United States Patent [19]

Schaeffer

[11] **3,911,813**

[45] **Oct. 14, 1975**

[54] **REMOVABLE STAMP HOLDER FOR STAMPING MACHINE**

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[73] Assignee: **National Geographic Society,** Washington, D.C.

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[52] **U.S. Cl.** **101/43;** 101/4; 101/44; 101/390; 220/331; 403/353

[51] **Int. Cl.²** **B41F 17/00**

[58] **Field of Search** 101/44, 41, 193, 390, 42, 101/43, 4, 9–11; 403/353, 349; 292/302, 175; 220/339, 331, 326

[56] **References Cited**

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2,867,348	1/1959	Morrison	220/331
3,115,269	12/1963	Rasmussen	220/326
3,180,253	4/1965	Hildmann	101/41
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Primary Examiner—Clifford D. Crowder
Attorney, Agent, or Firm—Dos T. Hatfield

[57] **ABSTRACT**

A stamping machine has a frame including a bed along which articles to be stamped are intermittently advanced to be momentarily positioned at least one stamping station for stamping. A stamp assembly is positioned at each station and includes a stamp holder that is pivotally secured to the frame at one side of the bed to extend transversely above the bed and be movable to and from the bed to stamp articles that may be momentarily positioned on the bed at the stamping position. Each stamp holder has two spaced apart side members extending across the bed between which a stamp head is removably secured by L-shaped slotted pivot means.

