

Jan. 23, 1951

W. L. GROVES ET AL

2,539,016

MACHINE FOR MOISTENING GUMMED TAPE

Filed Sept. 30, 1946

2 Sheets-Sheet 1

Fig. 1

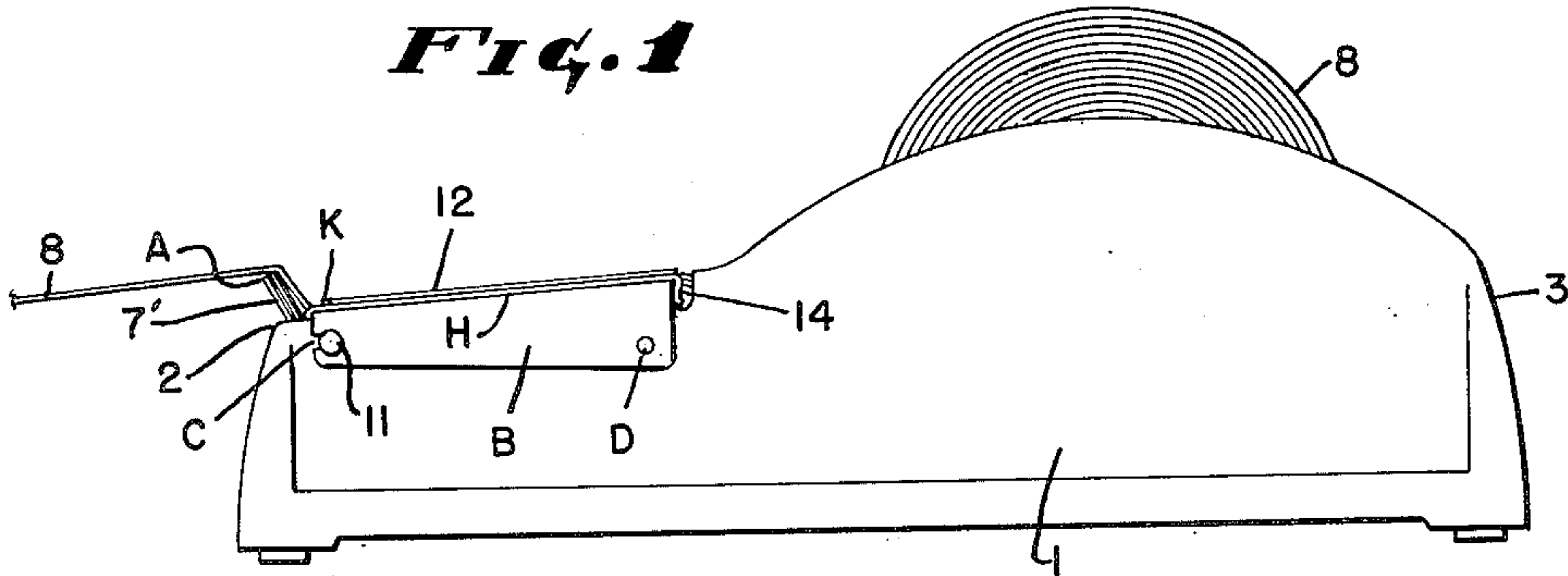


Fig. 2

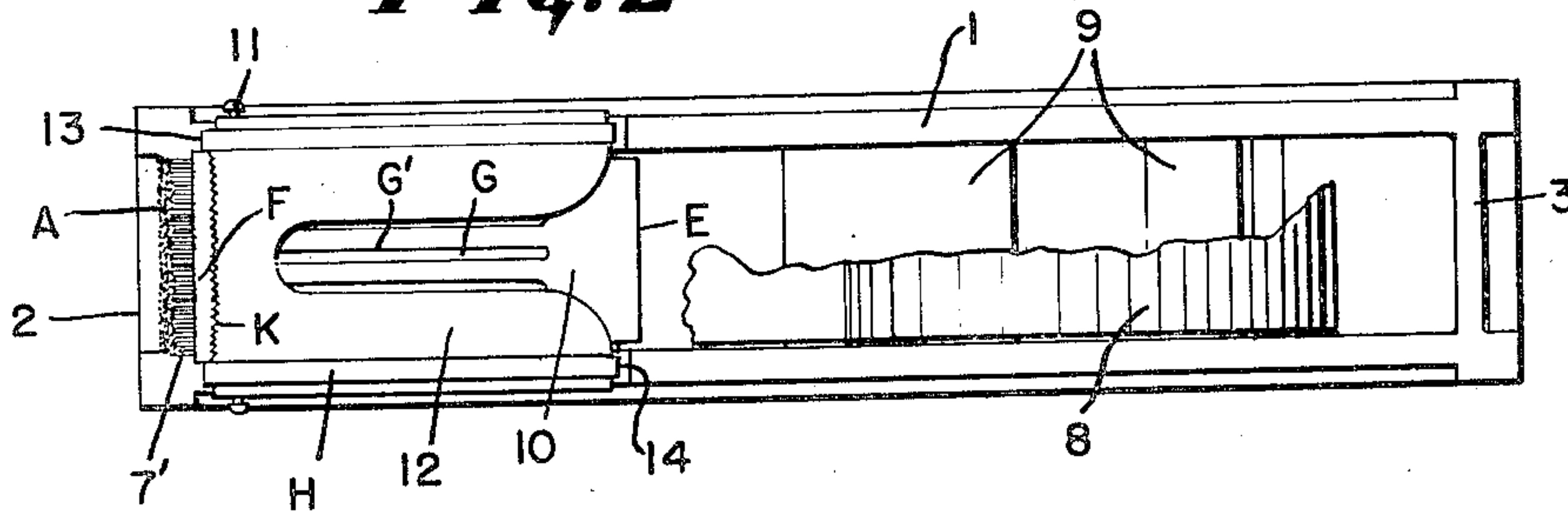
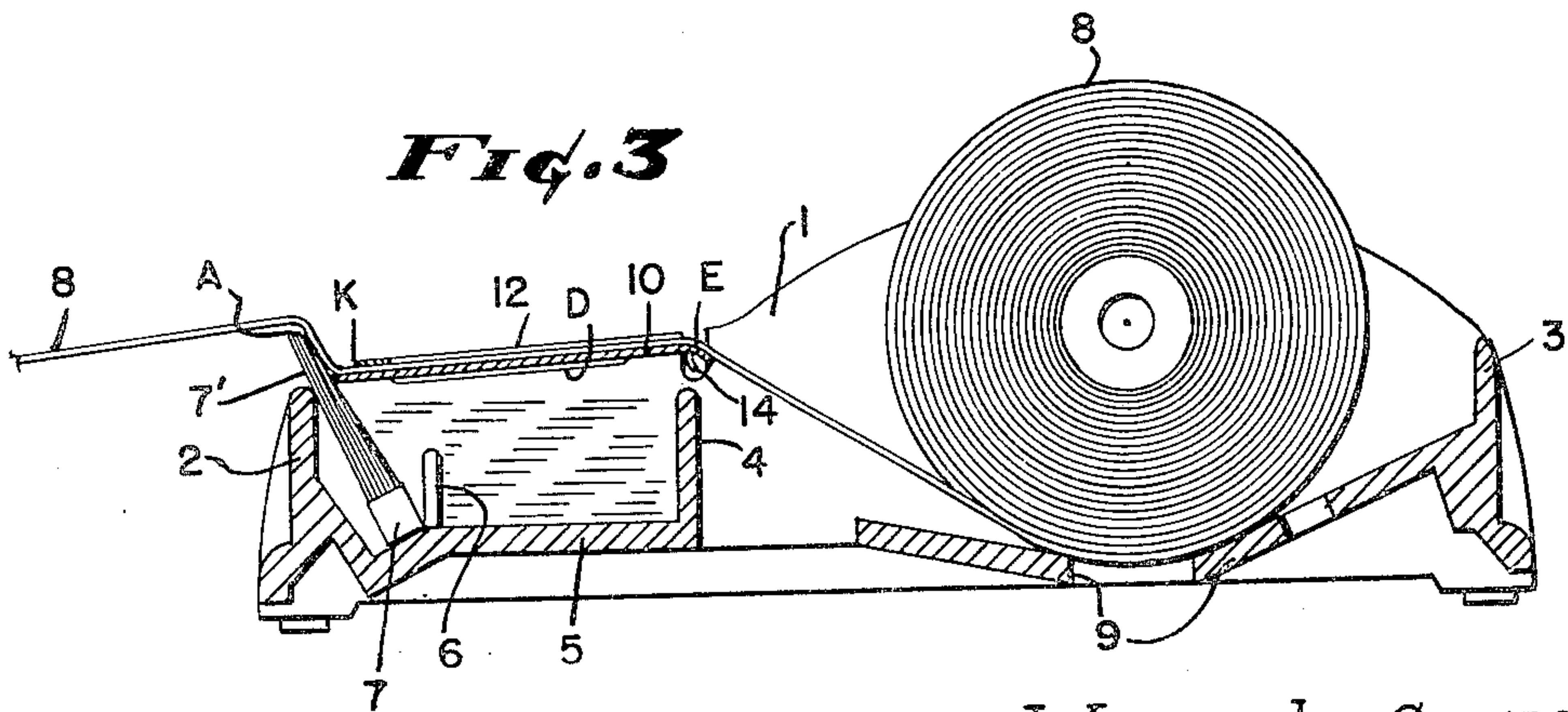


Fig. 3



WALTER L. GROVES
EDGAR J. WRIGHT
INVENTORS.

BY *U. G. Charles*
att'y.

