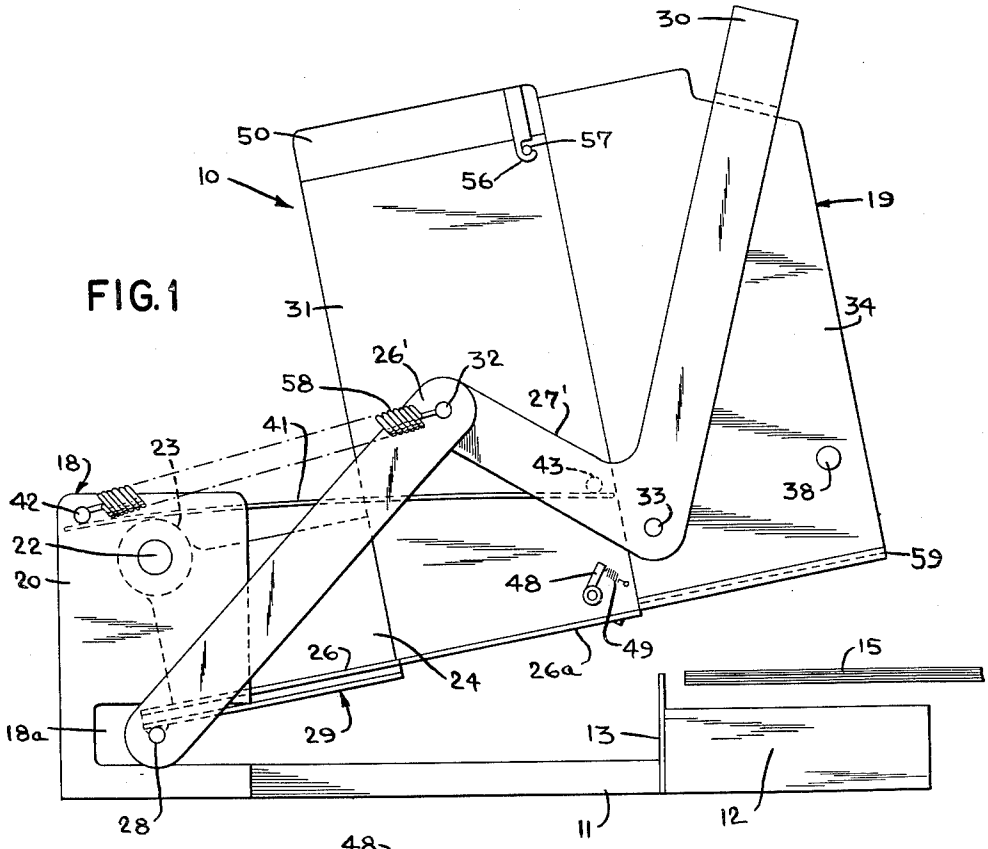
Feb. 6, 1962 F. L. GUARINO ETAL 3,019,519

