Aug. 17, 1943. J. W. MacANLIS 2,326,954

MARKER FOR CYLINDRICAL WORK

Filed April 12, 1941

FIG. 1

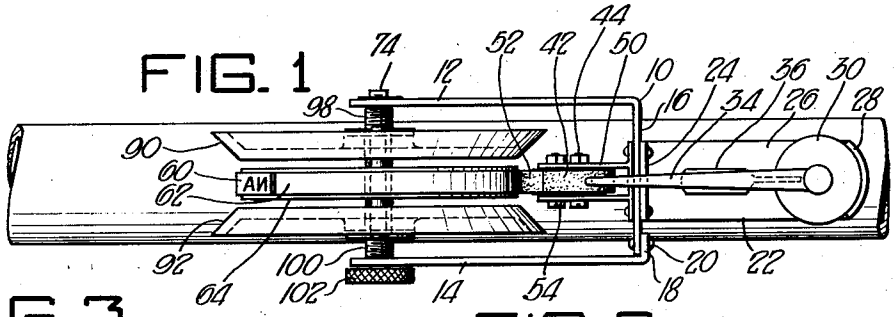


FIG. 3.

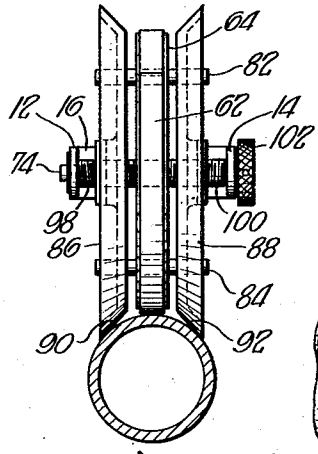


FIG. 2.

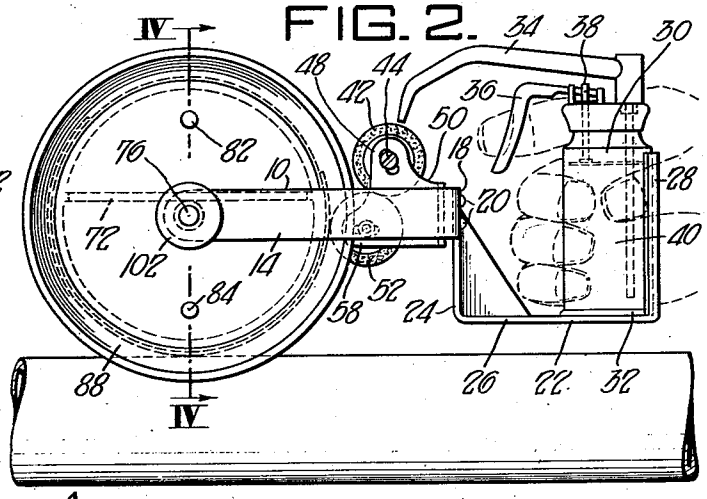


FIG. 4.

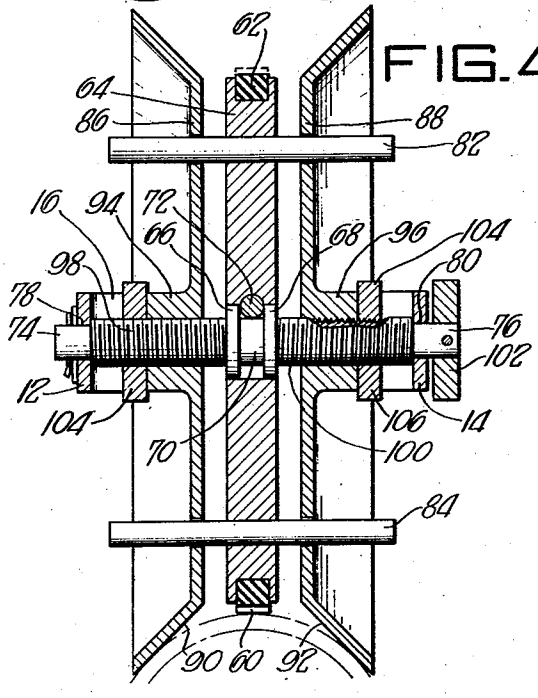
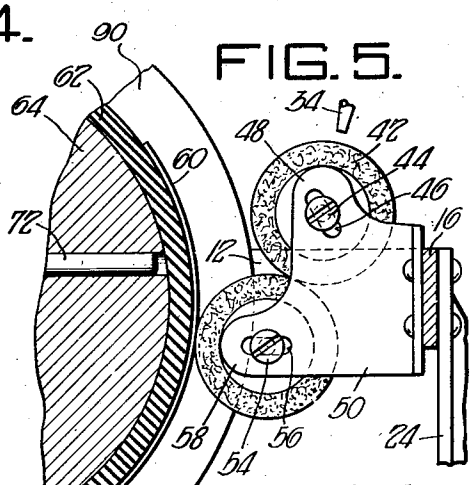


FIG. 5.