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Fig. 4

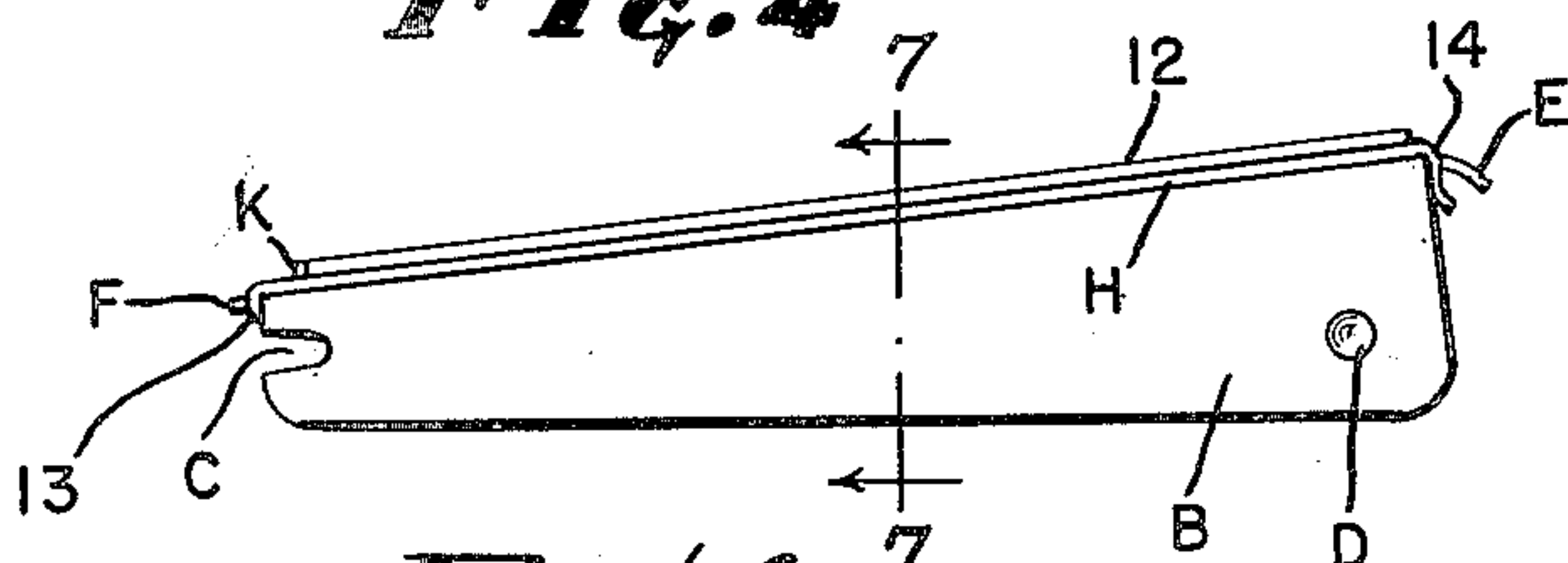