CLIP DESIGN MECHANISM

Filed Jan. 22, 1959 3 Sheets-Sheet 1

FIG. 1



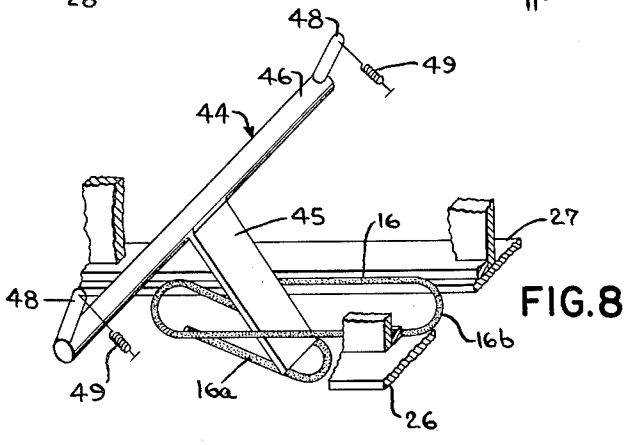


FIG. 8

INVENTORS
DANIEL VLAHOV
HENRY O. GERVAIS
FREDERICK L. GUARINO
BY Klein and Padlon
ATTORNEYS

Feb. 6, 1962 F. L. GUARINO ETAL 3,019,519

CLIP DESIGN MECHANISM

Filed Jan. 22, 1959 3 Sheets-Sheet 2

FIG. 7

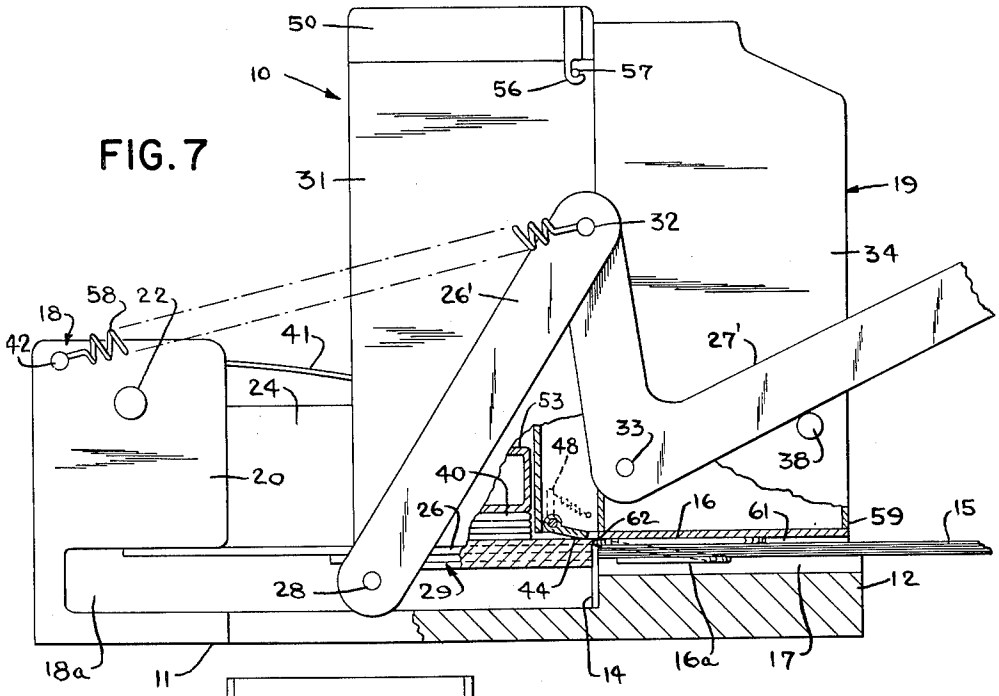
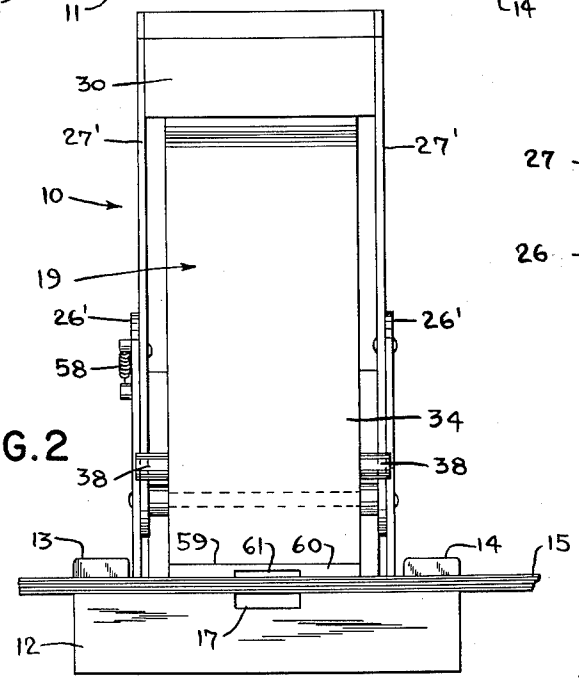