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MARKER FOR CYLINDRICAL WORK

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Application April 12, 1941, Serial No. 388,342

4 Claims. (Cl. 101—35)

This invention relates to specific improvements in a marking device adapted to print identifying characters on cylindrical work, such as pipe, rods or tubing.

A problem is present in the marking of numbers or brand names on cylindrical work such as pipe or tubing for the reason that the convexity of the surface makes it difficult to guide a printing wheel in a straight line therealong.

One object of the present invention is to provide means to solve the above problem by the provision of an effective yet inexpensive marker for such work.

Another object of the invention is to make available a self-contained unit including a printing, marking or type wheel combined with a frame carrying guide rollers for engagement with the work, which rollers are effective to properly position the type wheel with respect to the work so that as the marking device is moved relative to the pipe the wheel will apply characters in a straight line which is substantially parallel with the longitudinal axis of the cylindrical work.

Another object of the invention is to provide a simplified device of the character described comprising a self-contained unit including a type wheel, work engaging guide wheels, and the inking mechanism.

A further object is to provide in combination with a type wheel of a device of this character, bevel faced work engaging guide wheels and means for simultaneously adjusting them toward and from the marking wheel so that the latter is properly centered between said guide wheels for proper coaction with pipes of varying diameters.

A still further object is to provide type and guide wheels, a supporting frame therefor, an ink container and mechanism for transferring the printing ink to the marking wheel wherein the container also serves as a handle to be gripped by the user in the normal operation of the device.

The above and further features of the invention will be fully apparent from the following detailed disclosure when read in connection with the accompanying drawing, wherein similar reference characters refer to similar parts in the several views.

In the drawing:

Figure 1 is a plan view of the marking device of the present invention;

Figure 2 is a side elevation thereof;

Figure 3 is an end elevation from the left of Figure 2;

Figure 4 is an enlarged section on line IV—IV of Figure 2; and

Figure 5 is a fragmentary detail view.

Referring in detail to the drawing, the numeral 10 represents the main frame of the device as a whole. This frame includes side bars 12 and 14 having angular portions 16 and 18 which overlap, as shown in Figure 1, and which are united by rivets 20. An ink container holder of U-shape, indicated as a whole at 22, includes a downwardly extending portion 24, a horizontal portion 26 and an upward extension 28. An ink container 30 is welded or soldered, as at the base 32, and may be welded or soldered also to the upright extension 28 so that the cylindrical wall of the container functions also as a handle which can be gripped by the thumb and fingers of the user, as suggested by the dotted lines in the drawing. The container 30 is adapted to hold a supply of suitable ink which can be expelled from a nozzle 34. The expelling of ink from the container is under control of a trigger 36 which actuates a plunger 38 which reciprocates in a cylinder 40 located within the container.

The container 30 together with its trigger, nozzle and valve is a conventional type of device commonly known as a pump oiler. Suffice it to say that it is so constructed and arranged that when the trigger is actuated the ink will be expelled through the nozzle 34.

The outlet orifice of the nozzle as illustrated terminates immediately adjacent the felt inking roll 42 which is provided with trunnion screws, one of which is shown at 44. Each trunnion screw passes through a slot 46 formed in an ear 48 of a subframe 50 which is riveted or otherwise secured to the bridge portion 16 of the main frame. Ink is transferred from the felt roller 42 to a similar felt inking roll 52. This roll at each end is provided with a trunnion screw 54 which passes through a bearing slot 56 in an ear 58 formed on the subframe 50. The felt roll 52 serves to distribute ink received from the roll 42 and to direct a properly regulated supply thereof to the type, indicated at 60, which are formed on the peripheral rubber band portion 62 of the type wheel 64.

As best shown in Figure 4, the type wheel is seated on spaced collars 66 and 68 formed integrally with or rigidly secured to a spindle 70. Located between the collars 66 and 68 and firmly seated in a drilled hole in the type wheel there is a pin 72 which serves to center the type wheel on the spindle and to hold it against movement

axially and yet permit the spindle to be turned relative to the wheel for a purpose to be later set forth.

At its outer extremities the spindle is provided with trunnions 74 and 76 which are rotatable in bearing apertures 78 and 80 formed in the side frame members 12 and 14.