Fig. 5

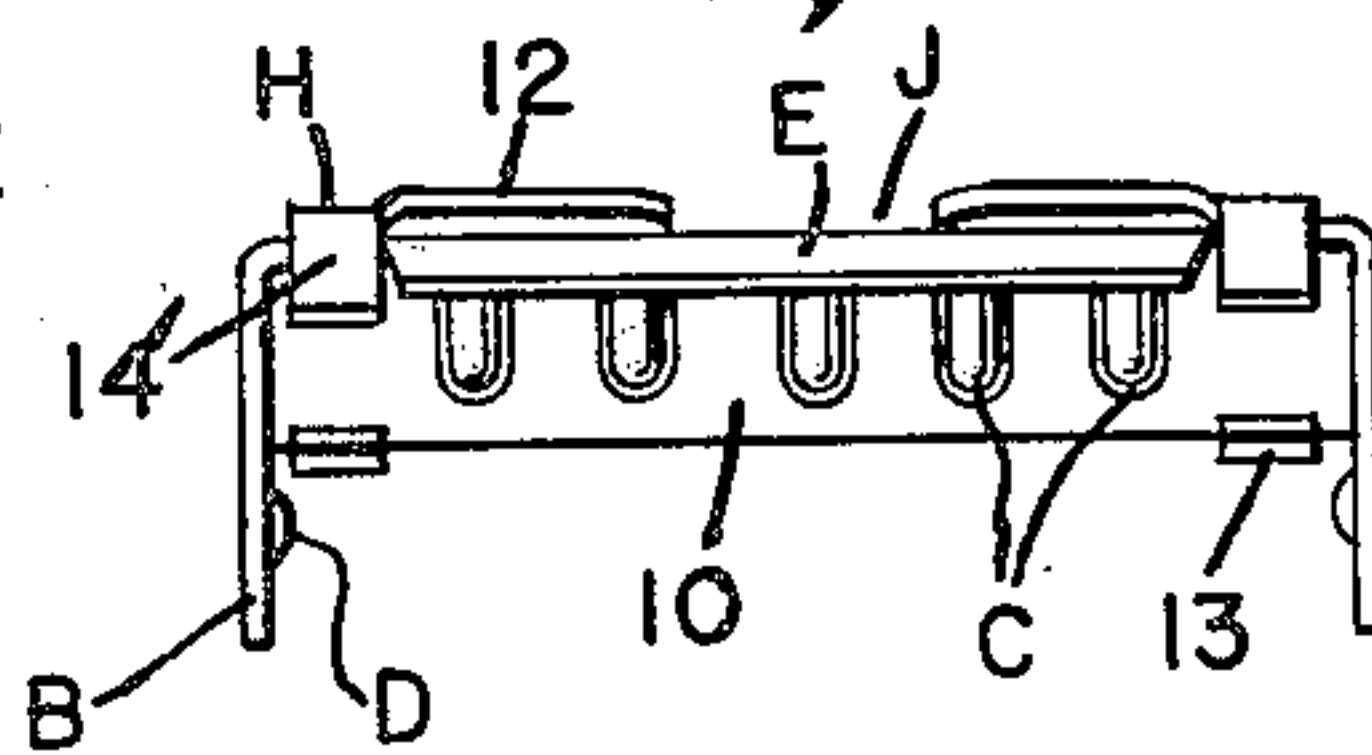


Fig. 6

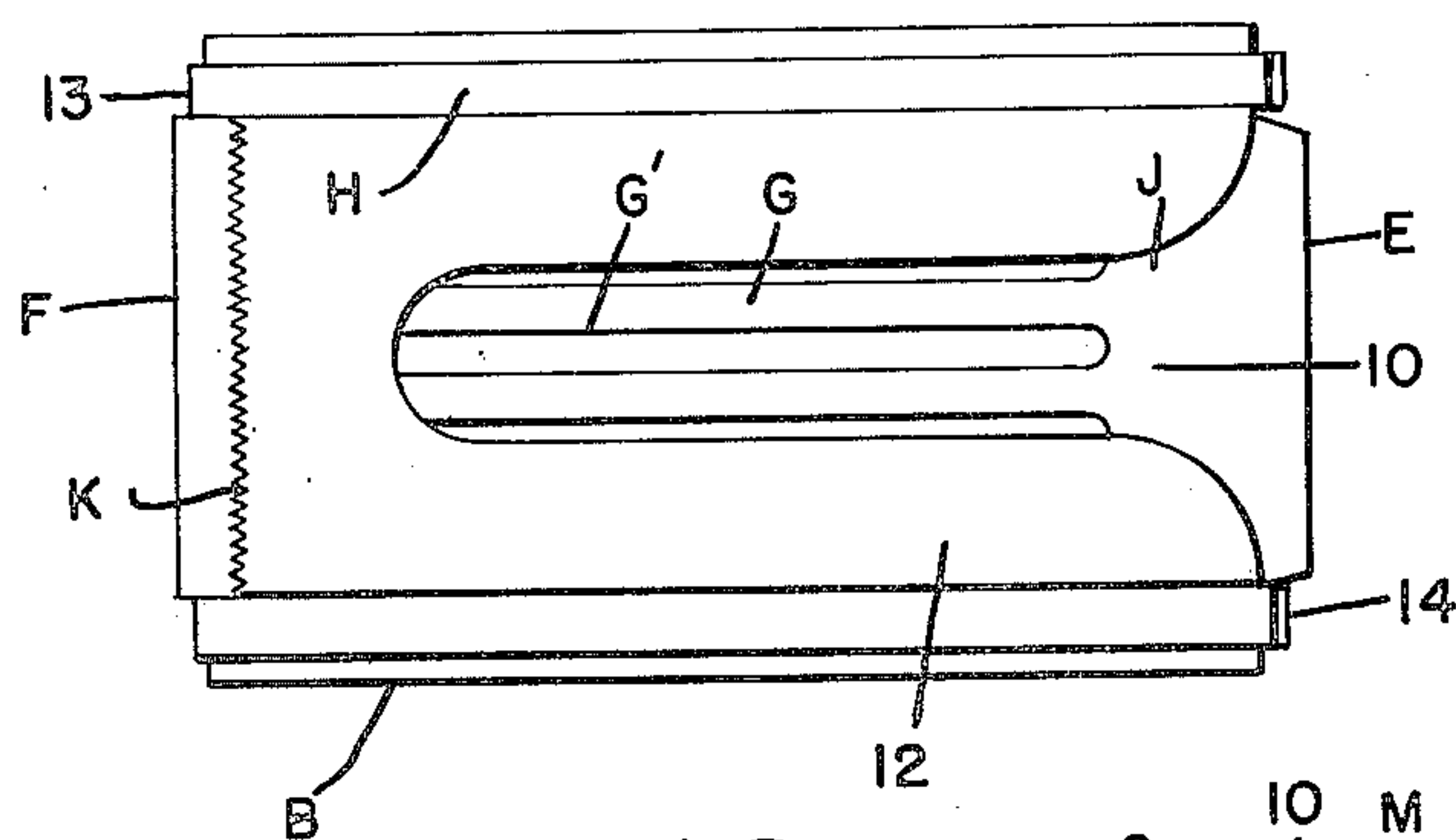