FIG. 2



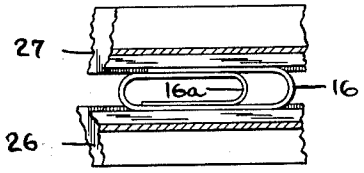


FIG. 6

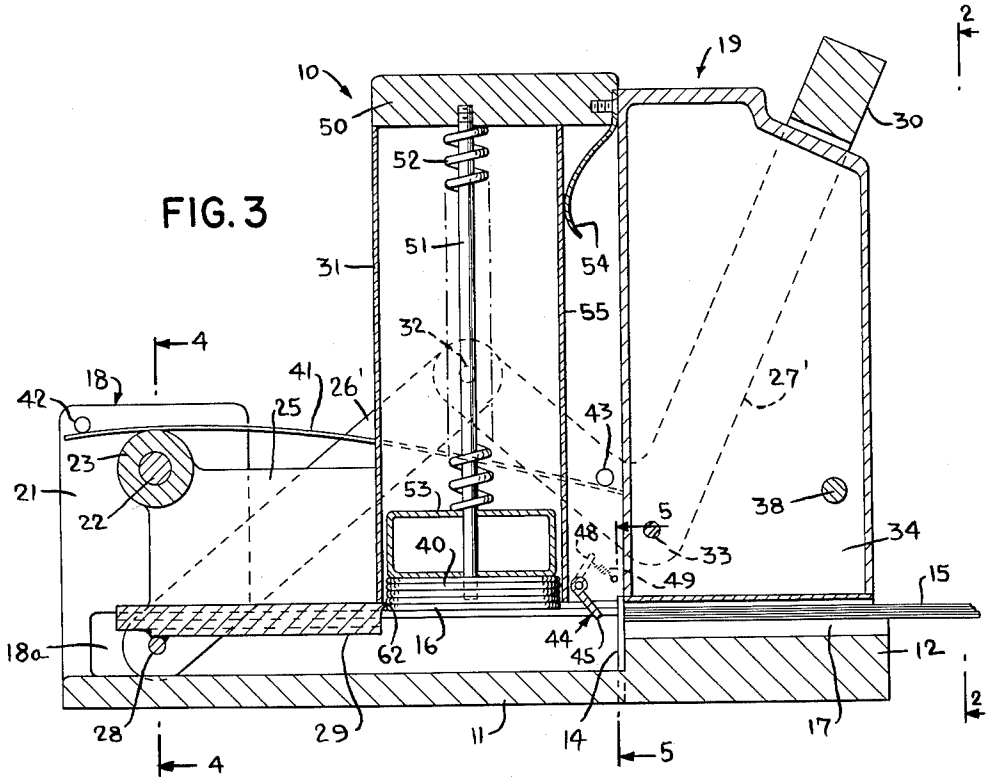
INVENTORS
DANIEL VLAHOV
HENRY O. GERVAIS
BY FREDERICK L. GUARINO
Klein and Padlon
ATTORNEYS