2 Claims, 5 Drawing Figures

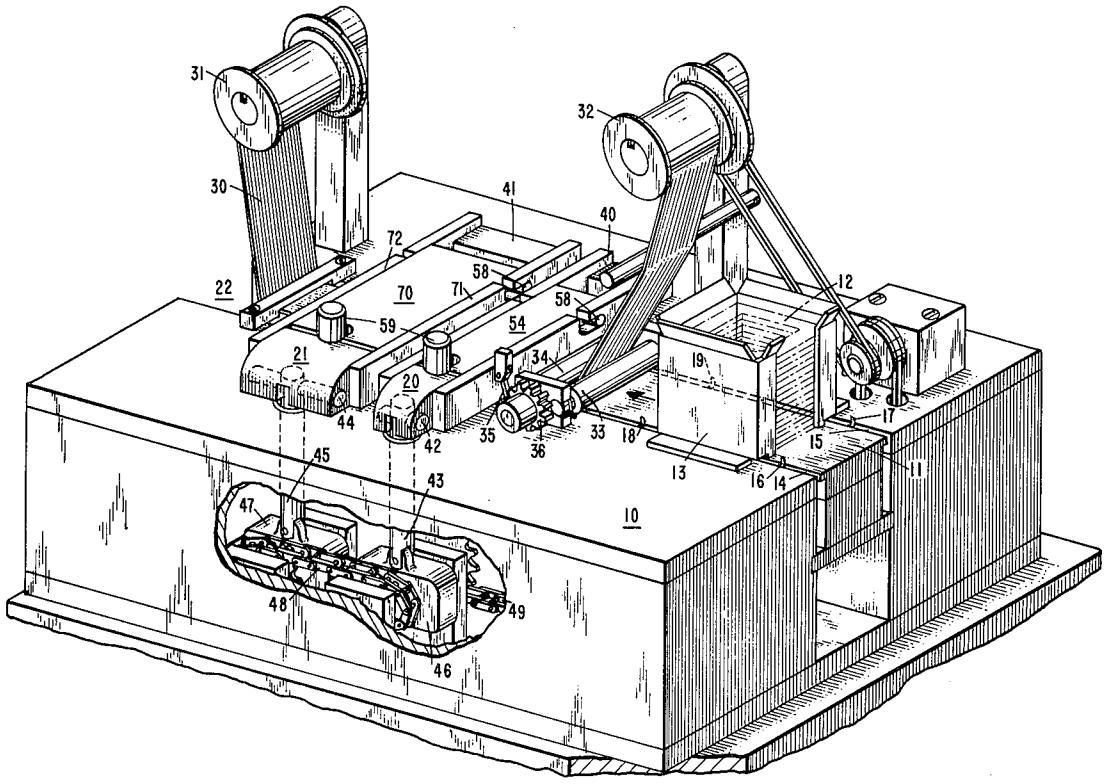


FIG. 1

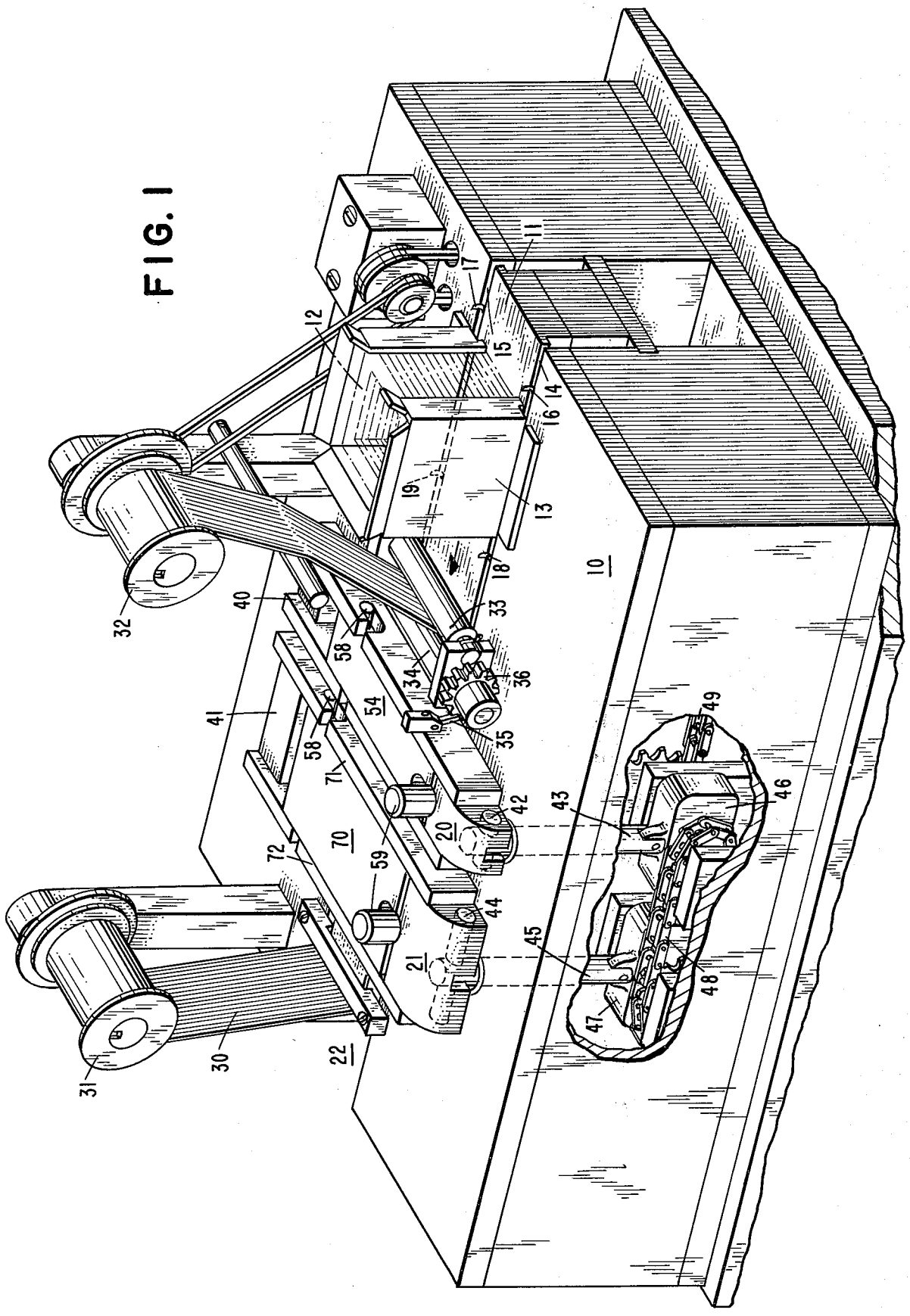

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FIG. 2

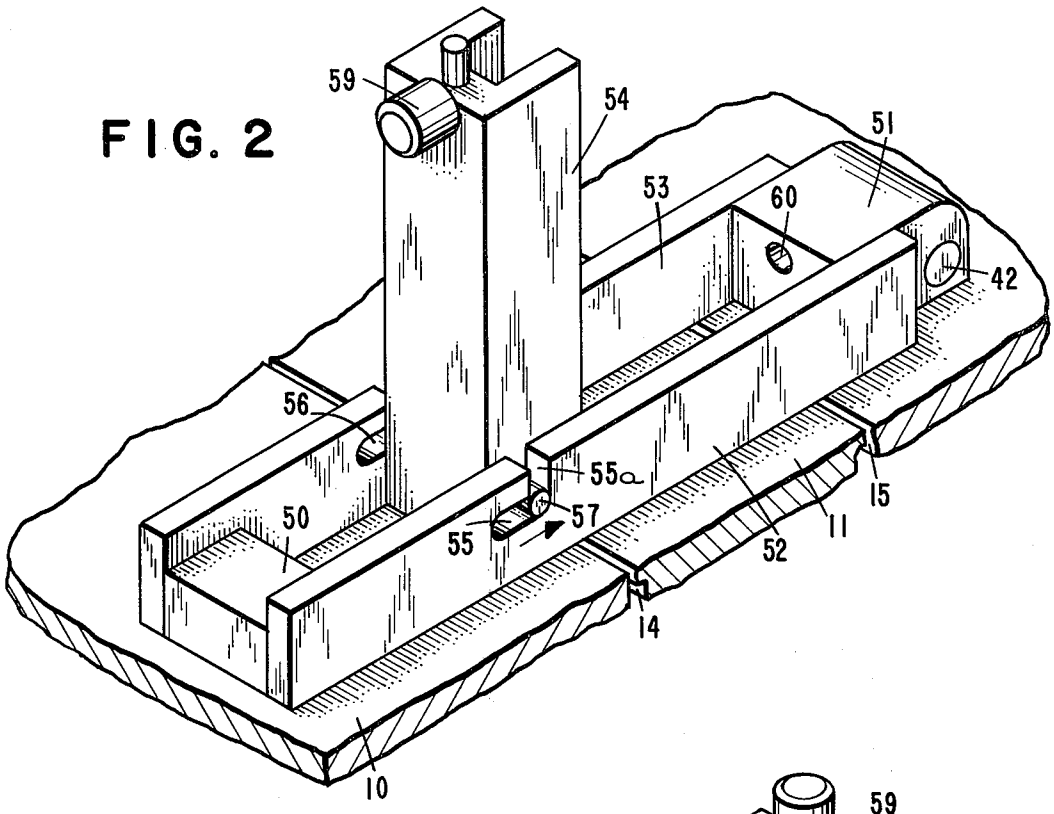

59
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51
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60
42
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55a
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14
10