Fig. 7

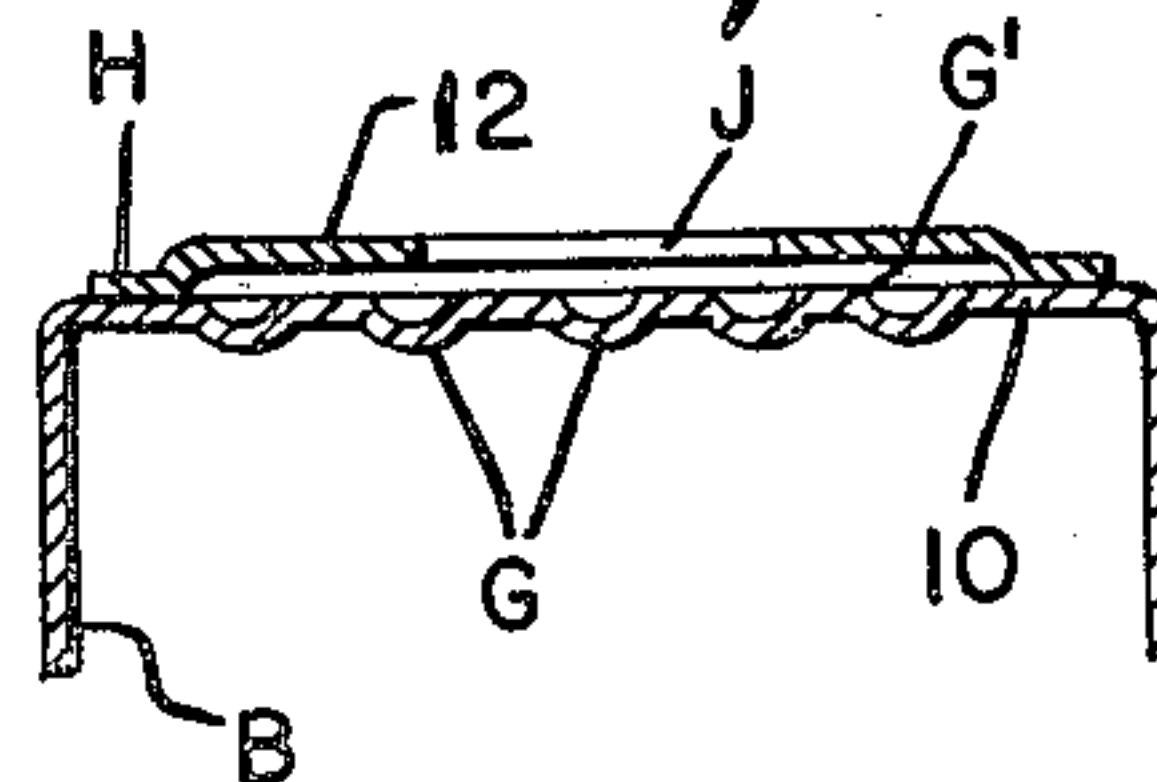


Fig. 8

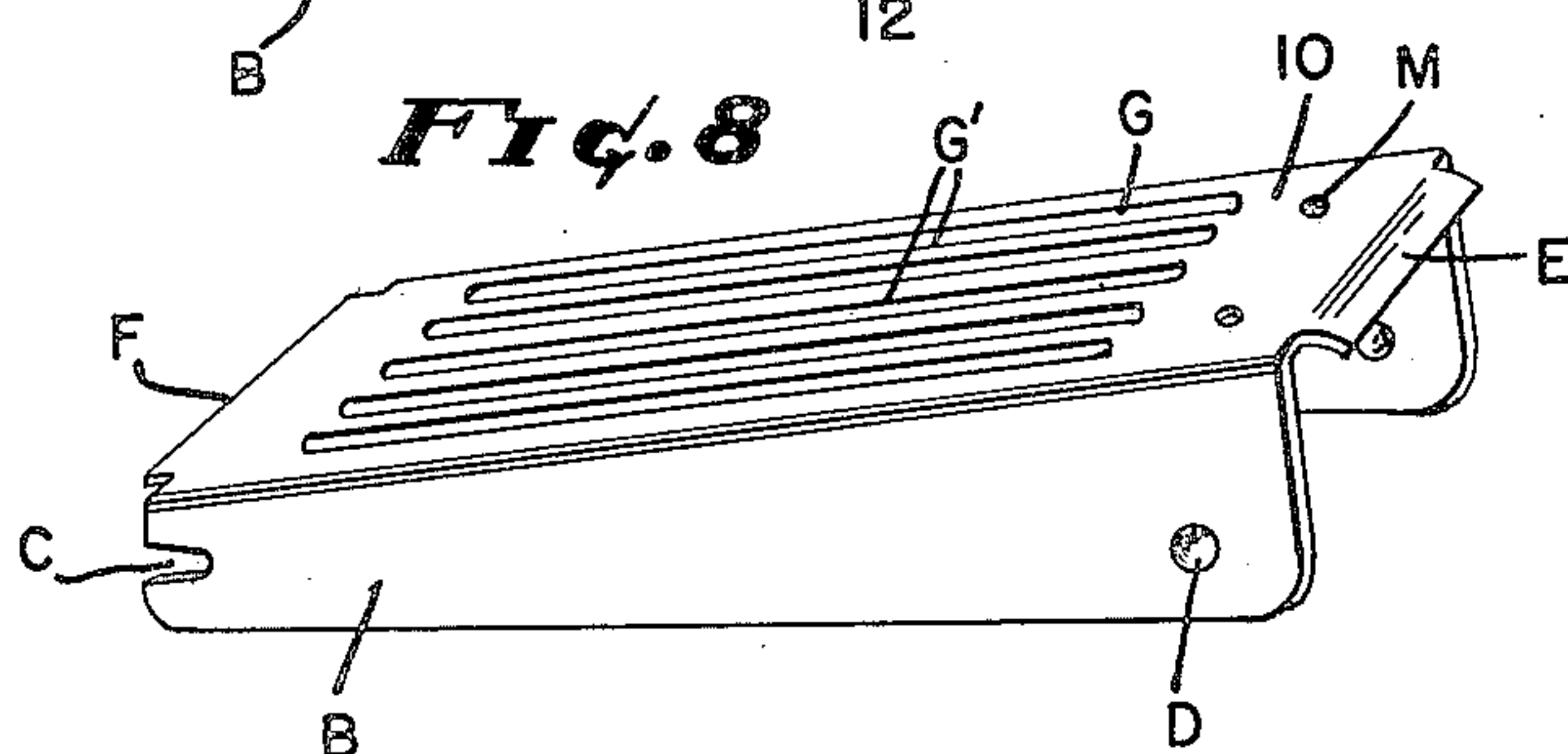