Feb. 6, 1962 F. L. GUARINO ETAL 3,019,519

CLIP DESIGN MECHANISM

Filed Jan. 22, 1959 3 Sheets-Sheet 3

FIG. 3



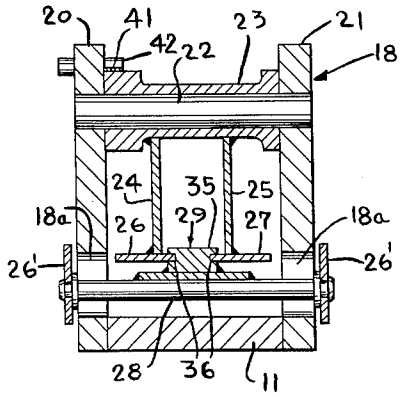


FIG. 4

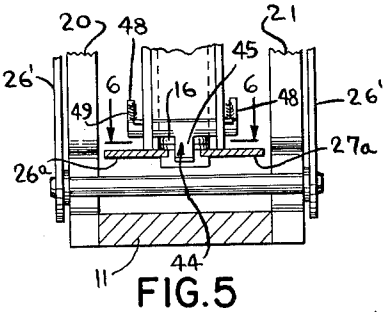


FIG. 5

INVENTORS
DANIEL VLAHOV
HENRY O. GERVAIS
BY FREDERICK L. GUARINO

Klein and Padlon

ATTORNEYS

United States Patent Office 3,019,519 Patented Feb. 6, 1962

3,019,519
CLIP DESIGN MECHANISM

Frederick L. Guarino, 260 Arlington St., Mineola, N.Y.; Henry Gervais, 85 Searington Road, Manhasset, N.Y.; and Daniel Vlahov, 256 Arlington St., Mineola, N.Y.

Filed Jan. 22, 1959, Ser. No. 788,346
2 Claims. (Cl. 29—212)

This invention relates to a paper clip applying machine. More particularly, it relates to an easily operable, portable wire clip dispensing device for attaching the same to batches or piles of paper which are to be held or clamped together.

Heretofore, when sheafs or piles of sheets of paper are to be filed in one folder or the like it was found necessary to clip the sheets either manually or by using a stapling device.

Also, mechanical means have been developed to utilize clips for attaching a pile of sheets together. However, it has been found that in many instances the clip was not properly spread with the result that the sheets of papers were not firmly held, thereby incurring extra effort to form a neat pile.

With the above in view, it is an object of this invention to provide a wire clip dispensing device for attaching sheafs or piles of sheets of paper together in one compact mass ready for filing and the like.

Another object of this invention is to provide novel combined cooperative means for dispensing wire clips to firmly hold together multiple layers of sheets of paper and the like.

Still another object of the invention is to provide a portable wire clip dispensing mechanism carrying a magazine for wire clips, and means for thrusting said wire clips toward a pile of sheets to attach the sheets together when the clip has been projected from the mechanism and partly opened to receive said sheets.

A more specific object of this invention is to provide a wire clip dispensing device which automatically evens a bundle or pile of sheets and after this pile of sheets is properly laid, clips the bundle or pile of sheets together.

A still more specific object of this invention is to provide a manually operable wire clip dispensing and paper file evening device having a base portion on which a part of said pile rests and is evened, and an upper spring tensioned portion pivoted to the base, said upper portion having clip dispensing and magazine means and actuating means therefor.

A more specific object of the present invention is to provide a wire clip dispensing mechanism containing a magazine for the wire clips arranged in a pile therein, a base member having a forwardly raised platform with a median recess or groove, and a rear portion to which is pivoted under spring tension a leverage member, a track member, and associated interconnected means for protruding a clip from the magazine onto the track toward the platforms, and means for depressing a portion of the wire clip to permit passing of the clip onto a pile of sheets to hold the same.

Other objects and features of the invention will become apparent from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a side view of a preferred embodiment of the invention.

FIG. 2 is a front end view of the embodiment shown on line 2—2 of FIG. 3.

FIG. 3 is a longitudinal sectional view of FIG. 1.

FIG. 4 is a section taken on line 4—4 of FIG. 3.

FIG. 5 is a section taken on line 5—5 of FIG. 3.

FIG. 6 is a fragmental section taken on line 6—6 of FIG. 5.

FIG. 7 is a longitudinal section of the embodiment in operating position, and

FIG. 8 is a perspective detail view showing a wire clip being opened as occurs in the mechanism as the clip is being thrust forward preparatory to clasping a sheaf of paper sheets or the like.

Referring now more specifically to the drawings and also to the following description, wherein like numbers refer to like parts throughout, it will be noted that the embodiment **10** comprises a lower member or base **11**. The forward portion of said base **11** is raised forming a platform **12** with a pair of spaced vertical stops **13** and **14** extending upwardly therefrom. The platform **12** is intended to accommodate a sheaf or pile **15** of sheets of paper to rest thereon when the mechanism is operated to project a wire clip **16** as will hereinafter be more fully described. Furthermore, the stops **13** and **14** act as a barrier so as to even the sheets in the sheaf or pile preparatory to clipping. It will be noted that the forward part of said base has a recess or groove **17** as shown in FIG. 2 of the drawings providing a space for the passage of the wire clip **16** and depressed part **16***a* of said wire clip **16** as it is thrust forward onto said platform **12**.