FIG. 3

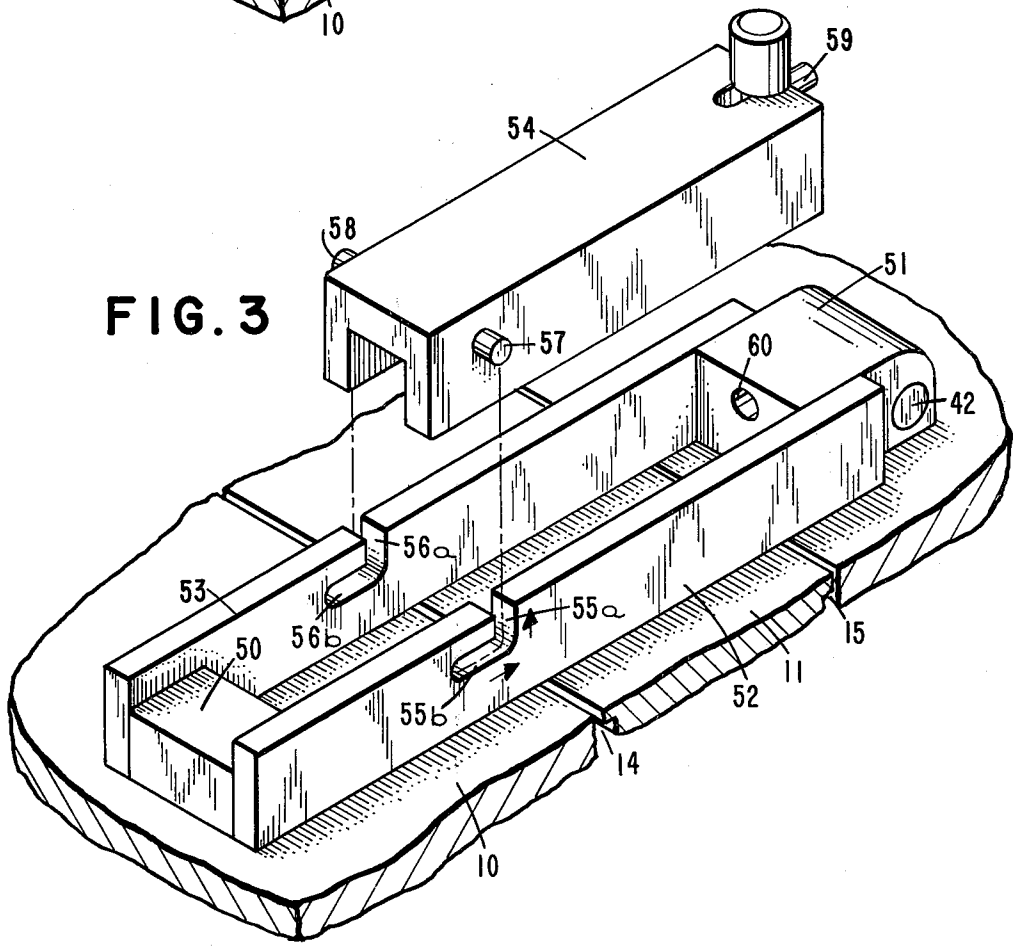

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56a
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55a
56b
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55b
14
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FIG. 4

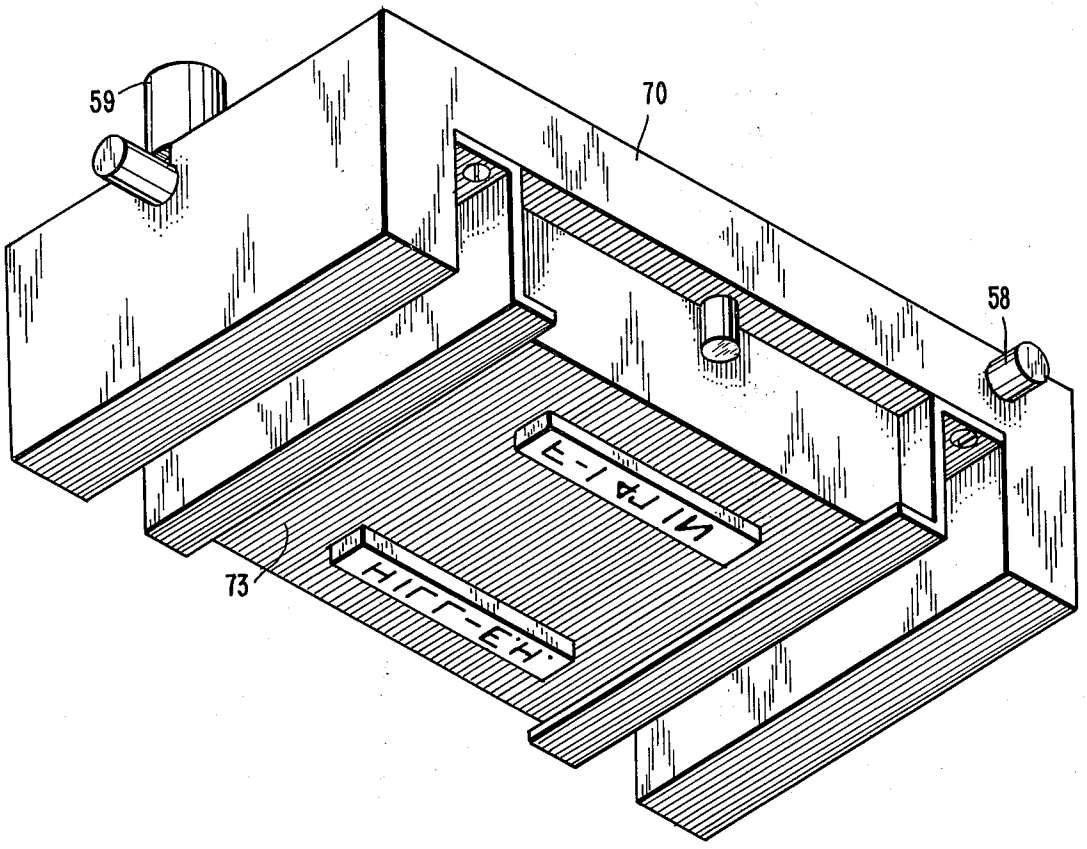
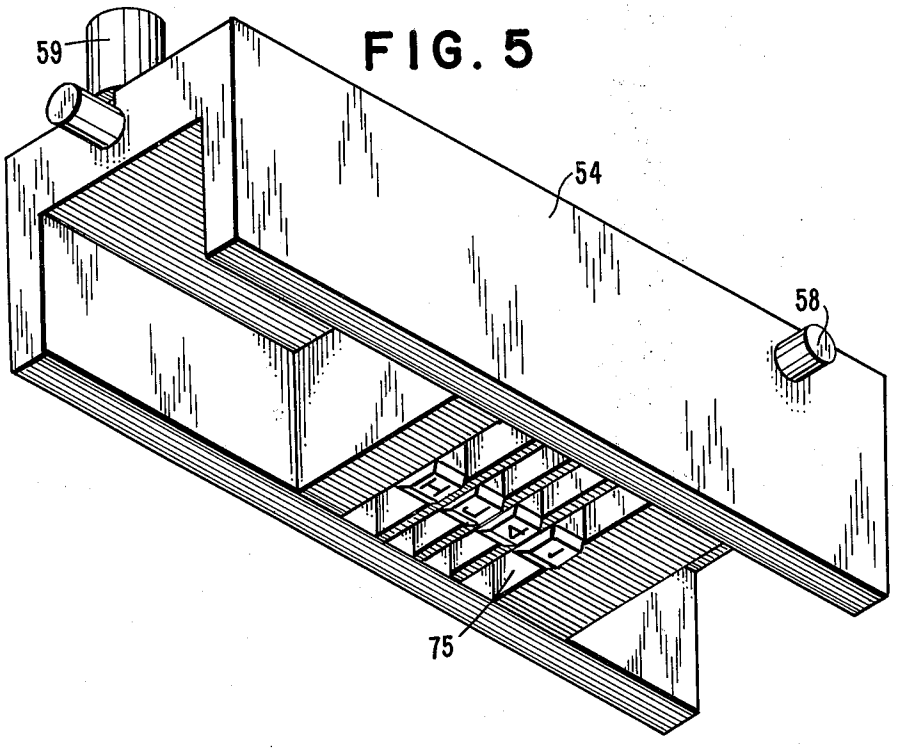