Fig. 10

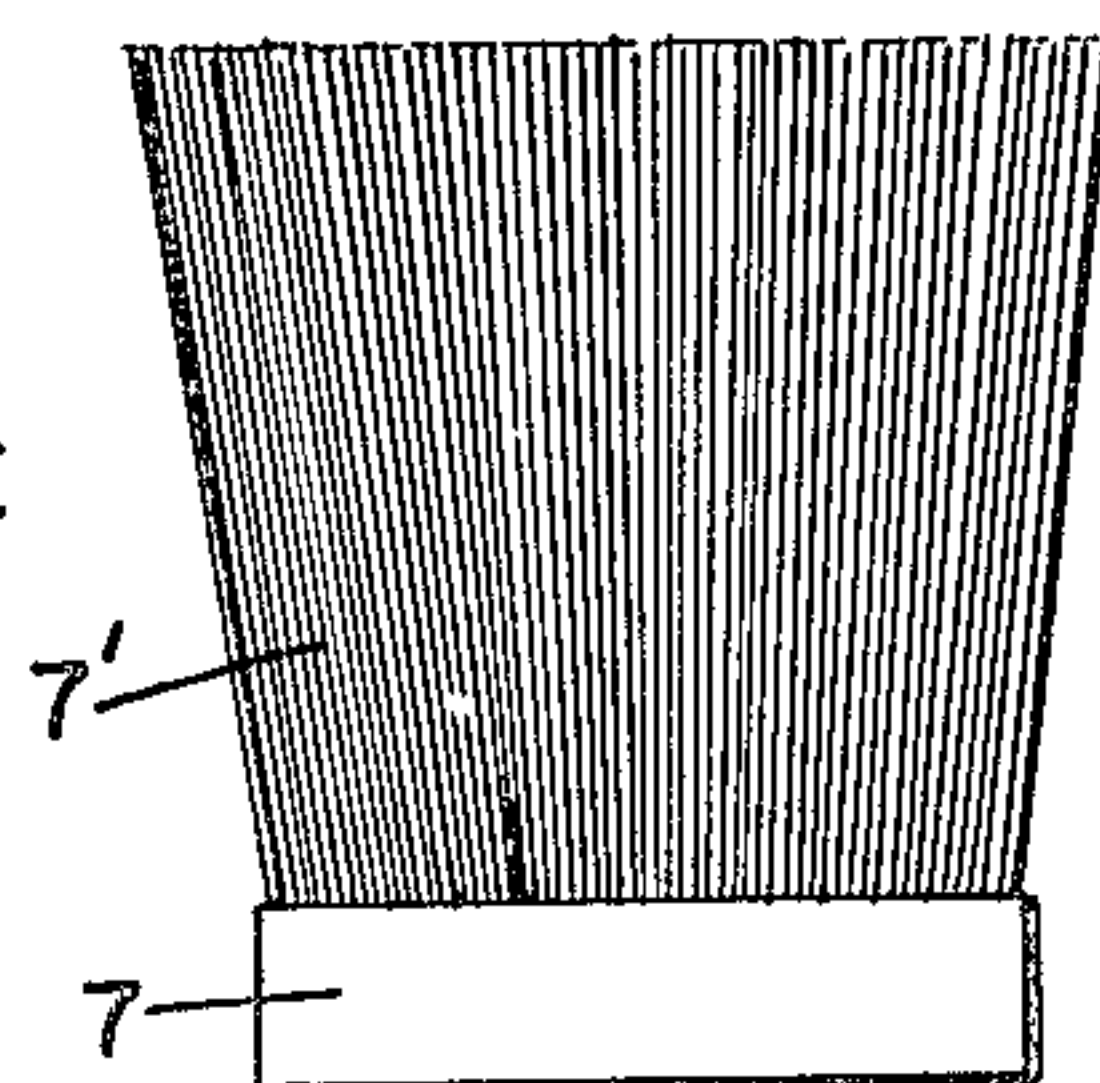


Fig. 9

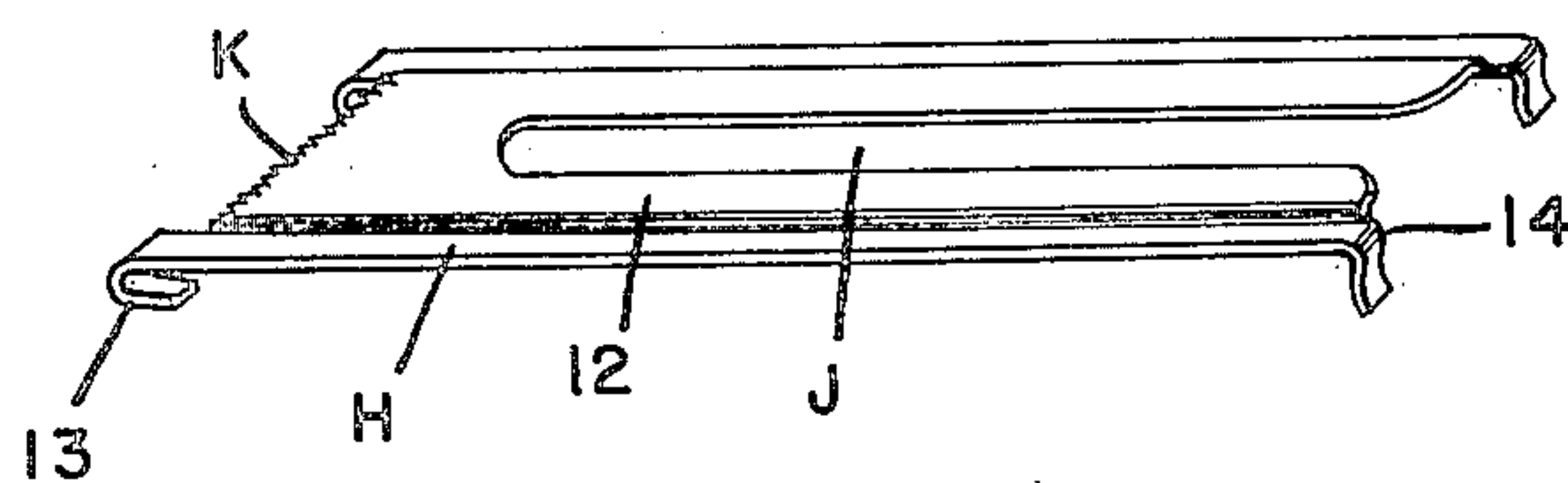