The rear portion of said base is provided with an upright **18** having a space **18***a*. A movable depressor unit **19** is pivotally mounted onto upright **18**. It is to be noted that said upright consists of a pair of upwardly extending spaced walls **20** and **21** through which extends a shaft **22** carrying the rear of the unit **19**.

Also, there is provided a bushing **23** for the shaft **22** forming part of unit **19** and which is adapted to rotate around shaft **22**. Extending downwardly from said bushing there are provided a pair of plate members **24** and **25** with plate members **26** and **27** disposed perpendicularly thereto. It will be noted that there is a pair of spaced pivotal linkage members **26'** and **27'** as shown in the drawings and which readily move with and form part of said upper section or depressor unit **19**. Linkage member **26'** is pivoted at one end to a cross shaft **28** and is adapted to operate a ramming device **29** which when the handle **30** of the linkage members **26'** and **27'** is operated and handle **30** thrust downwardly, said ramming device or member **29** is thrust forward on tracks **26** and **27** so as to push wire clip **16** from magazine **31** into position for clipping the piles of papers. It is to be noted that said link members **26'** are pivoted at one end to shaft **28** and to link members **27'** at pivots **32**. Also, said link members **27'** are substantially L shaped and pivoted at the bend **33** to forward part **34** of depressor unit **19**, so that when handle **30** is depressed the leverage action moves ramming device **29**, forwardly as shown in FIG. 7. Said ramming device is provided with an upper section **35** which has a slot **36** on each side adapted to be accommodated in tracks **26** and **27** respectively, so as to carry a wire clip **16** on the forward movement of the ramming device as the handle **30** is depressed. Furthermore, it is to be noted that cross shaft **28** carrying link **26'** moves readily and freely in space **18***a* to ride with the unit **29**. A stop member **38** is provided in the forward section **34** of depressor **19** to limit the downward movement of the linkage handle **30** and consequent thrust of the ramming device **29**. It will be also noted that the linkage members and ramming device are so coordinated that the ramming device readily picks up a wire clip **16** which is exposed from a pile **40** of clips set in magazine **31**.

As shown in FIG. 1, depressor unit **19** is spring actioned so that it normally is in slightly elevated position. It is held in such position by means of a spring plate **41** which is fixed at one end to a detent **42** on upright

18 and at its other end to a detent 43 and rests at one end thereof against bushing 23 as shown in FIG. 4. There must be less tension on spring 41 than spring 58 so that upper section 19 can readily come down to form a chain in platform base 12 prior to linkage member 27' coming down.

As shown, magazine 31 is mounted on or forms part of the upper portion of unit 19 holding a pile 40 of clips as shown and which are held together with any type of adhesive material. The bottommost clip 16 in the pile in the magazine is exposed so that the ram 29 can take up and forwardly push the exposed clip on rails 26 and 27 and as this clip is thrust forward, there is provided adjacent the magazine, depressing means 44 which tends to force downwardly the inner bend 16*a* of the clip 16 thereby providing a space between the forward bend 16*b* and the inner bend 16*a* of the clip so that it can readily be attached to the pile of papers. Depressing means 44 contains a finger or paddle 45 extending from shaft on cross bar 46 mounted in the forward part of magazine 31. The ends of the cross bar have extensions 48 for springs 49 to keep tongue 45 normally downward. Said magazine 31 is also provided with a cap or cover 50 to the inside of which is attached a rod 51 containing a spring 52 for pressing against bottom weight member 53 which weighs downwardly against the pile 40 of clips mounted in the magazine. The cap or cover 50 is provided with a spring plate member 54 which presses against the front wall 55 of magazine 31. To lift the cap or cover 50, it is pushed rearwardly to release the hook 56 from pin 57.