FIG. 5



REMOVABLE STAMP HOLDER FOR STAMPING MACHINE

BACKGROUND OF THE INVENTION

Stamping machines for printing, embossing or stamping articles such as book covers, cards or photograph slides with suitable identification indicia are well known and may include multi-station arrangements in which the article to be stamped is passed successively to two or more stamping positions where stamping heads are conjointly reciprocated to stamp each article at the respective position with the respective indicia carried by each stamping head. In the situation where a large number of photograph slides are to be stamped with subject identification or numerical indicia, it is sometimes desirable to change or omit the stamp or one stamping head for a few slides and it is, therefore, desirable that the stamping assembly at each station include a stamp holder that will enable a stamp head to be easily inspected or removed so that the machine may continue to operate with or without selected stamp heads in position in the respective stamp holders. Thus indicia can be easily omitted on desired slides simply by removing a stamp head and operating the machine with an empty holder. Also it is desirable that the stamping heads may be quickly removed, inspected or changed without stopping the operation of the machine for excessively long periods of time when a large number of slides are to be stamped.

PRIOR ART

The following listed patents disclose multiple station stamping machines but do not disclose the improved stamping assembly of this invention including a stamp holder and head arrangement as described and claimed herein:

67,748	Greene et al	8-13-67
2,205,216	Loughery	6-18-40
3,180,253	Hildmann	4-27-65

SUMMARY OF THE INVENTION

In accordance with the invention, a stamping machine for stamping the cardboard frames of photographic slides or the like is comprised of a machine frame having a bed along which each slide is intermittently advanced to be momentarily and successively positioned at at least one stamping station. A stamping assembly is positioned at each station and is comprised of a stamp holder pivotally secured at one end to the machine frame in a manner to extend transversely above the bed and be movable to and from the bed for stamping a photographic slide frame that is momentarily positioned on the bed at the stamping station. Each stamp holder is comprised of two spaced apart side members extending from the pivoted end of the holder and the end opposite the pivoted end is joined to a reciprocating rod by means of which the stamp holder is moved to and from the bed. The rod for each stamp holder is connected to a crank and each crank is geared together to a common drive motor, whereby the stamp holder at each station is reciprocated in synchronism with the advancement to and momentary positioning of each slide at the respective stamping station. It will be understood that the photograph slide or article advancing means is also geared to and driven by the common drive motor by any suitable means well known in the art.