Fig. 11

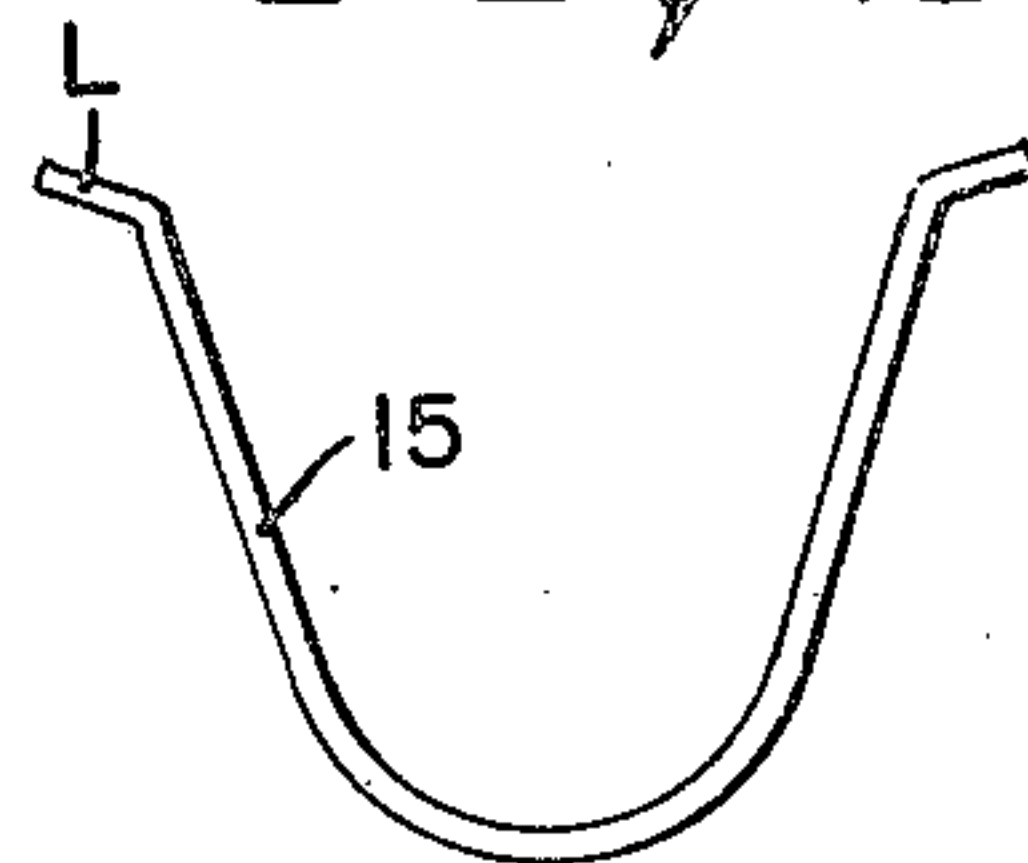
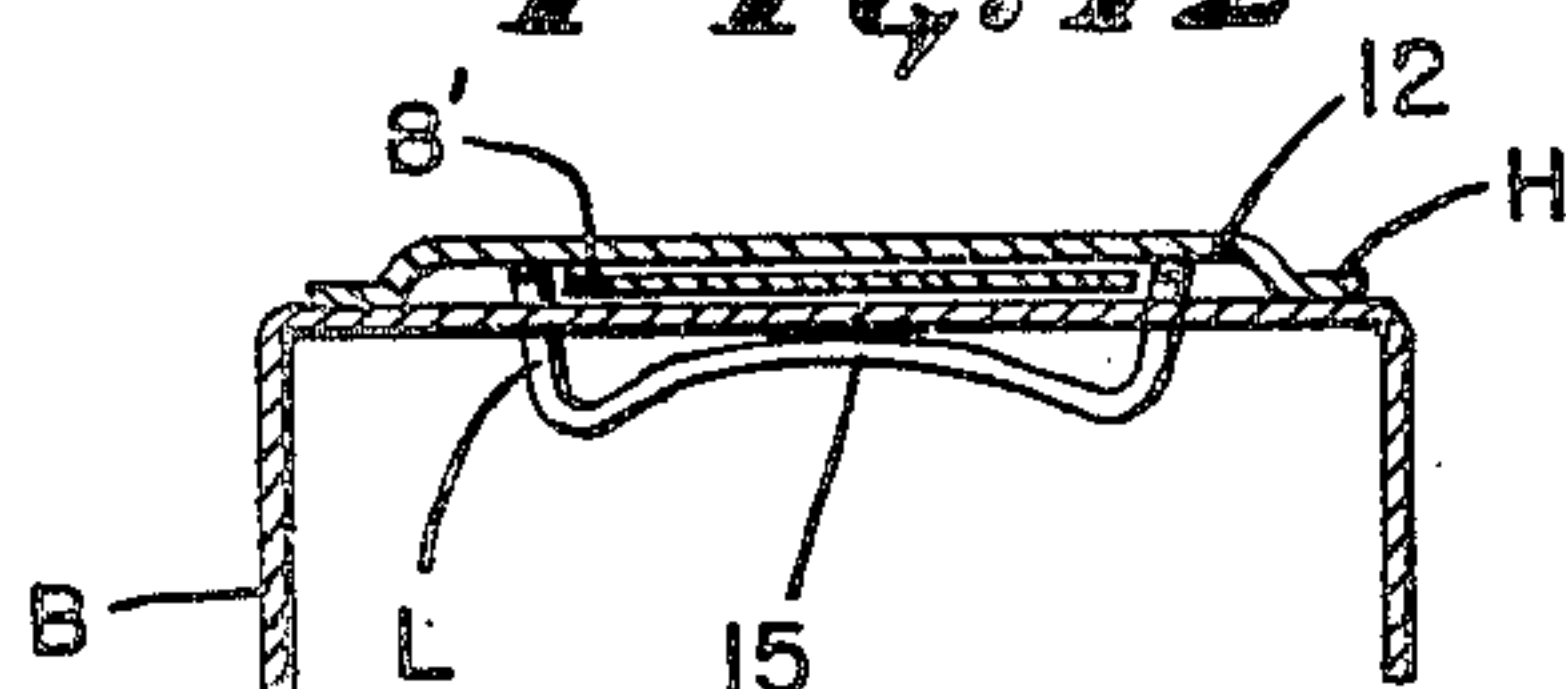