In order to keep the handle 30 in a normally raised position so that the ramming device will not be moved forwardly, a tension spring 58 is fixed at one end around pivot 32 and at the other end to detent 42, as shown. However, when the handle 30 is depressed the spring clip is thrust forward to the sheaf of paper sheets as shown in FIG. 7. Said spring 58 brings the handle and ramming device into normal position as shown in FIG. 1.

In addition, the upper or depressor unit 19 is provided with a forward portion or pad 59 having a space or recess 61 which is slightly higher than the bottom clip 16 exposed from the magazine 31. A spacer pad 60 is set above the platform 12 and when the depressor unit is fully brought down as shown in FIGS. 3 and 7, it holds the paper sheaf in a plane lower than the outer loop 16*b* of paper clip 16. Furthermore, spacer pad 60 holds the sheaf of paper sheets firmly compressed on the platform 12 so that the papers will not slide or slip when being clipped. It is to be noted that providing a recess 61 is to help guide clip 16 onto the sheaf of paper.

It is apparent from the foregoing description taken in conjunction with the accompanying drawings that we have provided a device which can be readily made of any suitable material such as of metal or of plastics and which can be used for the purpose of clipping a batch, pile or sheaf of papers, for example, carbon copies of top sheets of letters which are to be filed away with certain folders. Furthermore, the clips are readily provided as a pile held or bonded together by an adhesive and from which the lowest one exposed from the magazine is carried forward by means of the ram device which has a very fine shearing edge or surface 62 so as to separate the exposed clip from the rest of the pile in the magazine thereby facilitating separation and forward movement of the clip towards the forward portion of the pad 60. Furthermore, the leading edge 62 tends to guide and prohibit the rear loop of clip 16 from rising or cocking. It is to be further noted that the inner coil of the paper clip passes unobstructed through the recess, cutout or groove 17 of the base on its way to engaging the sheaf of papers. Furthermore, the paper stops 13 and 14 not only stop the paper to its proper plane for complete installation of the clip but also evens the paper edges thereby acting as edges to align the edges of the papers. The magazine shows clips which are stacked and held together as one pack to facilitate handling and loading of the clips.

Furthermore it is to be noted that the machine acts as storage for clips as shown in FIGS. 1, 3 and 7.

While a preferred embodiment of the invention has been described and illustrated, it is to be understood that various changes as to form, structure, use of materials may be made without departing from the spirit and scope of the invention as claimed.

We claim:

1. A device for attaching a clip to a pile of papers, comprising a base member having a raised, recessed forward platform, said platform having opposed tracks for holding and guiding said clip, a depressible upper member pivoted to the base member, spring tensioned means interconnecting the base and the upper member for normally keeping the forward end of the upper member normally raised from the base member, track guide means on said upper member, thrusting means movable along said track guide means, means for guiding a clip forwardly toward the platform, linkage means in connection with said thrusting means for actuating the same upon depression of the upper member, a housing in said upper member for accommodating a pile of wire clips therein, and means athwart the track guide means for depressing a portion of the clip as the same is being thrust to clip a pile of papers on said platform.

2. A portable device for dispensing and attaching a clip to a sheaf of papers, comprising a base having a raised, recessed forward platform with opposed tracks for accommodating the clip, said platform being adapted to hold the end of a pile of papers thereon, a tensioned upper member pivoted to the base, spring tensioned means for normally keeping the forward end of the upper member elevated with respect to the base member, track guide means on said upper member, thrusting means movable along said track guide means, associated linkage means in connection with said thrusting means for actuating the same forwardly on the track guide means, a housing in said upper member for accommodating a pile of wire clips therein, guide means for a clip removed from the housing by said thrusting means, a stop pad on the upper member adapted to rest on said platform when the upper member is depressed, and means for depressing the frontal portion of the clip as it is being thrust to clip a pile of papers.

References Cited in the file of this patent

UNITED STATES PATENTS

2,156,743	Skrebba	May 2, 1939
2,641,051	Vick	June 9, 1953
2,833,028	Treimann	May 6, 1958
2,835,027	Phillips	May 20, 1958