The spaced apart side members of each stamp holder, in accordance with the invention, are provided with pivot slots in which are received respective pivot pins extending from a stamping head that is removably positioned between the spaced apart side members. Thus, a stamp head may be easily secured in place or removed from the stamp holder. A spring pressed locking bolt to cooperate with a suitable keeper on the stamp holder may be provided to lock the stamp head in the stamping position between the side members of the stamp holder.

Further objects, features and the attendant advntages of the invention will be apparent with reference to the following specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective elevational view of the stamping machine of the invention with stamping heads in stamping position in the stamp holders;

FIG. **2** is a fragmentary perspective view of one of the stamp holders with a stamp head raised in position for inspection or removal;

FIG. **3** is a view similar to FIG. **2** but with the stamp head removed;

FIG. **4** is an underside view of one stamp holder as removed; and

FIG. **5** is an underside view of another stamp holder as removed.

DETAILED DESCRIPTION OF THE INVENTION

Referring first to FIG. **1** of the drawings, the stamping machine is comprised of a box-like frame structure generally shown at **10,** having a bed or track portion **11** along which are to be intermittently advanced the articles to be stamped, such as the photograph slide frame **12** in the magazine **13.** Slots **14, 15** are positioned on each side of the bed **11** to extend along its length and a plurality of spaced apart spring-pressed pivoted drive pawls, such as shown at **16, 17, 18** and **19,** are positioned in the respective slots **14, 15.** The pawls **16, 17** are spaced from pawls **18, 19,** by an amount equal to the advancement distance for each slide during each cycle of stamping operation. Additional drive pawls (not shown) are spaced along the bed **11** from the positions of pawls **18, 19** towards the stamping positions **20,** 21 and the discharge end **22** of the machine. All of the drive pawls, such as **16–19** are pivotally connected to a carrier (not shown) beneath the bed **11** which is connected by suitable bellcranks to the drive motor (not shown) in a manner to be reciprocated back and forth by a distance equal to the incremental advancement distance for the slides and the spacing between the center-lines of the stamping stations **20, 21.** When the drive pawls are moved toward the stamping stations, a slide is engaged and moved from the storage bin **13** towards the stamping stations and when the drive pawls are reciprocated away from the stamping stations, the drive pawls pivot under the driven slide, thus leaving the slide in the advanced position, either approaching a stamping station or at a respective one of the stamping stations **20, 21.** The details of the drive pawl mechanism will not be further described since they are not a novel portion of the present invention and similar drive pawl arrangements are shown by the previously mentioned U.S. Pat. Nos. 2,205,216 and 3,180,253.

If the stamping or embossing is to include printing, a printing tape **30** is carried by a supply reel **31** and a slip-clutch continuously driven take-up reel **32** over the bed **11** and beneath the stamping assemblies to be further described in detail. The tape **30** passes under the stamp heads and between the printing tape advancement rollers **33, 34.** The roller **34** is intermittently released and allowed to be turned by the operation of a pawl **35** and ratchet **36** during each stamping cycle, as will be further described.

A first stamping assembly is positioned at stamping station **20** and is pivotally connected at one end at **40** to the machine frame **10** on one side of the bed **11** in a manner to extend transversely across and above the bed **11** as shown. Similarly, a second stamping assembly is pivotally connected at one end at **41** to the machine frame **10.** The other end of the stamping assembly at station **20** is pivotally connected at **42** on the other side of the bed **11** to reciprocating connecting rod **43,** while the other end of the stamping assembly at station **21** is pivotally connected at **44** to the reciprocating connecting rod **45.** Connecting rods **43, 45** are connected to cranks **46, 47** which are connected by sprockets and chains **48, 49** to the common drive motor (not shown) in a manner such that the associated stamping assemblies are moved towards the bed **11,** while an article to be stamped is momentarily positioned at a stamping station and the drive pawls, such as shown at **16–19,** are moving away from the stamping stations. During the cycle of stamping operation, the pawl **35** carried by the side member of the stamping assembly **20** cooperates with the ratchet wheel **36** and roller **34** to advance the printing tape.