Fig. 12



WALTER L. GROVES
EDGAR J. WRIGHT
INVENTORS.

BY *W. G. Charles*
att'y.

UNITED STATES PATENT OFFICE

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MACHINE FOR MOISTENING GUMMED TAPE

Walter L. Groves, Wichita, Kans., and Edgar J. Wright, Kansas City, Mo.

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1 Claim. (Cl. 91—14.5)

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This invention relates to a machine for moistening gummed tape, and has for one of its objects a pair of removable plates co-acting to conduct tape as drawn toward and across a moistening dispenser as the tape is unrolled and applied as sealing means for packages of merchandise.

Another object is the provision of a body portion in which a roll of gummed strip of paper is loosely placed in a vertical position adjacent one end of the body portion, while the other end has a moistening dispenser over which a strip of gummed paper is drawn in suitable lengths for sealing folds of wrapping paper applied to bundles, boxes, or the like, containing merchandise to wrap the same readily and securely.

A further object is to provide an efficient means to guide rolls of gummed tape varying in width, and means to sever the tape in spaced relation but closely to the moistening dispenser to avoid moistening the end of the tape during times of idleness.

A still further object is to construct the said removable plates in such a way as to provide an underside support for the tape and an upper member removably arranged thereon to retain the free end of a roll of tape when a portion has been removed, and a centrally disposed opening in the upper member to definitely move the tape by pressing the same in contact with the lower member for frictional engagement to slide the tape, said upper and lower members being separately arranged is means to easily cleanse the same from any gummed condition between the said members; furthermore, it will be seen that the components of the machine are comparatively few, easily manufactured, assembled and repaired.

Another object is to construct a machine wherein a container for a roll of gummed tape is provided, having means to avoid accumulation of dust and paper particles and to obstruct the possibility of momentum unwinding tape from the roll of tape when the tape is jerked or speedily unrolled, and also the provision of a water container by placing a partition between the side walls of the body, and a brush and supporting means therefor in working relation to tape drawn thereacross.

These and other objects will hereinafter be more fully explained, reference being had to the accompanying drawings forming a part of this specification, and in which like characters will apply to like parts in the different views.

Referring to the drawings:

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Fig. 1 is a side elevation of the tape moistening machine.

Fig. 2 is a plan view of Fig. 1, parts of the roll of tape removed for convenience of illustration.

Fig. 3 is a longitudinal section through the body of the machine.

Fig. 4 is a side view of the gummed tape conducting means detached from the body.

Fig. 5 is a rear view of Fig. 4.

Fig. 6 is a plan view of Fig. 4.

Fig. 7 is a sectional view taken on line 7—7 in Fig. 4.

Fig. 8 is a perspective view of the lower plate, the upper plate being removed.

Fig. 9 is a perspective view of the upper plate.

Fig. 10 is a side view of a brush as dispensing means for moisture.

Fig. 11 is a removable conducting means for a predetermined width of a gummed tape.

Fig. 12 is a cross sectional view of the plates assembled to illustrate the application of the conducting means shown in Fig. 11.

As a more concise description of the components of this invention, it will be seen that a body structure is provided consisting of side walls 1, and end walls 2 and 3, also a partition wall 4 integrally connected to the bottom 5 and sides 1 and vertically disposed therein to form a water container, the depth of which is governed by the height of the partition wall which terminates substantially on a level with the forward end wall 2.

Positioned within the water container and in spaced relation from the front wall are ears 6 vertically disposed and extending inwardly toward each other to function as a guard to maintain an upward and outwardly positioned brush later described. It will be seen that the bottom 5 of the water container from the ears forward is inclined downward and then upward where it meets the forward end wall 2, whereby a brush comprised of a head 7 for bristles 7' will seat to submerge substantially a major length of the bristles when the water container is filled. The bristles being so arranged, the water by capillarity will rise toward the outer ends of the bristles as at A to moisten tape slidable thereover as drawn from the machine.

