locking lever to bear with its teeth against the combination bars, said means operating simultaneously with the depression of a key of said keyboard.

KAREL HÁJEK.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,121,873	Hebel et al.	June 28, 1938
2,126,846	Watanabe	Aug. 16, 1938
2,262,321	Gundlfinger et al.	Nov. 11, 1941

FOREIGN PATENTS

Number	Country	Date
815,132	France	Apr. 5, 1937