Referring now to FIGS. **2** and **3** of the drawings, the details of the novel stamp holder arrangement of the invention will be described. FIGS. **2** and **3** are detailed views of the stamp holder at station **20,** but it should be understood that the stamp holder at station **21** is the same except for dimensions. For example, the stamp holder at station **20** is sized to hold any suitable stamp head which may contain an automatic sequencing numbering wheel of well known construction by L-shaped slotted pivot means, as shown diagrammatically by FIG. **5,** while the stamp holder at station **21** is sized to receive a stamp head to accommodate a printing plate or the like as shown by FIG. **4.** The stamp holder at station **20** is comprised of the first end member **50** that is pivotally secured, as generally shown at **40,** to the machine frame **10** and the second end member **51** that is pivotally secured at **42** to the connecting rod **43.** A pair of spaced apart side members **52, 53** extend between end members **50, 51** to receive therebetween a stamp head **54.** Each side member **52, 53** is provided with respective pivot slots **55, 56** in which may be received respective pins **57, 58** extending from opposite sides at one end of the stamp head **54,** as shown. When the stamp head **54** is to be attached to the stamp holder, the pins **57, 58** are first inserted in the upward extending portions **55***a*, 56*a* of the pivot slots **55, 56.** Thereafter, the stamp head **54** is moved to move the pins **57,** 58 along slot portions **55***b*, **56***b* to the position most clearly shown by FIG. **1** with the stamp head **54** lowered and locked in place by the spring pressed bolt **59** and the keeper **60** in the end member **51.** Thus, when it is desired to inspect the stamp head **54,** it is only necessary to unlock the bolt **59** and pivot the stamp head upwards to the position shown by FIG. **2.** If the stamp head is to be removed, it is only necessary to withdraw the pins **57, 58** through the slot portions **55***a*, 56*a*, as shown by FIG. **3** of the drawing. It should be understood that the stamp head **70** is secured between stamp holder side members **71, 72** at stamping station **21,** as shown by FIG. **1,** in a similar manner to that just described for stamp head **54** in connection with FIGS. **3** and **4** of the drawings.

FIG. **4** is an underside view of stamp head **70,** generally showing the means for securing thereto the desired stamp indicia in the form of an embossing or printing plate **73.** FIG. **5** is an underside view of the stamp holder **54** showing a sequence numbering wheel **75** that may be removably secured within the channel of holder **54** in any suitable manner with set screws or the like (not shown). The numbering wheel **75** is provided with a sequence drive pin (not shown) that protrudes in a well known arrangement beneath the holder **54** to engage the bed **11** when the stamp holder is moved towards the bed for stamping and thus advance and sequence the number character wheels as each stamping cycle occurs.

Upon consideration of the foregoing description, it will be understood that the stamp holder arrangement of the invention provides a very simple and effective means to removably secure one or more stamping heads in the machine. For example, when only numbering of the slides is desired, the stamp head **70** can be quickly and easily removed from the holder at station **21** and the machine can be operated with the stamp holder at station **21** not containing a stamp head and therefore not applying any descriptive material to the slide frame that may be momentarily positioned at stamping station **21.** Similarly, the stamp head **54** may be removed from the stamp holder at station **20,** when numbering of the slide frames is not desired.

Various modifications within the teachings of the invention will occur to those skilled in the art.

What is claimed is:

1. A stamping machine of the type having a frame including a bed along which articles to be stamped are intermittently advanced to be momentarily positioned at least one stamping station, the stamping assembly at each station comprising, a stamp holder pivotally connected at one end to said frame on one side of said bed in a manner to extend transversely of said bed above the path of movement of the articles on said bed and to be movable to and from said bed, means connected to the other end of said holder opposite said pivotally connected one end for reciprocating said holder to and from said bed for stamping an article positioned on the bed beneath said holder, each said holder having two spaced apart side members extending between its ends, means to removably secure a stamp head in each holder in stamping position between each of said side members and comprising an L-shaped pivot slot in each side member formed with an upwardly extending portion, and pivot pins extending from opposite sides of the stamp head and adapted to be removably received through the upwardly extending slot portions into respective ones of said pivot slots, whereby the head may be received in stamping position between said side members with the pins received in the slots and may be pivoted out of stamping position between said side members and removed with the pins removed through the upwardly extending slot portions.

2. The invention of claim **1** in which bolt means is provided on each stamp head to removably engage with keeper means on a respective holder for locking the head in stamping position between said side members with the pivot pins received in the pivot slots.

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