Rearwardly positioned within the body of the machine is shown a roll of gummed tape 8 seated on members 9 transversely crossing from one side to the other of the body and in spaced relation to provide ample openings through the bottom as a disposal means for dust and paper particles which otherwise would contaminate the gum on the tape when passing from the roll to-

ward and over the moistening dispenser. Furthermore, the roll being thus supported is maintained vertically disposed as shown in Figs. 1, 2, and 3, whereby the roll's frictional engagement on the cross members will overcome momentum of rotation should the tape be suddenly or rapidly drawn from the machine. It will be understood that the roll of gummed tape must not be journaled for best results, and the width of the tape may vary from a comparatively narrow strip to the entire width between the side walls but with sufficient room for rotation of the roll. The roll as consumed will continuously bear upon the members 9 on which it seats until consumed, after which another roll is simply dropped into the machine and threaded through conducting mechanism hereinafter described.

The conducting means for the gummed tape is a detachable device as a whole from the body heretofore described, and such device we claim chiefly as our invention, wherein a lower plate 10 is formed by bending a marginal portion B of its sides at right angle to the plate. Said portions are adapted to spring closely on the outer sides of the said body and being secured at its forward end by notches C extending rearward of the marginal portions to slidably engage on their respective pins 11 arranged and extending outwardly from the body as securing means against upward movement, while the other end of said marginal portions are dimpled as at D to extend inwardly toward each other and adapted to engage in coinciding dimples formed in the sides of the body to retain said plate in snug engagement with the sides of said body. It will be seen that the rear end of the plate extends beyond the adjacent terminal ends of the marginal portions so that the extension E is easily bent downward to an arcuate form and over which the gummed tape will smoothly pass, while the other end of the plate likewise extends outward slightly as at F to clamp the free end portion of the bristles in snug engagement with the forward upper end of the body to permit sliding movement of the gummed tape across said ends of the bristles without displacing the portion of the brush submerged, as the water is fed through the bristles to moisten the tape as drawn thereover. To reduce frictional engagement of the tape in its sliding movement on the upper side of the plate, it will be seen that the said plate is fluted or corrugated as at G in spaced relation thereacross, said flutes will permit downward sway of the tape when pressed by the finger, which automatically causes the tape to slidably engage along corners G' formed by the flutes, said finger movement being required to move the tape sufficiently to pass over the bristles and then be gripped by the hand for further movement, said tape being conducted by an upper plate 12 engaging thereon as said plate is secured in spaced relation sufficient from the lower plate to permit sliding movement of the tape between said plates.

The upper plate 12 has a marginal portion H along each edge thereof offset downward to seat on the upper face of the lower plate as spacing means for said plates apart. Furthermore, the offset portions extend outward past their respective ends of the plate sufficient to form on the forward ends hooks 13 to engage on the end of the first said plate and being astride the extension F thereof to avoid lateral movement when snugly engaged by lips 14 formed on the other ends of the said offset portions, said lips having arcuate portions for their terminal ends to easily start

engagement of the lips when pressed downward and astride of the arcuate portion E formed on the rearward end of the first said plate. To place and secure the upper plate the said hooks are first engaged and then the lips pressed downward to engagement as the final movement to position the upper plate so that the tape will slide between said plates, and the width of the gummed tape being such as to freely slide between the shoulders to engagement with the brush that is greater in width than the said tape to moisten the same as it passes thereover. The upper plate has an opening J therethrough of sufficient width to receive an end of the finger slidable therealong to move the tape outward beyond the brush, the opening extending from the rear end, and terminating a spaced distance inward from the other end, the opening being of sufficient length to properly thread the tape.

It will be noted that the forward terminal end of the upper plate is serrated as at K and spaced or offset rearward from the forward end of the lower plate sufficient to avoid moisture contamination of the gummed tape concealed between said plates at the time of severing the same by the serrated end of said upper plate, which is accomplished by an upward and rearward shearing stroke of the tape, while a repeated action is required by finger movement as heretofore described to extend the tape beyond the brush to permit the same to be gripped for its withdrawal to a desired length for wrapping or sealing packages.

When gummed tape 8' of a lesser width is to be used as shown in Fig. 12 there is provided a U-shaped resilient element 15 made from spring wire, the legs of which at their free ends are provided with right angle bends L of sufficient length to extend through apertures M extending through the first said plate a spaced distance inward from its rear end, the said right angle bends divergently extending through said apertures, the tendency of which under tension of the U-shaped portion is to force the bent portions into snug engagement with the upper plate by sliding movement as they engage the outer periphery of the said apertures. Being so positioned the element 15 acts as a guide for a narrow gummed tape to slidably engage between the right angle bends, and likewise to remove the said element from the apertures, the same is easily accomplished by pressing the legs toward each other which in turn will cause the right angle bends to move outward from the apertures.

Such modifications may be made as lie within the scope of the appended claim.

Having fully described our invention what we claim as new and desire to secure by Letters Patent is:

In a machine for moistening gummed tape, said machine having end and side walls and a moistening brush in one end of machine, a plate to close an open top portion of the walls, one end of said plate urging the brush into engagement with its respective end wall, said plate having a series of corrugations longitudinally thereof permitting easy sliding movement of tape as it moves over said plate, and said plate having downwardly extending side portions to engage over the outer sides of the walls, one end of each side portion having a notch directed inwardly for engaging a fixed pin on each side wall, the other end of each side portion having a dimple depressed inwardly to engage a depression in the side walls for retaining the plate upon the walls,

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and another plate positioned upon first said plate, marginal side portions of second said plate being depressed downwardly to place an intermediate portion of second said plate a spaced distance upward from the first said plate, one set of corresponding ends of the marginal portions having return bent hooks to engage an end of the first said plate while the other ends of the marginal portions having downwardly extending lips to engage the other end of the first said plate for removably securing the second said plate upon first said plate, one end of second said plate being adjacent the brush and functioning as cutting means for tape as drawn from the plates, a center portion of second said plate being removed beginning at the other end and terminating a spaced distance from first said end whereby the tape may be conducted between the plates and over the moistening brush by the operator.

WALTER L. GROVES. 20
EDGAR J. WRIGHT.

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