Located at diametrically opposite points and at equal distances from the axis of the spindle 70, guide rods 82 and 84 are fixedly secured to the type wheel. These rods pass freely through holes in the guide wheels 86 and 88, which have inwardly converging frusto-conical work engaging guide faces 90 and 92 disposed on opposite sides of the type wheel. These guide wheels have respective hubs 94 and 96 which are internally threaded, the threads being of opposite hand so as to engage the correspondingly screw threaded portions 98 and 100 of the spindle.

As illustrated, the left half portion 98 of the spindle is provided with right hand threads and the right half of the spindle is provided with left hand threads. At its right extremity the spindle has pinned or otherwise secured thereto a knurled or milled thumb wheel 102 which is adapted to cause the guide wheels 86 and 88 to either approach or recede from the type wheel 64. Threaded on opposite portions of the spindle there are knurled or milled lock nuts 104 and 106 which serve to hold the guide wheels 86 and 88 in any desired position of adjustment. It will be understood that prior to manipulation of the thumb nut 102 the lock nuts must be released by turning them in the appropriate direction relative to the respective threaded portions of the spindle. It will also be apparent that after the lock nuts have been backed away and the thumb wheel 102 is turned, the guide wheels will be propelled toward or away from the type wheel depending, of course, upon the direction of rotation of the spindle. During such adjustment of the guide wheels it will be understood that the guide rods 82 and 84 prevent the wheels turning with the spindle, thus compelling the guide wheels to partake of adjusting movements in a direction lengthwise of the spindle. This permits of proper positioning of the guide wheels with relation to the type wheel for printing on pipe of varying sizes.

In the normal operation of the marking device illustrated the inwardly converging frusto-conical faces 90 and 92 will have portions thereof lying tangent with the cylindrical surface of the pipe or other object to be marked. Both cylindrical surfaces 90 and 92 are disposed at identically the same angle. Therefore, as viewed in Figure 4 the vertical line passing through the center of the face of the type wheel bisects the included angle between said faces 90 and 92 of the wheel. As thus arranged, the center line of the type wheel will always lie on the bisector of the angle regardless of the position of adjustment secured by turning the spindle in view of the fact that the right and left hand threaded portions 98 and 100 of the spindle are of identical pitch. This arrangement is advantageous since it provides a relatively simple yet reliable means for laterally adjusting the guide wheels for printing on pipe or rods of different diameters and insures that when the device is propelled relative to the work, only the correct or precise amount of pressure necessary to properly print will be exerted by the type wheel and at the same time the guiding function will insure that the line of printing will be impressed along a substantially straight line parallel with the axes of the work.

While I have described in considerable detail the design and construction of the embodiment of the invention herein illustrated, it is to be understood that various modifications and substitutions of equivalents may be made by those skilled in the art without departing from the invention as defined in the appended claims.

I claim:

1. A device for printing on cylindrical articles such as pipe or rods comprising a mobile frame, a spindle journaled therein having oppositely threaded portions carrying respective spaced article engaging guide wheels having oppositely beveled inwardly converging peripheral faces, a type wheel supported on said spindle midway between said guide wheels, and means interengaging the type wheel and shaft for preventing relative axial shifting thereof.

2. A device for printing on cylindrical articles such as pipe or rods comprising a movable frame, a spindle journaled therein carrying a pair of spaced article engaging guide wheels having peripheral faces corresponding to opposed cones, a type wheel mounted on the spindle midway between said guide wheels, means interengaging the type wheel and shaft for preventing relative axial shifting thereof and adjusting means for simultaneously moving both guide wheels equal distances toward or from the type wheel.

3. A device for printing on cylindrical articles such as pipe or rods comprising a movable frame, a spindle journaled therein carrying a pair of spaced article engaging guide wheels having peripheral faces corresponding to opposed cones, a type wheel rotatably mounted on the spindle midway between said guide wheels and adjusting means for simultaneously moving both guide wheels equal distances toward or from the type wheel, means interengaging the type wheel and shaft for preventing relative axial shifting thereof and interengaging means between the type wheel and said guide wheels compelling all three to turn in unison yet permitting of relative longitudinal adjustment of the guide wheels along said spindle.

4. A device for printing on cylindrical articles such as pipe or rods comprising a movable frame, a spindle journaled therein carrying a pair of spaced article engaging cone-like guide wheels with their inclined faces converging inwardly toward one another, a type wheel rotatably mounted on the spindle therebetween, said spindle having respective oppositely threaded screw portions in threaded engagement with said guide wheels, means interengaging the type wheel and shaft for preventing relative axial shifting thereof and interengaging means between the type wheel and said guide wheels compelling all three to turn in unison yet permitting of relative longitudinal adjustment of the guide wheels along said spindle.

JAMES W. MacANLIS.